BRUSH ENGINEERED MATERIALS INC

FORM 10-K405

(Annual Report (Regulation S-K, item 405))

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Industry	Metal Mining
Sector	Basic Materials
Fiscal Year	12/31

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-K

(Mark One)

[X] ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2001

OR

[ ] TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____

Commission file number 1-7006

BRUSH ENGINEERED MATERIALS INC.

(Exact name of Registrant as specified in charter)

OHIO	34-1919973
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
17876 ST. CLAIR AVENUE, CLEVELAND, OHIO	44110
(Address of principal executive offices)	(Zip Code)

REGISTRANT'S TELEPHONE NUMBER, INCLUDING AREA CODE 216-486-4200

SECURITIES REGISTERED PURSUANT TO SECTION 12(b) OF THE ACT:

TITLE OF EACH CLASS	NAME OF EACH EXCHANGE ON WHICH REGISTERED
Common Stock, no par value	New York Stock Exchange

SECURITIES REGISTERED PURSUANT TO SECTION 12(g) OF THE ACT:

None

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes [X] No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. [X]

The aggregate market value of Common Stock, no par value, held by non-affiliates of the registrant (based upon the closing sale price on the New York Stock Exchange) on March 11, 2002 was approximately $205,364,758.

As of March 11, 2002, there were 16,637,041 shares of Common Stock, no par value, outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the annual report to shareholders for the year ended December 31, 2001 are incorporated by reference into Parts I, II and IV.

Portions of the proxy statement for the annual meeting of shareholders to be held on May 7, 2002 are incorporated by reference into Part III.

PART I

Portions of the narrative set forth in this document that are not statements of historical or current facts are forward-looking statements. The Company's actual future performance may materially differ from that contemplated by the forward-looking statements as a result of a variety of factors. These factors include, in addition to those mentioned elsewhere herein, the condition of the markets which the Company serves (especially as impacted by events in particular markets, including telecommunications and computers, optical media, automotive electronics, industrial components, aerospace and defense and appliance markets, or in particular geographic regions), changes in product mix, financial condition of customers, the Company's success in implementing its strategic plans, the timely and successful completion of pending capital expansion projects, tax rates, exchange rates, energy costs, the cost and availability of insurance, changes in government regulatory requirements, the enactment of new legislation that impacts the Company's obligations and the conclusion of pending litigation matters in accordance with the Company's expectation that there will be no material adverse effects.

ITEM 1. BUSINESS

Brush Engineered Materials Inc., through its wholly owned subsidiaries, is a leading manufacturer of high-performance engineered materials serving the global telecommunications and computer, optical media, automotive electronics, industrial components, aerospace and defense and appliance markets. As of December 31, 2001 the Company had 1,946 employees.

As a result of a corporate restructuring completed on January 1, 2001, the Company changed how costs flow between its various businesses and the corporate office. Certain costs that previously were recorded at the corporate office, primarily expenses related to beryllium health and safety and chronic beryllium disease (CBD), are being charged to the responsible businesses beginning with the first quarter of 2001. This organizational structure better reflects the way the Company is managed. In addition, the businesses are better positioned to capture the benefits of their individual growth opportunities unencumbered by the financial, economic and operating risks of other regions or businesses.

Under this structure, the Company's subsidiaries are organized under two reportable segments, i.e., the Metal Systems Group and the Microelectronics Group. The Metal Systems Group includes Brush Wellman Inc. (Alloy Products and Beryllium Products) and Technical Materials, Inc. (TMI). The Microelectronics Group includes Williams Advanced Materials Inc. (WAM) and Electronic Products, which consists of Zentrix Technologies Inc. (Zentrix) and Brush Ceramic Products Inc. (a wholly owned subsidiary of Brush Wellman Inc.) Portions of Brush International, Inc. are included in both segments. Included in "All Other" in the Company's financial statements included later in this Form 10-K are the operating results from BEM Services, Inc. and Brush Resources Inc., two wholly owned subsidiaries of the Company. BEM Services charges a management fee for services, such as administrative and financial oversight, to the other businesses within the Company on a cost-plus basis. Brush Resources sells beryllium hydroxide produced through its Utah operations to outside customers and to businesses within the Metal Systems Group. As of December 31, 2001 BEM Services, Inc. and Brush Resources Inc. had 167 employees.

METAL SYSTEMS GROUP

The Metals Systems Group is comprised of Alloy Products (primarily copper beryllium), Beryllium Products and TMI. In 2001, 63% of the Company's sales were from this segment (67% in each of 2000 and 1999). As of December 31, 2001 the Metal Systems Group had 1,171 employees.

Alloy Products manufactures products that are metallurgically tailored to meet specific customer performance requirements. Copper beryllium alloys exhibit high electrical and thermal conductivities, high strength and hardness, good formability and excellent resistance to corrosion, wear and fatigue. These alloys, sold in strip and bulk form, are ideal choices for demanding applications in the telecommunications and computer, automotive electronics, aerospace, oil exploration, appliances and plastic mold tooling markets. These products are sold domestically through Brush distribution centers and internationally through Company-owned distribution centers and independent sales representatives.

Beryllium Products manufactures products that include beryllium, AlBeMet(R) and E-materials. Beryllium is a lightweight metal possessing unique mechanical and thermal properties. Its specific stiffness is much greater than other engineered structural materials such as aluminum, titanium and steel. Beryllium is extracted from both bertrandite and imported beryl ore. In 2001, the Company purchased land and mineral rights that were previously leased by its mining operations in Utah. Beryllium products are used in a variety of high-performance applications in the medical, electronic, defense, aerospace and optical scanning markets. Beryllium-containing products are sold throughout the world through a direct sales organization and through company-owned and independent distribution centers.

Alloy Products and Beryllium Products' only direct competitor in both the beryllium and beryllium alloys field is NGK Insulators, Ltd. of Nagoya, Japan, with subsidiaries in the U.S. and Europe. Alloy Products competes with alloy systems manufactured by Olin Corporation, Wieland Electric Inc. and Stolberger Metallwerke GmbH, and also with other generally less expensive materials, including phosphor bronze, stainless steel and other specialty copper and nickel alloys which are produced by a variety of companies around the world. While the Company is the only domestic producer of metallic beryllium, it competes with other fabricators as well as with designs utilizing other materials.

TMI manufactures engineered material systems which are combinations of precious and non-precious metals in continuous strip form, and are used in complex electronic and electrical components in telecommunications systems, automotive electronics, semi-conductors and computers. TMI's products are sold directly and through its sales representatives. Divisions of Cookson Group, plc., Metallon Inc. and several European manufacturers are competitors for the sale of inlaid strip. Strip with selective electroplating is a competitive alternative as are other design approaches.

METAL SYSTEMS GROUP -- SALES AND BACKLOG

The backlog of unshipped orders as of December 31, 2001, 2000 and 1999 was $60,945,000, $140,246,000 and $91,844,000, respectively. Backlog is generally represented by purchase orders that may be terminated under certain conditions. The Company expects that substantially all of its backlog of orders for this segment at December 31, 2001 will be filled during 2002.

Sales are made to approximately 2,000 customers. Government sales, principally subcontracts, accounted for about 3.3% of Metal Systems Group sales in 2001 as compared to 2.3% in 2000 and 2.0% in 1999. Sales outside the United States, principally to Western Europe, Canada and Asia, accounted for approximately 38% of the Metal Systems Group sales in 2001, 33% in 2000 and 34% in 1999. Other segment reporting and geographic information set forth on page 39 in Note L to the consolidated financial statements in the annual report to shareholders for the year ended December 31, 2001 is incorporated herein by reference.

METAL SYSTEMS GROUP -- RESEARCH AND DEVELOPMENT

Active research and development programs seek new product compositions and designs as well as process innovations. Expenditures for research and development amounted to $4,679,000 in 2001, $5,543,000 in 2000, and $6,799,000 in 1999. A staff of 22 scientists, engineers and technicians was employed in this effort as of year end 2001. Some research and development projects, expenditures for which are not material, were externally sponsored.

MICROELECTRONICS GROUP

The Microelectronics Group is comprised of WAM and Electronic Products, which consists of Zentrix and Brush Ceramic Products Inc. In 2001, 36% of the Company's sales were from this segment (32% in 2000 and 31% in 1999). As of December 31, 2001 the Microelectronics Group had 608 employees.

WAM manufactures and fabricates precious metal and specialty metal products for the hybrid microelectronics, semiconductor, optical media, electron tube, magnetic head including magnetic resistive (MR) and giant magnetic resistive (GMR) materials, wireless, photonics, aerospace and performance film industries. WAM's major product lines include vapor deposition materials, clad and precious metal preforms,

high temperature braze materials, ultra fine wire, sealing lids for the semiconductor/hybrid markets and restorative dental alloys.

WAM's products are sold directly from WAM's facilities in Buffalo, New York; Brewster, New York; Wheatfield, New York; Singapore and the Philippines, as well as through direct sales offices and independent sales representatives throughout the world. Principal competition includes companies such as Sumitomo Metals, Praxair Inc., Engelhard Corporation, Honeywell International Inc. and a number of smaller regional and national suppliers.

Zentrix produces electronic packaging, circuitry and powder metal products. Production sites include Oceanside, California; Tucson, Arizona; Newburyport, Massachusetts and Kuala Lumpur, Malaysia. Beyond its manufacturing capabilities, Zentrix also markets and distributes beryllia ceramics for Brush Ceramic Products Inc. These products are used in wireless communication, automotive, medical and aerospace applications. Zentrix's products are sold directly and through its sales representatives. Zentrix's principal competitor in the beryllia ceramics market is CBL Ltd. Other competitors of Zentrix include Kyocera Corporation, Semx Corporation, Aeroflex Inc., American Technical Ceramics and Anaren Microwave, Inc. Competitive materials include alumina, aluminum nitride and composites.

MICROELECTRONICS GROUP -- SALES AND BACKLOG

The backlog of unshipped orders as of December 31, 2001, 2000 and 1999 was $20,458,000, $31,225,000 and $20,283,000, respectively. Backlog is generally represented by purchase orders that may be terminated under certain conditions. The Company expects that substantially all of its backlog of orders for this segment at December 31, 2001 will be filled during 2002.

Sales are made to approximately 1,700 customers. Government sales, principally subcontracts, accounted for 2.8% of Microelectronics Group sales in 2001 as compared to 1.2% in 2000 and less than 1% in 1999. Sales outside the United States, principally to Western Europe, Canada and Asia, accounted for approximately 13% of Microelectronics Group sales in 2001, 15% in 2000 and 23% in 1999. Other segment reporting and geographic information set forth on page 39 in Note L to the consolidated financial statements in the annual report to shareholders for the year ended December 31, 2001 is incorporated herein by reference.

MICROELECTRONICS GROUP -- RESEARCH AND DEVELOPMENT

Active research and development programs seek new product compositions and designs as well as process innovations. Expenditures for research and development amounted to $1,648,000 in 2001, $1,894,000 in 2000 and $1,707,000 in 1999. A staff of 12 scientists, engineers and technicians was employed in this effort as of year end 2001.

GENERAL

AVAILABILITY OF RAW MATERIALS

The principal raw materials used by the Company are beryllium (extracted from both imported beryl ore and bertrandite mined from the Company's Utah properties), copper, gold, silver, nickel, platinum and palladium. Ore reserve data in Management's Discussion and Analysis on page 18 of the Company's annual report to shareholders for the year ended December 31, 2001 is incorporated herein by reference. The Company has agreements to purchase stated quantities of beryl ore, beryllium metal and beryllium-copper master alloy from the Defense Logistics Agency of the U.S. Government. In addition, the Company has a long-term supply arrangement with Ulba/Kazatomprom of the Republic of Kazakhstan and its marketing representative, Nukem, Inc. of New York, to purchase quantities of beryllium-copper master. The availability of these raw materials, as well as other materials used by the Company, is adequate and generally not dependent on any one supplier.

PATENTS AND LICENSES

The Company owns patents, patent applications and licenses relating to certain of its products and processes. While the Company's rights under the patents and licenses are of some importance to its operations, the Company's business is not materially dependent on any one patent or license or on all of its patents and licenses as a group.

REGULATORY MATTERS

The Company is subject to a variety of laws including those which regulate the use, handling, treatment, storage, discharge and disposal of substances and hazardous wastes used or generated in the Company's manufacturing processes. The inhalation of airborne beryllium particulate may present a health hazard to certain individuals. For decades the Company has operated its beryllium facilities under stringent standards of inplant and outplant discharge. These standards, which were first recommended by the Atomic Energy Commission over fifty years ago, were, in general, substantially adopted by the United States Environmental Protection Agency (the "U.S. EPA") and the Occupational Safety and Health Administration ("OSHA"). The government has continued to review these standards, and governmental agencies continue to debate their adequacy. The Department of Energy has proposed a chronic beryllium disease preventive regulation for occupational exposure to beryllium at Department of Energy facilities. The Company has been the subject of newspaper articles concerning the beryllium industry and chronic beryllium disease. These articles, and others similar to them, may exacerbate the regulatory environment in which the Company operates.

ITEM 2. PROPERTIES

The material properties of the Company, all of which are owned in fee except as otherwise indicated, are as follows:

MANUFACTURING FACILITIES

BREWSTER, NEW YORK -- A 35,000 square foot leased facility on a 6.0 acre site for manufacturing services relating to non-precious metals.

BUFFALO, NEW YORK -- A complex of approximately 97,000 square feet on a 3.8 acre site providing facilities for manufacturing, refining and laboratory services relating to high purity precious metals.

DELTA, UTAH -- An ore extraction plant consisting of 86,000 square feet of buildings and large outdoor facilities situated on a 4,400 acre site. This plant extracts beryllium from bertrandite ore from the Company's mines as well as from imported beryl ore.

ELMORE, OHIO -- A complex containing approximately 856,000 square feet of building space on a 439 acre plant site. This facility employs diverse chemical, metallurgical and metalworking processes in the production of beryllium, beryllium oxide, beryllium alloys and related products.

FREMONT, CALIFORNIA -- A 16,800 square foot leased facility for the fabrication of precision electron beam welded, brazed and diffusion bonded beryllium structures.

JUAB COUNTY, UTAH -- 7,500 acres with respective mineral rights in Juab County, Utah from which the beryllium-bearing ore, bertrandite, is mined by the open pit method. A portion of the mineral rights is held under lease. Ore reserve data set forth on page 18 in the annual report to shareholders for the year ended December 31, 2001 is incorporated herein by reference.

KUALA LUMPUR, MALAYSIA -- A 3,000 square foot leased manufacturing facility that performs finishing operations on electronic packaging.

LINCOLN, RHODE ISLAND -- A manufacturing facility consisting of 124,000 square feet located on 7.5 acres. This facility produces reel-to-reel strip metal products which combine precious and non-precious metals in continuous strip form and related metal systems products.

LORAIN, OHIO -- A manufacturing facility consisting of 55,000 square feet located on 15 acres. This facility produces non-beryllium metal alloys in electronic induction furnaces which are continually cast into bar stock and heat treated.

NEWBURYPORT, MASSACHUSETTS -- A 30,000 square foot manufacturing facility on a 4 acre site that produces alumina, beryllia ceramic and direct bond copper products.

OCEANSIDE, CALIFORNIA -- Two leased facilities totaling 20,200 square feet on 1.25 acres of leased land. Over three-quarters of these facilities are comprised of clean rooms for the production of thick-film circuits and other complex circuits.

SANTA CLARA, CALIFORNIA -- A 5,800 square foot leased facility that provides bonding services relating to Physical Vapor Deposition (PVD) materials.

SHOEMAKERSVILLE (READING), PENNSYLVANIA -- A 123,000 square foot plant on a 10 acre site that produces thin precision strips of copper beryllium and other alloys and copper beryllium rod and wire.

SINGAPORE -- A 4,500 square foot leased facility for the assembly and sale of precious metal hermetic sealing lids.

SUBIC BAY, PHILIPPINES -- A 5,000 square foot leased facility that manufactures Combo-Lid(R) and performs preform assembly, inspection and packaging.

TUCSON, ARIZONA -- A complex containing approximately 63,000 square feet of building space on a 10 acre site for the production of beryllium oxide ceramic substrates and copper/tungsten heatsinks for use in electronic applications.

WHEATFIELD, NEW YORK -- A 29,000 square foot leased facility on a 10.2 acre site for manufacturing services relating to braze material and specialty alloys.

RESEARCH FACILITIES AND ADMINISTRATIVE OFFICES

CLEVELAND, OHIO -- A 110,000 square foot building on an 18 acre site housing corporate and administrative offices, data processing and research and development facilities.

SERVICE AND DISTRIBUTION CENTERS

ELMHURST, ILLINOIS -- A 28,500 square foot leased facility principally for distribution of copper beryllium alloys.

FAIRFIELD, NEW JERSEY -- A 24,500 square foot leased facility principally for distribution of copper beryllium alloys.

FUKAYA, JAPAN -- A 35,500 square foot facility on 1.8 acres of land in Saitama Prefecture principally for distribution of copper beryllium alloys.

SINGAPORE -- A 2,500 square foot leased sales office which houses employees of Alloy Products and WAM Far East.

STUTTGART, GERMANY -- A 24,750 square foot leased facility principally for distribution of copper beryllium alloys.

THEALE (READING), ENGLAND -- A 19,700 square foot leased facility principally for distribution of copper beryllium alloys.

WARREN, MICHIGAN -- A 34,500 square foot leased facility principally for distribution of copper beryllium alloys.

ITEM 3. LEGAL PROCEEDINGS

The Company and its subsidiaries are subject, from time to time, to a variety of civil and administrative proceedings arising out of their normal operations, including, without limitation, product liability claims, health, safety and environmental claims and employment-related actions. Among such proceedings are the cases described below.

CBD CLAIMS

There are claims pending in various state and federal courts against Brush Wellman, one of the Company's subsidiaries, by its employees, former employees or surviving spouses and third party individuals alleging that they contracted, or have been placed at risk of contracting, chronic beryllium disease ("CBD") or related ailments as a result of exposure to beryllium. Plaintiffs in CBD cases seek recovery under theories of intentional tort and various other legal theories and seek compensatory and punitive damages, in many cases of an unspecified sum. Spouses, if any, claim loss of consortium.

During 2001, the number of CBD cases grew from 71 (involving 192 plaintiffs), as of December 31, 2000, to 76 cases (involving 193 plaintiffs) as of December 31, 2001. During 2001, an aggregate of two cases involving three plaintiffs were settled. 12 cases involving 25 plaintiffs were voluntarily dismissed by the plaintiffs. In addition, in one case, six plaintiffs voluntarily dismissed their claims, and in another case, two plaintiffs were voluntarily withdrawn. No other cases were dismissed in 2001.

The 76 pending CBD cases fall into three categories: 45 "employee cases" involving an aggregate of 46 Brush Wellman employees, former employees or surviving spouses (in 27 of these cases, a spouse has also filed claims as part of his or her spouse's case); 28 cases involving third-party individual plaintiffs, with 58 individuals (and 38 spouses who have filed claims as part of their spouse's case, and 10 children who have filed claims as part of their parent's case); and three purported class actions, involving 13 individuals (and one spouse who has filed claims as part of her spouse's case), as discussed more fully below. Employee cases, in which plaintiffs have a high burden of proof, have historically involved relatively small losses to the Company. Third-party plaintiffs (typically employees of customers) face a lower burden of proof than do employees or former employees, but these cases are generally covered by varying levels of insurance.

In the three purported class actions that are pending against Brush Wellman, the named plaintiffs allege that past exposure to beryllium has increased their risk of contracting CBD, though most of them do not claim to have actually contracted it. They seek medical monitoring funds to be used to detect medical problems that they believe may develop as a result of their exposure and, in some cases, also seek compensatory and punitive damages.

One of the three purported class actions pending against Brush Wellman was brought by named plaintiffs on behalf of tradesmen who worked in one of Brush Wellman's facilities as employees of independent contractors. The two others were brought on behalf of current and former employees of Brush Wellman's present and former customers and vendors.

From January 1, 2002 to March 22, 2002, one case brought by the estate of a former employee was voluntarily dismissed by the plaintiff. One employee case (involving two plaintiffs) was voluntarily dismissed by the plaintiffs. One third-party case (involving one plaintiff) was settled and dismissed. Two employee cases (involving three plaintiffs), were voluntarily dismissed by the plaintiffs; however, the Company is awaiting final court dismissal. The Company is currently engaged in settlement negotiations that will result in the dismissal of 21 pending lawsuits (involving 88 plaintiffs), including two of the purported class actions. As part of this potential settlement, two third-party cases (involving three plaintiffs), one employee case (involving two plaintiffs), and two purported class actions (involving 7 individual plaintiffs) have been dismissed. In one third-party case (involving two plaintiffs), the plaintiffs have filed a stipulation for dismissal; however, the Company is awaiting final court dismissal. The settlement is expected to result in the dismissal of 15 additional cases. However, at this time, the Company is including these cases within the total number of reportable pending cases as the settlement has not been finalized. Certification has been denied in the Company's only remaining purported class action.

ENVIRONMENTAL CLAIMS

Brush Wellman was identified as one of the Potentially Responsible Persons (the "PRPs") under the Comprehensive, Environmental, Response, Compensation and Liability Act ("CERCLA") at the Spectron Superfund Site in Elkton, Maryland. It reached a settlement with the U.S. EPA resolving its liability under the Administrative Orders by Consent dated August 21, 1989 and October 1, 1991 for $20,461. In August 2001, the U.S. EPA and the Galaxy Spectron Group (of which Brush Wellman is a member) made a de minimis settlement offer, designed to resolve all remaining liability with respect to the Spectron Site, to PRPs that sent relatively small amounts of hazardous substance-containing materials to the site. Brush Wellman has elected to participate in the settlement. Under the terms of the proposed settlement, Brush Wellman's payment obligation is $122,000. The settlement has not been finalized.

ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

None.

ITEM 4A. EXECUTIVE OFFICERS OF THE REGISTRANT

The following table provides information as to the executive officers of the Company.

NAME	AGE	POSITIONS AND OFFICES
Gordon D. Harnett	59	Chairman of the Board, Chief Executive Officer and Director
John D. Grampa	54	Vice President Finance and Chief Financial Officer
William R. Seelbach	53	President
Daniel A. Skoch	52	Senior Vice President Administration

MR. HARNETT was elected Chairman of the Board, Chief Executive Officer and Director of the Company effective January 1991. He had served as President of the Company until 2001. Prior to that, he had served as a Senior Vice President of The B. F. Goodrich Company from November 1988.

MR. GRAMPA was elected Vice President Finance and Chief Financial Officer in November 1999. He had served as Vice President Finance since October 1998. Prior to that, he had served as Vice President, Finance for the worldwide materials business of Avery Dennison Corporation since March 1994 and prior to that time he held other various financial positions at Avery Dennison Corporation from 1984.

MR. SEELBACH was elected President, Brush Engineered Materials Inc. in May 2001 and has served as President of Brush Wellman Inc. since July 2000. Prior to that time, he had served as President, Alloy Products since June 1998. He had been Chairman and CEO of Inverness Partners since October 1987 and prior to Inverness Partners, he was a partner with McKinsey & Company.

MR. SKOCH was elected Senior Vice President Administration in July 2000. Prior to that time, he had served as Vice President Administration and Human Resources since March 1996. He had served as Vice President Human Resources since July 1991 and prior to that time, he was Corporate Director -- Personnel.

PART II

ITEM 5. MARKET FOR THE REGISTRANT'S COMMON STOCK AND RELATED STOCKHOLDER MATTERS

The Company's Common Stock is traded on the New York Stock Exchange. As of March 11, 2002 there were 1,972 shareholders of record. Information as to stock price and dividends declared set forth on page 41 in Note M to the consolidated financial statements in the annual report to shareholders for the year ended December 31, 2001 is incorporated herein by reference. The Company's ability to pay dividends is restricted as provided in the Third Amendment to the Credit Agreement and Consent dated December 31, 2001.

ITEM 6. SELECTED FINANCIAL DATA

Selected Financial Data on page 42 of the annual report to shareholders for the year ended December 31, 2001 is incorporated herein by reference.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The management's discussion and analysis of financial condition and results of operations on pages 10 through 21 of the annual report to shareholders for the year ended December 31, 2001 is incorporated herein by reference.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The market risk disclosures on page 20 of the annual report to shareholders for the year ended December 31, 2001 are incorporated herein by reference.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The report of independent auditors and the following consolidated financial statements of the Company included in the annual report to shareholders for the year ended December 31, 2001 are incorporated herein by reference:

Consolidated Balance Sheets -- December 31, 2001 and 2000.

Consolidated Statements of Income -- Years ended December 31, 2001, 2000 and 1999.

Consolidated Statements of Shareholders' Equity -- Years ended December 31, 2001, 2000 and 1999.

Consolidated Statements of Cash Flows -- Years ended December 31, 2001, 2000 and 1999.

Notes to Consolidated Financial Statements.

Quarterly Data on page 41 in Note M to the consolidated financial statements in the annual report to shareholders for the years ended December 31, 2001 and 2000 is incorporated herein by reference.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

PART III

ITEM 10. DIRECTORS AND EXECUTIVE OFFICERS OF THE REGISTRANT

The information under Election of Directors on pages 2 through 4 of the Proxy Statement dated March 18, 2002, as filed with the Securities and Exchange Commission pursuant to Regulation 14A, is incorporated herein by reference. Information with respect to Executive Officers of the Company is set forth under Item 4A -- Executive Officers of the Registrant.

ITEM 11. EXECUTIVE COMPENSATION

The information required under this heading is incorporated by reference from pages 9 through 12 of the Proxy Statement dated March 18, 2002, as filed with the Securities and Exchange Commission pursuant to Regulation 14A.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The information required under this heading is incorporated by reference from pages 7 and 8 of the Proxy Statement dated March 18, 2002, as filed with the Securities and Exchange Commission pursuant to Regulation 14A.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

Not applicable.

PART IV

ITEM 14. EXHIBITS, FINANCIAL STATEMENT SCHEDULES AND REPORTS ON FORM 8-K

(a) 1. FINANCIAL STATEMENTS AND SUPPLEMENTAL INFORMATION

Included in Part II of this Form 10-K annual report by reference to the annual report to shareholders for the year ended December 31, 2001 are the following consolidated financial statements:

Consolidated Balance Sheets -- December 31, 2001 and 2000.

Consolidated Statements of Income -- Years ended December 31, 2001, 2000 and 1999.

Consolidated Statements of Shareholders' Equity -- Years ended December 31, 2001, 2000 and 1999.

Consolidated Statements of Cash Flows -- Years ended December 31, 2001, 2000 and 1999.

Notes to Consolidated Financial Statements.

Report of Independent Auditors.

(a) 2. FINANCIAL STATEMENT SCHEDULES

The following consolidated financial information for the years ended December 31, 2001, 2000 and 1999 is submitted herewith:

Schedule II -- Valuation and qualifying accounts.

All other schedules for which provision is made in the applicable accounting regulations of the Securities and Exchange Commission are not required under the related instructions or are inapplicable, and therefore have been omitted.

(a) 3. EXHIBITS

(2)	Agreement of Merger, dated as of May 17, 2000, by and among Brush Merger Co., Brush Wellman Inc. and Brush Engineered Materials Inc. (filed as Annex A to the Registration Statement on Form S-4 filed by the Company on February 1, 2000, Registration No. 333-95917), incorporated herein by reference.
(3a)	Amended and Restated Articles of Incorporation of Brush Engineered Materials Inc. (filed as Annex B to the Registration Statement on Form S-4 filed by the Company on February 1, 2000, Registration No. 333-95917), incorporated herein by reference.
(3b)	Amended and Restated Code of Regulations of Brush Engineered Materials Inc. (filed as Exhibit 4(b) to the Current Report on Form 8-K filed by Brush Wellman Inc. on May 16, 2000), incorporated herein by reference.
(4a)	Credit Agreement dated as of June 30, 2000 among Brush Wellman Inc. and Brush Engineered Materials Inc. as the borrowers and National City Bank, N.A. acting for itself and as agent for certain other banking institutions as lenders (filed as Exhibit 4a to the Company's Form 10-Q Quarterly Report for the quarter ended June 30, 2000), incorporated herein by reference.
(4b)	First Amendment to Credit Agreement dated as of March 30, 2001 among Brush Wellman Inc. and Brush Engineered Materials Inc. as the borrowers and National City Bank, N.A. acting for itself and as agent for certain other banking institutions as lenders. (filed as Exhibit 4 to the Company's Form 10-Q Quarterly Report for the quarter ended March 30, 2001), incorporated herein by reference.

(4c) Second Amendment to Credit Agreement dated as of September 28, 2001 among Brush Wellman Inc. and Brush Engineered Materials Inc. as the borrowers and National City Bank, N.A. acting for itself and as agent for certain other banking institutions as lenders.

(4d) Third Amendment to Credit Agreement dated as of December 31, 2001 among Brush Wellman Inc. and Brush Engineered Materials Inc. as the borrowers and National City Bank, N.A. acting for itself and as agent for certain other banking institutions as lenders.

(4e) Rights Agreement, dated as of May 10, 2000, by and between Brush Engineered Materials Inc. and National City Bank, N.A. as Rights Agent (filed as Exhibit 4(a) to the Current Report on Form 8-K filed by Brush Engineered Materials Inc. on May 16, 2000), incorporated herein by reference.

(4f) Pursuant to Regulation S-K, Item 601 (b)(4), the Company agrees to furnish to the Commission, upon its request, a copy of the instruments defining the rights of holders of long-term debt of the Company that are not being filed with this report.

(10a)* Employment Arrangement between the Company and Mr. William R. Seelbach dated June 3, 1998 (filed as Exhibit 10b to the Company's Form 10-Q Quarterly Report for the quarter ended July 3, 1998), incorporated herein by reference.

(10b)* Addendum to Employment Arrangement between the Company and Mr. William R. Seelbach dated June 24, 1998 (filed as Exhibit 10c to the Company's Form 10-Q Quarterly Report for the quarter ended July 3, 1998), incorporated herein by reference.

(10c) Form of Indemnification Agreement entered into by the Company and Mr. William R. Seelbach dated June 29, 1998 (filed as Exhibit 10d to the Company's Form 10-Q Quarterly Report for the quarter ended July 3, 1998), incorporated herein by reference.

(10d) Form of Indemnification Agreement entered into by the Company and its executive officers (filed as Exhibit 10g to the Company's Form 10-K Annual Report for the year ended December 31, 1994, Commission File No. 1-7006), incorporated herein by reference.

(10e) Form of Indemnification Agreement entered into by the Company and its directors (filed as Exhibit 10h to the Company's Form 10-K Annual Report for the year ended December 31, 1994, Commission File No. 1-7006), incorporated herein by reference.

(10f)* Form of Severance Agreement entered into by the Company and Messrs. Gordon D. Harnett, William R. Seelbach, Daniel S. Skoch and John D. Grampa dated October 8, 2001.

(10g)* Form of Executive Insurance Agreement entered into by the Company and certain employees dated January 2, 2002.

(10h)* Form of Trust Agreement between the Company and Key Trust Company of Ohio, N.A. (formerly Ameritrust Company National Association) on behalf of the Company's executive officers (filed as Exhibit 10e to the Company's Form 10-K Annual Report for the year ended December 31, 1994, Commission File No. 1-7006), incorporated herein by reference.

(10i)* Brush Engineered Materials Inc. (formerly Brush Wellman Inc.) Deferred Compensation Plan for Non-employee Directors effective January 1, 1992 (filed as Exhibit I to the Proxy Statement dated March 6, 1992, filed by Brush Wellman Inc., Commission File No. 1-7006), incorporated herein by reference.

(10j)* Amendment, dated May 17, 2000, to the Brush Engineered Materials Inc. Deferred Compensation Plan for Non-employee Directors (filed as Exhibit 4b to Post-Effective Amendment No. 1 to Registration Statement No. 333-63353), incorporated herein by reference.

(10k)* First Amendment to the Deferred Compensation Plan for Non-employee Directors as amended through September 11, 2001 (filed as Exhibit 4c to Post-Effective Amendment No. 1 to Registration Statement No. 333-74296), incorporated herein by reference.

(10l)* Form of Trust Agreement between the Company and National City Bank, N.A. dated January 1, 1992 on behalf of Non-employee Directors of the Company (filed as Exhibit 10k to the Company's Form 10-K Annual Report for the year ended December 31, 1992, Commission File No. 1-7006), incorporated herein by reference.

(10m)* Incentive Compensation Plan adopted December 16, 1991, effective January 1, 1992 (filed as Exhibit 10l to the Company's Form 10-K Annual Report for the year ended December 31, 1991, Commission File No. 1-7006), incorporated herein by reference.

(10n)* Supplemental Retirement Plan as amended and restated December 1, 1992 (filed as Exhibit 10n to the Company's Form 10-K Annual Report for the year ended December 31, 1992, Commission File No. 1-7006), incorporated herein by reference.

(10o)* Amendment Number 2, adopted January 1, 1996, to Supplemental Retirement Benefit Plan as amended and restated December 1, 1992 (filed as Exhibit 10o to the Company's Form 10-K Annual Report for the year ended December 31, 1995, Commission File No. 1-7006), incorporated herein by reference.

(10p)* Amendment Number 3, adopted May 5, 1998, to Supplemental Retirement Benefit Plan as amended and restated December 1, 1992 (filed as Exhibit 10s to the Company's Form 10-K Annual Report for the year ended December 31, 1998), incorporated herein by reference.

(10q)* Amendment Number 4, adopted December 1, 1998, to Supplemental Retirement Benefit Plan as amended and restated December 1, 1992 (filed as Exhibit 10t to the Company's Form 10-K Annual Report for the year ended December 31, 1998), incorporated herein by reference.

(10r)* Amendment Number 5, adopted December 31, 1998, to Supplemental Retirement Benefit Plan as amended and restated December 1, 1992 (filed as Exhibit 10u to the Company's Form 10-K Annual Report for the year ended December 31, 1998), incorporated herein by reference.

(10s)* Amendment Number 6, adopted September, 1999, to Supplemental Retirement Benefit Plan as amended and restated December 1, 1992. (filed as Exhibit 10u to the Company's Form 10-K Annual Report for the year ended December 31, 2000, Commission File No. 1-7006), incorporated herein by reference.

(10t)* Amendment Number 7, adopted May, 2000, to Supplemental Retirement Benefit Plan as amended and restated December 1, 1992. (filed as Exhibit 10v to the Company's Form 10-K Annual Report for the year ended December 31, 2000, Commission File No. 1-7006), incorporated herein by reference.

(10u)* Amendment Number 8, adopted December 21, 2001, to Supplemental Retirement Benefit Plan as amended and restated December 1, 1992.

(10v)* Brush Engineered Materials Inc. (formerly Brush Wellman Inc.) Key Employee Share Option Plan (filed as Exhibit 4.1 to the Registration Statement on Form S-8 filed by Brush Wellman Inc. on May 5, 1998), incorporated herein by reference.

(10w)* Amendment No. 1 to the Brush Engineered Materials Inc. Key Employee Share Option Plan dated May 17, 2000 (filed as Exhibit 4b to Post-Effective Amendment No. 1 to Registration Statement No. 333-52141), incorporated herein by reference.

(10x)* Brush Engineered Materials Inc. (formerly Brush Wellman Inc.) 1979 Stock Option Plan, as amended pursuant to approval of shareholders on April 21, 1982 (filed by Brush Wellman Inc. as Exhibit 15A to Post-Effective Amendment No. 3 to Registration Statement No. 2-64080), incorporated herein by reference.

(10y)* Amendment, dated May 17, 2000, to the Brush Engineered Materials Inc. 1979 Stock Option Plan (filed as Exhibit 4b to Post-Effective Amendment No. 5 to Registration Statement No. 2-64080), incorporated herein by reference.

(10z)* Brush Engineered Materials Inc. (formerly Brush Wellman Inc.) 1984 Stock Option Plan as amended by the Board of Directors on April 18, 1984 and February 24, 1987 (filed by Brush Wellman Inc. as Exhibit 4.4 to Registration Statement No. 33-28605), incorporated herein by reference.

(10aa)* Amendment, dated May 17, 2000, to the Brush Engineered Materials Inc. 1984 Stock Option Plan (filed as Exhibit 4b to Post-Effective Amendment No. 1 to Registration Statement No. 2-90724), incorporated herein by reference.

(10bb)* Brush Engineered Materials Inc. (formerly Brush Wellman Inc.) 1989 Stock Option Plan (filed by Brush Wellman Inc. as Exhibit 4.5 to Registration Statement No. 33-28605), incorporated herein by reference.

(10cc)* Amendment, dated May 17, 2000, to the Brush Engineered Materials Inc. 1989 Stock Option Plan (filed as Exhibit 4b to Post-Effective Amendment No. 1 to Registration Statement No. 33-28605), incorporated herein by reference.

(10dd)* Brush Engineered Materials Inc. (formerly Brush Wellman Inc.) 1995 Stock Incentive Plan as Amended March 3, 1998 (filed by Brush Wellman Inc. as Exhibit A to the Company's Proxy Statement dated March 16, 1998, Commission File No. 1-7006), incorporated herein by reference.

(10ee)* Amendment, dated May 17, 2000, to the Brush Engineered Materials Inc. 1995 Stock Incentive Plan (filed as Exhibit 4b to Post-Effective Amendment No. 1 to Registration Statement No. 333-63357), incorporated herein by reference.

(10ff)* Brush Engineered Materials Inc. (formerly Brush Wellman Inc.) 1997 Stock Incentive Plan for Non-employee Directors (filed by Brush Wellman Inc. as Exhibit B to the Company's Proxy Statement dated March 16, 1998, Commission File No. 1-7006), incorporated herein by reference.

(10gg)* Amendment, dated May 17, 2000, to the Brush Engineered Materials Inc. 1997 Stock Incentive Plan for Non-employee Directors (filed as Exhibit 4b to Post-Effective Amendment No. 1 to Registration Statement No. 333-63355), incorporated herein by reference.

(10hh)* Brush Engineered Materials Inc. (formerly Brush Wellman Inc.) 1997 Stock Incentive Plan for Non-employee Directors (filed as Appendix B to the Company's Proxy Statement dated March 18, 2001, Commission File No. 1-7006), incorporated herein by reference.

(10ii)* Brush Engineered Materials Inc. Executive Deferred Compensation Plan (2000 Restatement).(filed as Exhibit 10jj to the Company's Form 10-K Annual Report for the year ended December 31, 2000), incorporated herein by reference.

(10jj)* Trust Agreement for Brush Engineered Materials Inc. (formerly Brush Wellman Inc.) Executive Deferred Compensation Plan, dated September 14, 1999 (filed as Exhibit 10hh to the Company's Form 10-K Annual Report for the year ended December 31, 1999), incorporated herein by reference.

(10kk) Lease dated as of October 1, 1996, between Brush Wellman Inc. and Toledo-Lucas County Port Authority (filed as Exhibit 10v to the Company's Form 10-K Annual Report for the year ended December 31, 1996), incorporated herein by reference.

(10ll) Master Lease Agreement dated December 30, 1996 between Brush Wellman Inc. and National City Bank, N.A. acting for itself and as agent for certain participants (filed as Exhibit 10w to the Company's Form 10-K Annual Report for the year ended December 31, 1996), incorporated herein by reference.

(10mm) Consolidated Amendment No. 1 to Master Lease Agreement and Equipment Schedules dated as of June 30, 2000 between Brush Wellman Inc. and National City Bank, N.A. acting for itself and as agent for certain participants (filed as Exhibit 10a to the Company's Form 10-Q Quarterly Report for the quarter ended June 30, 2000), incorporated herein by reference.

(10nn) Consolidated Amendment No. 2 to Master Lease Agreement and Equipment Schedules dated as of March 30, 2001 between Brush Wellman Inc. and National City Bank, N.A. acting for itself and as agent for certain participants (filed as Exhibit 10 to the Company's Form 10-Q Quarterly Report for the quarter ended March 30, 2001), incorporated herein by reference.

(10oo) Consolidated Amendment No. 3 to Master Lease Agreement and Equipment Schedules dated as of September 28, 2001 between Brush Wellman Inc. and National City Bank, N.A. acting for itself and as agent for certain participants.

(10pp) Consolidated Amendment No. 8 to Master Lease Agreement and Equipment Schedules dated as of December 31, 2001 between Brush Wellman Inc. and National City Bank, N.A. acting for itself and as agent for certain participants.

(13) Annual Report to shareholders for the year ended December 31, 2001.

(21) Subsidiaries of the registrant.

(23) Consent of Ernst & Young LLP.

(24) Power of Attorney.

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* Reflects management contract or other compensatory arrangement required to be filed as an Exhibit pursuant to Item 14(c) of this Report.

(b) REPORTS ON FORM 8-K

There were no reports on Form 8-K filed during the fourth quarter of the year ended December 31, 2001.

SIGNATURES

Pursuant to the requirements of Section 13 of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

March 27, 2002

BRUSH ENGINEERED MATERIALS INC.

By: /s/ GORDON D. HARNETT
Gordon D. Harnett
Chairman of the Board,
President and Chief Executive Officer

By: /s/ JOHN D. GRAMPA
John D. Grampa
Vice President Finance
and Chief Financial Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

/s/ GORDON D. HARNETT* Gordon D. Harnett*	Chairman of the Board, Chief Executive Officer and Director (Principal Executive Officer)	March 27, 2002
/s/ JOHN D. GRAMPA John D. Grampa	Vice President Finance and Chief Financial Officer (Principal Financial and Accounting Officer)	March 27, 2002
/s/ ALBERT C. BERSTICKER* Albert C. Bersticker*	Director	March 27, 2002
/s/ CHARLES F. BRUSH, III* Charles F. Brush, III**	Director	March 27, 2002
/s/ DAVID H. HOAG* David H. Hoag*	Director	March 27, 2002
/s/ JOSEPH P. KEITHLEY* Joseph P. Keithley*	Director	March 27, 2002
/s/ WILLIAM P. MADAR* William P. Madar*	Director	March 27, 2002
/s/ N. MOHAN REDDY* N. Mohan Reddy*	Director	March 27, 2002
/s/ WILLIAM R. ROBERTSON* William R. Robertson*	Director	March 27, 2002
/s/ JOHN SHERWIN, JR.* John Sherwin, Jr.*	Director	March 27, 2002

*The undersigned, by signing his name hereto, does sign and execute this report on behalf of each of the above-named officers and directors of Brush Engineered Materials Inc., pursuant to Powers of Attorney executed by each such officer and director filed with the Securities and Exchange Commission.

By: /s/ JOHN D. GRAMPA
John D. Grampa
Attorney-in-Fact

March 27, 2002

SCHEDULE II -- VALUATION AND QUALIFYING ACCOUNTS

BRUSH ENGINEERED MATERIALS INC. AND SUBSIDIARIES

YEARS ENDED DECEMBER 31, 2001, 2000 AND 1999

COL. A	COL. B	COL. C ADDITIONS		COL. D	COL. E
DESCRIPTION	BALANCE AT BEGINNING OF PERIOD	(1) CHARGED TO COSTS AND EXPENSES	(2) CHARGED TO OTHER ACCOUNTS-DESCRIBE	DEDUCTION-DESCRIBE	BALANCE AT END OF PERIOD
Year ended December 31, 2001					
Deducted from asset accounts:					
Allowance for doubtful accounts receivable.....	$1,677,000	$ 40,000	$0	$ 203,000(A)	$1,514,000
Inventory reserves and obsolescence.....	$3,151,000	$5,599,000	$0	$4,043,000(B)	$4,707,000
Year ended December 31, 2000					
Deducted from asset accounts:					
Allowance for doubtful accounts receivable.....	$1,744,000	$ 5,000	$0	$ 72,000(A)	$1,677,000
Inventory reserves and obsolescence.....	$3,526,000	$4,517,000	$0	$4,892,000(B)	$3,151,000
Year ended December 31, 1999					
Deducted from asset accounts:					
Allowance for doubtful accounts receivable.....	$2,127,000	($ 328,000)	$0	$ 55,000(A)	$1,744,000
Inventory reserves and obsolescence.....	$1,740,000	$3,514,000	$0	$1,728,000(B)	$3,526,000

Note A -- Bad debts written-off, net of recoveries.

Note B -- Inventory write-off.

EXHIBIT 4C

SECOND AMENDMENT AND WAIVER TO CREDIT AGREEMENT

SECOND AMENDMENT AND WAIVER TO CREDIT AGREEMENT, dated as of September 28, 2001 ("Amendment"), by and among BRUSH ENGINEERED MATERIALS INC., an Ohio corporation (the "PARENT"), and BRUSH WELLMAN INC., an Ohio corporation and a wholly owned subsidiary of the Parent ("BRUSH WELLMAN") (the Parent and Brush Wellman are herein each a "COMPANY" or a "BORROWER" and collectively, together with each of their respective successors and assigns, the "COMPANIES" or the "BORROWERS"), the lending institutions listed that are parties to this Amendment (herein, together with its or their successors and assigns, each a "LENDER" and collectively the "LENDERS"), and NATIONAL CITY BANK, a national banking association, as one of the Lenders, as the Lender under the Swing Line Revolving Facility (herein, together with its successors and assigns, the "SWING LINE LENDER"), and as administrative agent (the "ADMINISTRATIVE AGENT"):

WITNESSETH THAT:

WHEREAS, the Borrowers, the Lenders (or their predecessors, as the case may be), the Swing Line Lender and the Administrative Agent entered into a Credit Agreement, dated as of June 30, 2000, as amended by a First Amendment to Credit Agreement dated as of March 30, 2001 (the "CREDIT AGREEMENT"), under which the Lenders, subject to certain conditions, agreed to lend to the Borrowers up to $65,000,000 from time to time in accordance with the terms thereof; and

WHEREAS, the parties desire to amend the Credit Agreement as set forth herein;

NOW, THEREFORE, in consideration of the premises and the mutual covenants and agreements contained herein, the parties hereto agree as follows:

1. EFFECT OF AMENDMENT; DEFINITIONS.

The Credit Agreement shall be and hereby is amended as provided in Section 2 hereof. Except as expressly amended in Section 2 hereof, the Credit Agreement shall continue in full force and effect in accordance with its respective provisions on the date hereof. As used in the Credit Agreement, the terms "Credit Agreement", "Agreement", "this Agreement", "herein", "hereinafter", "hereto", "hereof", and words of similar import shall, unless the context otherwise requires, mean the Credit Agreement as amended and modified by this Amendment.

2. AMENDMENTS.

(A) Section 1.1 of the Credit Agreement shall be amended by deleting the existing definitions of "Consolidated Income Tax Expense", "Guarantors" and "Security Documents" and inserting the following in lieu thereof:

""CONSOLIDATED INCOME TAX EXPENSE" shall mean, for any period, all provisions for taxes based on the net income of the Borrowers and the Subsidiaries (including, without limitation, any additions to such taxes, and any penalties and interest with respect thereto), all as determined for the Borrowers and the Subsidiaries on a consolidated basis in accordance with GAAP; provided, that if the aggregate net amount of those taxes for any period in question is a negative figure, the Consolidated Income Tax Expense for the period in question shall be treated as zero for purposes of this Agreement.

"GUARANTORS" shall mean each of Williams Advanced Materials Inc., a New York corporation, Circuits Processing Technologies, Inc., a California corporation, Brush International, Inc., an Ohio

corporation, and Technical Materials, Inc., an Ohio corporation, Brush Ceramic Products Inc., an Arizona corporation, Zentrix Technologies Inc., an Arizona corporation, and Brush Resources Inc., a Utah corporation, and their respective successors and assigns, and any other Subsidiary that in accordance with Section 8.12(b) executes and delivers to the Administrative Agent a Guaranty Agreement in substantially the form attached as Exhibit G, and its respective successors and assigns.

"SECURITY DOCUMENTS" shall mean the Pledge Agreement, the Guaranties, the Security Agreement, the Subsidiary Security Agreement and each other document pursuant to which any Lien or security interest is granted by any Borrower or any Subsidiary to the Administrative Agent as security for any of the Obligations."

(B) Section 1.1 of the Credit Agreement shall be amended by inserting the following definitions in proper alphabetical order:

""SECURITY AGREEMENT" shall mean the Security Agreement, dated as of September 28, 2001, by Brush Wellman and the Parent in favor of National City Bank, as Collateral Agent, as the same may be amended, restated, modified or supplemented from time to time.

SUBSIDIARY SECURITY AGREEMENT shall mean the Security Agreement, dated as of September 28, 2001, by the Guarantors in favor of National City Bank, as Collateral Agent, as the same may be amended, restated, modified or supplemented from time to time."

(C) Section 2.8(h) of the Credit Agreement shall be amended by deleting the Pricing Grid Table set forth therein and inserting the following in lieu thereof:

"PRICING GRID TABLE
(EXPRESSED IN BASIS POINTS)

RATIO OF CONSOLIDATED TOTAL DEBT TO CONSOLIDATED EBITDAR	APPLICABLE EURODOLLAR MARGIN FOR GENERAL REVOLVING LOANS	APPLICABLE PRIME RATE MARGIN	APPLICABLE FACILITY FEE RATE
Greater than or equal to 4.00 to 1.00	300.00	75.00	50.00
(greater than) 3.50 to 1.00 and (less than) 4.00 to 1.00	250.00	50.00	40.00
(greater than) 3.00 to 1.00 and (less than or equal to) 3.50 to 1.00	200.00	25.00	30.00
(greater than) 2.50 to 1.00 and (less than or equal to) 3.00 to 1.00	175.00	-0-	30.00
(less than or equal to) 2.50 to 1.00	150.00	-0-	25.00

Notwithstanding the above provisions, from September 28, 2001, through and including September 30, 2001, and thereafter until changed hereunder in accordance with the provisions set forth above, for all purposes of this Agreement, the Applicable Prime Rate Margin will be 75 basis points per

annum, the Applicable Eurodollar Margin for General Revolving Loans will be 300 basis points per annum, and the Applicable Facility Fee Rate shall be 50 basis points per annum."

(D) Section 9.3 of the Credit Agreement shall be amended by
(i) deleting the word "and" at the end of subsection (c), (ii) inserting "; and" in lieu of the period at the end of subsection (d), and (iii) inserting the following as subsection (e):

"(e) SALE OR DISCOUNT OF CERTAIN FOREIGN RECEIVABLES: sales, without recourse, by any Foreign Subsidiary of Brush International, Inc., conducted in the ordinary course of its business, of its accounts receivable, provided that such sales are consistent with the customary practices of the applicable country and that such sales do not exceed an amount greater than $5,000,000 in the aggregate at any given time."

(E) Section 9.7 of the Credit Agreement shall be amended by deleting the same and inserting the following in lieu thereof :

"9.7. RATIO OF CONSOLIDATED TOTAL DEBT TO CONSOLIDATED TOTAL ADJUSTED CAPITAL AND MINIMUM EBITDAR. The Borrowers will not at any time permit the ratio, expressed as a percentage, of (x) the amount of Consolidated Total Debt to (y) Consolidated Total Adjusted Capital, to exceed (i) 50% from the date of this Agreement through and including September 30, 2001, (ii) 43% for the period commencing October 1, 2001, through and including December 31, 2001; (iii) 45% for the period commencing January 1, 2002, through and including September 30, 2002; and (iv) 50% on and after October 1, 2002. In addition, the Borrowers will not at any time permit the Consolidated EBITDAR, at the end of each fiscal quarter ending on the dates described below, and with respect to the fiscal quarters ending on June 30, September 30 and December 31, 2002, on a cumulative basis for the respective longer periods indicated in the parenthesis below, to be less than the amount set forth opposite that fiscal quarter:

Fiscal Quarter Ended	Minimum Consolidated Ebitdar
March 31, 2002 (3 months)	$ 3,780,000
June 30, 2002 (6 months)	$ 12,330,000
September 30, 2002 (9 months)	$ 21,960,000
December 31, 2002 (12 months)	$ 31,770,000"

3. WAIVERS.

(A) Subject to the conditions set forth in Section 5 herein, the Administrative Agent, the Swing Line Lender and the Lenders hereby waive the Borrowers' failure to comply with Section 9.8 of the Credit Agreement, regarding the Ratio of Consolidated Total Debt to Consolidated EBITDAR, for each of the Testing Periods ending September 30, 2001, December 31, 2001, March 31, 2002, June 30, 2002, and September 30, 2002. Such waiver shall apply only to the Borrowers' compliance with such Section for and at the Testing Periods ending on the dates set forth in the immediately preceding sentence and not to any past or future Testing Period and not to any other covenants and agreements contained in the Credit Agreement or the other related Credit Documents.

(B) Subject to the conditions set forth in Section 5 herein, the Administrative Agent, the Swing Line Lender and the Lenders hereby waive the Borrowers' failure to comply with Section 9.9 of the Credit Agreement, regarding the Consolidated Fixed Charge Coverage

Ratio, for each of the Testing Periods ending December 31, 2001, March 31, 2002, June 30, 2002, and September 30, 2002. Such waiver shall apply only to the Borrowers' compliance with such Section for and at the Testing Periods ending on the dates set forth in the immediately preceding sentence and not to any past or future Testing Period and not to any other covenants and agreements contained in the Credit Agreement or the other related Credit Documents.

4. REPRESENTATIONS AND WARRANTIES.

(A) Each Borrower hereby represents and warrants to the Lenders, the Swing Line Lender and the Administrative Agent that all representations and warranties set forth in the Credit Agreement, as amended hereby, are true and correct in all material respects, and that this Amendment, the Security Agreement and the Subsidiary Security Agreement have been executed and delivered by duly authorized officers of the Borrowers and the Guarantors that are parties thereto and constitutes the legal, valid and binding obligation of the Borrowers and Guarantors that are parties thereto, enforceable against each of them in accordance with their respective terms.

(B) Each Borrower hereby represents and warrants to the Lenders, the Swing Line Lender and the Administrative Agent that the execution, delivery and performance by the Borrowers of this Amendment and the Security Agreement, and their performance of the Credit Agreement, and the execution, delivery and performance by the Guarantors of the Subsidiary Security Agreement has been authorized by all requisite corporate action and will not (1) violate
(a) any order of any court, or any rule, regulation or order of any other agency of government, (b) the Articles of Incorporation, the Code of Regulations or any other instrument of corporate governance of the Borrowers or the Guarantors, as applicable, or (c) any provision of any indenture, agreement or other instrument to which either of the Borrowers or any of the Guarantors is a party, or by which either of the Borrowers or any of the Guarantors or any of their properties or assets are or may be bound; (2) be in conflict with, result in a breach of or constitute, alone or with due notice or lapse of time or both, a default under any indenture, agreement or other instrument referred to in (1)(c) above; or (3) result in the creation or imposition of any lien, charge or encumbrance of any nature whatsoever.

5. CONDITIONS PRECEDENT.

When the following conditions precedent have been met, this Amendment shall be effective as of September 28, 2001:

(A) The Borrowers shall have executed and delivered to Administrative Agent the Security Agreement in form and substance satisfactory to Administrative Agent pursuant to which the obligations of the Borrowers under the Credit Agreement and other obligations of the Borrowers to the Lenders under Synthetic Leases, swap agreements and reimbursement agreements are secured by all of the personal property of the Borrowers, subject to the exceptions set forth therein.

(B) The Guarantors shall have executed and delivered to Administrative Agent one or more Subsidiary Security Agreements in form and substance satisfactory to Administrative Agent pursuant to which the obligations of Guarantors under their respective Guaranties are secured by all of the personal property of Guarantors, subject to the exceptions set forth therein.

(C) Each Borrower's secretary or treasurer shall have certified to each Lender (i) a copy of resolutions duly adopted by that Borrower's board of directors in respect of this Amendment and the Security Agreement, (ii) true and correct copies of that Borrower's current Articles of Incorporation and Code of Regulations, (iii) the names and true signatures of the officers of that Borrower authorized to sign this Amendment and the Security Agreement on behalf of the Borrower, and (iv) that, after giving effect to the amendments and waivers set forth herein, no "Event of Default" or "Default" (as those terms are defined in the Credit Agreement) exists.

(D) Each Guarantor's secretary or treasurer shall have certified to each Lender (i) a copy of resolutions duly adopted by that Guarantor's board of directors in respect of the Subsidiary Security Agreements to which it is a party, (ii) true and correct copies of that Guarantor's current Articles of Incorporation or Certificate of Incorporation and Code of Regulations or Bylaws, (iii) the names and true signatures of the officers of that Guarantor authorized to sign the Subsidiary Security Agreements to which it is a party on behalf of that Guarantor, and (iv) that, after giving effect to the amendments and waivers set forth herein, no "Event of Default" or "Default" (as those terms are defined in the Credit Agreement) exists.

(E) Counsel for the Borrowers and Guarantors shall have rendered to each Lender a written opinion as to the enforceability of this Amendment, the Security Agreement and the Subsidiary Security Agreements, in form and substance satisfactory to the Lenders.

(F) The Borrowers shall have delivered or caused to be delivered certificates of good standing for each of the Borrowers and Guarantors issued by the Secretary of State, or other appropriate office, of the state of its incorporation.

(G) The Borrowers shall have caused all Guarantors to execute and deliver to the Administrative Agent a Reaffirmation of Guaranty in form and substance satisfactory to the Administrative Agent.

(H) The Borrowers shall have delivered or caused to be delivered such other documents as Administrative Agent or any of the Lenders may reasonably request.

6. MISCELLANEOUS.

(A) This Amendment shall be construed in accordance with and governed by the laws of the State of Ohio, without reference to principles of conflict of laws. The Borrowers jointly and severally agree to pay (i) in connection with this Amendment, an amendment fee in an aggregate amount equal to $97,500, to be allocated pro rata among the Lenders executing this Amendment on the basis of their respective Commitments, and (ii) on demand all costs and expenses of the Lenders and the Administrative Agent, including reasonable attorneys' fees and expenses, incurred in connection with the preparation, execution and delivery of this Amendment, the Security Agreement and the Subsidiary Security Agreements.

(B) This Amendment is executed in accordance with and subject to Section 12.12 of the Credit Agreement. Except as expressly set forth in Section 3, the execution, delivery and performance by the Lenders, the Swing Line Lender and the Administrative Agent of this Amendment shall not constitute, or be deemed to be or construed as, a waiver of any right, power or remedy of the Lenders, the Swing Line Lender or the Administrative Agent, or a waiver of any provision of the Credit Agreement. Except as expressly set forth in Section 3, none of the

provisions of this Amendment shall constitute, or be deemed to be or construed as, a waiver of any "Event of Default" or any "Default," as those terms are defined in the Credit Agreement.

(C) The Borrowers acknowledge and agree that, as of the date hereof, all of the Borrowers' outstanding loan obligations to the Lenders and the Administrative Agent under the Credit Agreement and the Credit Documents are owed without any offset, deduction, defense or counterclaim of any nature whatsoever, and the Borrowers hereby waive any such offset, deduction, defense and counterclaim of any nature whatsoever with respect thereto arising out of acts or omissions occurring on or prior to the date hereof.

(D) This Amendment may be executed in two or more counterparts, each of which shall constitute an original, but all of which, when taken together, shall constitute but one instrument.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties have caused this Amendment to be duly executed as of the day and year first above written.

Address:
17876 St. Clair Avenue
Cleveland, Ohio 44110
Fax: (216) 481-2523

BRUSH WELLMAN INC.

By: ----------
Title: ----------

Address:
17876 St. Clair Avenue
Cleveland, Ohio 44110
Fax: (216) 481-2523

BRUSH ENGINEERED MATERIALS INC.

By: ----------
Title: ----------

Address:
Deliveries:
Large Corporate Division
1900 East Ninth Street
Cleveland, Ohio 44114-3484

Fax: (216) 222-0003

NATIONAL CITY BANK,
for itself and as Agent

By: ----------
Title: ----------

Mail:

Large Corporate Division, Loc. #2070
P.O. Box 5756
Cleveland, Ohio 44101

FIFTH THIRD BANK, an Ohio banking corporation, f/k/a FIFTH THIRD BANK, **NORTHEASTERN OHIO**

Address:

1404 East Ninth Street
Cleveland, Ohio 44114

Fax: (216) 274-5507

By: ----------
Title: ----------

Address:

P.O. Box 755 (111/10W)
Chicago, Illinois 60690-0755

Fax: (312) 461-5225

HARRIS TRUST AND SAVINGS BANK

By: ----------
Title: ----------

Address:

1350 Euclid Avenue, ML 4432
Cleveland, Ohio 44115

Fax: (216) 623-9208

FIRSTAR BANK, N.A.

By: ----------

Title: ----------

Address:

One Fountain Plaza
Buffalo, New York 14203

Fax: (716) 848-7318

MANUFACTURERS AND TRADERS TRUST COMPANY

By: ----------

Title: ----------

Address:

1300 East 9th Street, Suite 1000
Cleveland, Ohio 44114

Fax: (216) 802-2212

LASALLE BANK NATIONAL ASSOCIATION

By: ----------

Title: ----------

EXHIBIT 4D

THIRD AMENDMENT TO CREDIT AGREEMENT AND CONSENT

THIS THIRD AMENDMENT TO CREDIT AGREEMENT AND CONSENT ("this Third Amendment") is made and entered into as of the 31st day of December, 2001, by and among BRUSH ENGINEERED MATERIALS INC., an Ohio corporation (the "Parent"), and BRUSH WELLMAN INC., an Ohio corporation and a wholly owned subsidiary of the Parent ("Brush Wellman" and, collectively with the Parent, the "Borrowers", with each being a "Borrower"); the LENDERS listed on the signature pages of this Third Amendment (collectively, the "Lenders"); and NATIONAL CITY BANK, a national banking association, as one of the Lenders, as the Lender under the Swing Line Revolving Facility (herein, together with its successors and assigns, the "Swing Line Lender"), and as Administrative Agent for the Lenders (the "Administrative Agent") under the Credit Agreement (hereinafter defined).

RECITALS:

A. The Borrowers, the Lenders (or their predecessors, as the case may be), the Swing Line Lender and the Administrative Agent, are parties to that certain Credit Agreement dated as of June 30, 2000, as amended by a First Amendment dated as of March 30, 2001 and Second Amendment dated as of September 28, 2001 (collectively, the "Credit Agreement"), pursuant to which, among other things, the Lenders agreed, subject to the terms and conditions thereof, to lend to the Borrowers up to Sixty-five Million Dollars ($65,000,000) from time to time.

B. Capitalized terms used herein and not otherwise defined herein shall have the meanings assigned to such terms in the Credit Agreement.

C. The Borrowers have requested that the Lenders consent to the Parent's acquisition (the "Acquisition") of all of the issued and outstanding capital stock of a company (the "Acquired

Company") identified and described in a disclosure letter to be delivered by the Parent to the Lenders care of the Administrative Agent, which letter shall be approved by all of the Lenders in their sole discretion (if, as and when so delivered and approved, the "Disclosure Letter"). Without such consent, the Acquisition would otherwise be prohibited by the provisions of Section 9.2 of the Credit Agreement (by reference to the definition of "Permitted Acquisition" set forth in Section 1.1 thereof).

D. The Lenders are willing to grant such consent upon and subject to the terms and conditions hereinafter set forth.

E. In addition, the Borrowers, the Lenders, the Swing Line Lender and the Administrative Agent have agreed to amend the Credit Agreement as hereinafter set forth.

AGREEMENTS:

NOW, THEREFORE, in consideration of the foregoing Recitals and the mutual agreements hereinafter set forth, the parties hereby agree as follows:

1. CONSENT. Subject to the terms and conditions of this Third Amendment, including, without limitation, this Section 1 and Section 3, below, the Lenders hereby consent to the Acquisition. The foregoing consent of the Lenders is subject to the Borrowers' performance and satisfaction of each and all of the following conditions:

(i) all of the terms and conditions contained in the definition of "Permitted Acquisition" set forth in Section 1.1 of the Credit Agreement (other than the condition contained in clause (iv) thereof, which shall be deemed satisfied upon the effectiveness of this Third Amendment) shall have been satisfied prior to or concurrently with the consummation of the Acquisition;

(ii) prior to or concurrently with the Acquisition, the Parent shall cause the

Acquired Company to execute and deliver to the Administrative Agent, for the benefit of the Administrative Agent, the Swing Line Lender and the Lenders, (i) a Guaranty, in all material respects in the form of that executed and delivered by each of the Guarantors and (ii) a Security Agreement in the form of the Subsidiary Security Agreement.

(iii) the aggregate of (A) the aggregate consideration (in whatsoever form, including, without limitation, liabilities assumed by any Credit Party and consulting agreements, non-competition agreements, "golden parachute" agreements and the like) required to be paid in cash, directly or indirectly, by the Credit Parties, or any of them, whether at the closing of the Acquisition or on a deferred basis, in connection with the Acquisition and (B) the aggregate amount of all fees, commissions, and other expenses incurred by the Credit Parties, or any of them, in connection with the Acquisition shall not exceed Twelve Million Dollars ($12,000,000);

(iv) not later than ten (10) Business Days prior to the date on which the Acquisition is consummated, the Parent shall deliver to the Administrative Agent true and complete copies of the definitive acquisition agreement in respect thereof and all other material agreements by which the Parent or any other Credit Party will be bound in connection with the Acquisition (collectively, the "Acquisition Agreement");

(v) the Acquisition shall be consummated on terms not less favorable in any material respect to the Parent than the terms therefor previously disclosed in the Disclosure Letter and the Acquisition Agreement; and

(vi) the Acquisition shall be consummated no later than September 30, 2002.

2. AMENDMENTS TO THE CREDIT AGREEMENT. Subject to the terms and conditions of this Third Amendment, including, without limitation, Section 3, below, the Credit Agreement is hereby

amended as follows:

A. The following definitions are added to Section 1.1 (Definitions) of the Credit Agreement in proper alphabetical order:

"ACCOUNTS" shall mean "Receivables", as that term is defined in, as applicable, the Security Agreement or the Subsidiary Security Agreement.

"ACCOUNT DEBTOR" shall mean "account debtor" (as defined in the UCC), including, without limitation, any person who is or becomes obligated to a Borrower under, with respect to, or on account of an Account.

"ACQUISITION" shall have the meaning ascribed to such term in the Third Amendment to this Agreement.

"BORROWING BASE" shall mean at any time and from time to time, an amount equal to the aggregate of:

(i) an amount equal to eighty percent (80%) of the face value of the Eligible Accounts at such time, as reflected on the most recent Borrowing Base Certificate,

(ii) the lesser of (a) $45,000,000 and (b) an amount equal to fifty percent (50%) of the value (at the lower of cost or market value) of the Eligible Inventory at such time, as reflected on the most recent Borrowing Base Certificate; and

(iii) the Equipment Amount at such time.

"BORROWING BASE CERTIFICATE" shall have the meaning specified in Section 8.1(i) of this Agreement.

"DEVELOPMENT BOND SITES" shall mean, collectively, the following sites leased by a Credit Party:

(a) known as 6100 South Tucson Boulevard, Tucson, Arizona and subject to the terms of the Industrial Development Variable Rate Demand Refunding Revenue Bonds, Series 1994 (Brush Wellman Inc. Tucson, Arizona Project);

(b) known as 14710 West Portage River South Road, Elmore, Ohio and subject to the terms of the Toledo-Lucas County Port Authority Taxable Project Development Revenue Bonds, Series 1996 (Brush Wellman Inc. Project); and

(c) known as 7375 Industrial Parkway, Lorain, Ohio and subject to the terms of the Lorain Port Authority, Ohio Variable Rate Demand Industrial Development Revenue Bonds, Series 1996 (Brush Wellman Inc. Project).

"ELIGIBLE ACCOUNTS" shall mean only such Accounts of a Credit Party as the Administrative Agent, in its reasonable discretion, shall from time to time consider to be Eligible Accounts and, by way of example and not limitation, excluding Accounts which:

(a) either (i) remain unpaid more than sixty (60) days after the original due date of invoice or (ii) have an original due date greater than ninety (90) days after the original date of invoice;

(b) have arisen from services performed by such Credit Party to or for the Account Debtor outside the ordinary course of business;

(c) have arisen from the sale by such Credit Party of goods where such goods have not been shipped or delivered to the Account Debtor;

(d) have arisen from transactions which are not complete, are not bona fide, or require further acts on the part of such Credit Party to make such Account payable by the Account Debtor;

(e) have arisen in connection with sales of goods which were shipped or delivered to the Account Debtor on other than an absolute sale basis, such as shipments or deliveries made on consignment, a sale or return basis, a guaranteed sale basis, a bill and hold basis, or on the basis of any similar understanding;

(f) have arisen in connection with sales of goods which were, at the time of sale thereof, subject to any Lien, except the security interest in favor of the Administrative Agent created by the Credit Documents; PROVIDED, HOWEVER, that Accounts arising from the sale of goods containing precious or semi-precious metals or copper that are subject to any Lien (other than pursuant to the Credit Documents) shall cease to be excluded from eligibility pursuant to this clause (f) if and when such Lien is terminated or otherwise subordinated to the Lien created by the Security Documents pursuant to the written agreement of the holder of such other Lien in form and substance satisfactory to the Administrative Agent in its sole discretion;

(g) are subject to any provision prohibiting assignment or requiring notice of or consent to such assignment;

(h) are subject to any Lien other than the Lien in favor of the Administrative Agent (without limiting the generality of this clause (h), it being acknowledged and agreed by the Borrowers that none of the Accounts of Williams Advanced Materials, Inc. shall be Eligible Accounts unless and until any and all Liens securing its obligations under precious metals leases, consignments or similar metals arrangements are terminated or subordinated to the Lien of the Security Documents in a manner satisfactory to the Administrative Agent);

(i) are subject to any setoff, counterclaim, defense, allowance, dispute, or adjustment, or have arisen in connection with the sale of goods which have been returned,

rejected, repossessed, lost or damaged;

(j) are owed from an Account Debtor of which such Credit Party or the Administrative Agent has received notice that such Account Debtor is the "debtor" under a case, voluntary or involuntary, commenced under the Bankruptcy Code, has made an assignment for the benefit of its creditors, has suspended normal business operations, dissolved, liquidated or terminated its existence or for which (or for the property of which) a receiver, trustee or equivalent party has been appointed;

(k) are Accounts with respect to which the Account Debtor is located in any state which requires that such Credit Party, in order to sue any Person in such state's courts, either (i) qualify to do business in such state or (ii) file a report with the taxation division of such state for the then current year, unless such Credit Party has fulfilled such requirements to the extent applicable for the then current year;

(l) are evidenced by chattel paper or any instrument of any kind (including, without limitation, any promissory notes), unless such chattel paper or instrument is delivered to the Administrative Agent in accordance with the Security Agreement or Subsidiary Security Agreement;

(m) are Accounts with respect to which any of the representations, warranties, covenants and agreements contained in this Agreement or any of the Credit Documents are not or have ceased to be complete and correct or have been breached;

(n) are Accounts with respect to which the Administrative Agent does not have a first priority, perfected Lien;

(o) represent a progress billing or have had the time for payment extended by such Credit Party (for the purposes hereof, "progress billing" means any invoice for goods sold or leased or services rendered under a contract or agreement pursuant to which the Account Debtor's obligation to pay such invoice is conditioned upon such Credit Party's completion of any further performance under the contract or agreement), unless as to any of the foregoing the Administrative Agent has, in its sole discretion, approved in writing such Account to be included as an Eligible Account;

(p) are owed by a Person that is not a citizen of or organized under the laws of the United States or any State or are owed by any Person located outside of the United States unless (i) such Accounts are owed by an Account Debtor located in Canada and the Administrative Agent has a first priority Lien perfected to its reasonable satisfaction in such Accounts, or (ii) payment of such Accounts is guaranteed by a letter of credit in form and substance and issued by a financial institution reasonably satisfactory to the Administrative Agent, and which has been transferred or assigned to the Administrative Agent as security for the Obligations;

(q) are owed by the United States or any department, agency, or instrumentality thereof unless such Credit Party has complied with the Federal Assignment of Claims Act

of 1940, as amended, in respect of the Administrative Agent's security interest therein as granted under the Security Documents;

(r) are owed by any State or any department, agency, or instrumentality thereof unless such Credit Party has complied with any applicable State statutory or regulatory equivalent of the Federal Assignment of Claim Act of 1940, as Amended, in respect of the Administrative Agent's security interest therein as granted under the Security Documents;

(s) are owed by an Affiliate of such Credit Party;

(t) which, when added to any and all other Accounts of the Account Debtor thereof owing to such Credit Party, produce an aggregate indebtedness from such Account Debtor of more than twenty-five percent (25%) of the total of all of such Credit Party's Eligible Accounts, unless, as to a specified Account Debtor, the Administrative Agent, in its sole discretion, determines a higher or lower percentage;

(u) are owed by an Account Debtor with respect to which more than fifty percent (50%) of the balances then outstanding on Accounts owed by such Account Debtor and its Affiliates to such Credit Party has remained unpaid for more than ninety (90) days from the dates of their original due dates, as applicable; or

(v) are, in the Administrative Agent's reasonable credit judgment, Accounts of an Account Debtor which is deemed to be an unacceptable credit risk or Accounts which are otherwise deemed unacceptable.

"ELIGIBLE INVENTORY" shall mean only such raw materials and finished goods Inventory of a Credit Party, valued at the lower of cost (on a first in, first out basis) or fair market value, as the Administrative Agent, in its reasonable discretion, shall from time to time consider to be Eligible Inventory and, by way of example and not limitation, excluding Inventory which:

(a) consists of obsolete, damaged, defective, unmerchantable, spoiled, outdated or unsalable items;

(b) consists of goods not held for sale, such as any labels, any maintenance items, any supplies and packaging, and any Inventory used in connection with research and development; provided, that raw materials shall not be considered goods not held for sale under this clause (b);

(c) is subject to a Lien other than the Lien created by the Security Documents; PROVIDED, HOWEVER, that Inventory consisting of or containing precious or semi-precious metals or copper that are subject to any Lien (other than pursuant to the Credit Documents) shall cease to be excluded from eligibility pursuant to this clause (c) if and when such Lien is terminated or otherwise subordinated to the Lien created by the Security Documents pursuant to the written agreement of the holder of such other Lien in form and substance satisfactory to the Administrative Agent in its sole discretion (without limiting the generality

of this clause (c), it is acknowledged and agreed by the Borrowers that none of the Inventory of Williams Advanced Materials, Inc. shall be Eligible Inventory unless and until any and all Liens securing its obligations under precious metals leases, consignments or similar metals arrangements are terminated or subordinated as provided in the immediately preceding proviso);

(d) is not subject to a first priority, perfected Lien in favor of the Administrative Agent;

(e) is located at a location, other than the Development Bond Sites, not owned by such Credit Party and for which such Credit Party has not delivered to the Administrative Agent an appropriate landlord or warehouseman's waiver, in form and substance reasonably satisfactory to the Administrative Agent; PROVIDED, HOWEVER, that (i) through the close of business on April 15, 2002, Inventory situated at any such location shall not be excluded from Eligible Inventory solely by reason of such Credit Party's failure to deliver a waiver in respect of such location to the Administrative Agent, and (ii) thereafter, Inventory situated at a site as to which no such waiver has been delivered shall not be excluded from Eligible Inventory solely by reason of such Credit Party's failure to deliver such waiver if, at the Borrowers' request, an amount equal to three (3) months' rent, storage fees or the like has been reserved from the Borrowing Base;

(f) is in the possession of a bailee or other third Person including Inventory held by a third party for processing or Inventory purchased by but not yet delivered to such Credit Party and for which such Credit Party has not delivered to the Administrative Agent an appropriate bailee's waiver, in form and substance satisfactory to the Administrative Agent;

(g) subject to clause (c), above, is held by such Credit Party on consignment or Inventory held by or placed into the possession of a third Person for sale or display by that Person;

(h) is located outside of the United States; except, that Inventory located in Canada shall not be excluded from Eligible Inventory under this clause (h) unless the Administrative Agent's security interest therein for the benefit of the Lenders has not been perfected by filing;

(i) is manufactured, produced or purchased pursuant to any contract with the United States government, any agency or instrumentality thereof or prime contractor thereof, which contract provides for progress or advance payments to the extent such Inventory is identified to such contract, unless as to any of the foregoing the Administrative Agent has, in its sole discretion, approved in writing such Inventory to be included as Eligible Inventory; or

(j) is, in the Administrative Agent's reasonable credit judgment, Inventory which is otherwise deemed ineligible.

"EQUIPMENT AMOUNT" shall mean, during the period commencing on the Delivery

Date of the Third Amendment to this Agreement and ending on the close of business on June 15, 2002, inclusive, One Million Five Hundred Thousand Dollars ($1,500,000) and, thereafter, such amount or amounts as the Administrative Agent (in its sole discretion) from time to time designates in writing to the Borrowers and the Lenders as the Equipment Amount, taking into account such appraisals of the Credit Parties equipment and other factors as the Administrative Agent may in its discretion deem appropriate; PROVIDED, HOWEVER, it is agreed and understood that, notwithstanding the appraised value of the Credit Parties' equipment, the Administrative Agent may in its sole discretion assign any non-negative amount, including zero ($-0-), to be the Equipment Amount, it being the original understanding of the Lenders, the Administrative Agent and the Borrowers that only Accounts and Inventory would be included in the computation of the Borrowing Base.

"INVENTORY" shall mean "Inventory", as that term is defined in, as applicable, the Security Agreement or the Subsidiary Security Agreement.

"INTEREST COVERAGE RATIO" shall mean, as of the end of any fiscal quarter of the Parent, the ratio of (i) Consolidated EBITDAR for such fiscal quarter to (ii) an amount equal to the sum of (a) Consolidated Interest Expense for such fiscal quarter, plus (b) Consolidated Rental Expense for such fiscal quarter.

"LETTER OF CREDIT EXPOSURE" shall mean, at any time, as to each Lender, the product of (i) the General Revolving Facility Percentage of such Lender at such time, TIMES (ii) the aggregate Letter of Credit Outstandings at such time.

B. The definitions of "Consolidated Fixed Charge Coverage Ratio" and "Maturity Date" in Section 1.1 (Definitions) of the Credit Agreement are amended and restated to provide, respectively, as follows:

"CONSOLIDATED FIXED CHARGE COVERAGE RATIO" shall mean, for any
Testing Period, the ratio of (a) Consolidated EBITDA for that Testing Period to (b) the sum of (i) Consolidated Interest Expense and Consolidated Income Tax Expense for that Testing Period, PLUS (ii) scheduled or mandatory repayments, prepayments or redemptions during that Testing Period of the principal of Indebtedness (including Capitalized Lease Obligations and required reductions in committed credit facilities) with a final maturity date more than one year after the end of that Testing Period, PLUS (iii) the sum of all payments for dividends, stock repurchases or other stock redemptions, and other purposes described in section 9.6, if any, in each case on a consolidated basis for the Borrower and the Subsidiaries for such Testing Period; PLUS (iv) Consolidated Capital Expenditures for that Testing Period; provided that notwithstanding anything to the contrary contained herein, the Consolidated Fixed Charge Coverage Ratio for any Testing Period shall (A) include the appropriate financial items for any person or business unit which has been acquired by a Borrower or any Subsidiary for any portion of such Testing Period prior to the date of acquisition, and (B) exclude the appropriate financial items for any person or business unit which has been disposed of by a Borrower or any Subsidiary, for the portion of such Testing Period prior to

the date of disposition.

* * *

"MATURITY DATE" shall mean October 1, 2003, or such earlier date on which the Total Commitment is terminated.

C. The definition of "Consolidated Net Worth" in Section 1.1 (Definitions) of the Credit Agreement is amended by adding the following clause to the end of such definition immediately following the word "Stock" and before the period:

; and PROVIDED FURTHER that Consolidated Net Worth shall be calculated (i) before the effect of FAS 133 - Accounting for Derivatives Instruments and Hedging Activities and FAS 138 - Accounting for Certain Derivatives Instruments and Certain Hedging Activities (prior to the "Delivery Date" of the Third Amendment to this Agreement, such item appearing under the stockholders' equity category "Foreign Currency Translation Adjustment") and (ii) without reduction for Directors Deferred Compensation (prior to the "Delivery Date" of the Third Amendment to this Agreement, such item appearing under the stockholders' equity categories "Other Equity Transactions - Deferred Directors Shares and Deferred Compensation").

D. The definition of "Permitted Precious Metal Consignments" in Section 1.1 (Definitions) of the Credit Agreement is amended by deleting therefrom the words and numerals "does not exceed an amount greater than $140,000,000" and inserting in their stead, immediately following the words "those consignment arrangements" the words and numerals "(that is, the aggregate outstanding liability, fixed or contingent, but without duplication, of all Credit Parties in respect of all such consignment arrangements) does not exceed $70,000,000 at any time".

E. Clause (vi) of Section 2.1(a) (General Revolving Facility) of the Credit Agreement is amended and restated in its entirety to provide as follows:

(vi) shall not exceed for any Lender at any time outstanding that aggregate principal amount which, when added to the Letter of Credit Exposure of such Lender at such time, equals the LESSER of (A) the General Revolving Commitment of such Lender at such time or (B) an amount equal to the product of (1) the Borrowing Base at such time, TIMES (2) the General Revolving Facility Percentage of such Lender at such time.

F. Clause (vii) of Section 2.1(b) (Swing Line Revolving Facility) of the Credit

Agreement is amended and restated in its entirety to provide as follows:

(vi) may only be made if, after giving effect thereto, both (A) the Unutilized Total General Revolving Commitment, less the aggregate Letter of Credit Outstandings, at such time exceeds the outstanding Swing Line Revolving Loans, and (B) the Borrowing Base at such time exceeds an amount equal to the aggregate of, at such time (1) the aggregate outstanding General Revolving Loans, PLUS (2) the aggregate Letter of Credit Outstandings, PLUS (3) the outstanding Swing Line Revolving Loans;

G. The Pricing Grid Table and the last sentence of Section 2.8(h) (Interest Margins) of the Credit Agreement are amended and restated in their entirety to provide as follows:

PRICING GRID TABLE
(expressed in basis points per annum)

RATIO OF CONSOLIDATED TOTAL DEBT TO CONSOLIDATED EBITDAR	APPLICABLE EURODOLLAR MARGIN FOR GENERAL REVOLVING LOANS	APPLICABLE PRIME RATE MARGIN	APPLICABLE FACILITY FEE RATE
Greater than or equal to 5.00 to 1.00	350	100	50
Greater than 4.00 to 1.00 and less than 5.00 to 1.00	300	75	50
Greater than 3.50 to 1.00 and less than or equal to 4.00 to 1.00	250	50	40
Greater than 3.00 to 1.00 and less than or equal to 3.50 to 1.00	200	25	30
Greater than 2.50 to 1.00 and less than or equal to 3.00 to 1.00	175	0	30
Less than or equal to 2.50 to 1.00	150	0	25

(i) Notwithstanding anything to the contrary contained in the foregoing, from April 1, 2002, through and including December 31, 2002, and thereafter until changed hereunder in accordance with the provisions of the Pricing Grid Table set forth above, for all purposes of this Agreement, the Applicable Eurodollar Margin for General Revolving Loans shall be three hundred fifty (350) basis points per annum, the Applicable Prime Rate Margin shall be one hundred (100) basis points per annum, and the Applicable Facility Fee Rate shall be fifty (50) basis points per annum; and (ii) the charging of interest and fees based upon the foregoing Pricing Grid Table based upon the first three ratio levels (reading from top to bottom) set forth therein shall not be construed to waive any Event of Default which may exist under Section 9.8, below, or limit any right or remedy of the Administrative Agent or

the Lenders by reason thereof.

H. Clause (i) of Section 2A.1(b) (Letters of Credit) of the Credit Agreement is amended and restated in its entirety to provide as follows:

(i) no Letter of Credit shall be issued if, after giving effect thereto, either (A) the Letter of Credit Outstandings would exceed $5,000,000, or (B) the Letter of Credit Outstandings, when added to the aggregate principal amount of all General Revolving Loans and all Swing Line Revolving Loans then outstanding, would exceed the lesser of (1) the Total General Revolving Commitment at such time or (2) the Borrowing Base at such time;

I. The title and first sentence of Section 5.2(a) (If Outstanding General Revolving Loans and Swing Line Loans Exceed Total General Revolving Commitment) of the Credit Agreement are amended and restated in their entirety to provide as follows:

(a) IF OUTSTANDING GENERAL REVOLVING LOANS AND SWING LINE LOANS AND LETTER OF CREDIT OUTSTANDINGS EXCEED TOTAL GENERAL REVOLVING COMMITMENT OR BORROWING BASE. If on any date (after giving effect to any other payments on such date) the sum of (i) the aggregate outstanding principal amount of General Revolving Loans and the Letter of Credit Outstandings, PLUS (ii) the aggregate outstanding principal amount of Swing Line Revolving Loans, EXCEEDS the lesser of (A) the Total General Revolving Commitment in effect on such date or (B) the Borrowing Base on such date, the Borrowers shall prepay on such date that principal amount of Swing Line Revolving Loans and, after Swing Line Revolving Loans have been paid in full, Unpaid Drawings and General Revolving Loans, in an aggregate amount at least equal to such excess and conforming, in the case of partial prepayments of any Loans, to the applicable requirements as to the amounts of partial prepayments which are contained in Section 5.1.

J. Section 8.1(i) (Other Information) is re-designated as Section 8.1(j), and the following provision is inserted as a new Section 8.1(i):

(i) MONTHLY FINANCIAL STATEMENTS; BORROWING BASE CERTIFICATE; INSPECTION.

(i) No later than March 25, 2002 with respect to the monthly period ending February 28, 2002 and thereafter as soon as available and in any event within twenty (20) days after the close of each of the monthly accounting periods in each fiscal year of the Parent (that is, ending March 31, 2002 and thereafter), the unaudited consolidated and consolidating balance sheets of the Parent and the Subsidiaries as at the end of such monthly period and the related unaudited consolidated and consolidating statements of income and cash flows for such monthly period, and setting forth, in the case of such unaudited statements of income and of cash flows, comparative figures for the related periods in the prior fiscal year, and which financial statements shall be certified as true and correct on

behalf of the Parent by a Principal Officer of the Parent, subject to changes resulting from normal year-end audit adjustments.

(ii) On the "Delivery Date" of the Third Amendment to this Agreement, no later than March 25, 2002 with respect to the monthly period ending February 28, 2002 and thereafter as soon as available and in any event within twenty (20) days after the close of each of the monthly accounting periods in each fiscal year of the Parent (that is, ending March 31, 2002 and thereafter): (A) a certificate reflecting the calculation of each Credit Party's Eligible Accounts and Eligible Inventory, in form and content reasonably satisfactory to the Administrative Agent (each a "Borrowing Base Certificate"), (B) a summary aged trial balance of each Credit Party's Accounts dated as of the date of the Borrowing Base Certificate reconciled to the respective general ledger balance (and upon the Administrative Agent's request, a detailed aged trial balance of all then existing Accounts specifying the names, face value and dates of invoices for each Account Debtor obligated on an Account so listed), and (C) an Inventory record and trial balance for each Credit Party, broken down into such detail and with such categories as the Administrative Agent shall reasonably require (including, but not limited to, a report indicating the type, location and amount of raw materials and finished goods and all other information deemed reasonably necessary by the Administrative Agent to determine the Eligible Inventory of such Credit Party.

(iii) The Administrative Agent and each Lender (through any of their respective officers, employees, or agents) shall have the right, from time to time, upon reasonable notice and during normal business hours, to inspect the books and records of the Credit Parties and to check, test, and appraise the Collateral in order to verify each Credit Party's financial condition or the amount, quality, value, condition of, or any other matter relating to, the Collateral; provided, that, to the extent reasonably possible, any such inspection, check, test or appraisal shall not unreasonably interfere with the daily operations of any Credit Party. The Borrowers agree to reimburse the Administrative Agent for such costs and expenses as the Administrative Agent may reasonably incur in connection with any inspection, audit or verification of the Credit Parties' financial or other records, the Collateral or the premises upon which the Collateral is located or any other security for the Obligations; provided, however, that (i) so long as no Default or Event of Default has occurred and is continuing, the Borrowers shall be required to make reimbursement for the costs and expenses arising out of no more than two (2) Collateral audits/field examinations in any calendar year, and (ii) the Administrative Agent shall provide to the Borrowers reasonable substantiation of the costs and expenses required to be reimbursed hereunder.

K. Section 9.2(e) of the Credit Agreement is amended and restated in its entirety to provide as follows:

(e) CAPITAL EXPENDITURES: The Borrowers and the Subsidiaries shall be permitted to make Consolidated Capital Expenditures, provided that (A) expenses for mining property, plant and equipment shall not exceed $25,000,000 during any consecutive thirty-six (36) month period, and (B) Consolidated Capital Expenditures, excluding expense for mining property, plant or equipment, do not during any fiscal year of the Parent exceed the amount

specified below:

Fiscal Year Ending	Amount
December 31, 2000	$35,000,000
December 31, 2001	$40,000,000
December 31, 2002	$25,000,000
December 31, 2003	$35,000,000

L. The following proviso is added to the end of Section 9.3(e) of the Credit Agreement immediately after the word "time" and before the period:

; provided, however, that the sale by Brush Wellman Japan, Ltd. of its Accounts to SMBC Finance Co. Ltd, pursuant to the proposed Agreement on the Sales of Notes in the form delivered to the Administrative Agent prior to March 14, 2002 may be with recourse, but only so long as the aggregate amount for which Brush Wellman Japan, Ltd. has recourse liability does not at any time exceed $5,000,000.

M. Section 9.6 (Dividends, Stock Repurchase, etc.) of the Credit Agreement is amended and restated in its entirety to provide as follows:

9.6 DIVIDENDS, STOCK REPURCHASE, ETC.

(a) The Parent will not directly or indirectly declare, order, pay or make any dividend (other than dividends payable solely in capital stock of the Parent) or other distribution on or in respect of any capital stock of any class of the Parent, whether by reduction of capital or otherwise.

(b) Neither Borrower will directly or indirectly make, or permit any of the Subsidiaries to directly or indirectly make, any purchase, redemption, retirement or other acquisition of (i) any of its capital stock of any class (other than for a consideration consisting solely of capital stock of that person), or (ii) any warrants, rights or options to acquire or any securities convertible into to exchangeable for any of its capital stock.

N. Section 9.7 (Ratio of Consolidated Total Debt to Consolidated Total Adjusted Capital and Minimum EBITDAR) of the Credit Agreement is amended and restated in its entirety to provide as follows:

9.7 RATIO OF CONSOLIDATED TOTAL DEBT TO CONSOLIDATED TOTAL ADJUSTED CAPITAL AND INTEREST COVERAGE RATIO.

(a) The Borrowers will not at any time permit the ratio, expressed as a percentage, of (i) the amount of Consolidated Total Debt to (ii) Consolidated Total Adjusted

Capital, to exceed (A) 50% from the date of this Agreement through and including September 30, 2001, (B) 43% for the period commencing October 1, 2001, through and including December 31, 2001; (C) 45% for the period commencing January 1, 2002, through and including September 30, 2002; and (D) 50% on and after October 1, 2002.

(b) The Borrowers shall not permit the Interest Coverage Ratio, as of the end of either of the fiscal quarters of the Parent ending on June 30, 2002 and September 30, 2002, to be less than 1.00 to 1.00; provided, however, that (i) if the Acquisition occurs during the Parent's first fiscal quarter of 2002, the Borrowers shall not permit the Interest Coverage Ratio, as of the end of the fiscal quarter of the Parent ending on June 30, 2002, to be less than 1.30 to 1.00, and (ii) if the Acquisition occurs during the Parent's second fiscal quarter of 2002, the Borrowers shall not permit the Interest Coverage Ratio, as of the end of the fiscal quarter of the Parent ending on September 30, 2002, to be less than 2.25 to 1.00.

O. Clause (iv) of Section 9.8 of the Credit Agreement (Ratio of Consolidated Total Debt to Consolidated EBITDAR) is amended and restated in its entirety to provide as follows:

(iv) 3.50 to 1.00 for each Testing Period ending on and after December 31, 2002; provided, however, that for the purposes of this clause (iv), (A) the term "Testing Period" shall mean, as to each of the fiscal quarters ending on the following dates only, the respective period set forth opposite such fiscal quarter:

Fiscal Quarter Ending	Testing Period
December 31, 2002	October 1, 2002 through December 31, 2002
March 31, 2003	October 1, 2002 through March 31, 2003, and
June 30, 2003	October 1, 2002 through June 30, 2003

and (B) in computing such ratio for the Testing Period ending December 31, 2002, Consolidated EBITDAR shall be deemed to mean an amount equal to Consolidated EBITDAR for such Testing Period, TIMES four (4); in computing such ratio for the Testing Period ending March 31, 2003, Consolidated EBITDAR shall be deemed to mean an amount equal to Consolidated EBITDAR for such Testing Period, TIMES two (2); and, in computing such ratio for the Testing Period ending June 30, 2003, Consolidated EBITDAR shall be deemed to mean an amount equal to Consolidated EBITDAR for such Testing Period, TIMES one and one-third (1 1/3).

P. Section 9.9 (Consolidated Fixed Charge Coverage Ratio) of the Credit Agreement is amended and restated in its entirety to provide as follows:

9.9. CONSOLIDATED FIXED CHARGE COVERAGE RATIO. The Borrowers will not at any time permit the Consolidated Fixed Charge Coverage Ratio to be less than 2.00 to 1.00 for any Testing Period ending on or before September 30, 2001, or permit the Consolidated Fixed Charge Coverage Ratio for any of the Testing Periods set forth below to be less than

the ratio set forth opposite such Testing Period:

Fiscal Quarter Ending	Minimum Fixed Charge Coverage Ratio
December 31, 2002	1.00 to 1.00
March 31, 2003	1.25 to 1.00
June 30, 2003 and thereafter	1.50 to 1.00;

provided, however, that for the purposes of this Section 9.9, the term "Testing Period" shall mean, as to each of the fiscal quarters ending on the following dates only, the respective period set forth opposite such fiscal quarter:

Fiscal Quarter Ending	Testing Period
December 31, 2002	October 1, 2002 through December 31, 2002
March 31, 2003	October 1, 2002 through March 31, 2003, and
June 30, 2003	October 1, 2002 through June 30, 2003.

Q. Section 9.10 (Consolidated Tangible Net Worth) of the Credit Agreement is amended and restated in its entirety to provide as follows:

9.10 CONSOLIDATED TANGIBLE NET WORTH. The Borrowers will not permit the Consolidated Tangible Net Worth to be less than $200,000,000 as of December 31, 2001 or at any time thereafter.

R. Section 9.14 (Certain Leases) of the Credit Agreement is amended and restated in its entirety to provided as follows:

9.14 CERTAIN LEASES. The Borrowers will not permit the aggregate payments (excluding any property taxes, insurance or maintenance obligations paid by the Borrowers and the Subsidiaries as additional rent or lease payments) by the Borrowers and the Subsidiaries on a consolidated basis under agreements to rent or lease any real or personal property for a period exceeding 12 months (including any renewal or similar option periods) (other than any leases constituting Capital Leases, Synthetic Leases or, subject to section 9.12, leases between the Borrowers, between Subsidiaries or between a Borrower and a Subsidiary), to exceed in any fiscal year of the Borrowers an amount greater than 5.00% of the Consolidated Net Worth of the Borrowers as of the date of the financial statements then most recently furnished to the Lenders under section 8.1(a).

S. The parenthetical "(including, without limitation, any prepayment required by the provisions of Section 5.2, above)" is inserted at the end of clause (i) of Section 10.1(a) (Payments) of the Credit Agreement, immediately following the word "Loans" and before the semi-colon.

3. DELIVERY DATE; CONDITIONS PRECEDENT. The consent set forth in Section 1, above, and the modifications to the Credit Agreement set forth in Section 2, above, are subject to the Borrowers' performance of the following (the date on which all have been performed being the "Delivery Date"):

A. Each Borrower's secretary or treasurer shall have certified to each Lender (i) a copy of the resolutions duly adopted by that Borrower's board of directors in respect of this Amendment; (ii) true and correct copies of that Borrower's current Charter or Articles of Incorporation and By-laws or Code of Regulations; (iii) the names and true signatures of the officers of that Borrower authorized to sign this Third Amendment and the amendment to the Security Agreement on behalf of that Borrower; (iv) that, after giving effect to the amendments set forth herein, no Event of Default or Default exists; and (v) the representations and warranties of the Borrowers under the Credit Agreement are reaffirmed as of the Delivery Date, subject only to variance therefrom acceptable to the Administrative Agent.

B. Each Guarantor's secretary or treasurer shall have certified to each Lender (i) a copy of the resolutions duly adopted by that Guarantor's board of directors in respect of this Amendment, (ii) true and correct copies of that Guarantor's current Charter or Articles of Incorporation and By-laws or Code of Regulations, (iii) the names and true signatures of the officers of that Guarantor authorized to sign this Amendment and the Amendment to the Security Agreement on behalf of that Guarantor; and (iv) that, after giving effect to the amendments set forth herein, no Event of Default or Default exists (provided, however, that at the option of the Borrowers, the documents described in clause (ii), above, in respect of Williams Acquisition, LLC may be delivered to the Administrative Agent not later than 30 days after the Delivery Date).

C. Counsel to the Borrowers and the Guarantors shall have delivered to each Lender a

written opinion as to the due authorization, execution, delivery and enforceability of this Third Amendment and the other documents described in paragraphs E, G and J, inclusive, of this Section 3, in form and substance satisfactory to the Administrative Agent (provided, however, that at the option of the Borrowers, the opinions in respect of Williams Acquisition, LLC and the documents described in paragraph J, below, may be delivered to the Administrative Agent promptly following the date on which such counsel is able to obtain the Articles of Organization of Williams Acquisition, LLC, certified by the Secretary of State of New York, and a certificate of valid existence, or its equivalent in New York, in respect of Williams Acquisition, LLC).

D. The Borrowers shall have paid to the Administrative Agent, for the ratable benefit of the Lenders, an amendment fee in the amount of One Hundred Sixty-two Thousand Five Hundred Dollars ($162,500).

E. All of the parties to the Intercreditor and Collateral Agency Agreement dated September 28, 2001 shall have executed and delivered to Administrative Agent a First Amendment to Intercreditor and Collateral Agency Agreement in the form of Attachment 1 hereto.

F. The Borrowers and the Guarantors shall have executed and delivered to the Administrative Agent such Security Documents, and shall have taken or caused to be taken such other actions, if any, as the Administrative Agent may reasonably deem necessary or appropriate to cause the Administrative Agent's Lien on the Credit Parties' patents and registered marks and applications therefor to be registered with the Office of Patents and Trademarks of the United States Department of Commerce.

G. Each of the Guarantors shall have executed a confirmation of its Guaranty and Security Documents in the form of Attachment 2 hereto.

H. All of the parties to the Synthetic Lease shall have executed and delivered an

amendment thereto in form and substance satisfactory to the Administrative Agent, and all conditions to its effectiveness shall have been satisfied.

I. The Borrowers shall have executed and delivered to the Administrative Agent a Borrowing Base Certificate as of January 31, 2002.

J. The Borrowers shall have caused Williams Acquisition, LLC (a New York limited liability company doing business as "Pure Tech") to execute and deliver to the Administrative Agent a Guaranty (substantially in the form of the Guaranties) and to join in the Subsidiary Security Agreement as an "Assignor" thereunder pursuant to a joinder satisfactory to the Administrative Agent in form and substance.

K. The Borrowers shall have delivered or caused to be delivered such other documents as Administrative Agent or any of the Lenders may reasonably request.

4. NO OTHER MODIFICATIONS; SAME INDEBTEDNESS. Except as expressly provided in this Third Amendment, all of the terms and conditions of the Credit Agreement and the other Credit Documents remain unchanged and in full force and effect. The modifications effected by this Third Amendment and by the other instruments contemplated hereby shall not be deemed to provide for or effect a repayment and re-advance of any of the Loans now outstanding, it being the intention of both the Borrowers and the Lenders hereby that the indebtedness owing under the Credit Agreement, as amended by this Third Amendment, be and hereby is the same Indebtedness as that owing under the Credit Agreement immediately prior to the effectiveness hereof.

5. GOVERNING LAW; BINDING EFFECT. This Third Amendment shall be governed by and construed in accordance with the laws of the State of Ohio and shall be binding upon and inure to the benefit of the Borrowers, the Lenders, the Administrative Agent and the Swing Line Lender and their respective successors and assigns.

6. COUNTERPARTS. This Third Amendment may be executed in separate counterparts, each of which shall be deemed to be an original, and all of which together shall be deemed a fully executed agreement.

7. MISCELLANEOUS.

A. The Borrowers jointly and severally agree to pay on demand all costs and expenses of the Lenders and the Administrative Agent, including reasonable attorneys' fees and expenses, incurred in connection with the preparation, execution and delivery of this Third Amendment and the other documents contemplated hereby, including, without limitation, the Amendment to Intercreditor and Collateral Agency Agreement.

B. This Third Amendment is executed in accordance with and subject to Section 12.12 of the Credit Agreement. The execution, delivery and performance by the Lenders, the Swing Line Lender and the Administrative Agent of this Third Amendment shall not constitute, or to be deemed to be or construed as, a waiver of any right, power or remedy of the Lenders, the Swing Line Lender or the Administrative Agent, or a waiver of any provision of the Credit Agreement, except as expressly stated herein. None of the provisions of this Third Amendment shall constitute, or to be deemed to be or construed as, a waiver of any Event of Default or any Default.

IN WITNESS WHEREOF, the Borrowers, the Lenders, the Administrative Agent and the Swing Line Lender have hereunto set their hands as of the date first above written.

BORROWERS:	ADMINISTRATIVE AGENT:
BRUSH WELLMAN INC. .	NATIONAL CITY BANK, AS ADMINISTRATIVE AGENT
By:_____ _____, _____	By:_____ Janice E. Focke, Senior Vice President
BRUSH ENGINEERED MATERIALS INC.	
By:_____ _____, _____	

[Signatures continued on the following page]

LENDERS:

FIFTH THIRD BANK, an Ohio banking corporation,/k/a FIFTH THIRD BANK, **NORTHEASTERN OHIO**

By:_____
_____, _____

NATIONAL CITY BANK, as Lender and Swing Line Lender

By:_____
Janice E. Focke, Senior Vice President

HARRIS TRUST AND SAVIGNS BANK

By:_____
_____, _____

U.S. BANK NATIONAL ASSOCIATION

F/k/a Firstar Bank

By: _____
_____, _____

MANUFACTURES AND TRADERS TRUST COMPANY

By: _____
_____, _____

LASALLE BANK NATIONAL ASSOCIATION

By: _____
_____, _____

EXHIBIT 10F

SEVERANCE AGREEMENT

THIS SEVERANCE AGREEMENT (this "Agreement"), dated as of October 8, 2001, is made and entered by and between Brush Engineered Materials Inc., an Ohio corporation (the "Company"), and _____ (the "Executive").

WITNESSETH:

WHEREAS, the Executive is a senior executive of the Company or one or more of its Subsidiaries and has made and is expected to continue to make major contributions to the short- and long-term profitability, growth and financial strength of the Company;

WHEREAS, the Company recognizes that, as is the case for most companies, the possibility of a Change in Control (as defined below) exists;

WHEREAS, the Company desires to assure itself of both present and future continuity of management and desires to establish certain minimum severance benefits for certain of its senior executives, including the Executive, applicable in the event of a Change in Control;

WHEREAS, the Company wishes to ensure that its senior executives are not practically disabled from discharging their duties in respect of a proposed or actual transaction involving a Change in Control; and

WHEREAS, the Company desires to provide additional inducement for the Executive to continue to remain in the employ of the Company.

NOW, THEREFORE, the Company and the Executive agree as follows:

1. CERTAIN DEFINED TERMS. In addition to terms defined elsewhere herein, the following terms have the following meanings when used in this Agreement with initial capital letters:

(a) "Affiliate" means with respect to any Person, any holder of more than 10% of the outstanding shares or equity interests of such Person or any other Person which directly or indirectly controls, is controlled by or is under common control with such Person. A Person shall be deemed to control another Person if such Person possesses, directly or indirectly, the power to direct or cause the direction of the management and policies of the "controlled" Person, whether through ownership of voting securities, by contract or otherwise.

(b) "Base Pay" means the Executive's annual base salary rate as in effect from time to time.

(c) "Board" means the Board of Directors of the Company.

(d) "Cause" means that, prior to any termination pursuant to
Section 3(a)(iii), Section 3(b) or Section 3(c), the Executive shall have:

(i) been convicted of a criminal violation involving fraud, embezzlement, theft or violation of federal antitrust statutes or federal securities laws in connection with his duties or in the course of his employment with the Company or any Affiliate of the Company;

(ii) committed intentional wrongful damage to property of the Company or any Affiliate of the Company;

(iii) committed intentional wrongful disclosure of secret processes or confidential information of the Company or any Affiliate of the Company; or

(iv) intentionally engaged in any activity in violation of Section 8;

and any such act shall have been demonstrably and materially harmful to the Company. For purposes of this Agreement, no act or failure to act on the part of the Executive shall be deemed "intentional" if it was due primarily to an error in judgment or negligence, but shall be deemed "intentional" only if done or omitted to be done by the Executive not in good faith and without reasonable belief that the Executive's action or omission was in the best interest of the Company. Notwithstanding the foregoing, the Executive shall not be deemed to have been terminated for "Cause" hereunder unless and until there shall have been delivered to the Executive a copy of a resolution duly adopted by the affirmative vote of not less than three quarters of the Board then in office at a meeting of the Board called and held for such purpose, after reasonable notice to the Executive and an opportunity for the Executive, together with the Executive's counsel (if the Executive chooses to have counsel present at such meeting), to be heard before the Board, finding that, in the good faith opinion of the Board, the Executive had committed an act constituting "Cause" as herein defined and specifying the particulars thereof in detail. Nothing herein will limit the right of the Executive or his beneficiaries to contest the validity or propriety of any such determination.

(e) "Change in Control" means

(i) The acquisition by any individual, entity or group (within the meaning of Section 13(d)(3) or 14(d)(2) of the Securities Exchange Act of 1934, as amended (the "Exchange Act")) (a "Person") of beneficial ownership (within the meaning of Rule 13d-3 promulgated under the Exchange Act) of voting securities of the Company where such acquisition causes such Person to own (X) 20% or more of the combined voting power of the then outstanding voting securities of the Company entitled to vote generally in the election of directors (the "Outstanding Company Voting Securities") without the approval of the Incumbent Board as defined in (ii) below or (Y) 35% or more of the Outstanding Voting Securities of the Company with the approval of the Incumbent Board; provided, however, that for purposes of this subsection (i), the following acquisitions shall not be deemed to result in a Change of Control: (A) any acquisition directly from the Company that is approved by the Incumbent Board (as defined in

subsection (ii), below), (B) any acquisition by the Company or a subsidiary of the Company, (C) any acquisition by any employee benefit plan (or related trust) sponsored or maintained by the Company or any corporation controlled by the Company, (D) any acquisition by any Person pursuant to a transaction described in clauses (A), (B) and (C) of subsection (iii) below, or (E) any acquisition by, or other Business Combination (as defined in (iii) below) with, a person or group of which employees of the Company or any subsidiary of the Company control a greater than 25% interest (a "MBO") but only if the Executive is one of those employees of the Company or any subsidiary of the Company that are participating in the MBO; provided, further, that if any Person's beneficial ownership of the Outstanding Company Voting Securities reaches or exceeds 20% or 35%, as the case may be, as a result of a transaction described in clause (A) or (B) above, and such Person subsequently acquires beneficial ownership of additional voting securities of the Company, such subsequent acquisition shall be treated as an acquisition that causes such Person to own 20% or 35% or more, as the case may be, of the Outstanding Company Voting Securities; and provided, further, that if at least a majority of the members of the Incumbent Board determines in good faith that a Person has acquired beneficial ownership (within the meaning of Rule 13d-3 promulgated under the Exchange Act) of 20% or more of the Outstanding Company Voting Securities inadvertently, and such Person divests as promptly as practicable a sufficient number of shares so that such Person beneficially owns (within the meanings of Rule 13d-3 promulgated under the Exchange Act) less than 20% of the Outstanding Company Voting Securities, then no Change of Control shall have occurred as a result of such Person's acquisition; or

(ii) individuals who, as of the date hereof, constitute the Board (the "Incumbent Board" (as modified by this clause (ii)) cease for any reason to constitute at least a majority of the Board; provided, however, that any individual becoming a director subsequent to the date hereof whose election, or nomination for election by the Company's shareholders, was approved by a vote of at least a majority of the directors then comprising the Incumbent Board (either by a specific vote or by approval of the proxy statement of the Company in which such person is named as a nominee for director, without objection to such nomination) shall be considered as though such individual were a member of the Incumbent Board, but excluding, for this purpose, any such individual whose initial assumption of office occurs as a result of an actual or threatened election contest with respect to the election or removal of directors or other actual or threatened solicitation of proxies or consents by or on behalf of a Person other than the Board; or

(iii) The consummation of a reorganization, merger or consolidation or sale or other disposition of all or substantially all of the assets of the Company or the acquisition of assets of another corporation, or other transaction ("Business Combination") excluding, however, such a Business Combination pursuant to which (A) the individuals and entities who were the ultimate beneficial owners of voting securities of the Company immediately prior to such Business Combination beneficially own, directly or indirectly, more than 65% of, respectively, the then outstanding shares of common stock and the combined voting power of the then outstanding voting securities entitled to vote generally in the election of directors, as the case may be, of the entity

resulting from such Business Combination (including, without limitation, an entity that as a result of such transaction owns the Company or all or substantially all of the Company's assets either directly or through one or more subsidiaries), (B) no Person (excluding any employee benefit plan (or related trust) of the Company, the Company or such entity resulting from such Business Combination) beneficially owns, directly or indirectly (X) 20% or more, if such Business Combination is approved by the Incumbent Board or (Y) 35% or more, if such Business Combination is not approved by the Incumbent Board, of the combined voting power of the then outstanding securities entitled to vote generally in the election of directors of the entity resulting from such Business Combination and (C) at least a majority of the members of the board of directors of the corporation resulting from such Business Combination were members of the Incumbent Board at the time of the execution of the initial agreement, or of the action of the Board, providing for such Business Combination; or

(iv) approval by the shareholders of the Company of a complete liquidation or dissolution of the Company except pursuant to a Business Combination described in clauses (A), (B) and (C) of subsection (iii), above.

(f) "Employee Benefits" means the perquisites, benefits and service credit for benefits as provided under any and all employee retirement income and welfare benefit policies, plans, programs or arrangements in which Executive is entitled to participate, including without limitation any stock option, performance share, performance unit, stock purchase, stock appreciation, savings, pension, supplemental executive retirement, or other retirement income or welfare benefit, deferred compensation, incentive compensation, group or other life, health, medical/hospital or other insurance (whether funded by actual insurance or self-insured by the Company or an Affiliate of the Company), disability, salary continuation, expense reimbursement and other employee benefit policies, plans, programs or arrangements.

(g) "Incentive Pay" means the annual bonus, incentive or other payment of compensation under the Management Performance Compensation Plan or, if such Management Performance Compensation Plan is no longer in effect, the annual bonus, incentive or other payment of compensation in addition to Base Pay, made or to be made in regard to services rendered in any year or other period pursuant to any bonus, incentive, profit-sharing, performance, discretionary pay or similar agreement, policy, plan, program or arrangement (whether or not funded) of the Company or an Affiliate of the Company, or any successor thereto.

(h) "Retirement Plans" means the benefit plans of the Company that are intended to be qualified under Section 401(a) of the Internal Revenue Code and the Company's Supplemental Retirement Benefit Plan or any other plan that is a successor thereto if the Executive was a participant in such Retirement Plan on the date of the occurrence of the Change in Control.

(i) "Severance Period" means the period of time commencing on the date of the first occurrence of a Change in Control and continuing until the earlier of (i) the third anniversary of the occurrence of the Change in Control, or (ii) the Executive's death; provided, however, that commencing on each anniversary of the Change in Control, the Severance Period

will automatically be extended for an additional year unless, not later than 90 calendar days prior to such anniversary date, either the Company or the Executive shall have given written notice to the other that the Severance Period is not to be so extended.

(j) "Subsidiary" means an entity in which the Company directly or indirectly beneficially owns 50% or more of the Outstanding Company Voting Securities.

(k) "Term" means the period commencing as of the date hereof and expiring on the close of business on December 31, 2004; provided, however, that
(i) commencing on January 1, 2003 and each January 1 thereafter, the term of this Agreement will automatically be extended for an additional year unless, not later than September 30 of the immediately preceding year, the Company or the Executive shall have given notice that it or the Executive, as the case may be, does not wish to have the Term extended; (ii) if a Change in Control occurs during the Term, the Term shall expire and this Agreement will terminate at the expiration of the Severance Period; and (iii) subject to the last sentence of
Section 9, if, prior to a Change in Control, the Executive ceases for any reason to be an employee of the Company and any Affiliate of the Company, thereupon without further action the Term shall be deemed to have expired and this Agreement will immediately terminate and be of no further effect. For purposes of this Section 1(l), the Executive shall not be deemed to have ceased to be an employee of the Company and any Affiliate of the Company by reason of the transfer of Executive's employment between the Company and any Affiliate of the Company, or among any Affiliates of the Company.

(l) "Termination Date" means the date on which the Executive's employment is terminated (the effective date of which shall be the date of termination, or such other date that may be specified by the Executive if the termination is pursuant to Section 3(b) or Section 3(c)).

2. OPERATION OF AGREEMENT. This Agreement will be effective and binding immediately upon its execution, but, anything in this Agreement to the contrary notwithstanding, except as provided in Section 9, this Agreement will not be operative unless and until a Change in Control occurs. Upon the occurrence of a Change in Control at any time during the Term, without further action, this Agreement shall become immediately operative.

3. TERMINATION FOLLOWING A CHANGE IN CONTROL.

(a) In the event of the occurrence of a Change in Control, the Executive's employment may be terminated by the Company or an Affiliate of the Company during the Severance Period and the Executive shall be entitled to the benefits provided by Section 4 unless such termination is the result of the occurrence of one or more of the following events:

(i) The Executive's death;

(ii) If the Executive becomes permanently disabled within the meaning of, and begins actually to receive disability benefits pursuant to, the long-term disability plan in effect for, or applicable to, Executive immediately prior to the Change in Control; or

(iii) Cause.

If, during the Severance Period, the Executive's employment is terminated by the Company or any Affiliate of the Company other than pursuant to Section 3(a)(i), 3(a)(ii) or 3(a)(iii), the Executive will be entitled to the benefits provided by Section 4 hereof.

(b) In the event of the occurrence of a Change in Control, if (but only if) the Board determines that this Section 3(b) shall be operative following such Change in Control, the Executive may terminate employment with the Company and any Affiliate of the Company during the Severance Period with the right to severance compensation as provided in Section 4 upon the occurrence of one or more of the following events (regardless of whether any other reason, other than Cause as hereinabove provided, for such termination exists or has occurred, including without limitation other employment):

(i) Failure to elect or reelect or otherwise to maintain the Executive in the office or the position, or a substantially equivalent or better office or position, of or with the Company and/or an Affiliate of the Company (or any successor thereto by operation of law or otherwise), as the case may be, which the Executive held immediately prior to a Change in Control, or the removal of the Executive as a Director of the Company and/or an Affiliate of the Company (or any successor thereto) if the Executive shall have been a Director of the Company and/or an Affiliate of the Company immediately prior to the Change in Control;

(ii) (A) A significant adverse change in the nature or scope of the authorities, powers, functions, responsibilities or duties attached to the position with the Company and any Affiliate of the Company which the Executive held immediately prior to the Change in Control, (B) a reduction in the aggregate of the Executive's Base Pay and Incentive Pay received from the Company and any Affiliate of the Company, or (C) the termination or denial of the Executive's rights to Employee Benefits or a reduction in the scope or value thereof, any of which is not remedied by the Company within 10 calendar days after receipt by the Company of written notice from the Executive of such change, reduction or termination, as the case may be;

(iii) The liquidation, dissolution, merger, consolidation or reorganization of the Company or the transfer of all or substantially all of its business and/or assets, unless the successor or successors (by liquidation, merger, consolidation, reorganization, transfer or otherwise) to which all or substantially all of its business and/or assets have been transferred (by operation of law or otherwise) assumed all duties and obligations of the Company under this Agreement pursuant to Section 11(a);

(iv) The Company relocates its principal executive offices (if such offices are the principal location of Executive's work), or requires the Executive to have his principal location of work changed, to any location that, in either case, is in excess of 50 miles from the location thereof immediately prior to the Change in Control, or requires the Executive to travel away from his office in the course of discharging his responsibilities or duties hereunder at least 20% more (in terms of aggregate days in any calendar year or in any calendar quarter when annualized for purposes of comparison to any prior year) than was required of Executive in any of the three full years immediately prior to the Change in Control without, in either case, his prior written consent; or

(v) Without limiting the generality or effect of the foregoing, any material breach of this Agreement by the Company or any successor thereto which is not remedied by the Company within 10 calendar days after receipt by the Company of written notice from the Executive of such breach.

(c) Notwithstanding anything contained in this Agreement to the contrary, in the event of a Change in Control, the Executive may terminate employment with the Company and any Affiliate of the Company for any reason, or without reason, during the 30-day period immediately following the first anniversary of the first occurrence of a Change in Control with the right to severance compensation as provided in Section 4.

(d) A termination by the Company pursuant to Section 3(a) or by the Executive pursuant to Section 3(b) or Section 3(c) will not affect any rights that the Executive may have pursuant to any agreement, policy, plan, program or arrangement of the Company or an Affiliate of the Company providing Employee Benefits, which rights shall be governed by the terms thereof.

4. SEVERANCE COMPENSATION.

(a) If, following the occurrence of a Change in Control, the Company or an Affiliate of the Company terminates the Executive's employment during the Severance Period other than pursuant to Section 3(a)(i), 3(a)(ii) or 3(a)(iii), or if the Executive terminates his employment pursuant to Section 3(b) (if
Section 3(b) is operative) or Section 3(c), the Company will pay to the Executive the amounts described in Annex A within five business days after the Termination Date and will continue to provide to the Executive the benefits described in Annex A for the periods described therein.

(b) Without limiting the rights of the Executive at law or in equity, if the Company fails to make any payment or provide any benefit required to be made or provided hereunder on a timely basis, the Company will pay interest on the amount or value thereof at an annualized rate of interest equal to the so-called composite "prime rate" as quoted from time to time during the relevant period in the Midwest Edition of The Wall Street Journal, plus 4%. Such interest will be payable as it accrues on demand. Any change in such prime rate will be effective on and as of the date of such change.

(c) Notwithstanding any provision of this Agreement to the contrary, the parties' respective rights and obligations under this Section 4 and under Sections 5, 7, 8 and 9 will survive any termination or expiration of this Agreement or the termination of the Executive's employment following a Change in Control for any reason whatsoever.

(d) Unless otherwise expressly provided by the applicable plan, program or agreement, after the occurrence of a Change in Control, the Company shall pay in cash to the Executive a lump sum amount equal to the value of any annual bonus (including, without limitation, incentive-based annual cash bonuses and performance units, but not including any equity-based compensation or compensation provided under a qualified plan) earned or accrued with respect to the Executive's service during the performance period or periods that includes the date on which the Change in Control occurred, disregarding any applicable vesting requirements;

provided that (i) such amount shall be calculated at the plan target or payout rate, but prorated to base payment only on the portion of the Executive's service that had elapsed during the applicable performance period; and (ii) such amount shall be reduced by any amount actually paid to the Executive under the terms of such Plan. Such payment shall take into account service rendered through the payment date and shall be made at the earlier of (i) the date prescribed for payment pursuant to the applicable plan, program or agreement, or (ii) within five business days after the Termination Date.

(e) Notwithstanding any provision to the contrary in any applicable plan, program or agreement, upon the occurrence of a Change in Control, all equity incentive awards held by the Executive shall become fully vested and all stock options held by the Executive shall become fully exercisable.

5. LIMITATION ON PAYMENTS AND BENEFITS. Notwithstanding any provision of this Agreement to the contrary, if any amount or benefit to be paid or provided under this Agreement would be an "Excess Parachute Payment," within the meaning of Section 280G of the Internal Revenue Code of 1986, as amended (the "Code"), or any successor provision thereto, but for the application of this sentence, then the payments and benefits to be paid or provided under this Agreement shall be reduced to the minimum extent necessary (but in no event to less than zero) so that no portion of any such payment or benefit, as so reduced, constitutes an Excess Parachute Payment; provided, however, that the foregoing reduction shall be made only if and to the extent that such reduction would result in an increase in the aggregate payments and benefits to be provided, determined on an after-tax basis (taking into account the excise tax imposed pursuant to Section 4999 of the Code, or any successor provision thereto, any tax imposed by any comparable provision of state law, and any applicable federal, state and local income taxes). The determination of whether any reduction in such payments or benefits to be provided under this Agreement or otherwise is required pursuant to the preceding sentence shall be made at the expense of the Company, if requested by the Executive or the Company, by the Company's independent accountants. The fact that the Executive's right to payments or benefits may be reduced by reason of the limitations contained in this Section 5 shall not of itself limit or otherwise affect any other rights of the Executive other than pursuant to this Agreement. In the event that any payment or benefit intended to be provided under this Agreement or otherwise is required to be reduced pursuant to this Section 5, the Executive shall be entitled to designate the payments and/or benefits to be so reduced in order to give effect to this Section 5. The Company shall provide the Executive with all information reasonably requested by the Executive to permit the Executive to make such designation. In the event that the Executive fails to make such designation within 10 business days of the Termination Date, the Company may effect such reduction in any manner it deems appropriate.

6. NO MITIGATION OBLIGATION. The Company hereby acknowledges that it will be difficult and may be impossible for the Executive to find reasonably comparable employment following the Termination Date. Accordingly, the payment of the severance compensation by the Company to the Executive in accordance with the terms of this Agreement is hereby acknowledged by the Company to be reasonable, and the Executive will not be required to mitigate the amount of any payment provided for in this Agreement by seeking other employment or otherwise, nor will any profits, income, earnings or other benefits from any source whatsoever create any mitigation, offset, reduction or any other obligation on the part of

the Executive hereunder or otherwise, except as expressly provided in the last sentence of Paragraph 3 set forth on Annex A.

7. LEGAL FEES AND EXPENSES.

(a) It is the intent of the Company that the Executive not be required to incur legal fees and the related expenses associated with the interpretation, enforcement or defense of Executive's rights under this Agreement by litigation or otherwise because the cost and expense thereof would substantially detract from the benefits intended to be extended to the Executive hereunder. Accordingly, if it should appear to the Executive that the Company has failed to comply with any of its obligations under this Agreement or in the event that the Company or any other person takes or threatens to take any action to declare this Agreement void or unenforceable, or institutes any litigation or other action or proceeding designed to deny, or to recover from, the Executive the benefits provided or intended to be provided to the Executive hereunder, the Company irrevocably authorizes the Executive from time to time to retain counsel of Executive's choice, at the expense of the Company as hereafter provided, to advise and represent the Executive in connection with any such interpretation, enforcement or defense, including without limitation the initiation or defense of any litigation or other legal action, whether by or against the Company or any Director, officer, stockholder or other person affiliated with the Company, in any jurisdiction. Notwithstanding any existing or prior attorney-client relationship between the Company and such counsel, the Company irrevocably consents to the Executive's entering into an attorney-client relationship with such counsel, and in that connection the Company and the Executive agree that a confidential relationship shall exist between the Executive and such counsel. Without respect to whether the Executive prevails, in whole or in part, in connection with any of the foregoing, the Company will pay and be solely financially responsible for any and all attorneys' and related fees and expenses incurred by the Executive in connection with any of the foregoing.

(b) Without limiting the obligations of the Company pursuant to Section 7(a) hereof, in the event a Change in Control occurs, the performance of the Company's obligations under this Agreement, including, without limitation, this
Section 7 and Annex A, shall be secured by amounts deposited or to be deposited in trust pursuant to certain trust agreements to which the Company shall be a party providing that the benefits to be provided hereunder and the fees and expenses of counsel selected from time to time by the Executive pursuant to
Section 7(a) shall be paid, or reimbursed to the Executive if paid by the Executive, either in accordance with the terms of such trust agreements, or, if not so provided, on a regular, periodic basis upon presentation by the Executive to the trustee of a statement or statements prepared by such counsel in accordance with its customary practices. Any failure by the Company to satisfy any of its obligations under this Section 7(b) shall not limit the rights of the Executive hereunder. Subject to the foregoing, the Executive shall have the status of a general unsecured creditor of the Company and shall have no right to, or security interest in, any assets of the Company or any Affiliate of the Company.

8. COMPETITIVE ACTIVITY; CONFIDENTIALITY; NONSOLICITATION.

(a) ACKNOWLEDGEMENTS AND AGREEMENTS. The Executive hereby acknowledges and agrees that in the performance of the Executive's duties to the Company during the Term, the Executive will be brought into frequent contact, either in person, by telephone or through the mails, with existing and potential customers of the Company throughout the United States. The Executive also agrees that trade secrets and confidential information of the Company, more fully described in Section 8(j) of this Agreement, gained by the Executive during the Executive's association with the Company, have been developed by the Company through substantial expenditures of time, effort and money and constitute valuable and unique property of the Company. The Executive further understands and agrees that the foregoing makes it necessary for the protection of the business of the Company that the Executive not compete with the Company during the Term and not compete with the Company for a reasonable period thereafter, as further provided in the following subsections.

(b) COVENANTS DURING THE TERM. During the Term and prior to the Termination Date, the Executive will not compete with the Company anywhere within the United States. In accordance with this restriction, but without limiting its terms, during the term of the Executive's employment, the Executive will not:

(i) enter into or engage in any business which competes with the business of the Company;

(ii) solicit customers, business, patronage or orders for, or sell, any products and services in competition with, or for any business that competes with, the business of the Company;

(iii) divert, entice or otherwise take away any customers, business, patronage or orders of the Company or attempt to do so; or

(iv) promote or assist, financially or otherwise, any person, firm, association, partnership, corporation or other entity engaged in any business which competes with the business of the Company.

(c) COVENANTS FOLLOWING TERMINATION. For a period of one (1) year following the Termination Date, if the Executive has received or is receiving benefits under this Agreement, the Executive will not:

(i) enter into or engage in any business which competes with the Company's business within the Restricted Territory (as defined in Section 8(g));

(ii) solicit customers, business, patronage or orders for, or sell, any products and services in competition with, or for any business, wherever located, that competes with, the Company's business within the Restricted Territory;

(iii) divert, entice or otherwise take away any customers, business, patronage or orders of the Company within the Restricted Territory, or attempt to do so; or

(iv) promote or assist, financially or otherwise, any person, firm, association, partnership, corporation or other entity engaged in any business which competes with the Company's business within the Restricted Territory.

(d) INDIRECT COMPETITION. For the purposes of Sections 8(b) and 8(c), inclusive, but without limitation thereof, the Executive will be in violation thereof if the Executive engages in any or all of the activities set forth therein directly as an individual on the Executive's own account, or indirectly as a partner, joint venturer, employee, agent, salesperson, consultant, officer and/or director of any firm, association, partnership, corporation or other entity, or as a stockholder of any corporation in which the Executive or the Executive's spouse, child or parent owns, directly or indirectly, individually or in the aggregate, more than five percent (5%) of the outstanding stock.

(e) THE COMPANY. For the purposes of this Section 8, the Company shall include any and all direct and indirect subsidiary, parent, affiliated, or related companies of the Company for which the Executive worked or had responsibility at the time of termination of the Executive's employment and at any time during the two (2) year period prior to such termination.

(f) THE COMPANY'S BUSINESS. For the purposes of Sections 8(b), 8(c), 8(k) and 8(l), inclusive, the Company's business is defined to be the manufacture, marketing and sale of high performance engineered materials serving global telecommunications, computer, automotive electronics, industrial components and optical media markets, as further described in any and all manufacturing, marketing and sales manuals and materials of the Company as the same may be altered, amended, supplemented or otherwise changed from time to time, or of any other products or services substantially similar to or readily substitutable for any such described products and services.

(g) RESTRICTED TERRITORY. For the purposes of Section 8(c), the Restricted Territory shall be defined as and limited to:

(i) the geographic area(s) within a one hundred (100) mile radius of any and all Company location(s) in, to, or for which the Executive worked, to which the Executive was assigned or had any responsibility (either direct or supervisory) at the time of termination of the Executive's employment and at any time during the two (2) year period prior to such termination; and

(ii) all of the specific customer accounts, whether within or outside of the geographic area described in (i) above, with which the Executive had any contact or for which the Executive had any responsibility (either direct or supervisory) at the time of termination of the Executive's employment and at any time during the two (2) year period prior to such termination.

(h) EXTENSION. If it shall be judicially determined that the Executive has violated any of the Executive's obligations under Section 8(c), then the period applicable to each obligation that the Executive shall have been determined to have violated shall automatically be extended by a period of time equal in length to the period during which such violation(s) occurred.

(i) NON-SOLICITATION. The Executive will not directly or indirectly at any time solicit or induce or attempt to solicit or induce any employee(s), sales representative(s), agent(s) or consultant(s) of the Company and/or of its parent, or its other subsidiary, affiliated or related companies to terminate their employment, representation or other association with the Company and/or its parent or its other subsidiary, affiliated or related companies.

(j) FURTHER COVENANTS.

(i) The Executive will keep in strict confidence, and will not, directly or indirectly, at any time during or after the Executive's employment with the Company, disclose, furnish, disseminate, make available or, except in the course of performing the Executive's duties of employment, use any trade secrets or confidential business and technical information of the Company or its customers or vendors, including without limitation as to when or how the Executive may have acquired such information. Such confidential information shall include, without limitation, the Company's unique selling, manufacturing and servicing methods and business techniques, training, service and business manuals, promotional materials, training courses and other training and instructional materials, vendor and product information, customer and prospective customer lists, other customer and prospective customer information and other business information. The Executive specifically acknowledges that all such confidential information, whether reduced to writing, maintained on any form of electronic media, or maintained in the Executive's mind or memory and whether compiled by the Company, and/or the Executive, derives independent economic value from not being readily known to or ascertainable by proper means by others who can obtain economic value from its disclosure or use, that reasonable efforts have been made by the Company to maintain the secrecy of such information, that such information is the sole property of the Company and that any retention and use of such information by the Executive during the Executive's employment with the Company (except in the course of performing the Executive's duties and obligations to the Company) or after the termination of the Executive's employment shall constitute a misappropriation of the Company's trade secrets.

(ii) The Executive agrees that upon termination of the Executive's employment with the Company, for any reason, the Executive shall return to the Company, in good condition, all property of the Company, including without limitation, the originals and all copies of any materials which contain, reflect, summarize, describe, analyze or refer or relate to any items of information listed in Section 8(j)(i) of this Agreement. In the event that such items are not so returned, the Company will have the right to charge the Executive for all reasonable damages, costs, attorneys' fees and other expenses incurred in searching for, taking, removing and/or recovering such property.

(k) DISCOVERIES AND INVENTIONS; WORK MADE FOR HIRE.

(i) The Executive hereby assigns and agrees to assign to the Company, its successors, assigns or nominees, all of the Executive's rights to any discoveries, inventions and improvements, whether patentable or not, made, conceived or suggested, either solely or jointly with others, by the Executive while in the Company's

employ, whether in the course of the Executive's employment with the use of the Company's time, material or facilities or that is in any way within or related to the existing or contemplated scope of the Company's business. Any discovery, invention or improvement relating to any subject matter with which the Company was concerned during the Executive's employment and made, conceived or suggested by the Executive, either solely or jointly with others, within one (1) year following termination of the Executive's employment under this Agreement or any successor agreements shall be irrebuttably presumed to have been so made, conceived or suggested in the course of such employment with the use of the Company's time, materials or facilities. Upon request by the Company with respect to any such discoveries, inventions or improvements, the Executive will execute and deliver to the Company, at any time during or after the Executive's employment, all appropriate documents for use in applying for, obtaining and maintaining such domestic and foreign patents as the Company may desire, and all proper assignments therefor, when so requested, at the expense of the Company, but without further or additional consideration.

(ii) The Executive acknowledges that, to the extent permitted by law, all work papers, reports, documentation, drawings, photographs, negatives, tapes and masters therefor, prototypes and other materials (hereinafter, "items"), including without limitation, any and all such items generated and maintained on any form of electronic media, generated by the Executive during the Executive's employment with the Company shall be considered a "work made for hire" and that ownership of any and all copyrights in any and all such items shall belong to the Company. The item will recognize the Company as the copyright owner, will contain all proper copyright notices , e.g., "(creation date) [Company Name], All Rights Reserved," and will be in condition to be registered or otherwise placed in compliance with registration or other statutory requirements throughout the world.

(l) COMMUNICATION OF CONTENTS OF AGREEMENT. During the Executive's employment and for one (1) year thereafter, the Executive will communicate the contents of this Agreement to any person, firm, association, partnership, corporation or other entity which the Executive intends to be employed by, associated with, or represent and which is engaged in a business that is competitive to the business of the Company.

(m) RELIEF. The Executive acknowledges and agrees that the remedy at law available to the Company for breach of any of the Executive's obligations under this Agreement would be inadequate. The Executive therefore agrees that, in addition to any other rights or remedies that the Company may have at law or in equity, temporary and permanent injunctive relief may be granted in any proceeding which may be brought to enforce any provision contained in Sections
8(b), 8(c), 8(i), 8(j), 8(k) and 8(l), inclusive, of this Agreement, without the necessity of proof of actual damage.

(n) REASONABLENESS. The Executive acknowledges that the Executive's obligations under this Section 8 are reasonable in the context of the nature of the Company's business and the competitive injuries likely to be sustained by the Company if the Executive was to violate such obligations. The Executive further acknowledges that this Agreement is made in consideration of, and is adequately supported by the agreement of the Company to perform its

obligations under this Agreement and by other consideration, which the Executive acknowledges constitutes good, valuable and sufficient consideration.

9. EMPLOYMENT RIGHTS. Nothing expressed or implied in this Agreement will create any right or duty on the part of the Company or the Executive to have the Executive remain in the employment of the Company or any Affiliate of the Company prior to or following any Change in Control. Any termination of employment of the Executive or the removal of the Executive from the office or position in the Company or any Affiliate of the Company that occurs following the commencement of any discussion with a third person that ultimately results in a Change in Control, shall be deemed to be a termination or removal of the Executive after a Change in Control for purposes of this Agreement.

10. WITHHOLDING OF TAXES. The Company may withhold from any amounts payable under this Agreement all federal, state, city or other taxes as the Company is required to withhold pursuant to any applicable law, regulation or ruling.

11. SUCCESSORS AND BINDING AGREEMENT.

(a) The Company will require any successor (whether direct or indirect, by purchase, merger, consolidation, reorganization or otherwise) to all or substantially all of the business or assets of the Company, by agreement in form and substance reasonably satisfactory to the Executive, expressly to assume and agree to perform this Agreement in the same manner and to the same extent the Company would be required to perform if no such succession had taken place. This Agreement will be binding upon and inure to the benefit of the Company and any successor to the Company, including without limitation any persons acquiring directly or indirectly all or substantially all of the business or assets of the Company whether by purchase, merger, consolidation, reorganization or otherwise (and such successor shall thereafter be deemed the "Company" for the purposes of this Agreement), but will not otherwise be assignable, transferable or delegable by the Company.

(b) This Agreement will inure to the benefit of and be enforceable by the Executive's personal or legal representatives, executors, administrators, successors, heirs, distributees and legatees.

(c) This Agreement is personal in nature and neither of the parties hereto shall, without the consent of the other, assign, transfer or delegate this Agreement or any rights or obligations hereunder except as expressly provided in Sections 11(a) and 11(b). Without limiting the generality or effect of the foregoing, the Executive's right to receive payments hereunder will not be assignable, transferable or delegable, whether by pledge, creation of a security interest, or otherwise, other than by a transfer by Executive's will or by the laws of descent and distribution and, in the event of any attempted assignment or transfer contrary to this Section 11(c), the Company shall have no liability to pay any amount so attempted to be assigned, transferred or delegated.

12. NOTICES. For all purposes of this Agreement, all communications, including without limitation notices, consents, requests or approvals, required or permitted to be given hereunder will be in writing and will be deemed to have been duly given when hand

delivered or dispatched by electronic facsimile transmission (with receipt thereof orally confirmed), or five business days after having been mailed by United States registered or certified mail, return receipt requested, postage prepaid, or three business days after having been sent by a nationally recognized overnight courier service such as FedEx, UPS, or Purolator, addressed to the Company (to the attention of the Secretary of the Company) at its principal executive office and to the Executive at his principal residence, or to such other address as any party may have furnished to the other in writing and in accordance herewith, except that notices of changes of address shall be effective only upon receipt.

13. GOVERNING LAW. The validity, interpretation, construction and performance of this Agreement will be governed by and construed in accordance with the substantive laws of the State of Ohio, without giving effect to the principles of conflict of laws of such State.

14. VALIDITY. If any provision of this Agreement or the application of any provision hereof to any person or circumstance is held invalid, unenforceable or otherwise illegal, the remainder of this Agreement and the application of such provision to any other person or circumstance will not be affected, and the provision so held to be invalid, unenforceable or otherwise illegal will be reformed to the extent (and only to the extent) necessary to make it enforceable, valid or legal.

15. MISCELLANEOUS. No provision of this Agreement may be modified, waived or discharged unless such waiver, modification or discharge is agreed to in writing signed by the Executive and the Company. No waiver by either party hereto at any time of any breach by the other party hereto or compliance with any condition or provision of this Agreement to be performed by such other party will be deemed a waiver of similar or dissimilar provisions or conditions at the same or at any prior or subsequent time. No agreements or representations, oral or otherwise, expressed or implied with respect to the subject matter hereof have been made by either party which are not set forth expressly in this Agreement. References to Sections are to Sections of this Agreement.

16. COUNTERPARTS. This Agreement may be executed in one or more counterparts, each of which shall be deemed to be an original but all of which together will constitute one and the same agreement.

17. PRIOR AGREEMENT. This Agreement supersedes, as of the date first above written, the Agreement, dated as of March 2, 1999 (the "Prior Agreement"), between Brush Wellman Inc. and the Executive, as amended for the purpose of substituting Brush Engineered Materials Inc. for Brush Wellman Inc. as a party to the Prior Agreement. Executive agrees that he or she has no further rights under the Prior Agreement, and that Brush Wellman Inc. shall be a third party beneficiary of this Section 17.

IN WITNESS WHEREOF, the parties have caused this Agreement to be duly executed and delivered as of the date first above written.

BRUSH ENGINEERED MATERIALS INC.

By: _____
Gordon D. Harnett
Chairman of the Board, President and
Chief Executive Officer

ANNEX A

SEVERANCE COMPENSATION

(1) A lump sum payment in an amount equal to three times the sum of (A) Base Pay (at the highest rate in effect for any period prior to the Termination Date), plus (B) Incentive Pay (in an amount equal to not less than the higher of (1) the highest aggregate Incentive Pay earned in any fiscal year ending after the Change in Control or in any of the three fiscal years immediately preceding the year in which the Change in Control occurred or (2) the plan target for the year in which the Change in Control occurred).

(2) A lump sum payment in an amount equal to the present value of the bonuses the Executive would have received under any Long Term Cash Incentive Plan of the Company for performance periods in effect at the time of the termination of the Executive's employment had he continued to be employed through the period covered by any such plan, assuming payout under such plans at the plan target rate, reduced by any amounts actually paid to the Executive under the terms of any such plan. In determining present value for this purpose, there shall be applied a discount factor equal to the coupon rate on general full-faith-and-credit obligations of the U.S. Treasury having a maturity of five years and issued on the date of the termination of the Executive's employment.

(3) For a period of 36 months following the Termination Date (the "Continuation Period"), the Company will arrange to provide the Executive with Employee Benefits that are welfare benefits including, without limitation, retiree medical and life insurance (but not perquisites, stock option, performance share, performance unit, stock purchase, stock appreciation or similar compensatory benefits or benefits covered by (4) below) substantially similar to those that the Executive was receiving or entitled to receive immediately prior to the Termination Date (or, if greater, immediately prior to the reduction, termination, or denial described in Section 3(b)(ii)). If and to the extent that any benefit described in this Paragraph 3 is not or cannot be paid or provided under any policy, plan, program or arrangement of the Company or any Affiliate of the Company, as the case may be, then the Company will itself pay or provide for the payment to the Executive, his dependents and beneficiaries, of such Employee Benefits along with, in the case of any benefit described in this Paragraph 3 which is subject to tax because it is not or cannot be paid or provided under any such policy, plan, program or arrangement of the Company or any Affiliate of the Company, an additional amount such that after payment by the Executive, or his dependents or beneficiaries, as the case may be, of all taxes so imposed, the recipient retains an amount equal to such taxes. Notwithstanding the foregoing, or any other provision of the Agreement, for purposes of determining the period of continuation coverage to which the Executive or any of his dependents is entitled pursuant to Section 4980B of the Code (or any successor provision thereto) under the Company's medical, dental and other group health plans, or successor plans, the Executive's "qualifying event" shall be the termination of the Continuation Period. Further, for purposes of the immediately preceding sentence and for any other purpose including, without limitation, the calculation of service or age to determine Executive's eligibility for benefits under any retiree medical benefits

or life insurance plan or policy, the Executive shall be considered to have remained actively employed on a full-time basis through the termination of the Continuation Period. Without otherwise limiting the purposes or effect of Section 6, Employee Benefits otherwise receivable by the Executive pursuant to this Paragraph 3 will be reduced to the extent comparable welfare benefits are actually received by the Executive from another employer during the Continuation Period following the Executive's Termination Date, and any such benefits actually received by the Executive shall be reported by the Executive to the Company.

(4) In addition to the retirement income and other benefits to which Executive is entitled under the Company's Retirement Plans with respect to Executive's employment through the Termination Date, a lump sum payment in an amount equal to the present value of the excess of (x) the retirement income and other benefits that would be payable to the Executive under the Retirement Plans if Executive had continued to be employed as an active participant in the Company's Retirement Plans through the Continuation Period given the Executive's Base Pay and Incentive Pay (as determined in Paragraph 1) (without regard to any amendment to the Retirement Plans made subsequent to a Change in Control which reduces the retirement income or other benefits thereunder), over (y) the retirement income and other benefits that the Executive is entitled to receive (either immediately or on a deferred basis) under the Retirement Plans. For purposes of this Paragraph 4, present value shall be determined by applying a discount factor equal to the annual rate of interest on 30-year U.S. Treasury securities issued on the date of the termination of the Executive's employment (or, if no such securities are issued on such date, on the most recent date preceding the date of the termination of the Executive's employment on which such securities are issued), and by using the 1983 Group Annuity Mortality Table (50% male/50% female).

(5) If the Executive is entitled to receive or has received, during the year in which the Termination Date occurs, cash payments from the Company in connection with which the Executive agreed to receive current cash payments in lieu of benefits under the Company's Supplemental Retirement Benefit Plan (SERP), a lump sum payment in an amount equal to three times the aggregate amount paid or payable to the Executive by the Company in lieu of benefits under the SERP.

(6) If the Executive is receiving or has been granted cash payments from the Company which have been designated by the Board as special awards, a lump sum payment equal to three times the aggregate award designated by the Board of Directors for the year in which the Termination Date occurs.

(7) A lump sum payment equal to the cash value of the club dues and financial counseling benefits that the Executive would have been entitled to receive during the Continuation Period based on the annual value of such club dues and financial counseling benefits immediately before the Termination Date or, if greater, immediately before the Change in Control; provided that the Executive must have been receiving such benefits immediately prior to either the Termination Date or the date of the Change in Control.

(8) Reasonable fees for outplacement services, by a firm selected by the Executive, at the expense of the Company in an amount not in excess of $20,000.

EXHIBIT 10G

EXECUTIVE
INSURANCE AGREEMENT

THIS AGREEMENT made as of January 2, 2002, by and between Brush Engineered Materials Inc. (the "Corporation") and _____(the "Executive").

W I T N E S S E T H

WHEREAS, the Executive is an employee of the Corporation and/or one or more subsidiaries or affiliated companies of the Corporation; and

WHEREAS, the Executive wishes to maintain life insurance protection in the event of his death, under a policy or policies of life insurance insuring his life (hereinafter referred to as the "Policy"), which is described in Exhibit A attached hereto and by this reference made a part hereof, and which is issued by the insurance company described in Exhibit A (the "Insurer"); and

WHEREAS, in recognition of the management service that Executive has and is expected to render to the Corporation and/or one or more subsidiaries or affiliated companies of the Corporation, the Corporation is willing to assist the Executive in maintaining the life insurance protection by paying a portion of the premiums due on the Policy, on the terms and conditions hereinafter set forth; and

WHEREAS, the Executive has purchased or will contemporaneously purchase the Policy from the Insurer in an amount sufficient to pay the death benefit stated in Article 3; and

WHEREAS, the Corporation requires that the Executive collaterally assign the Policy to the Corporation, in order to secure the repayment of the premiums which the Corporation will pay on the Policy as described in this Agreement;

NOW, THEREFORE, in consideration of the foregoing and the mutual covenants hereinafter set forth, the Parties agree as follows:

ARTICLE 1
OWNERSHIP OF THE POLICY

1.1 EXECUTIVE AS OWNER. The Executive shall be the sole and absolute owner of the Policy including all supplemental riders and endorsements thereto and may exercise all ownership rights granted to the owner thereof by the terms of the Policy, except as otherwise provided in this Agreement.

1.2 FUTURE ACTIONS. (a) The Executive and the Corporation agree that they will take all necessary action to cause the Insurer to issue the Policy, and shall take any further action which may be necessary to cause the Policy to conform to the provisions of this Agreement. The parties hereto agree that the Policy shall be subject to the terms and conditions of this Agreement and of the collateral assignment filed with the Insurer relating to the Policy.

(b) The Executive and the Corporation agree to treat the Policy as a "life insurance contract" within the meaning of section 7702 of the Internal Revenue Code of 1986, as amended (the "Code"). Any reference to a section of the Code in this Agreement shall be read to refer also to any amendment from time to time to that section (including any successor provision(s)) and to regulations promulgated under such section (or any successor provision(s)). The Executive and the Corporation shall take no action to treat the Policy as or cause the Policy to be other than a life insurance contract within the meaning of section 7702 of the Code and shall take no action to cause the Policy to be or become a "modified endowment contract" within the meaning of section 7702A of the Code.

(c) The Executive and the Corporation agree to characterize Policy premiums paid by the Corporation as loans for tax purposes, including for purposes of (i) Internal Revenue Service ("IRS") Notice 2001-10 and any subsequent guidance supplementing or modifying IRS Notice 2001-10, (ii) section 7872 of the Code regarding loans with below-market interest rates, and (iii) wage withholding and reporting, and agree to treat the loans as "demand loans" for purposes of section 7872 of the Code. Neither the Executive nor the Corporation shall take any action that is not consistent with the characterization and treatment described in the immediately foregoing sentence. The Corporation shall annually furnish the Executive a statement of the amount of income reportable by the Executive for income tax purposes as a result of this Agreement.

1.3 ASSIGNMENT. The Executive agrees to execute an assignment (hereinafter the "Assignment") to the Corporation to secure the Corporation's rights under this Agreement, in the form of or similar to the form of Exhibit B. The Assignment shall set forth the rights of the Corporation in and with respect to the Policy pursuant to the terms and conditions of this Agreement. The Executive and the Corporation agree to be bound by the terms of the Assignment, and the Assignment shall not be terminated, altered or amended by the Executive prior to the Corporation receiving the "Corporate Interest" as defined in
Section 4.3, without the express written consent of the Corporation.

1.4 THE CORPORATION'S RIGHTS. The Corporation's rights with respect to the Policy shall be limited to:

(a) The right to receive from the cash value in the Policy the Corporate Interest as defined in Section 4.3 on a "Termination Event," as defined in Section 4.1;

(b) The right to receive the proceeds of the Policy as set forth in Section 3.2 (the "Corporation's Death Benefit Portion") on the death of the Executive; and

(c) The right to release the Assignment upon receipt of the Corporate Interest, as defined in Section 4.3.

1.5 EXECUTIVE'S RIGHTS. The Executive shall, as owner of the Policy, retain all other rights in the Policy not held by the Corporation pursuant to Section 1.4, including, but not limited to, the following:

(a) The right to cause the full or partial surrender of the Policy and to borrow against the cash values of the Policy following a Termination Event, as defined in

Section 4.1, and to succeed to full ownership of the Policy cash values after satisfaction of the Corporate Interest; provided, however, that the Executive shall give the Corporation thirty (30) days advance written notice of the exercise of such right; and

(b) The right to exercise all non-forfeiture or lapse option rights permitted by the terms of the Policy; and

(c) The right to designate and change the beneficiary or beneficiaries of the portion of the proceeds of the Policy payable, upon the death of the Executive, pursuant to Section 3.1 (the "Executive's Death Benefit Portion"); and

(d) The right to assign the Executive's rights in and with respect to the Policy.

Notwithstanding anything to the contrary in the immediately foregoing provisions of this Section 1.5, prior to the Corporation receiving the Corporate Interest, as defined in Section 4.3, the Executive shall not borrow against, surrender, cancel, assign, or transfer the Policy, nor terminate the dividend election thereof, if applicable, without the prior written consent of the Corporation (which consent the Corporation has the right to withhold in its sole and absolute discretion and/or to make such consent subject to such terms and conditions as the Corporation determines in its sole or absolute discretion).

ARTICLE 2
INSURANCE AMOUNT; PAYMENT OF PREMIUMS AND APPLICATION OF DIVIDENDS

2.1 INSURANCE AMOUNT. The Executive shall purchase a Policy sufficient to provide the death benefits as stated in Article 3 and to provide the Corporation with the Corporate Interest as stated in Section 4.3.

2.2 PREMIUM PAYMENT; TIMING. (a) The premiums (including all costs associated with all supplemental riders and endorsements to the Policy) (the "Premium") shall be paid by the Executive and the Corporation, with the amount or portion of a Premium payment to be paid by the Corporation to be determined from time to time by the Corporation in its sole and absolute discretion. The Corporation shall notify the Executive of any change in the amount or portion of a Premium payment that it will pay at least 30 days prior to the due date of the Premium payment. The Executive and the Corporation shall pay their respective portions of a Premium payment on the Policy to the Insurer on or before the due date of each Premium payment, and in any event, not later than the expiration of the grace period under the Policy for such Premium payment. Within 30 days following the Corporation's payment of its portion of a Premium payment, the Corporation shall furnish the Executive with written notice of such payment.

(b) The face amount of the Policy shall at all times be maintained by the Executive in an amount not less than the Corporate Interest, as defined in Section 4.3. If the face amount of the Policy falls below the amount of the Corporate Interest, as defined in Section 4.3, the Executive shall immediately either (i) make additional premium payments to increase the face amount of the Policy to an amount equal to or greater than the Corporate Interest, as defined

in Section 4.3, or (ii) make payments to the Corporation to decrease the amount of the Corporate Interest, as defined in Section 4.3, to an amount equal to or less than the face amount of the Policy.

(c) The cash surrender value of the Policy shall at all times be maintained by the Executive in an amount not less than the Corporate Interest, as defined in Section 4.3. If the cash surrender value falls below the amount of the Corporate Interest, the Executive shall immediately either (i) make additional premium payments to increase the cash surrender value of the Policy to an amount equal to or greater than the Corporate Interest, as defined in Section 4.3, or (ii) make payments to the Corporation to decrease the amount of the Corporate Interest, as defined in Section 4.3, to an amount equal to or less than the cash surrender value of the Policy.

2.3 DIVIDEND. Any dividends declared on the Policy shall accumulate in the Policy and cannot be withdrawn prior to the Corporation receiving the Corporate Interest, as defined in Section 4.3. The parties agree that any dividend election provision of the Policy shall be consistent with this provision.

ARTICLE 3
RIGHTS UPON DEATH OF EXECUTIVE

3.1 EXECUTIVE'S DEATH BENEFIT PORTION. If Executive dies prior to the Corporation receiving the Corporate Interest as defined in Section 4.3, the Executive's designated beneficiary or beneficiaries as set forth in the Policy shall be entitled to receive an amount equal to the net death benefit remaining after satisfaction of the Corporation's Death Benefit Portion under
Section 3.2. The initial total death benefit shall be as stated in Exhibit A.

3.2 THE CORPORATION'S DEATH BENEFIT PORTION. If the Executive dies prior to the Corporation receiving the Corporate Interest as defined in
Section 4.3, the Corporation shall be entitled to receive an amount equal to the Corporate Interest as defined in Section 4.3 and shall be designated a beneficiary under the Policy to such extent.

ARTICLE 4
RIGHTS UPON TERMINATION OF AGREEMENT OR SURRENDER OF POLICY

4.1 TERMINATION EVENT DEFINED. A "Termination Event" means (and shall automatically occur upon) any of the following events:

(a) the bankruptcy, receivership or dissolution of the Corporation;

(b) the Executive's termination of employment with the Corporation and all subsidiaries and affiliated companies of the Corporation other than as a result of becoming permanently and totally disabled as determined under the Corporation's long-term disability policy, except that Article 3 shall apply if Executive's termination of employment is caused by death;

(c) following the Executive's termination of employment with the Corporation and all subsidiaries and affiliated companies of the Corporation as a result of becoming permanently and totally disabled as determined under the Corporation's long-term disability policy, upon 30 days advance written notice to the Executive by the Corporation;

(d) upon 30 days advance written notice to the Corporation by the Executive; or

(e) the written agreement of the Executive and the Corporation.

4.2 RIGHTS UPON TERMINATION EVENT. Upon a Termination Event as defined in Section 4.1, the Executive (or the Insurer on behalf of the Executive) shall pay to the Corporation the amount determined pursuant to
Section 4.3. Upon receipt of such amount from the Executive (or the Insurer on behalf of the Executive), the Corporation shall take all steps necessary to release the Assignment so that the Executive shall own the Policy free of all encumbrances thereon in favor of the Corporation required by this Agreement.

4.3 CORPORATE INTEREST. Upon a Termination Event as defined in
Section 4.1, the Corporation shall be entitled to receive an amount equal to (i) the cumulative Premiums paid by the Corporation, (ii) plus any unpaid Interest Amount, and (iii) less any payments made by the Executive to the Corporation in accordance with this Agreement (collectively the "Corporate Interest") from the Executive. If the Executive does not pay the Corporate Interest to the Corporation within 30 days from the date of a Termination Event as defined in
Section 4.1, the Corporation shall be entitled to access and receive the Corporate Interest from the cash surrender value of the Policy. If the cash surrender value of the Policy received by the Corporation is not sufficient to pay the Corporate Interest, the Corporation shall be entitled to the difference between the amount it received and the Corporate Interest from the Executive and such amount shall be immediately paid by the Executive to the Corporation.

ARTICLE 5
ADMINISTRATIVE PROVISIONS

5.1 INSURER'S RESPONSIBILITY. The Insurer shall not be considered a party to this Agreement and shall not be bound hereby. No provision of this Agreement, or any amendment hereof, shall in any way enlarge, change, vary or affect the obligations of the Insurer as expressly provided in the Policy, except to the extent that this Agreement becomes a part of the Policy by acceptance of the Assignment by the Insurer.

5.2 AMENDMENT. This Agreement may be amended through written action of the Corporation with the written consent of the Executive.

5.3 NOTICE AND PAYMENTS. Any and all notices required to be given under the terms of this Agreement shall be given in writing and signed by the appropriate party, and shall be sent by certified mail, postage prepaid, to the appropriate address set forth below:

(a) to the Executive at:

(b) to the Corporation at:

Brush Engineered Materials Inc. 17876 St. Clair Avenue Cleveland, OH 44110 ATTN: Corporate Secretary

Any payment to be made by the Executive to the Corporation shall be made by check made payable to Brush Engineered Materials Inc. and sent by certified mail, postage prepaid to the address set forth above for the Corporation.

5.4 HEIRS, SUCCESSORS AND ASSIGNS. This Agreement shall be binding upon and shall inure to the benefit of the Executive, his or her successors, heirs and the executors or administrators of the estate of the Executive, and to the Corporation and its successors. The Executive and the Corporation agree that either party may assign its interest under this Agreement, and any assignee shall be bound by the terms and conditions of this Agreement as if an original party hereto.

5.5 INTERPRETATION. This Agreement and the interests of the Executive and the Corporation hereunder shall be governed by and construed in accordance with the laws of the State of Ohio.

5.6 SEPARATE AGREEMENT. This Agreement and the interests of the Executive and the Corporation hereunder shall be interpreted and construed as a separate agreement that is independent of any plan, agreement, program or policy of either the Corporation or subsidiaries or affiliated companies of the Corporation. The benefits under this Agreement shall be independent of any benefits payable under any plan, agreement, program or policy of either the Corporation or subsidiaries or affiliated companies of the Corporation. The benefits paid under or in connection with this Agreement, including any death benefit and/or any bonus amount or tax gross-up payment in connection with this Agreement, shall not be counted in determining any benefit under any plan, agreement, program or policy of the Corporation or subsidiaries or affiliated companies of the Corporation.

5.7 TERMS. This Agreement shall be effective as of the date first above written, and shall continue until terminated as herein provided or until all covenants herein activated by the death of the Executive are fully carried out.

5.8 HEADINGS. Any headings or captions in this Agreement are for reference purposes only, and shall not expand, limit, change or affect the meaning of any provision of this Agreement.

5.9 COUNTERPARTS. This Agreement may be executed in any number of counterparts, each of which shall be deemed an original, and all of which together shall constitute one and the same Agreement.

5.10 ERISA. The Executive and the Corporation agree that the Agreement is not subject to the requirements of the Employee Retirement Income Security Act of 1974, as amended ("ERISA"). If and to the extent that this Agreement is subject to the requirements of ERISA, the Corporation shall have authority to control and manage the operation and administration of this Agreement and shall establish policies and procedures, including a claims procedure, as necessary to comply with the provisions of ERISA.

IN WITNESS WHEREOF, the parties hereto have signed this document as of the day and year first above written.

BRUSH ENGINEERED MATERIALS INC.

By

Title:

And
Title:

EXECUTIVE

Name:

EXHIBIT 10G

EXHIBIT A

The following life insurance policy or policies is subject to the attached Agreement:

Insurer:

Owner:

Insured:

Policy Number:

Face Amount:

Dividend Option-

Date of Issue: January 2, 2002

EXHIBIT B

ASSIGNMENT

This Assignment made and entered into effective as of January 2, 2002, by _____ as Owner of Life Insurance Policy Number(s) _____ to be issued by _____(the "Insurer") of 197 Clarendon St., Boston, MA 02117 and any supplementary contracts issued in connection therewith (said policy and contracts being herein called the "Policy"), upon the life of the Owner, to Brush Engineered Materials Inc., its successors and assigns (the "Assignee"), subject to all the terms and conditions of the Policy and to all superior liens, if any, which the Insurer may have against the Policy.

WITNESSETH:

WHEREAS, said Assignee has entered into an Executive Insurance Agreement (the "Agreement") with the Owner dated January 2, 2002, to assist the owner with the purchase of the Policy, by paying in its discretion a portion of the premiums (including costs associated with all supplemental riders and endorsements to the Policy) (the "Premium") due on the Policy; and

WHEREAS, upon the Assignee making said Premiums, the Assignee will have specific interests in said Policy, in accordance with the terms of the Agreement (referred to as the "Corporation's Death Benefit Portion" and the "Corporate Interest");

NOW, THEREFORE, for value received, the undersigned hereby assigns, transfers, and sets over specific policy rights to the Assignee, subject to the Agreement, and to the following terms and conditions:

1. The Assignee shall have the following rights:

(a) the right to receive the Corporate Interest, as defined in the Agreement, upon a Termination Event as defined in the Agreement;

(b) the right to receive the Corporation's Death Benefit Portion, as defined in the Agreement, on the death of the Owner; and

(c) the right to possession of the Policy.

2. Except as specifically granted hereto to the Assignee, the Owner will retain all incidents of ownership of the Policy; including, but not limited to the following:

(a) the right to cause the full or partial surrender of the Policy and to borrow against the cash values of the Policy provided that prior to the Corporation receiving the Corporate Interest as defined in Section 4.3, the Owner can exercise such right only with the consent of the Assignee;

(b) the right to change the dividend election provision of the Policy, provided that, prior to the Corporation receiving the Corporate Interest, as defined in the Agreement, the Owner can exercise such right only with the consent of the Assignee;

(c) the right to designate and change the beneficiary or beneficiaries of the Executive's Death Benefit Portion, as defined in the Agreement, of the Policy payable upon the death of the Owner; and

(d) the right to assign the rights, title and interest in and with respect to the Policy, subject to this collateral assignment agreement with the Assignee.

3. The Assignee will, upon request, forward the Policy without unreasonable delay to the Insurer for endorsement of any designation or change of beneficiary or election of a payment plan for Policy proceeds.

4. The Insurer is hereby authorized to recognize the Assignee's claim to rights hereunder without investigating the reason for such action by the Assignee, or the validity or the amount of the liabilities hereunder. The Assignee may exercise any of its rights on its sole signature, and the Insurer shall be fully discharged and such action shall be binding on all persons having an ownership or beneficial interest in the Policy.

5. Upon the full payment to the Assignee of the Corporate Interest, or in the event of the death of the Owner and the payment to the Assignee of the Corporation's Death Benefit Portion (as defined in the Agreement), this Assignment will terminate. The Insurer is deemed to have knowledge that this Assignment has terminated only upon receiving written notice of such event that is signed by the Assignee and Owner.

6. The Insurer shall not be responsible for the sufficiency or validity of this Assignment and is not a party to any split dollar agreement (or any other similar agreement) between the Assignee and the Owner. In the event of a conflict between the terms of the Agreement and this Assignment, the terms of this Assignment will control.

IN WITNESS WHEREOF, the undersigned Owner has executed this Assignment effective as of the date and year first described above.

----------	----------
Witness	Owner

Received and duplicate filed by the Insurer at _____,

_____, assuming no responsibility, however, as to its validity, and also reserving the right to require proof satisfactory to the Insurer of the respective interests of the Owner and the Assignee.

Date: By:

EXHIBIT 10U

AMENDMENT NO. 8
TO
BRUSH ENGINEERED MATERIALS INC.
SUPPLEMENTAL RETIREMENT BENEFIT PLAN
(DECEMBER 1, 1992 RESTATEMENT)

Brush Engineered Materials Inc., an Ohio corporation, hereby adopts Amendment No. 8 to the Brush Engineered Materials Inc. Supplemental Retirement Benefit Plan (December 1, 1992 Restatement) (formerly known as the Brush Wellman Inc. Supplemental Retirement Benefit Plan) (the "Plan").

I.

Article I of the Plan is amended by adding at the end thereof the following:

SECTION 1.27 - BRUSH WELLMAN INC. EXECUTIVE DEFERRED COMPENSATION PLAN

The Brush Wellman Inc. Executive Deferred Compensation Plan or the Brush Engineered Materials Inc. Executive Deferred Compensation Plan (2000 Restatement).

II.

Article II of the Plan is amended by adding at the end thereof the following:

SECTION 2.3 - CESSATION OF BENEFIT ACCRUAL

Notwithstanding any other provision of the Plan to the contrary, each of David Deubner, Jordan Frazier, Stephen Freeman, Michael Hasychak, Alfonso Lubrano, John Pallam, John Paschall, and Daniel Skoch shall accrue no additional rights and benefits under the Plan after December 31, 2001. The rights and benefits under the Plan of each Participant named in the immediately preceding sentence, except as contemplated in Section 4.1A, shall be determined as if the employment of the Participant had terminated on December 31, 2001.

III.

Article IV of the Plan is amended by adding a new Section 4.1A immediately following Section 4.1 to provide as follows:

SECTION 4.1A - SPECIAL ELECTION

(i) Notwithstanding any other provision of the Plan to the contrary, except Section 9.5 (as contemplated in this Section 4.1A), each Participant identified on Schedule III to the Plan (as added by this Amendment) may make a one-time election, subject to the provisions of Section 4.1A(ii), to receive, in lieu of all benefits otherwise payable to or in respect of the Participant under the Plan, a "cash amount" shown in column (2) of Schedule III to the Plan, in accordance with Section 4.1A(ii) and such rules and procedures as may be established by the Company consistent with Section 4.1A(ii). The cash amount, if elected, shall be paid by the Company and/or the Participant's Employer from the general assets of the Company and/or the Participant's Employer in one or more payments, without interest thereon, not later than December 31, 2002.

(ii) The following conditions apply to the Special Election under Section 4.1A(i):

(a) The election under Section 4.1A(i) may be made only by delivery during a period beginning on January 2, 2002 and ending at 5:00 pm on January 18, 2002 by the Participant to the Company of a written election on a form prescribed therefor by the Company, which form shall be substantially in the form of Exhibit II attached hereto and made a part hereof;

(b) If a Participant makes the election provided for under Section 4.1A(i), neither the Participant, the Participant's Beneficiary, nor any other person claiming through or under the Participant shall thereafter have any rights to modify such election and all provisions of the Plan shall be construed, interpreted, and applied accordingly;

(c) If a Participant makes the election provided for under Section 4.1A(i), neither the Participant, the Participant's Beneficiary, nor any other person claiming through or under the Participant shall thereafter have any rights to any benefit under the Plan other than the Participant's right to the cash amount provided for under Section 4.1A(i);

(d) Such election shall include a consent to Amendment No. 8 to the Plan in accordance with Section 9.5 of the Plan; and

(e) Such election shall be irrevocable after delivery thereof to the Company, and such election shall become effective upon delivery thereof to the Company.

IV.

Section I of Schedule I to the Plan is amended by adding a new
Section 4.1A immediately following Section 4.1 (of Section I of Schedule I to the Plan) to provide as follows:

SECTION 4.1A - SPECIAL ELECTION AND CESSATION OF BENEFIT ACCRUAL

(i) Notwithstanding any other provision of the Plan to the contrary, except Section 9.5 (of this Section I of this Schedule I) (as contemplated in this Section 4.1A (of this
Section I of this Schedule I)), Mr. Harnett may make a one-time election, subject to the provisions of Section 4.1A(ii) (of this Section I of this Schedule I), to receive, in lieu of all benefits otherwise payable to or in respect of Mr. Harnett under the Plan, a "cash amount" shown in column
(2) of Schedule III to the Plan, in accordance with Section 4.1A(ii) (of this Section I of this Schedule I) and such rules and procedures as may be established by the Company consistent with Section 4.1A(ii) (of this Section I of this Schedule I). The cash amount, if elected, shall be paid by the Company and/or Mr. Harnett's Employer from the general assets of the Company and/or Mr. Harnett's Employer in one or more payments, without interest thereon, not later than December 31, 2002.

(ii) The following conditions apply to the Special Election under Section 4.1A(i) (of this Section I of this Schedule I):

(a) The election under Section 4.1A(i) (of this Section I of this Schedule I) may be made only by delivery during a period beginning on January 2, 2002 ending at 5:00 pm on January 18, 2002 by Mr. Harnett to the Company of a written election on a form prescribed therefor by the Company, which form shall be substantially in the form of Exhibit II attached hereto and made a part hereof;

(b) If Mr. Harnett makes the election provided for under Section 4.1A(i) (of this Section I of this Schedule I), neither Mr. Harnett, Mr. Harnett's Beneficiary, nor any other person claiming through or under Mr. Harnett shall thereafter have any rights to modify such election and all provisions of the Plan shall be construed, interpreted, and applied accordingly;

(c) If Mr. Harnett makes the election provided for under Section 4.1A(i) (of this Section I of this Schedule I), neither Mr. Harnett, Mr. Harnett's Beneficiary, nor any other person claiming through or under Mr. Harnett shall thereafter have any rights to any benefit under the Plan other than Mr. Harnett's right to the one-time payment provided under Section 4.1A(i);

(d) If Mr. Harnett makes the election provided for under Section 4.1A(i) (of this Section I of this Schedule I), Mr. Harnett shall

accrue no additional rights and benefits under the Plan after December 31, 2001;

(e) If Mr. Harnett makes the election provided for under Section 4.1A(i) (of this Section I of this Schedule I), the rights and benefits under the Plan of Mr. Harnett, except as contemplated in this Section 4.1A (of this Section I of this Schedule I), shall be determined as if the employment of Mr. Harnett had terminated on December 31, 2001;

(f) Such election shall include a consent to Amendment No. 8 to the Plan in accordance with Section 9.5 (of this Section I of this Schedule I) of the Plan; and

(g) Such election shall be irrevocable after delivery thereof to the Company, and such election shall become effective upon delivery thereof to the Company; and

V.

The Plan is amended by adding at the end thereof a new Schedule III to provide as set forth on Exhibit I to this Amendment.

VI.

The changes to the Plan made by the foregoing Sections of this Amendment shall be effective on and after execution of this Amendment.

* * *

Executed this _____ day of December, 2001.

BRUSH ENGINEERED MATERIALS INC.

By: _____
Title:

And: _____
Title:

EXHIBIT 10OO

CONSOLIDATED AMENDMENT NO. 3 AND WAIVER
TO
MASTER LEASE AGREEMENT AND EQUIPMENT SCHEDULES

THIS CONSOLIDATED AMENDMENT NO. 3 TO MASTER LEASE AGREEMENT (this "AMENDMENT"), dated as of September 28, 2001, is entered into by and between Brush Wellman Inc., an Ohio corporation ("LESSEE"), and National City Bank, for itself and as agent for certain participants ("LESSOR"),

RECITALS:

A. Lessee and Lessor entered into a Master Lease Agreement, dated as of December 30, 1996, as amended by the First Amendment to Master Lease Agreement, dated as of September 2, 1997, the Second Amendment to Master Lease Agreement and Amendment to Disbursement Schedules, dated as of January 26, 1999, the Third Amendment to Master Lease Agreement and Amendment to Equipment Schedules, dated as of September 30, 1999, the Fourth Amendment to Master Lease and Waiver, dated as of May 16, 2000, and Consolidated Amendment No. 1 to Master Lease Agreement and Equipment Schedules, dated as of June 30, 2000 and Consolidated Amendment No. 2 to Master Lease Agreement and Equipment Schedules, dated as of March 30, 2001 (together with all Exhibits and Schedules thereto, the "LEASE AGREEMENT"), under which Lessor agreed to lease to Lessee certain equipment to be used by Lessee at its Elmore, Ohio, facility, subject to certain conditions and in accordance with the terms thereof; and;

B. The parties desire to amend certain provisions of the Master Lease Agreement as of the Amendment Effective Date (as defined in Section 2.01 of this Amendment).

AGREEMENT:

IN CONSIDERATION OF THE PREMISES above and the mutual covenants and agreements contained herein and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

SECTION I - AMENDMENTS TO AGREEMENT

1.01 Section IV(a) of the Lease Agreement shall be amended by deleting the same and substituting in lieu thereof the following:

"(a) Lessee will promptly notify Lessor in writing after receipt of notice of any Tax or other mortgage, pledge, security interest, encumbrance, lien, lease or charge of any kind (including any agreement or consignment arrangement to give any of the foregoing, any conditional sale or other title retention agreement or any lease in the nature thereof) (collectively, a "LIEN") shall attach to any Disbursement Equipment or Equipment, of the full particulars thereof and of the location of such Disbursement Equipment or Equipment on the date of such notification."

1.02 Section IV(b) of the Lease Agreement shall be amended by deleting the same and substituting in lieu thereof the following:

"(b) Lessee will furnish or cause to be furnished to each Participant and the Lessor:

(i) ANNUAL FINANCIAL STATEMENTS. As soon as available and in any event within 90 days after the close of each fiscal year of the Parent, the consolidated and consolidating balance

sheets of the Parent and the Subsidiaries as at the end of such fiscal year and the related consolidated and consolidating statements of income, of stockholder's equity and of cash flows for such fiscal year, in each case setting forth comparative figures for the preceding fiscal year, all in reasonable detail and, solely in the case of the consolidated financial statements, accompanied by the opinion with respect to such consolidated financial statements of independent public accountants of recognized national standing selected by the Parent, which opinion shall be unqualified and shall state that such accountants audited such consolidated financial statements in accordance with generally accepted auditing standards, that such accountants believe that such audit provides a reasonable basis for their opinion, and that in their opinion such consolidated financial statements present fairly in all material respects the financial position of the Parent and the Subsidiaries as at the end of such fiscal year and the results of their operations and cash flows for such fiscal year in conformity with GAAP.

(ii) QUARTERLY FINANCIAL STATEMENTS. As soon as available and in any event within 45 days after the close of each of the quarterly accounting periods in each fiscal year of the Parent, the unaudited consolidated and (commencing with the fiscal quarter ending March 31, 2001) consolidating balance sheets of the Parent and the Subsidiaries as at the end of such quarterly period and the related unaudited consolidated and (commencing with the fiscal quarter ending March 31, 2001) consolidating statements of income and of cash flows for such quarterly period, and setting forth, in the case of such unaudited statements of income and of cash flows, comparative figures for the related periods in the prior fiscal year, and which financial statements shall be certified as true and correct on behalf of the Parent by a Principal Officer of the Parent, subject to changes resulting from normal year-end audit adjustments.

(iii) OFFICER'S COMPLIANCE CERTIFICATES. At the time of the delivery of the financial statements provided for in sections IV(b)(i) and (ii), a certificate on behalf of a Principal Officer of the Parent to the effect that no Default or Potential Default exists or, if any Default or Potential Default does exist, specifying the nature and extent thereof, which certificate shall set forth the calculations required to establish compliance with the provisions of Sections XXIV(m)(e), (o)(c), (p)(k) and Section XXIII of this Agreement, including an identification of the amounts of any financial items of persons or business units acquired by the Parent or Lessee or their Subsidiaries for any periods prior to the date of acquisition which are used in making such calculations.

(iv) BUDGETS AND FORECASTS. Not later than 60 days after the commencement of each fiscal year of the Parent and the Subsidiaries, a consolidated and consolidating budget in reasonable detail for such entire fiscal year and for each of the fiscal quarters in such fiscal year, and (if and to the extent prepared by management thereof) for any subsequent fiscal years, as customarily prepared by management for their internal use, setting forth, with appropriate discussion, the forecasted balance sheet, income statement, operating cash flows and capital expenditures of the Parent and the Lessee and their Subsidiaries for the period or periods covered thereby, and the principal assumptions upon which forecasts and budget are based.

(v) NOTICE OF DEFAULT OR LITIGATION.

(i) Promptly, and in any event within three Business Days thereof, notice of the occurrence of any event which constitutes a Default or Potential Default, which notice shall specify the nature thereof, the period of existence thereof and what action Lessee or the Parent propose to take with respect thereto; and

(ii) Promptly, and in any event within three Business Days after Lessee or the Parent or any Subsidiary obtains knowledge thereof, notice of any litigation or governmental or regulatory investigation or proceeding pending against or involving the Parent, Lessee or any of the Subsidiaries which could reasonably be expected to have a Material Adverse Effect.

(vi) ERISA. Promptly, and in any event within 15 days after the occurrence of any of the following, Lessee will deliver to Lessor and each Participant a certificate on behalf of Lessee and the Parent of an Authorized Officer of setting forth the full details as to such occurrence and the action, if any, that the Parent, Lessee, such Subsidiary or such ERISA Affiliate is required or proposes to take, together with any notices required or proposed to be given to or filed with or by the Parent, Lessee, the Subsidiary, the ERISA Affiliate, the PBGC, a Plan participant or the Plan administrator with respect thereto:

(i) that a Reportable Event has occurred with respect to any Plan;

(ii) the institution of any steps by the Parent, Lessee, any ERISA Affiliate, the PBGC or any other person to terminate any Plan;

(iii) the institution of any steps by the Parent or Lessee or any ERISA Affiliate to withdraw from any Plan;

(iv) the institution of any steps by the Parent or Lessee or any Subsidiary to withdraw from any Multiemployer Plan or Multiple Employer Plan, if such withdrawal could result in withdrawal liability (as described in Part 1 of Subtitle E of Title IV of ERISA) in excess of $5,000,000;

(v) a non-exempt "prohibited transaction" within the meaning of section 406 of ERISA in connection with any Plan;

(vi) that a Plan has an Unfunded Current Liability exceeding $5,000,000;

(vii) any material increase in the contingent liability of the Parent or Lessee or any Subsidiary with respect to any post-retirement welfare liability; or

(viii) the taking of any action by, or the written threat of the taking of any action by, the Internal Revenue Service, the Department of Labor or the PBGC with respect to any of the foregoing.

(vii) ENVIRONMENTAL MATTERS. Promptly upon, and in any event within 5 days after the occurrence of any of the following, notice of any of the following environmental matters which involves or could reasonably be expected to result in a Material Adverse Effect: (i) any pending or threatened (in writing) Environmental Claim against the Parent, Lessee or any of the Subsidiaries or any Real Property owned or operated by any of them; (ii) any condition or occurrence on or arising from any Real Property owned or operated by the Parent or Lessee or any of the Subsidiaries that (A) results in noncompliance by the Parent or Lessee or any of the Subsidiaries with any applicable Environmental Law or (B) could reasonably be expected to form the basis of an Environmental Claim against the Parent or Lessee or any of the Subsidiaries or any such Real Property; (iii) any condition or occurrence on any Real Property owned, leased or operated by the Parent or Lessee or any of the Subsidiaries that could reasonably be expected to cause such Real Property to be subject to any restrictions on the ownership, occupancy, use or

transferability by the Parent or Lessee or any of the Subsidiaries of such Real Property under any Environmental Law; and (iv) the taking of any removal or remedial action in response to the actual or alleged presence of any Hazardous Material on any Real Property owned, leased or operated by the Parent or Lessee or any of the Subsidiaries as required by any Environmental Law or any governmental or other administrative agency. All such notices shall describe in reasonable detail the nature of the Environmental Claim and the Parent's or Lessee's or such Subsidiary's response thereto.

(h) SEC REPORTS AND REGISTRATION STATEMENTS. Promptly upon transmission thereof or other filing with the SEC, copies of all registration statements and annual, quarterly or current reports that the Parent or Lessee or any of the Subsidiaries files with the SEC, and promptly upon transmission thereof, each proxy statement, annual report, certificate, notice or other document sent by the Parent or Lessee to the holders of any of its securities (or any trustee under any indenture which secures any of its securities or pursuant to which such securities are issued).

(i) OTHER INFORMATION. Such other information or documents (financial or otherwise) relating to the Parent or Lessee or any of the Subsidiaries as Lessor or any Participant may reasonably request from time to time."

1.03 Section XI(a) of the Lease Agreement shall be amended by deleting Paragraph (v) and by deleting Paragraphs (ii), (iii), (iv), (vi), (vii) and (ix) and substituting in lieu thereof the following:

"(ii) If any representation, warranty or statement made in this Agreement or in any Schedule or the Guaranty, the Pledge Agreement or any other Lease Document or any other certificate, report, notice or other writing delivered to Lessor in respect of this Agreement shall be false or erroneous in any Material respect when made or deemed made,

(iii) If Lessee fails to perform or observe (1) any of its obligations in Section IX or Section XXIII or Section XXIV, (2) any of its obligations under the Assignment of Purchase Orders or any other Document or B. W. Alloy, Ltd. shall fail to perform or observe any of its obligations under the Assignment of Purchase Orders or any other Document to which it is a party, or (3) any of its other obligations in this Agreement (other than those referred to in clauses (i) and
(iii)(1) and (iii)(2) above) and that failure shall not have been fully corrected within thirty (30) days after the giving of written notice to Lessee by Lessor that it is to be remedied, provided, however, if during that thirty-day period Lessee shall commence corrective action that, if begun and prosecuted with due diligence, cannot be completed within a period of thirty (30) days, then that thirty-day period shall be extended, but not more than an additional forty (40) days, to the extent necessary to enable Lessee to diligently complete that corrective action; or the Pledge Agreement, the Guaranty or any other Lease Document (once executed and delivered) shall cease for any reason (other than termination in accordance with its terms) to be in full force and effect; or any Lease Party shall default in any material respect in the due performance and observance of any other obligation under a Lease Document (other than this Agreement) to which it is a party and such default shall continue unremedied for a period of at least 30 days (or such other longer cure period permitted under the applicable Lease Document) after notice by Lessor; or any Lease Party shall (or seek to) disaffirm or otherwise limit its obligations under a Lease Document to which it is a party otherwise than in strict compliance with the terms thereof,

(iv) Lessee, the Parent or any of the Subsidiaries shall (i) default in any payment with respect to any Indebtedness (other than the obligations of Lessee under this Agreement) or

Permitted Precious Metal Consignments in excess, individually, of $25,000 owed to Lessor or any Participant or any of their Affiliates, or to any other person, and such default shall continue after the applicable grace period, if any, specified in the agreement or instrument relating to such Indebtedness or Permitted Precious Metal Consignment, or (ii) default in the observance or performance of any agreement or condition relating to any such Indebtedness or Permitted Precious Metal Consignment or contained in any instrument or agreement evidencing, securing or relating thereto (and all grace periods applicable to such observance, performance or condition shall have expired), or any other event shall occur or circumstance shall exist, the effect of which default or other event or circumstance is to cause, or to permit the holder or holders of such Indebtedness or other party to a Permitted Precious Metal Consignment (or a trustee or agent on behalf of such holder or holders or other party) to cause any such Indebtedness to become due prior to its stated maturity or any obligation thereunder to become due prior to the date contemplated therein; or any such Indebtedness of the Parent or Lessee or any of the Subsidiaries or any obligation under a Permitted Precious Metal Consignment shall be declared to be due and payable, or shall be required to be prepaid (other than by a regularly scheduled required prepayment or redemption, prior to the stated maturity thereof),

(vi) If (a) Lessee or the Parent or any Material Subsidiary shall discontinue operations, or (b) Lessee or Parent or any Material Subsidiary shall commence any Insolvency Action of any kind or admit (by answer, default or otherwise) the Material allegations of, or consent to any relief requested in, any Insolvency Action of any kind commenced against Lessee or Parent or such Material Subsidiary by its creditors or any thereof, or (c) any creditor or creditors shall commence against Lessee or Parent or any Material Subsidiary any Insolvency Action of any kind which shall remain in effect (neither dismissed nor stayed) for thirty (30) consecutive days,

(vii) If there shall occur a Change of Control,

(ix) one or more judgments or decrees shall be entered against Lessee or the Parent or any of the Subsidiaries involving a liability equal to or more than $5,000,000 in the aggregate for all such judgments and decrees for the Parent, Lessee and the Subsidiaries (excluding any judgment covered by insurance as to which the carrier has adequate claims paying ability and has not reserved its rights), and any such judgments or decrees shall not have been vacated, discharged or stayed or bonded pending appeal within 30 days from the entry thereof,"

1.04 Section XVI(a) of the Lease Agreement shall be amended by deleting the first sentence therein and substituting in lieu thereof the following:

"Lessee has adequate power and authority to enter into, and perform and observe its obligations under, this Agreement, each Schedule, each Assignment of Purchase Orders to which it is a party and all other agreements, instruments, documents and other writings related to this Agreement, including, without limitation, the Lease Documents (collectively, the "DOCUMENTS")."

1.05 Section XIX(j) of the Lease Agreement shall be amended by deleting the same and inserting the following in lieu thereof:

"(j) Any Rent, Interim Rent or other amount not paid to Lessor when due hereunder (after any applicable grace period therefor) shall bear interest, both before and after any judgment or termination hereof, at the lesser of the Daily Lease Rate Factor then in effect plus two percent (2%) per annum or the maximum rate allowed by law. In addition, after the

occurrence and during the continuance of a Default, the Daily Lease Rate Factor shall be increased by an amount equal to two percent (2%) per annum."

1.06 Section XXIII of the Lease Agreement shall be amended by deleting the same and substituting in lieu thereof the following:

"XXIII. GENERAL FINANCIAL STANDARDS:

Lessee agrees that so long as this Agreement remains in effect and thereafter until all obligations of Lessee hereunder shall have been paid and performed in full, Lessee will observe and cause to be observed each of the following:

(a) RATIO OF CONSOLIDATED TOTAL DEBT TO CONSOLIDATED TOTAL ADJUSTED CAPITAL AND MINIMUM EBITDAR. At no time will the ratio, expressed as a percentage, of (x) the amount of Consolidated Total Debt to (y) Consolidated Total Adjusted Capital, exceed (i) 50.0% from June 30, 2000, through and including September 30, 2001, (ii) 43% for the period commencing October 1, 2001, through and including December 31, 2001; (iii) 45% for the period commencing January 1, 2002, through and including September 30, 2002; and (iv) 50% on and after October 1, 2002. In addition, at no time will the Consolidated EBITDAR, at the end of each fiscal quarter ending on the dates described below, and with respect to the fiscal quarters ending on June 30, September 30 and December 31, 2002, on a cumulative basis for the respective longer periods indicated in the parenthesis below, to be less than the amount set forth opposite that fiscal quarter:

Fiscal Quarter Ended	Minimum Consolidated Ebitdar
March 31, 2002 (3 months)	$ 3,780,000
June 30, 2002 (6 months)	$ 12,330,000
September 30, 2002 (9 months)	$ 21,960,000
December 31, 2002 (12 months)	$ 31,770,000"

(b) RATIO OF CONSOLIDATED TOTAL DEBT TO CONSOLIDATED EBITDAR. The ratio at any time of (x) the amount of Consolidated Total Debt at such time to (y) Consolidated EBITDAR for the Testing Period most recently ended, will not exceed (i) 3.50 to 1.00 for the Testing Period ending June 30, 2000, (ii) 3.25 to 1.00 for the Testing Periods ending September 30, 2000 and December 31, 2000, (iii) 3.00 to 1.00 for the Testing Periods ending March 31, 2001, June 30, 2001, and September 30, 2001; and (iv) 2.75 to 1.00 for the Testing Periods ending on and after December 31, 2001.

(c) CONSOLIDATED FIXED CHARGE COVERAGE RATIO. At no time will the Consolidated Fixed Charge Coverage Ratio be less than 2.00 to 1.00 for any Testing Period.

(d) CONSOLIDATED TANGIBLE NET WORTH. At no time will the Consolidated Tangible Net Worth be less than $190,731,000 plus an amount equal to forty percent (40%) of the Consolidated Net Income of the Parent, Lessee and the Subsidiaries for the four fiscal quarters ending December 31, 2000 and each December 31 thereafter; provided, that if such Consolidated Net Income for any fiscal year is a negative figure, such Consolidated Net Income for the fiscal year in question shall be treated as zero for the purposes of this section."

1.07 Section XXIV of the Lease Agreement shall be amended by deleting the same and substituting in lieu thereof the following:

"XXIV. COVENANTS:

Lessee agrees that so long as this Agreement remains in effect and thereafter until the Rent and all obligations of Lessee hereunder shall have been paid and performed in full, Lessee will perform and observe, and will cause the Parent and each Subsidiary to perform and observe, each of the following provisions on their respective parts to be complied with, namely:

(a) BOOKS, RECORDS AND INSPECTIONS. (i) keep proper books of record and account, in which full and correct entries shall be made of all financial transactions and the assets and business of the Parent, Lessee or the Subsidiaries, as the case may be, in accordance with GAAP; and (ii) permit officers and designated representatives of the Lessor or any of the Participants to visit and inspect any of the properties or assets of the Parent, Lessee and the Subsidiaries in whomsoever's possession, and to examine (and make copies of or take extracts from) the books of account of the Parent, Lessee and the Subsidiaries and discuss the affairs, finances and accounts of the Parent, Lessee and the Subsidiaries with, and be advised as to the same by, their officers and independent accountants and independent actuaries, if any, all at such reasonable times and intervals upon reasonable notice (except that during the existence of a Default, no notice shall be required) as the Lessor or any of the Participants may request.

(b) INSURANCE. (i) maintain insurance coverage by insurers having an
A.M. Best rating of "A-" or better and being in a financial size category of "VII" or larger, or by other companies acceptable to the Lessor, and in such forms and amounts and against such risks as are generally consistent with the insurance coverage maintained by the Parent, Lessee and the Subsidiaries at the date hereof, but at a minimum shall keep themselves and all of their insurable properties insured at all times to such extent, with such deductibles, by such insurers and against such hazards and liabilities as is generally done by other business enterprises respectively similar to the Parent, Lessee and the Subsidiaries, and (ii) forthwith upon Lessor's or any Participant's written request, furnish to Lessor or such Participant such information about such insurance as Lessor or such Participant may from time to time reasonably request, which information shall be prepared in form and detail satisfactory to Lessor or such Participant and certified by an Authorized Officer of the Lessee.

(c) PAYMENT OF TAXES AND CLAIMS. Pay and discharge all taxes, assessments and governmental charges or levies imposed upon Lessee, the Parent and the Subsidiaries or upon their income or profits, or upon any properties belonging to them, prior to the date on which penalties attach thereto, and all lawful claims which, if unpaid, might become a Lien or charge upon any properties of the Parent, Lessee or any of the Subsidiaries; PROVIDED that none of the Parent, Lessee or any of the Subsidiaries shall be required to pay any such tax, assessment, charge, levy or claim which is being contested in good faith and by proper proceedings if it has maintained adequate reserves with respect thereto in accordance with GAAP; and PROVIDED, FURTHER, that the Parent, Lessee and the Subsidiaries will not be considered to be in default of any of the provisions of this sentence if the Parent, Lessee or any Subsidiary fails to pay any such amount or amounts that, individually or in the aggregate, do not exceed $500,000 so long as that matter is being negotiated in good faith with the applicable taxing authority.

(d) CORPORATE FRANCHISES. Do and cause to be done all things necessary to preserve and keep in full force and effect the corporate or other organizational existence, rights, authority and franchises of the Parent, Lessee and the Subsidiaries, PROVIDED that nothing in this Paragraph (d) shall be deemed to prohibit any transaction permitted by Paragraph (m) below.

(e) GOOD REPAIR. Ensure that the properties and equipment of the Parent, Lessee and the Subsidiaries used or useful in their business in whomsoever's possession they may be, are kept in good repair, working order and condition, normal wear and tear excepted.

(f) COMPLIANCE WITH STATUTES, ETC. Comply with all applicable statutes, regulations and orders of, and all applicable restrictions imposed by, all governmental bodies, domestic or foreign, in respect of the conduct of the business of the Parent, Lessee and the Subsidiaries and the ownership of their property, other than those (i) being contested in good faith by appropriate proceedings, as to which adequate reserves are established to the extent required under GAAP, and (ii) the noncompliance with which could not reasonably be expected to have a Material Adverse Effect.

(g) COMPLIANCE WITH ENVIRONMENTAL LAWS. Notwithstanding, and in addition to, the covenants contained in Paragraph (f) above:

(a) comply in all respects with all Environmental Laws applicable to the ownership, lease or use of all Real Property and personal property now or hereafter owned, leased or operated by the Parent, Lessee or any of the Subsidiaries, and promptly pay or cause to be paid all costs and expenses incurred in connection with such compliance, the noncompliance with which could reasonably be expected to have a Material Adverse Effect; and (iii) keep or cause to be kept all such Real Property free and clear of any Liens imposed pursuant to such Environmental Laws which are not permitted under Paragraph (n) below.

(b) Without limitation of the foregoing, if the Parent, Lessee or any of the Subsidiaries shall generate, use, treat, store, release or dispose of, or permit the generation, use, treatment, storage, release or disposal of, Hazardous Materials on any Real Property now or hereafter owned, leased or operated by any of them, or transport or permit the transportation of Hazardous Materials to or from any such Real Property, any such action shall be effected in compliance with all Environmental Laws applicable thereto.

(c) If required to do so under any applicable order of any governmental agency, take any clean up, removal, remedial or other action necessary to remove and clean up any Hazardous Materials from any Real Property owned, leased or operated by the Parent, Lessee or any of the Subsidiaries in accordance with the requirements of all applicable Environmental Laws and in accordance with such orders of all governmental authorities, except to the extent that the Parent, Lessee or such Subsidiary is contesting such order in good faith and by appropriate proceedings and for which adequate reserves have been established to the extent required by GAAP.

(h) FISCAL YEARS, FISCAL QUARTERS. Not change its fiscal year or fiscal quarters, other than the fiscal year or fiscal quarters of a person which becomes a Subsidiary, made at the time such person becomes a Subsidiary to conform to Lessee's fiscal year and fiscal quarters.

(i) HEDGE AGREEMENTS, ETC. In the event the Parent, Lessee or any of the Subsidiaries determine to enter into a Hedge Agreement they may do so, PROVIDED that such Hedge Agreement, when considered in light of other outstanding Hedge Agreements to which that person is a party, does not expose that person to predominantly speculative risks unrelated to the amount of assets, Indebtedness or other liabilities intended to be subject to coverage on a notional basis under such Hedge Agreement. The parties to any Financial Hedge Agreement, the calculation of credit exposure under any Financial Hedge Agreement, any intercreditor issues with the Lessor and Participants and the documentation therefor (which shall conform in all respects to ISDA standards) must be reasonably acceptable to the Lessor in all respects.

(j) SENIOR DEBT. Ensure that (a) the claims of the Lessor and the Participants in respect of Rent and the other obligations of Lessee under this Agreement will not be subordinate to, and will in all respects at least rank PARI PASSU with, the claims of every other senior unsecured creditor of the Lessee, and (b) any Indebtedness subordinated in any manner to the claims of any other senior unsecured creditor of the Lessee will be subordinated in like manner to such claims of Lessor and the Participants.

(k) SECURITY DOCUMENTS. In order to secure the payment of Rent and the other obligations of Lessee, the Parent and Lessee will pledge as collateral to the Lessor, as collateral agent, the capital stock in each of the following Subsidiaries of the Parent: Williams Advanced Materials Inc., a New York corporation, Circuits Processing Technologies, Inc., a California corporation, Technical Materials, Inc., an Ohio corporation, and Brush International, Inc., an Ohio corporation. In connection with the foregoing stock pledges, the Parent and Lessee will deliver for possession by the Lessor, as collateral agent, the stock certificate(s) representing 100% of the capital stock of, or other equity or ownership interest in, such Subsidiaries and execute and deliver to the Lessor, as collateral agent, the Pledge Agreement in the form attached to the Credit Agreement as in effect on the Effective Date as Exhibit F. The Parent and Lessee will also pledge as collateral to the Lessor, as collateral agent, the capital stock of any existing Domestic Subsidiary that becomes a Material Subsidiary after the date of this Agreement and of any Domestic Subsidiary created or acquired by the Parent or Lessee or any Domestic Subsidiary after the date of this Agreement. The above-described pledges of capital stock shall grant to the Lessor, as collateral agent, a first priority perfected lien on 100% of the capital stock of each such Domestic Subsidiary that is owned by Lessee or the Parent or any Domestic Subsidiary of either of them, as the case may be.

(l) CHANGES IN BUSINESS. None of the Parent, Lessee and any of the Subsidiaries will engage in any business if, as a result, the general nature of the business which would then be engaged in by that person would be substantially changed from the general nature of the business engaged in by the Parent, Lessee or any Subsidiary on the Effective Date.

(m) CONSOLIDATION, MERGER, ACQUISITIONS, ASSET SALES, ETC. None of the Parent, Lessee or any of the Subsidiaries will (1) wind up, liquidate or dissolve its affairs, (2) enter into any transaction of merger or consolidation,
(3) make or otherwise effect any Acquisition, (4) sell or otherwise dispose of any of their property or assets outside the ordinary course of business, or otherwise make or otherwise effect any Asset Sale, or (5) agree to do any of the foregoing at any future time, EXCEPT that the following shall be permitted:

(a) CERTAIN INTERCOMPANY MERGERS, ETC. If no Default or Potential Default shall have occurred and be continuing or would result therefrom,

(i) the merger, consolidation or amalgamation of any Subsidiary of Lessee or Parent (other than Lessee) with or into Lessee or the Parent, PROVIDED Lessee or the Parent is the surviving or continuing or resulting corporation;

(ii) the Reorganization; or the merger, consolidation or amalgamation of any Subsidiary of the Parent (other than Lessee) or any Subsidiary of Lessee that is not a Pledged Company with or into another Subsidiary of the Parent (other than Lessee) or another Subsidiary of Lessee, PROVIDED that the surviving or continuing or resulting corporation is a Wholly-Owned Subsidiary that is a Domestic Subsidiary directly owned by the Parent or Lessee or a Pledged Company that is a Wholly-Owned Subsidiary of the Parent or Lessee;

(iii) the liquidation, winding up or dissolution of any Subsidiary of the Parent (other than Lessee) or any Subsidiary of Lessee, other than a Material Subsidiary;

(iv) the transfer or other disposition of any property by any Subsidiary of the Parent or Lessee, other than Lessee or a Pledged Company, to the Parent or Lessee or to any Wholly-Owned Subsidiary directly owned by the Parent or Lessee;

(v) the merger, consolidation or amalgamation of any Pledged Company with or into another Pledged Company; and

(vi) the transfer or other disposition of any property by any Pledged Company to the Parent or Lessee or to another Pledged Company.

(b) ACQUISITIONS. If no Default or Potential Default shall have occurred and be continuing or would result therefrom, the Parent or Lessee or any Subsidiary may make any Acquisition that is a Permitted Acquisition, PROVIDED that all of the conditions contained in the definition of the term Permitted Acquisition are satisfied.

(c) PERMITTED DISPOSITIONS. If no Default or Potential Default shall have occurred and be continuing or would result therefrom, the Parent or Lessee or any of the Subsidiaries may, except with respect to the Equipment, (i) sell any property, land or building (including any related receivables or other intangible assets) to any person, or (ii) sell the entire capital stock (or other equity interests) and Indebtedness of any Subsidiary, other than Lessee or a Material Subsidiary, owned by the Parent or Lessee or any other Subsidiary, other than Lessee or a Material Subsidiary, to any person, or (iii) permit any Subsidiary, other than Lessee or a Material Subsidiary, to be merged or consolidated with a person which is not an Affiliate of the Parent or Lessee, or (iv) consummate any other Asset Sale with a person who is not a Subsidiary of the Parent or Lessee; PROVIDED that:

(A) the consideration for such transaction (1)
represents fair value (as determined by management of Lessee), and at least 80% of such consideration consists of cash, and
(2) does not exceed, when aggregated with the consideration of any other transaction or transactions of the Parent, Lessee or any Subsidiary during the then current fiscal year permitted under this Paragraph (m)(c), $10,000,000,

(B) in the case of any such transaction involving consideration equal to or in excess of $1,000,000, at least five Business Days prior to the date of completion of such transaction Lessee shall have delivered to the Lessor an officer's certificate executed on behalf of Lessee by Principal Officers of Lessee, which certificate shall contain
(1) a description of the proposed transaction, the date such transaction is scheduled to be consummated, the estimated purchase price or other consideration for such transaction,
(2) a certification that no Default or Potential Default has occurred and is continuing, or would result from consummation of such transaction, and (3) which shall (if requested by Lessor) include a certified copy of the draft or definitive documentation pertaining thereto; and

(C) contemporaneously with the completion of such transaction the Parent and Lessee prepay their obligations under the Credit Agreement as and to the extent required by section 5.2 thereof; and

PROVIDED, FURTHER, that sales or other dispositions of inventory in the ordinary course of business or of obsolete or worn out equipment or fixtures (other than the Equipment) in the ordinary course of business may be effected without compliance with the above provisions and the amount of any such sales or other dispositions shall be excluded from any computations under this Paragraph (m)(c).

(d) LEASES. The Parent, Lessee and the Subsidiaries may enter into leases of property or assets not constituting Acquisitions, PROVIDED such leases are not otherwise in violation or could cause a violation of Paragraph (u) below or any other provision of this Agreement.

(e) CAPITAL EXPENDITURES: The Parent, Lessee and the Subsidiaries shall be permitted to make Consolidated Capital Expenditures, PROVIDED that (A) expenses for mining property, plant and equipment shall not exceed $25,000,000 during any consecutive thirty-six (36) month period, and (B) Consolidated Capital Expenditures, excluding expenses for mining property, plant or equipment, do not during any fiscal year of the Parent exceed the amount specified below:

FISCAL YEAR ENDING	AMOUNT
December 31, 2000	$35,000,000
December 31, 2001	$40,000,000
December 31, 2002	$45,000,000
December 31, 2003 and each fiscal year thereafter	$50,000,000

(f) PERMITTED INVESTMENTS. The Parent, Lessee and the Subsidiaries shall be permitted to make the investments permitted pursuant to Paragraph (p) below.

(n) LIENS. None of the Parent, Lessee or the Subsidiaries will create, incur, assume or suffer to exist any Lien upon or with respect to any of its property or assets of any kind (real or personal, tangible or intangible) whether now owned or hereafter acquired, or sell any such property or assets subject to an understanding or agreement, contingent or otherwise, to repurchase such property or assets (including consignment arrangements and including sales of accounts receivable or notes with or without recourse to the Parent, Lessee or any of the Subsidiaries, other than for purposes of collection of delinquent accounts in the ordinary course of business) or assign any right to receive income, or file or permit the filing of any financing statement under the UCC or any other similar notice of Lien under any similar recording or notice statute, EXCEPT that (i) the foregoing restrictions and the following exceptions in this paragraph shall not apply to the Equipment, which is subject to the restrictions set forth in Section V(c), and (ii) the foregoing restrictions shall not apply to:

(a) STANDARD PERMITTED LIENS: the Standard Permitted Liens and Liens granted to the Lessor on behalf of the Participants;

(b) EXISTING LIENS, ETC.: Liens (i) in existence on the Effective Date which are listed, and the Indebtedness secured thereby and the property subject thereto on the Effective

Date described, in Annex IV to the Credit Agreement on the Effective Date, or (ii) arising out of the refinancing, extension, renewal or refunding of any Indebtedness secured by any such Liens, PROVIDED that the principal amount of such Indebtedness is not increased and such Indebtedness is not secured by any additional assets;

(c) PURCHASE MONEY LIENS: Liens which are placed upon fixed or capital assets, acquired, constructed or improved by the Parent or Lessee or any Subsidiary, PROVIDED that (A) such Liens secure Indebtedness permitted by Paragraph (o)(c) below, (B) such Liens and the Indebtedness secured thereby are incurred prior to or within 30 days after such acquisition or the completion of such construction or improvement, (C) the Indebtedness secured thereby does not exceed 100% of the cost of acquiring, constructing or improving such fixed or capital assets; and (D) such Liens shall not apply to any other property or assets of the Parent, Lessee or any Subsidiary;

(d) INVENTORY CONSIGNMENTS: Liens granted in connection with:
(i) any Permitted Precious Metal Consignments; and (ii) the Permitted Master Copper Lease Agreements; and

(e) SALE OR DISCOUNT OF CERTAIN FOREIGN RECEIVABLES: sales, without recourse, by any foreign Subsidiaries of Brush International, Inc., conducted in the ordinary course of its business of its accounts receivable, provided that such sales are consistent with the customary practices of the applicable country and that such sales do not exceed an amount greater than $5,000,000 in the aggregate at any given time.

(o) INDEBTEDNESS. None of the Parent, Lessee or any of the Subsidiaries will contract, create, incur, assume or suffer to exist any Indebtedness of the Parent, Lessee or any of the Subsidiaries, EXCEPT:

(a) LEASE DOCUMENTS: Indebtedness incurred under this Agreement, the Credit Agreement and the other Lease Documents;

(b) EXISTING INDEBTEDNESS: Existing Indebtedness; and any refinancing, extension, renewal or refunding of any such Existing Indebtedness not involving an increase in the principal amount thereof and, if involving a maturity date prior to the Maturity Date or shortening the maturity date to a date prior to the Maturity Date, not involving a reduction of more than 10% in the remaining weighted average life to maturity thereof (computed in accordance with standard financial practice);

(c) CERTAIN PRIORITY DEBT: to the extent not permitted by the foregoing clauses,

(i) Indebtedness consisting of Capital Lease Obligations of the Parent, Lessee and the Subsidiaries,

(ii) Indebtedness consisting of obligations under Synthetic Leases of the Parent or Lessee and any Subsidiary,

(iii) Indebtedness of the Parent, Lessee and the Subsidiaries secured by a Lien referred to in Paragraph (n)(c) above,

(iv) Indebtedness of Foreign Subsidiaries, and

(v) any refinancing, extension, renewal or refunding of any such Indebtedness not involving an increase in the principal amount thereof or a reduction of more than 10% in the remaining weighted average life to maturity thereof (computed in accordance with standard financial practice),

PROVIDED that (A) at the time of any incurrence thereof after the date hereof, and after giving effect thereto, the Parent and Lessee would be in compliance with Paragraph (m)(e) above and Section XXIII, and no Potential Default under Section XI(a)(i) or Default shall have occurred and be continuing or would result therefrom; and (B) the aggregate outstanding principal amount (using Capitalized Lease Obligations in lieu of principal amount, in the case of any Capital Lease, and using the present value, based on the implicit interest rate, in lieu of principal amount, in the case of any Synthetic Lease) of Indebtedness permitted by this clause (c), shall not exceed with respect to the Parent, Lessee and the Subsidiaries on a consolidated basis, $10,000,000;

(d) INTERCOMPANY DEBT: unsecured Indebtedness of any of the Subsidiaries to the Parent or Lessee or to a Wholly-Owned Subsidiary of the Parent or Lessee;

(e) HEDGE AGREEMENTS: Indebtedness of the Parent, Lessee and the Subsidiaries under Hedge Agreements that comply with Paragraph (i) above;

(f) GUARANTY OBLIGATIONS: any Guaranty Obligations permitted by Paragraph (p) below;

(g) CONSIGNMENT OBLIGATIONS: obligations of Lessee and Subsidiaries of the Parent in respect of Permitted Precious Metal Consignments or Permitted Master Copper Lease Agreements;

(h) TAKE OR PAY CONTRACT IN KAZAKHSTAN: Indebtedness incurred by Lessee in connection with a take or pay arrangement for beryllium mined in Kazakhstan pursuant to the Sale and Purchase Agreement, dated as of December 21, 1999, among Lessee, Kazatomprom, Ulba Metallurgical Plant, and NUKEM, Inc., as amended by an amendment that Lessee expects to enter into after the Closing Date, provided that such amendment and any related documents are approved by the Lessor, which approval will not be unreasonably withheld, and that any Indebtedness arising in connection therewith, determined in U.S. Dollars, does not in the aggregate exceed $9,000,000 during any twelve month period;

(i) MEDIUM TERM NOTES: Indebtedness incurred by Lessee under any Medium-Term Notes issued pursuant to the Issuing and Paying Agency Agreement, dated as of February 1, 1990, between Lessee and Morgan Guaranty Trust Company of New York or its successor in interest, as amended or modified from time to time, not in excess of $10,000,000 aggregate principal amount outstanding at any time without the prior written consent of the Lessor, PROVIDED that at the time of incurrence thereof, and after giving effect thereto, (i) Lessee would be in compliance with Section XXIII; and (ii) no Potential Default under
Section XI(a)(i) or Default shall have occurred and be continuing or would result therefrom; and

(j) ADDITIONAL UNSECURED DEBT OF THE PARENT AND LESSEE:
additional unsecured Indebtedness of the Parent and Lessee, not in excess of $5,000,000 aggregate principal amount outstanding at any time, PROVIDED that at the time of incurrence thereof, and after giving effect thereto, (i) the Parent and Lessee would be in compliance with Section XXIII; and (ii) no Potential Default under Section XI(a)(i) or Default shall have occurred and be continuing or would result therefrom.

(p) ADVANCES, INVESTMENTS, LOANS AND GUARANTY OBLIGATIONS. None of the Parent, Lessee or any of the Subsidiaries will (1) lend money or credit or make advances to any person, (2) purchase or acquire any stock, obligations or securities of, or any other interest in, or make any capital contribution to, or other investment in, any person, (3) create, acquire or hold any Subsidiary, (4) be or become a party to any joint venture, member of a limited liability company or partner of a partnership, or (5) be or become obligated under any Guaranty Obligations (other than those created in favor of the Participants pursuant to the Lease Documents), EXCEPT:

(a) the Parent, Lessee or any of the Subsidiaries may invest in cash and Cash Equivalents;

(b) any endorsement of a check or other medium of payment for deposit or collection, or any similar transaction in the normal course of business;

(c) the Parent, Lessee and the Subsidiaries may acquire and hold receivables owing to them in the ordinary course of business and payable or dischargeable in accordance with customary trade terms (including receivables evidenced by a promissory note executed after the account debtor in question fails to make payments when due and including the acceptance of notes by Brush Wellman (Japan) Ltd. in respect of its receivables in the normal course of its business and consistent with its past practice);

(d) loans and advances to employees for business-related travel expenses, moving expenses, costs of replacement homes, business machines or supplies, automobiles and other similar expenses, in each case incurred in the ordinary course of business and consistent with past practice;

(e) the existing loans, advances, investments and guarantees described in Annex V to the Credit Agreement on the Effective Date;

(f) investments of the Parent, Lessee and the Subsidiaries in Hedge Agreements that comply with Paragraph (i) above;

(g) existing investments in any Subsidiaries shall be permitted, and the creation and holding of any Wholly-Owned Subsidiary and any additional investments in any current or future Wholly-Owned Subsidiary, so long as the Parent and Lessee comply with Paragraph (k) above in connection with the creation of any Wholly-Owned Domestic Subsidiary;

(h) intercompany loans and advances permitted by Paragraph
(o)(d) above;

(i) the Acquisitions permitted by Paragraph (m) above; and loans, advances and investments of any person which are outstanding at the time such person becomes a Subsidiary of the Parent or Lessee as a result of an Acquisition permitted by Paragraph (m) above and not created in contemplation thereof, but not any increase in the amount thereof;

(j) any unsecured Guaranty Obligation incurred by the Parent, Lessee or any Subsidiary with respect to (i) Indebtedness of a Wholly-Owned Subsidiary of the Parent or Lessee which is permitted under Paragraph (o) above without restriction upon the ability of the Parent, Lessee or any Subsidiary to guarantee the same, or (ii) other obligations of a Wholly-Owned Subsidiary of the Parent or Lessee which are not prohibited by this Agreement;

(k) any other loans, advances, investments (whether in the form of cash or contribution of property, and if in the form of a contribution of property, such property shall be valued for purposes of this clause at the fair value thereof as reasonably determined by the Parent or Lessee), in or to any corporation, partnership, limited liability company, joint venture or other business entity, not otherwise permitted by the foregoing clauses, made after the date hereof (such loans, advances and investments, collectively, "BASKET INVESTMENTS"), PROVIDED that (i) at the time of making any such Basket Investment no Default or Potential Default shall have occurred and be continuing, or would result therefrom, and (ii) the maximum cumulative amount of Basket Investments which are so made and outstanding at any time, taking into account the repayment of any loans or advances comprising such Basket Investments, shall not, when taken together with the aggregate amount of all Guaranty Obligations of the Parent, Lessee and the Subsidiaries in respect of Indebtedness of persons other than Wholly-Owned Subsidiaries of the Parent or Lessee which are then outstanding, does not exceed $10,000,000 with respect to the Parent, Lessee and the Subsidiaries on a consolidated basis; and

(l) the Permitted Precious Metal Consignments and the Permitted Master Copper Lease Agreements.

(q) DIVIDENDS, STOCK REPURCHASES, ETC. (a) The Parent will not directly or indirectly declare, order, pay or make any dividend (other than dividends payable solely in capital stock of the Parent) or other distribution on or in respect of any capital stock of any class of the Parent, whether by reduction of capital or otherwise, EXCEPT that the Parent may make cash dividend payments in respect of its capital stock if (i) no Potential Default under Section XI(a)(i) or Default shall have occurred and be continuing at the time of declaration or payment thereof; and (ii) after giving effect thereto the Parent and Lessee will be in compliance, on a PRO FORMA basis, with Section XXIII.

(b) The Parent and Lessee will not directly or indirectly make, or permit any of the Subsidiaries to directly or indirectly make, any purchase, redemption, retirement or other acquisition of (x) any of their capital stock of any class (other than for a consideration consisting solely of capital stock of that person), or (y) any warrants, rights or options to acquire or any securities convertible into or exchangeable for any of their capital stock, EXCEPT that the Parent and Lessee may make cash payments for such purposes so long as the moneys used for such purposes are not proceeds of any loans under the Credit Agreement and if (i) no Potential Default under Section XI(a)(i) or Default shall have occurred and be continuing at the time of payment; (ii) after giving effect thereto the Parent and Lessee will be in compliance, on a PRO FORMA basis, with Section XXIII; and (iii) at the time of making any such cash payment and after giving effect thereto, the cumulative aggregate amount so expended for such purposes subsequent to the Effective Date does not exceed $10,000,000.

(r) PREPAYMENTS AND REFINANCINGS OF OTHER DEBT, ETC. None of the Parent, Lessee or any of the Subsidiaries will make (or give any notice in respect thereof) any voluntary or optional payment or prepayment or redemption or acquisition for value of (including, without limitation, by way of depositing with the trustee with respect thereto money or securities before due for the purpose of paying when due) or exchange of, or refinance or refund, any Indebtedness of any of the Parent, Lessee or the Subsidiaries having an outstanding principal balance (or Capitalized Lease Obligation, in the case of a Capital Lease, or present value, based on the implicit interest rate, in the case of any Synthetic Lease) (other than the obligations under this Agreement and intercompany loans and advances among the Parent, Lessee and the Subsidiaries permitted by Paragraph (o)(d) above); PROVIDED that the Parent or Lessee or any Subsidiary may refinance or refund any such Indebtedness not involving an increase in the principal amount thereof and, if involving a maturity date prior to the Maturity Date or shortening the maturity date to a date prior to the Maturity Date, the aggregate principal amount thereof (or Capitalized Lease

Obligation, in the case of a Capital Lease, or present value, based on the implicit interest rate, in the case of any Synthetic Lease) is not increased and the weighted average life to maturity thereof (computed in accordance with standard financial practice) is not reduced by more than 10%.

(s) TRANSACTIONS WITH AFFILIATES. None of the Parent, Lessee and any Subsidiary that is a Pledged Company will enter into any transaction or series of transactions with any Affiliate (other than, in the case of the Parent or Lessee, Lessee or the Parent or any Wholly-Owned Subsidiary that is a Pledged Company, and in the case of a Subsidiary that is a Pledged Company, the Parent, Lessee or another Wholly-Owned Subsidiary that is a Pledged Company) other than pursuant to the reasonable requirements of the Parent's, Lessee's or such Subsidiary's business and upon fair and reasonable terms no less favorable to the Parent, Lessee or such Subsidiary than would be obtained in a comparable arm's-length transaction with a person other than an Affiliate, EXCEPT for the transactions described in Annex VII to the Credit Agreement on the Effective Date. No Subsidiary that is not a Pledged Company will enter into any transaction or series of transactions with any Affiliate (other than the Parent, Lessee or a Wholly-Owned Subsidiary) other than pursuant to the reasonable requirements of such Subsidiary's business and upon fair and reasonable terms no less favorable to such Subsidiary than would be obtained in a comparable arm's-length transaction with a person other than an Affiliate, EXCEPT for the transactions described in Annex VII to the Credit Agreement on the Effective Date.

(t) PLAN TERMINATIONS, MINIMUM FUNDING, ETC. None of the Parent, Lessee or any ERISA Affiliate will (i) terminate any Plan or Plans so as to result in liability of the Parent, Lessee or any ERISA Affiliate to the PBGC in excess of, in the aggregate, the amount which is equal to $5,000,000 as of the date of the then most recent financial statements furnished to Lessor and the Participants pursuant to the provisions of this Agreement, (ii) permit to exist one or more events or conditions which reasonably present a material risk of the termination by the PBGC of any Plan or Plans with respect to which the Parent, Lessee or any ERISA Affiliate would, in the event of such termination, incur liability to the PBGC in excess of such amount in the aggregate, or (iii) fail to comply in any material respect with the minimum funding standards of ERISA and the Code with respect to any Plan.

(u) CERTAIN LEASES. None of the Parent, Lessee or any of the Subsidiaries will permit the aggregate payments (excluding any property taxes, insurance or maintenance obligations paid by the Parent, Lessee and the Subsidiaries as additional rent or lease payments) by the Parent, Lessee and the Subsidiaries on a consolidated basis under agreements to rent or lease any real or personal property for a period exceeding 12 months (including any renewal or similar option periods) (other than any leases constituting Capital Leases, Synthetic Leases or, subject to Paragraph (s) above, leases between the Parent and Lessee, between Subsidiaries or between the Parent or Lessee and a Subsidiary), to exceed in any fiscal year of the Parent an amount greater than 3.50% of the Consolidated Net Worth of the Parent and Lessee as of the date of the financial statements then most recently furnished to Lessor and the Participants under Section IV(b)(i).

(v) LIMITATION ON CERTAIN RESTRICTIVE AGREEMENTS. None of the Parent, Lessee or any of the Subsidiaries will directly or indirectly, enter into, incur or permit to exist or become effective, any "negative pledge" covenant or other agreement, restriction or arrangement that prohibits, restricts or imposes any condition upon (a) the ability of the Parent or Lessee or any Subsidiary to create, incur or suffer to exist any Lien upon any of its property or assets as security for Indebtedness, or (b) the ability of the Parent or Lessee or any Subsidiary to pay dividends or make any other distributions on its capital stock or any other interest or participation in its profits owned by the Parent or Lessee or any Subsidiary of the Parent or Lessee, or pay any Indebtedness owed to the Parent or Lessee or a Subsidiary of the Parent or Lessee, or to make loans or advances to the Parent or Lessee or any other Subsidiaries, or transfer any of its property or assets to the Parent or Lessee or any other Subsidiaries, EXCEPT for such restrictions existing under or by reason of (i) applicable law,
(ii) this Agreement and the other Lease

Documents and the Credit Agreement, (iii) customary provisions restricting subletting or assignment of any lease governing a leasehold interest, (iv) customary provisions restricting assignment of any licensing agreement entered into in the ordinary course of business, (v) customary provisions restricting the transfer or further encumbering of assets subject to Liens permitted under Paragraphs (n)(b), (n)(c) or (n)(d) above, (vi) customary restrictions affecting only a Subsidiary of the Parent or Lessee under any agreement or instrument governing any of the Indebtedness of a Subsidiary permitted pursuant to Paragraph (o) above, excluding any restriction on dividends or distributions to its stockholders (vii) restrictions affecting any Foreign Subsidiary of the Parent or Lessee under any agreement or instrument governing any Indebtedness of such Foreign Subsidiary permitted pursuant to Paragraph (o) above, and customary restrictions contained in "comfort" letters and guarantees of any such Indebtedness, excluding any restriction on dividends or distributions to its stockholders (viii) any document relating to Indebtedness secured by a Lien permitted by Paragraph (n) above, insofar as the provisions thereof limit grants of junior liens on the assets securing such Indebtedness, and (ix) any operating lease or Capital Lease, insofar as the provisions thereof limit grants of a security interest in, or other assignments of, the related leasehold interest to any other person.

1.08 Section XXV of the Lease Agreement shall be amended as follows:

(A) The following definitions shall be deleted: "Amendment Effective Date"; "Accumulated Funding Deficiency"; "Contingent Obligation"; "EBIT"; "EBITDA"; "Eligible Investments"; "Funded Indebtedness" "Indebtedness for Borrowed Money"; "Net Income"; "Pension Plan"; "Required Multiplier"; "Standard & Poor's"; and "Tangible Net Worth".

(B) The following definitions shall be amended by deleting the same and inserting the following in lieu thereof the following definitions:

COMPANY refers to Lessee or to the Parent, as the case may be, and their Subsidiaries and COMPANIES refers to the Parent, Lessee and the Subsidiaries;

CREDIT AGREEMENT means the Credit Agreement, dated as of June 30, 2000, among Lessee, Parent, Lessor, in its capacity as Administrative Agent and as swing line lender, and the lending institutions party thereto, as the same may be amended, modified, restated or supplemented from time to time;

ENVIRONMENTAL LAW shall mean any applicable Federal, state, foreign or local statute, law, rule, regulation, ordinance, code, binding and enforceable guideline, binding and enforceable written policy and rule of common law now or hereafter in effect and in each case as amended, and any binding and enforceable judicial or administrative interpretation thereof, including any judicial or administrative order, consent, decree or judgment issued to or rendered against the Parent, Lessee or any of the Subsidiaries relating to the environment, employee health and safety or Hazardous Materials, including, without limitation, CERCLA; RCRA; the Federal Water Pollution Control Act, 33 U.S.C.ss.2601 ET SEQ.; the Clean Air Act, 42 U.S.C.ss.7401 ET SEQ.; the Safe Drinking Water Act, 42 U.S.C.ss.3803 ET SEQ.; the Oil Pollution Act of 1990, 33 U.S.C.ss.2701 ET SEQ.; the Emergency Planning and the Community Right-to-Know Act of 1986, 42 U.S.C.ss.11001 ET SEQ., the Hazardous Material Transportation Act, 49 U.S.C.ss.1801 ET SEQ. and the Occupational Safety and Health Act, 29 U.S.C.ss.651 ET SEQ. (to the extent it regulates occupational exposure to Hazardous Materials); and any state and local or foreign counterparts or equivalents, in each case as amended from time to time (all terms pertaining to Environmental Laws not defined in this Agreement shall have the meanings ascribed thereto in the respective Environmental Laws);

ERISA shall mean the Employee Retirement Income Security Act of 1974, as amended from time to time, and the regulations promulgated and rulings issued thereunder. Section references to ERISA are to ERISA, as in effect at the Effective Date and any subsequent provisions of ERISA, amendatory thereof, supplemental thereto or substituted therefor.

GAAP shall mean generally accepted accounting principles in the United States of America as in effect from time to time; it being understood and agreed that determinations in accordance with GAAP for purposes of Sections XXIII and XXIV, including defined terms as used therein, are subject (to the extent provided therein) to the following: except as otherwise specifically provided herein, all terms of an accounting or financial nature shall be construed in accordance with GAAP, as in effect from time to time; PROVIDED that, if Lessee notifies Lessor that Lessee requests an amendment to any provision of Section XXIII or XXIV hereof to eliminate the effect of any change occurring after the Effective Date in GAAP or in the application thereof to such provision (or if Lessor notifies Lessee that Lessor requests an amendment to any such provision hereof for such purposes), regardless of whether any such notice is given before or after such change in GAAP or in the application thereof, then such provision shall be interpreted on the basis of GAAP as in effect and applied immediately before such change shall have become effective until such notice shall have been withdrawn or such provision amended in accordance with the requirements of this Agreement;

GUARANTY means the Guaranty Agreement, dated as of May 16, 2000, by the Parent in favor of Lessor, as the same may be amended, restated, modified or supplemented from time to time;

MAXIMUM ACQUISITION Cost means with respect to the aggregate Acquisition Cost of the Equipment under all of the Schedules, $55,500,000;

PARENT means Brush Engineered Materials Inc., an Ohio corporation and its successors and assigns;

PORT AUTHORITY BONDS means the Toledo-Lucas County Port Authority Taxable Project Development Revenue Bonds, Series 1996 (Brush Wellman Inc. Project) in the principal amount of $13,100,000, and the Toledo-Lucas County Port Authority Taxable Project Development Revenue Bonds, Series 1997 (Brush Wellman Inc. Project) in the principal amount of $2,175,000, both of which were issued, sold and delivered by the Toledo-Lucas County Port Authority to The Prudential Insurance Company of America;

PORT AUTHORITY LEASE means the Lease, dated as of October 1, 1996, between the Toledo-Lucas County Port Authority, as lessor, and Lessee, as lessee, as amended by the First Supplemental Lease, dated as of April 1, 1997, between National City Bank, as trustee, as lessor (as assignee of all of the lessor's rights from the Toledo-Lucas County Port Authority), relating to certain real and personal property located at 14710 West Portage River S. Road, Harris Township, Ohio 43416;

REPORTABLE EVENT shall mean an event described in section 4043 of ERISA or the regulations thereunder with respect to a Plan, other than those events as to which the notice requirement is waived under the PBGC Regulations;

SUBSIDIARY of any person shall mean and include (i) any corporation more than 50% of whose stock of any class or classes having by the terms thereof ordinary voting power to elect a majority of the directors of such corporation (irrespective of whether or not at the time stock of any class or classes of such corporation shall have or might have voting power by reason of the

happening of any contingency) is at the time owned by such person directly or indirectly through Subsidiaries and (ii) any partnership, association, joint venture or other entity in which such person directly or indirectly through Subsidiaries, has more than a 50% equity interest at the time. Unless otherwise expressly provided, all references herein to "Subsidiary" shall mean a Subsidiary of the Parent and/or Lessee;

SYNTHETIC LEASE shall mean any lease (i) which is accounted for by the lessee as an Operating Lease, and (ii) under which the lessee is intended to be the "owner" of the leased property for Federal income tax purposes, including, without limitation, this Agreement;"

(C) The following definitions shall be inserted in proper alphabetical order:

ACQUISITION shall mean and include (i) any acquisition on a going concern basis (whether by purchase, lease or otherwise) of any facility and/or business operated by any person who is not a Subsidiary of the Parent or Lessee, and (ii) acquisitions of a majority of the outstanding equity or other similar interests in any such person (whether by merger, stock purchase or otherwise).

AFFILIATE shall mean, with respect to any person, any other person directly or indirectly controlling, controlled by, or under direct or indirect common control with such person. A person shall be deemed to control a second person if such first person possesses, directly or indirectly, the power (i) to vote 10% or more of the securities having ordinary voting power for the election of directors or managers of such second person or (ii) to direct or cause the direction of the management and policies of such second person, whether through the ownership of voting securities, by contract or otherwise. Notwithstanding the foregoing, (x) a director, officer or employee of a person shall not, solely by reason of such status, be considered an Affiliate of such person; and (y) neither Lessor nor any Participant shall in any event be considered an Affiliate of the Parent, Lessee or any of the Subsidiaries.

ASSET SALE shall mean the sale, transfer or other disposition (including by means of Sale and Lease-Back Transactions, and by means of mergers, consolidations, and liquidations of a corporation, partnership or limited liability company of the interests therein of the Parent, Lessee or any Subsidiary) by the Parent, Lessee or any Subsidiary to any person of any of their respective assets, but excluding the sale, transfer or other disposition of the Equipment.

AUTHORIZED OFFICER shall mean any officer or employee of Lessee designated as such in writing to Lessor by Lessee.

CAPITAL LEASE as applied to any person shall mean any lease of any property (whether real, personal or mixed) by that person as lessee which, in conformity with GAAP, is accounted for as a capital lease on the balance sheet of that person.

CAPITALIZED LEASE OBLIGATIONS shall mean all obligations under Capital Leases of the Parent, Lessee or any of the Subsidiaries in each case taken at the amount thereof accounted for as liabilities identified as "capital lease obligations" (or any similar words) on a consolidated balance sheet of the Parent, Lessee and the Subsidiaries prepared in accordance with GAAP.

CASH EQUIVALENTS shall mean any of the following:

(i) securities issued or directly and fully guaranteed or insured by the United States of America or any agency or instrumentality thereof (PROVIDED that the full faith and credit of the United States of America is pledged in support thereof) having maturities of not more than one year from the date of acquisition;

(ii) U.S. dollar denominated time deposits, certificates of deposit and bankers' acceptances of (x) Lessor or any Participant or (y) any bank whose short-term commercial paper rating from S&P is at least A-1 or the equivalent thereof or from Moody's is at least P-1 or the equivalent thereof (any such bank, an "APPROVED BANK"), in each case with maturities of not more than 180 days from the date of acquisition;

(iii) commercial paper issued by Lessor or any Participant or Approved Bank or by the parent company of Lessor or any Participant or Approved Bank maturing within 270 days of the date of acquisition, commercial paper issued by, or guaranteed by, any industrial or financial company, having a short-term commercial paper rating of at least A-1 or the equivalent thereof by S&P or at least P-1 or the equivalent thereof by Moody's, or guaranteed by any industrial company with a long term unsecured debt rating of at least A or A2, or the equivalent of each thereof, from S&P or Moody's, as the case may be, and in each case maturing within 270 days after the date of acquisition;

(iv) investments in money market funds or mutual funds substantially all the assets of which are comprised of securities of the types described in clauses (i) through (iii) above and (v) below; and

(v) obligations issued or guaranteed by any state or political subdivision thereof and rated at least A-1 or the equivalent thereof by S&P or at least P-1 or the equivalent thereof by Moody's (if rated as short-term obligations) or with a long term unsecured debt rating of at least A or A2, or the equivalent of each thereof, from S&P or Moody's, as the case may (if rated as long-term obligations).

CASH PROCEEDS shall mean, with respect to any Asset Sale, the aggregate cash payments (including any cash received by way of deferred payment pursuant to a note receivable issued in connection with such Asset Sale, other than the portion of such deferred payment constituting interest, but only as and when so received) received by the Parent, Lessee and/or any Subsidiary from such Asset Sale.

CERCLA shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as the same may be amended from time to time, 42 U.S.C. ss. 9601 ET SEQ.

CHANGE OF CONTROL shall mean and include any of the following:

(i) during any period of two consecutive calendar years, individuals who at the beginning of such period constituted the Parent's Board of Directors (together with any new directors (x) whose election by the Parent's Board of Directors was, or (y) whose nomination for election by the Parent's shareholders was (prior to the date of the proxy or consent solicitation relating to such nomination), approved by a vote of at least two-thirds of the directors then still in office who either were directors at the beginning of such period or whose election or nomination for election was previously so approved), shall cease for any reason to constitute a majority of the directors then in office;

(ii) any person other than the Parent shall own all of the issued and outstanding capital stock of Lessee, or any person or group (as such term is defined in section 13(d)(3) of the 1934 Act), other than the Parent, Lessee, any trustee or other fiduciary holding securities under an employee benefit plan of the Parent, or any members of the Current Holder Group, shall acquire, directly or indirectly, beneficial ownership (within the meaning of Rule 13d-3 and 13d-5

of the 1934 Act) of more than 20%, on a fully diluted basis, of the economic or voting interest in the Parent's capital stock;

(iii) the shareholders of the Parent or Lessee approve a merger or consolidation by it with any other person, OTHER than a merger or consolidation which would result in the voting securities of the Parent or Lessee, as the case may be, outstanding immediately prior thereto continuing to represent (either by remaining outstanding or by being converted or exchanged for voting securities of the surviving or resulting entity) more than 50% of the combined voting power of the voting securities of that person or such surviving or resulting entity outstanding after such merger or consolidation;

(iv) the shareholders of the Parent or Lessee approve a plan of complete liquidation for that person or an agreement or agreements for the sale or disposition by that person of all or substantially all of its assets; and/or

(v) any "change in control" or any similar term as defined in any indenture, credit agreement, note or securities purchase agreement, or other agreement or instrument governing any Indebtedness, with respect to Indebtedness of the Parent or Lessee that has an unpaid principal amount of $25,000 or greater;

As used in this definition, the term "CURRENT HOLDER GROUP" shall mean (i) those persons, if any, who as of the Effective Date have disclosed in filings with the SEC their beneficial ownership of more than 5% of the outstanding shares of capital stock of the Parent, (ii) those other persons who are officers and directors of the Parent and Lessee at the Effective Date, (iii) the spouses, heirs, legatees, descendants and blood relatives to the third degree of consanguinity of any such person, (iv) the executors and administrators of the estate of any such person, and any court appointed guardian of any such person, and (v) any trust, family partnership or similar investment entity for the benefit of any such person referred to in the foregoing clauses (i), (ii) and
(iii) or any other persons (including for charitable purposes), so long as one or more members of the Current Holder Group has the exclusive or a joint right to control the voting and disposition of securities held by such trust, family partnership or other investment entity;

CODE shall mean the Internal Revenue Code of 1986, as amended from time to time, and the regulations promulgated thereunder. Section references to the Code are to the Code, as in effect at the Effective Date and any subsequent provisions of the Code, amendatory thereof, supplemental thereto or substituted therefor;

COMMODITY HEDGE AGREEMENT shall mean any commodity swap agreement, forward commodity purchase agreement, forward commodity option agreement or similar agreement or arrangement;

CONSOLIDATED AMORTIZATION EXPENSE shall mean, for any period, all amortization expenses of the Parent, Lessee and the Subsidiaries, all as determined for the Parent, Lessee and the Subsidiaries on a consolidated basis in accordance with GAAP;

CONSOLIDATED CAPITAL EXPENDITURES shall mean, for any period, the aggregate of all expenditures for property, plant or equipment (whether paid in cash or accrued as liabilities and including in all events amounts expended or capitalized under Capital Leases and Synthetic Leases but excluding any amount representing capitalized interest) by the Parent, Lessee and the Subsidiaries during that period;

CONSOLIDATED DEPLETION EXPENSE shall mean, for any period, all depletion expenses of the Parent, Lessee and the Subsidiaries, all as determined for the Parent, Lessee and the Subsidiaries on a consolidated basis in accordance with GAAP;

CONSOLIDATED DEPRECIATION EXPENSE shall mean, for any period, all depreciation expenses of the Parent, Lessee and the Subsidiaries, all as determined for the Parent, Lessee and the Subsidiaries on a consolidated basis in accordance with GAAP;

CONSOLIDATED EBIT shall mean, for any period, Consolidated Net Income for such period; PLUS (A) the sum (without duplication) of the amounts for such period included in determining such Consolidated Net Income of (i) Consolidated Interest Expense, (ii) Consolidated Income Tax Expense, and (iii) extraordinary and other non-recurring non-cash losses and charges; minus (B) extraordinary gains on sales of assets and other extraordinary or other non-recurring gains; all as determined for the Parent, Lessee and the Subsidiaries on a consolidated basis in accordance with GAAP;

Notwithstanding anything to the contrary contained herein, the Consolidated EBIT for any Testing Period shall (x) include the appropriate financial items for any person or business unit which has been acquired by the Parent, Lessee or any Subsidiary for any portion of such Testing Period prior to the date of acquisition, and (y) exclude the appropriate financial items for any person or business unit which has been disposed of by the Parent, Lessee or any Subsidiary, for the portion of such Testing Period prior to the date of disposition.

CONSOLIDATED EBITDA shall mean, for any period, Consolidated EBIT for such period; PLUS the sum (without duplication) of the amounts for such period included in determining Consolidated Net Income of Consolidated Depreciation Expense, Consolidated Amortization Expense and Consolidated Depletion Expense, all as determined for the Parent, Lessee and the Subsidiaries on a consolidated basis in accordance with GAAP;

Notwithstanding anything to the contrary contained herein, the Consolidated EBITDA for any Testing Period shall (x) include the appropriate financial items for any person or business unit which has been acquired by the Parent, Lessee or any Subsidiary for any portion of such Testing Period prior to the date of acquisition, and (y) exclude the appropriate financial items for any person or business unit which has been disposed of by the Parent, Lessee or any Subsidiary, for the portion of such Testing Period prior to the date of disposition.

CONSOLIDATED EBITDAR shall mean, for any period, Consolidated EBITDA for such period; PLUS the sum (without duplication) of the amounts for such period included in determining Consolidated Net Income of Consolidated Rental Expense, all as determined for the Parent, Lessee and the Subsidiaries on a consolidated basis in accordance with GAAP;

CONSOLIDATED FIXED CHARGE COVERAGE RATIO means, for any Testing Period, the ratio of (a) Consolidated EBITDA for that Testing Period to (b) the sum of
(i) Consolidated Interest Expense and Consolidated Income Tax Expense for that Testing Period, plus (ii) scheduled or mandatory repayments, prepayments or redemptions during that Testing Period of the principal of Indebtedness (including Capitalized Lease Obligations and required reductions in committed credit facilities) with a final maturity date more than one year after the end of that Testing Period, plus (iii) the sum of all payments for dividends, stock repurchases or other stock redemptions, and other purposes described in Section XXIV(q), if any, in each case on a consolidated basis for the Parent, Lessee and the Subsidiaries for such Testing Period; PROVIDED that, notwithstanding anything to the contrary contained herein, the Consolidated Fixed Charge Coverage Ratio for any Testing Period shall (x) include the appropriate financial items for any person or business unit which has been acquired by the Parent, Lessee or any Subsidiary for any portion of such Testing Period prior to the date of acquisition, and (y) exclude the appropriate financial items for any person or business unit which has been disposed of by the Parent, Lessee or any Subsidiary, for the portion of such Testing Period prior to the date of disposition;

CONSOLIDATED INCOME TAX EXPENSE shall mean, for any period, all provisions for taxes based on the net income of the Parent, Lessee and the Subsidiaries (including, without limitation, any additions to such taxes, and any penalties and interest with respect thereto), all as determined for the Parent, Lessee and the Subsidiaries on a consolidated basis in accordance with GAAP; provided, that if the aggregate net amount of those taxes for any period in question is a negative figure, the Consolidated Income Tax Expense for the period in question shall be treated as zero for purposes of this Agreement;

CONSOLIDATED INTEREST EXPENSE shall mean, for any period, total interest expense (including that which is capitalized, that which is attributable to Capital Leases (but not to Synthetic Leases) and the pre-tax equivalent of dividends payable on Redeemable Stock) of the Parent, Lessee and the Subsidiaries on a consolidated basis with respect to all outstanding Indebtedness of the Parent, Lessee and the Subsidiaries, including, without limitation, all commissions, discounts and other fees and charges owed with respect to letters of credit and net obligations under Financial Hedge Agreements (except for Financial Hedge Agreements described in clause (ii) of the definition thereof), BUT EXCLUDING, HOWEVER, any interest expense in respect of Permitted Precious Metal Consignments, any amortization or write-off of deferred financing costs and any charges for prepayment penalties on prepayment of Indebtedness;

CONSOLIDATED NET INCOME shall mean for any period, the net income (or loss) of the Parent, Lessee and the Subsidiaries on a consolidated basis for such period taken as a single accounting period determined in conformity with GAAP;

CONSOLIDATED NET WORTH shall mean at any time for the determination thereof: (i) all amounts which, in conformity with GAAP, would be included under the caption "total stockholders' equity" (or any like caption) on a consolidated balance sheet of the Parent, Lessee and the Subsidiaries as at such date (I.E., the sum of the entries for (1) the par or stated value of common stock and preferred stock (but excluding treasury stock and capital stock subscribed and unissued), (2) paid-in capital and (3) retained earnings (or deficit)), MINUS
(ii) to the extent included in clause (i), all amounts properly attributable to minority interests, if any, in the stock or other equity of Subsidiaries; PROVIDED that in no event shall Consolidated Net Worth include any amounts in respect of Redeemable Stock;

CONSOLIDATED RENTAL EXPENSE shall mean, for any period, total rental expense for all Synthetic Leases, including the interest portion of all Synthetic Leases, of the Parent, Lessee and the Subsidiaries, all as determined for the Parent, Lessee and the Subsidiaries on a consolidated basis.

CONSOLIDATED TANGIBLE NET WORTH shall mean at any time for the determination thereof: (i) the Consolidated Net Worth of the Parent, Lessee and the Subsidiaries as at such date, MINUS the aggregate amount of goodwill and intangible assets of the Parent, Lessee and the Subsidiaries as at such date, as determined in accordance with GAAP;

CONSOLIDATED TOTAL ADJUSTED CAPITAL shall mean at any time (i) Consolidated Total Debt at such time; PLUS (ii) Consolidated Tangible Net Worth as of the end of the most recent fiscal quarter for which the Parent's and Lessee's consolidated financial statements have been furnished to Lessor and the Participants under this Agreement; PLUS (iii) to the extent deducted in determining Consolidated Net Worth for purposes of determining Consolidated Tangible Net Worth, all amounts properly attributable to minority interests, if any, in the stock or other equity of Subsidiaries;

CONSOLIDATED TOTAL DEBT shall mean, at any time, the sum (without duplication) of the principal amount (or Capitalized Lease Obligation, in the case of a Capital Lease, or present value, based on the implicit interest rate, in the case of any Synthetic Lease, or the higher of liquidation value or stated value, in the case of Redeemable Stock) of all Indebtedness of the Parent, Lessee and of the Subsidiaries,

without duplication, all as determined on a consolidated basis, PROVIDED that for purposes of this definition none of the following obligations shall be considered in determining Consolidated Total Debt: obligations under (i) Hedge Agreements, (ii) Permitted Precious Metal Consignments, (iii) the gold-denominated loan under the Letter Agreement for Loan and Purchase of Gold to be entered into between Williams Advanced Materials Inc. and The Bank of Nova Scotia and any other gold-denominated loan to Lessee, or any other Subsidiary that deals in precious metals, all of which are to be in a form that is approved by Lessor, which approval will not be unreasonably withheld, but only to the extent that the aggregate payment obligations of Lessee and any such other Subsidiaries thereunder do not exceed payments in respect of 23,781 ounces of gold, and (iv) the obligations of Lessee in respect of the agreement described in Section XXIV(o)(h) to the extent that those obligations do not exceed $6,000,000 during any twelve month period;

DOLLARS, U.S. DOLLARS, DOLLARS and the sign "$" each means lawful money of the United States;

DOMESTIC SUBSIDIARY shall mean any Subsidiary organized under the laws of the United States of America, any State thereof, the District of Columbia, or any United States possession, the chief executive office and principal place of business of which is located in, and which conducts the majority of its business within, the United States of America and its territories and possessions;

EFFECTIVE DATE shall mean the date on which the conditions set forth in Article II of the Consolidated Amendment No. 1 to Master Lease Agreement and Equipment Schedules, dated as of June 30, 2000, between Lessee and Lessor are satisfied;

ENVIRONMENTAL CLAIMS shall mean any and all administrative, regulatory or judicial actions, suits, demands, demand letters, claims, liens, notices of non-compliance or violation, investigations or proceedings relating in any way to any Environmental Law or any permit issued under any such law (hereafter "CLAIMS"), including, without limitation, (i) any and all Claims by governmental or regulatory authorities for enforcement, cleanup, removal, response, remedial or other actions or damages pursuant to any applicable Environmental Law, and (ii) any and all Claims by any third party seeking damages, contribution, indemnification, cost recovery, compensation or injunctive relief resulting from the storage, treatment or Release (as defined in CERCLA) of any Hazardous Materials or arising from alleged injury or threat of injury to health, safety or the environment;

ERISA AFFILIATE shall mean each person (as defined in section 3(9) of ERISA) which together with the Parent, Lessee or any Subsidiary would be deemed to be a "single employer" (i) within the meaning of section 414(b),(c), (m) or (o) of the Code or (ii) as a result of the Parent's, Lessee's or that Subsidiary's being or having been a general partner of such person;

EXISTING INDEBTEDNESS shall have the meaning provided in section 7.18 of the Credit Agreement as in effect on the Effective Date;

EXISTING INDEBTEDNESS AGREEMENTS shall have the meaning provided in section 7.18 of the Credit Agreement as in effect on the Effective Date;

FINANCIAL HEDGE AGREEMENT shall mean (i) any interest rate swap agreement, any interest rate cap agreement, any interest rate collar agreement or other similar agreement or arrangement; and (ii) any currency swap agreement, forward currency purchase agreement or similar agreement or arrangement;

FOREIGN SUBSIDIARY shall mean any Subsidiary that is not a Domestic Subsidiary;

GENERAL PERMITTED LIENS shall mean Liens described in Section XXIV(n);

GUARANTY OBLIGATIONS shall mean as to any person (without duplication) any obligation of such person guaranteeing any Indebtedness ("PRIMARY INDEBTEDNESS") of any other person (the "PRIMARY OBLIGOR") in any manner, whether directly or indirectly, including, without limitation, any obligation of such person, whether or not contingent, (a) to purchase any such primary Indebtedness or any property constituting direct or indirect security therefor,
(b) to advance or supply funds (i) for the purchase or payment of any such primary Indebtedness or (ii) to maintain working capital or equity capital of the primary obligor or otherwise to maintain the net worth or solvency of the primary obligor, (c) to purchase property, securities or services primarily for the purpose of assuring the owner of any such primary Indebtedness of the ability of the primary obligor to make payment of such primary Indebtedness, or
(d) otherwise to assure or hold harmless the owner of such primary Indebtedness against loss in respect thereof, PROVIDED, HOWEVER, that the term Guaranty Obligation shall not include endorsements of instruments for deposit or collection in the ordinary course of business. The amount of any Guaranty Obligation shall be deemed to be an amount equal to the stated or determinable amount of the primary Indebtedness in respect of which such Guaranty Obligation is made or, if not stated or determinable, the maximum reasonably anticipated liability in respect thereof (assuming such person is required to perform thereunder) as determined by such person in good faith;

HAZARDOUS MATERIALS shall mean (i) any petrochemical or petroleum products, radioactive materials, asbestos in any form that is or could become friable, urea formaldehyde foam insulation, transformers or other equipment that contain dielectric fluid containing levels of polychlorinated biphenyls, and radon gas; and (ii) any chemicals, materials or substances defined as or included in the definition of "hazardous substances", "hazardous wastes", "hazardous materials", "restricted hazardous materials", "extremely hazardous wastes", "restrictive hazardous wastes", "toxic substances", "toxic pollutants", "contaminants" or "pollutants", or words of similar meaning and regulatory effect, under any applicable Environmental Law;

HEDGE AGREEMENT shall mean any Commodity Hedge Agreement and any Financial Hedge Agreement;

INDEBTEDNESS of any person shall mean without duplication:

(i) all indebtedness of such person for borrowed money;

(ii) all bonds, notes, debentures and similar debt securities of such person;

(iii) the deferred purchase price of capital assets or services which in accordance with GAAP would be shown on the liability side of the balance sheet of such person;

(iv) the face amount of all letters of credit issued for the account of such person and, without duplication, all drafts drawn thereunder;

(v) all obligations, contingent or otherwise, of such person in respect of bankers' acceptances;

(vi) all Indebtedness of a second person secured by any Lien on any property owned by such first person, whether or not such Indebtedness has been assumed;

(vii) all Capitalized Lease Obligations of such person;

(viii) the present value, determined on the basis of the implicit interest rate, of all basic rental obligations under all Synthetic Leases of such person;

(ix) all obligations of such person to pay a specified purchase price for goods or services whether or not delivered or accepted, I.E., take-or-pay and similar obligations;

(x) all net obligations of such person under Hedge Agreements;

(xi) the full outstanding balance of trade receivables, notes or other instruments sold with full recourse (and the portion thereof subject to potential recourse, if sold with limited recourse), other than in any such case any thereof sold solely for purposes of collection of delinquent accounts;

(xii) the stated value, or liquidation value if higher, of all Redeemable Stock of such person; and

(xiii) all Guaranty Obligations of such person;

PROVIDED that (x) neither trade payables nor other similar accrued expenses, in each case arising in the ordinary course of business, nor obligations in respect of insurance policies or performance or surety bonds which themselves are not guarantees of Indebtedness (nor drafts, acceptances or similar instruments evidencing the same nor obligations in respect of letters of credit supporting the payment of the same) that are no more than forty-five days delinquent, shall constitute Indebtedness; and (y) the Indebtedness of any person shall in any event include (without duplication) the Indebtedness of any other entity (including any general partnership in which such person is a general partner) to the extent such person is liable thereon as a result of such person's ownership interest in or other relationship with such entity, except to the extent the terms of such Indebtedness provide expressly that such person is not liable thereon.

LEASE DOCUMENTS shall mean this Agreement, any Security Documents and the Schedules;

LEASE PARTY shall mean each of the Parent, Lessee and any other person that is a party to any of the Lease Documents;

LEASEHOLDS of any person means all the right, title and interest of such person as lessee or licensee in, to and under leases or licenses of land, improvements and/or fixtures;

MATERIAL ADVERSE EFFECT shall mean any or all of the following: (i) any material adverse effect on the business, operations, property, prospects, assets, liabilities or condition (financial or otherwise) of, when used with reference to the Parent, Lessee and/or any of the Subsidiaries, the Parent, Lessee and the Subsidiaries, taken as a whole, or when used with reference to any other person, such person and its Subsidiaries, taken as a whole, as the case may be; (ii) any material adverse effect on the ability of each of the Lease Parties to perform its obligations under the Lease Documents to which it is a party; (iii) any material adverse effect on the ability of the Parent, Lessee and the Subsidiaries, taken as a whole, to pay their liabilities and obligations as they mature or become due; or (iv) any material adverse effect on the validity, effectiveness or enforceability, as against any Lease Party, of any of the Lease Documents to which it is a party;

MATERIAL SUBSIDIARY shall mean, at any time, with reference to any person, any Subsidiary of such person (i) that has assets at such time comprising 5% or more of the consolidated assets of such person and the Subsidiaries, or (ii) whose operations in the current fiscal year are expected to, or whose

operations in the most recent fiscal year did (or would have if such person had been a Subsidiary for such entire fiscal year), represent 5% or more of the consolidated earnings before interest, taxes, depreciation and amortization of such person and the Subsidiaries for such fiscal year. In addition, Material Subsidiary shall include any Subsidiary as to which any part of the capital stock thereof is pledged or is required to be pledged to Lessor, as collateral agent, under the Pledge Agreement;

MATURITY DATE shall mean the Maturity Date as that term is defined in the Credit Agreement;

MULTIEMPLOYER PLAN shall mean a multiemployer plan, as defined in section 4001(a)(3) of ERISA to which the Parent, Lessee or any ERISA Affiliate is making or accruing an obligation to make contributions or has within any of the preceding five plan years made or accrued an obligation to make contributions;

MULTIPLE EMPLOYER PLAN shall mean an employee benefit plan, other than a Multiemployer Plan, to which the Parent, Lessee or any ERISA Affiliate, and one or more employers other than the Parent, Lessee or an ERISA Affiliate, is making or accruing an obligation to make contributions or, in the event that any such plan has been terminated, to which the Parent, Lessee or an ERISA Affiliate made or accrued an obligation to make contributions during any of the five plan years preceding the date of termination of such plan;

NET CASH PROCEEDS shall mean, with respect to any Asset Sale, the Cash Proceeds resulting therefrom net of (i) reasonable and customary expenses of sale incurred in connection with such Asset Sale, and other reasonable and customary fees and expenses incurred, and all state, and local taxes paid or reasonably estimated to be payable by such person, as a consequence of such Asset Sale and the payment of principal, premium and interest of Indebtedness secured by the asset which is the subject of the Asset Sale and required to be, and which is, repaid under the terms thereof as a result of such Asset Sale,
(ii) amounts of any distributions payable to holders of minority interests in the relevant person or in the relevant property or assets and (iii) incremental income taxes paid or payable as a result thereof;

OPERATING LEASE as applied to any person shall mean any lease of any property (whether real, personal or mixed) by that person as lessee which, in conformity with GAAP, is not accounted for as a Capital Lease on the balance sheet of that person;

PBGC shall mean the Pension Benefit Guaranty Corporation established pursuant to section 4002 of ERISA, or any successor thereto;

PERMITTED ACQUISITION shall mean and include any Acquisition as to which all of the following conditions are satisfied:

(i) such Acquisition involves a line or lines of business which is complementary to the lines of business in which the Parent, Lessee or a Subsidiary, as the case may be, making the Acquisition is engaged on the Effective Date, UNLESS Lessor specifically approve or consent to such Acquisition in writing;

(ii) such Acquisition is not actively opposed by the Board of Directors (or similar governing body) of the selling person or the person whose equity interests are to be acquired, UNLESS Lessor and all of the Participants specifically approve or consent to such Acquisition in writing;

(iii) if as a result of an Acquisition a person becomes a Subsidiary of the Parent or Lessee, such Subsidiary shall be a Wholly-Owned Subsidiary;

(iv) the aggregate consideration for such Acquisition and all other Permitted Acquisitions completed in within the preceding 12 month period, including the principal amount of any assumed Indebtedness and (without duplication) any Indebtedness of any acquired person or persons, does not exceed $25,000,000, UNLESS Lessor specifically approves or consents to such Acquisition, such approval or consent not to be unreasonably withheld; PROVIDED that no such approval or consent shall be effective to permit an Acquisition which would result in such aggregate consideration exceeding $30,000,000 unless Lessor and all of the Participants join in such consent or approval; and

(v) the Parent and Lessee would, after giving effect to such Acquisition, be in compliance, on a PRO FORMA basis, with the financial covenants contained in Section XXIII (which compliance shall be evidenced by the execution and delivery of a PRO FORMA compliance covenant certificate by Lessee to Lessor at least fourteen days prior to the closing of the Permitted Acquisition), such PRO FORMA ratios being determined:

(A) as if (x) such Acquisition had been completed at the beginning of the most recent period of four consecutive fiscal quarters of the Parent and Lessee for which financial information for the Parent and Lessee and the business or person to be acquired, is available, and (y) any such Indebtedness incurred to finance such Acquisition had been outstanding for such period; and

(B) without giving effect to any credit for unobtained or unrealized gains in connection with such Acquisition, but taking into account such adjustments to the overhead of such properties and assets as may reasonably be determined and specified by Lessee to reflect the overhead generally applicable to similar properties and assets owned by the Parent, Lessee and the Subsidiaries, as and to the extent Lessor determines (acting on instructions from the Required Participants) such adjustments to be reasonable and appropriate under the particular circumstances);

PROVIDED, that the term Permitted Acquisition specifically excludes any loans, advances or minority investments otherwise permitted pursuant to section 9.5.

PERMITTED MASTER COPPER LEASE AGREEMENTS shall mean the Master Copper Lease Agreement, dated March 30, 2001, between Lessee and Fleet Precious Metals, Inc. (the "Fleet Copper Agreement"), and any other master copper lease agreement arrangement entered into by Lessee that is approved by Lessor, which approval will not be unreasonably withheld, but only to the extent that the aggregate value, in U. S. Dollars, of the copper subject to all those master copper lease agreements (including the Fleet Copper Agreement) does not in the aggregate exceed an amount greater than $15,000,000;

PERMITTED PRECIOUS METAL CONSIGNMENTS shall mean precious metals inventory of Lessee or any other Subsidiary that deals in precious metals that is subject to any precious metal consignment arrangement described in Annex VI of the Credit Agreement as in effect on the Effective Date (regardless of whether styled as a lease, consignment, sub-consignment or debt) or that are approved by Lessor, which approval will not be unreasonably withheld, but only to the extent that the aggregate value, in U. S. Dollars, of the precious metals subject to all those consignment arrangements does not exceed an amount greater than $140,000,000;

PERSON OR PERSON shall mean any individual, partnership, joint venture, firm, corporation, limited liability company, association, trust or other enterprise or any government or political subdivision or any agency, department or instrumentality thereof;

PLAN shall mean any pension plan as defined in Section 3(2) of ERISA and any multiemployer or single-employer plan as defined in section 4001 of ERISA, which is maintained or contributed to by (or to which there is an obligation to contribute by) the Parent, Lessee or a Subsidiary or an ERISA Affiliate, and each such plan for the five year period immediately following the latest date on which the Parent, Lessee, or a Subsidiary or an ERISA Affiliate maintained, contributed to or had an obligation to contribute to such plan;

PLEDGE AGREEMENT shall mean the Pledge Agreement, of even date herewith, between the Parent, Lessee and Lessor, as collateral agent, as the same may be amended or modified from time to time, which secures the obligations of Lessee and the Parent under the Credit Agreement and the obligations of Lessee under this Agreement and the Schedules;

PLEDGED COMPANY shall mean a Material Subsidiary the capital stock of which, or other equity or ownership interest in which, has been pledged to Lessor, as collateral agent, under the Pledge Agreement;

PRINCIPAL OFFICER shall mean any officer of the Parent or Lessee whose title is (including any title which is substantially the same as): (i) Chief Executive Officer, (ii) President, (iii) Chief Financial Officer or Vice President-Finance, or (iv) Treasurer;

PROHIBITED TRANSACTION shall mean a transaction with respect to a Plan that is prohibited under section 4975 of the Code or section 406 of ERISA and not exempt under section 4975 of the Code or section 408 of ERISA;

RCRA shall mean the Resource Conservation and Recovery Act, as the same may be amended from time to time, 42 U.S.C.ss. 6901 ET SEQ;

REAL PROPERTY of any person shall mean all of the right, title and interest of such person in and to land, improvements and fixtures, including Leaseholds;

REDEEMABLE STOCK shall mean with respect to any person any capital stock or similar equity interests of such person that (i) is by its terms subject to mandatory redemption, in whole or in part, pursuant to a sinking fund, scheduled redemption or similar provisions, at any time prior to the Maturity Date; or (ii) otherwise is required to be repurchased or retired on a scheduled date or dates, upon the occurrence of any event or circumstance, or at the option of the holder or holders thereof, or otherwise, at any time prior to the Maturity Date, other than any such redemption, repurchase or retirement occasioned by a "change of control" or similar event;

REORGANIZATION shall mean the transactions described in Annex VIII to the Credit Agreement as in effect on the Effective Date;

SALE AND LEASE-BACK TRANSACTION shall mean any arrangement with any person providing for the leasing by the Parent, Lessee or any Subsidiary of any property (except for temporary leases for a term, including any renewal thereof, of not more than one year and except for leases between the Parent, Lessee and a Subsidiary or between Subsidiaries subject to Section XXIV(s), which property has been or is to be sold or transferred by the Parent, Lessee or such Subsidiary to such person;

S&P shall mean Standard & Poor's Ratings Group, a division of McGraw Hill, Inc., and its successors;

SECURITY AGREEMENT shall mean the Security Agreement, dated as of September 28, 2001, by Lessee and the Parent in favor of National City Bank, as Collateral Agent, as the same may be amended, restated, modified or supplemented from time to time;

SECURITY DOCUMENTS shall mean the Pledge Agreement, the Guaranty, the Subsidiary Guaranties, the Security Agreement, the Subsidiary Security Agreement and each other document pursuant to which any Lien or security interest is granted by the Parent, Lessee or any Subsidiary to Lessor as security for any of the obligations of Lessee to Lessor under or relating to this Agreement and the Schedules;

SOLVENT shall mean, with respect to any Person on a particular date, that on such date (i) the fair value of the property of such Person is greater than the total amount of liabilities, including, without limitation, contingent liabilities, of such Person, (ii) the present fair saleable value of the assets of such Person is not less than the amount that will be required to pay the probable liability of such Person on its debts as they become absolute and matured, (iii) such Person is able to realize upon its assets and pay its debts and other liabilities, contingent obligations and other commitments as they mature in the normal course of business, (iv) such Person does not intend to, and does not believe that it will, incur debts or liabilities beyond such Person's ability to pay as such debts and liabilities mature, and (v) such Person is not engaged in business or a transaction, and is not about to engage in business or a transaction, for which such Person's property would constitute unreasonably small capital after giving due consideration to the prevailing practice in the industry in which such Person is engaged;

STANDARD PERMITTED LIENS shall mean the following:

(i) Liens for taxes not yet delinquent or Liens for taxes being contested in good faith and by appropriate proceedings for which adequate reserves have been established;

(ii) Liens in respect of property or assets imposed by law which were incurred in the ordinary course of business, such as carriers', warehousemen's, materialmen's and mechanics' Liens and other similar Liens arising in the ordinary course of business, which do not in the aggregate detract from the value of such property or assets or materially impair the use thereof in the operation of the business of the Parent, Lessee or any Subsidiary;

(iii) Liens (other than any Lien imposed by ERISA) incurred or deposits made in the ordinary course of business in connection with workers' compensation, unemployment insurance and other types of social security; and mechanic's Liens, carrier's Liens, and other Liens to secure the performance of tenders, statutory obligations, contract bids, government contracts, performance and return-of-money bonds and other similar obligations, incurred in the ordinary course of business (exclusive of obligations in respect of the payment for borrowed money), whether pursuant to statutory requirements, common law or consensual arrangements;

(iv) easements, rights-of-way, zoning or deed restrictions, minor defects or irregularities in title and other similar charges or encumbrances not adversely affecting in any material respect the ordinary conduct of the business of the Parent, Lessee or any of the Subsidiaries considered as an entirety;

(v) Liens arising from judgments, decrees or attachments in circumstances not constituting a Default under Section XI(a)(ix); and

(vi) Leases or subleases granted to others not interfering in any material respect with the business of the Parent, Lessee or any of its Subsidiaries and any interest or title of a lessor under any lease not in violation of this Agreement.

SUBSIDIARY GUARANTIES shall mean, collectively, each Guaranty, both dated as of [January __, 2001], by Brush Ceramic Products Inc. and Brush Resources Inc., both in favor of Lessor, as the same may be amended, restated, modified or supplemented from time to time;

SUBSIDIARY SECURITY AGREEMENT shall mean the Security Agreement, dated as of September 28, 2001, by Brush Ceramic Products Inc. and Brush Resources Inc. in favor of National City Bank, as Collateral Agent, as the same may be amended, restated, modified or supplemented from time to time;

TESTING PERIOD shall mean for any determination, a single period consisting of the four consecutive fiscal quarters of the Parent and Lessee then last ended (whether or not such quarters are all within the same fiscal year), EXCEPT that if a particular provision of this Agreement indicates that a Testing Period shall be of a different specified duration, such Testing Period shall consist of the particular fiscal quarter or quarters of the Parent and Lessee then last ended which are so indicated in such provision; and

UCC shall mean the Uniform Commercial Code.

UNFUNDED CURRENT LIABILITY of any Plan shall mean the amount, if any, by which the actuarial present value of the accumulated plan benefits under the Plan as of the close of its most recent plan year exceeds the fair market value of the assets allocable thereto, each determined in accordance with Statement of Financial Accounting Standards No. 87, based upon the actuarial assumptions used by the Plan's actuary in the most recent annual valuation of the Plan.

UNITED STATES AND U.S. each means United States of America.

WHOLLY-OWNED SUBSIDIARY shall mean each Subsidiary of the Parent or Lessee at least 95% of whose capital stock, equity interests and partnership interests, other than director's qualifying shares or similar interests, are owned directly or indirectly by the Parent or Lessee, as the case may be.

1.09 Exhibit No. 2, Exhibit No. 3 and Exhibit No. 4 to the Lease Agreement are deleted and Exhibit No. 2, Exhibit No. 3 and Exhibit No. 4 attached to this Amendment are inserted in lieu thereof.

SECTION II - CONDITIONS PRECEDENT

2.01 When the following items shall have been delivered to Lessor (in form and substance acceptable to Lessor) and the following conditions precedent have been met, this Amendment shall be effective as of September 28, 2001 (the "Amendment Effective Date"):

(A) Lessee and Parent shall have executed and delivered to Lessor the Security Agreement in form and substance satisfactory to Lessor pursuant to which the obligations of Lessee and Parent under the Credit Agreement, the obligations of Parent under the Guaranty and the obligations of

Lessee under this Amendment and other swap agreements and reimbursement agreements are secured by all of the personal property of Lessee and Parent, subject to the exceptions set forth therein .

(B) Brush Ceramic Products Inc. and Brush Resources Inc. (the "Subsidiary Guarantors") shall have executed and delivered to Administrative Agent one or more Subsidiary Security Agreements in form and substance satisfactory to Administrative Agent pursuant to which the obligations of Subsidiary Guarantors under their respective Subsidiary Guaranties are secured by all of the personal property of Guarantors, subject to the exceptions set forth therein.

(C) Lessee's secretary or treasurer shall have certified to Lessor (i) a copy of resolutions duly adopted by Lessee's board of directors in respect of this Amendment and the Security Agreement, (ii) true and correct copies of Lessee's current Articles of Incorporation and Code of Regulations,
(iii) the names and true signatures of the officers of Lessee authorized to sign this Amendment and the Security Agreement on behalf of Lessee, and (iv) that, after giving effect to the amendments and waivers set forth herein, no "Default" or "Potential Default" (as those terms are defined in the Lease Agreement) exists.

(D) The secretary or treasurer each of Parent and each of the Subsidiary Guarantor's (collectively, the "Guarantors") shall have certified to Lessor (i) a copy of resolutions duly adopted by that Guarantor's board of directors in respect of the Security Agreement or Subsidiary Security Agreements to which it is a party, (ii) true and correct copies of that Guarantor's current Articles of Incorporation or Certificate of Incorporation and Code of Regulations or Bylaws, (iii) the names and true signatures of the officers of that Guarantor authorized to sign the Security Agreement or the Subsidiary Security Agreements to which it is a party on behalf of that Guarantor, and (iv) that, after giving effect to the amendments and waivers set forth herein, no "Default" or "Potential Default" (as those terms are defined in the Credit Agreement) exists.

(E) Counsel for Lessee and the Guarantors shall have rendered to Lessor a written opinion as to the enforceability of this Amendment, the Security Agreement and the Subsidiary Security Agreement, in form and substance satisfactory to the Lessor.

(F) Lessee shall have delivered or caused to be delivered certificates of good standing for each of Lessee and the Guarantors issued by the Secretary of State, or other appropriate office, of the state of its incorporation.

(G) Lessee shall have caused all Guarantors to execute and deliver to the Lessor a Reaffirmation of Guaranty in form and substance satisfactory to the Lessor.

(H) Lessee shall have delivered or caused to be delivered such other documents as Lessor may reasonably request.

2.02 If Lessor shall consummate the transactions contemplated hereby prior to the fulfillment of any of the conditions precedent set forth above, the consummation of such transactions shall constitute only an extension of time for the fulfillment of such conditions and not a waiver thereof.

SECTION III - REPRESENTATIONS AND WARRANTIES

3.01 Lessee hereby represents and warrants to Lessor as follows:

(A) That all representations and warranties set forth in the Lease Agreement and the Restated Equipment Schedule, as amended hereby, are true and correct in all material respects, and that this Amendment and the Security Agreement and the Subsidiary Security Agreement have been executed and delivered by duly authorized officers of Lessee, the Parent and the Subsidiaries that are parties thereto and constitutes the legal, valid and binding obligations of Lessee, the Parent and the Subsidiaries that are parties thereto, enforceable against those parties in accordance with their respective terms.

(B) That the execution, delivery and performance by Lessee of this Amendment and the Security Agreement, the execution, delivery and performance by the Parent of the Security Agreement, and the execution, delivery and performance by the Subsidiaries that are parties to the Subsidiary Security Agreement, and Lessee's performance of the Lease Agreement, the Restated Equipment Schedule and the other Equipment Schedules, as amended hereby have been authorized by all requisite corporate action and will not (1) violate (a) any order of any court, or any rule, regulation or order of any other agency of government, (b) the Articles of Incorporation, the Code of Regulations or any other instrument of corporate governance of Lessee, the Parent or those Subsidiaries, as applicable, or (c) any provision of any indenture, agreement or other instrument to which Lessee, the Parent or either of those Subsidiaries is a party, or by which Lessee, the Parent or either of those Subsidiaries or any of its properties or assets are or may be bound; (2) be in conflict with, result in a breach of or constitute, alone or with due notice or lapse of time or both, a default under any indenture, agreement or other instrument referred to in (1)(c) above; or (3) result in the creation or imposition of any lien, charge or encumbrance of any nature whatsoever.

SECTION IV - ACKNOWLEDGMENTS CONCERNING OUTSTANDING OBLIGATIONS

4.01 Lessee acknowledges and agrees that, as of the date hereof, all of Lessee's outstanding obligations to Lessor under the Lease Agreement and all Schedules thereto are owed without any offset, deduction, defense or counterclaim of any nature whatsoever arising out of an act or omission occurring on or prior to the date hereof.

SECTION V - REFERENCES

5.01 On and after the Amendment Effective Date, as used in the Lease Agreement, the terms "Master Lease Agreement", "Lease Agreement", "Agreement", "this Agreement", "herein", "hereinafter", "hereto", "hereof", and words of similar import shall, unless the context otherwise requires, mean the Lease Agreement as amended and modified by this Amendment. The Lease Agreement, as amended by this Amendment, together with the other Documents, is and shall continue to be in full force and effect and is hereby ratified and confirmed in all respects. To the extent any amendment set forth in the First Amendment, the Second Amendment, the Third Amendment, the Fourth Amendment, or Consolidated Amendment No. 1 is omitted from this Amendment, the same shall be deemed eliminated as between Lessee and Lessor effective as of the Amendment Effective Date.

SECTION VI - WAIVERS

6.01 Subject to the conditions set forth in Section II herein, the Lessor hereby waives the Lessee's failure to comply with Section XXIII(b) of the Lease Agreement, regarding the Ratio of Consolidated Total Debt to Consolidated EBITDAR, for each of the Testing Periods ending September 30, 2001, December 31, 2001, March 31, 2002, June 30, 2002, and September 30, 2002. Such waiver shall apply only to the Lessee's compliance with such Section for and at the Testing Periods ending on the dates set forth in the immediately preceding sentence and not to any past or future Testing Period and not to any other covenants and agreements contained in the Lease Agreement or the other related Documents.

6.02 Subject to the conditions set forth in Section II herein, the Lessor hereby waives the Lessee's failure to comply with Section XXIII(c) of the Lease Agreement, regarding the Consolidated Fixed Charge Coverage Ration, for each of the Testing Periods ending December 31, 2001, March 31, 2002, June 30, 2002, and September 30, 2002. Such waiver shall apply only to the Lessee's compliance with such Section for and at the Testing Periods ending on the dates set forth in the immediately preceding sentence and not to any past or future Testing Period and not to any other covenants and agreements contained in the Lease Agreement or the other related Documents.

SECTION VII - MISCELLANEOUS

7.01 This Amendment may be executed in any number of counterparts, each counterpart to be executed by one or more of the parties but, when taken together, all counterparts shall constitute one agreement. This Amendment, and the respective rights and obligations of the parties hereto, shall be construed in accordance with and governed by Ohio law, without reference to principles of conflict of laws.

7.02 Lessee agrees to pay in connection with this Amendment, an amendment fee in an aggregate amount equal to $89,655. In addition, Lessee agrees to pay on demand all costs and expenses of Lessor, including reasonable attorneys' fees and expenses, incurred in connection with the preparation, execution and delivery of this Amendment and the related documents.

7.03 This Amendment is executed in accordance with and subject to Section XIX(g) of the Lease Agreement. Except as expressly set forth in Section 3 of this Amendment, (1) the execution, delivery and performance by Lessee of this Amendment shall not constitute, or be deemed to be or construed as, a waiver of any right, power or remedy of Lessee, or a waiver of any provision of the Lease Agreement, and (2) none of the provisions of this Amendment shall constitute, or be deemed to be or construed as, a waiver of any "Default" or any "Potential Default," as those terms are defined in the Lease Agreement.

[Remainder of Page Intentionally Left Blank]

IN WITNESS WHEREOF, the parties have caused this Amendment to be duly executed as of the day and year first above written.

LESSOR:

NATIONAL CITY BANK,
FOR ITSELF AND AS AGENT FOR
CERTAIN PARTICIPANTS
By: ----------

Name: ----------

Title: ----------

LESSEE:

BRUSH WELLMAN INC.

By: ----------

Name: ----------

Title: ----------

THE FOREGOING AMENDMENT is hereby acknowledged, consented and agreed to by each of the undersigned by their respective duly authorized officers as of the day and year first above written.

Address:

1404 East Ninth Street
Cleveland, Ohio 44114
Fax: (216) 274-5507

FIFTH THIRD BANK, an Ohio banking corporation, f/k/a Fifth Third Bank, Northeastern Ohio

By: ----------

Title: ----------

Address:

P.O. Box 755 (111/10W)
Chicago, Illinois 60690-0755
Fax: (312) 461-5225

HARRIS TRUST AND SAVINGS BANK

By: ----------

Title: ----------

Address:

1350 Euclid Avenue, ML 4432
Cleveland, Ohio 44115
Fax: (216) 623-9208

FIRSTAR BANK, N.A.

By: ----------

Title: ----------

Address:

One West Pennsylvania Avenue
Suite 1000
Towson, Maryland 21204
Fax: (410) 769-9313

LASALLE NATIONAL LEASING
CORPORATION

By:

Title:

Address:

One Fountain Plaza
Buffalo, New York 14203
Fax: (716) 848-7318

MANUFACTURERS AND TRADERS TRUST
COMPANY

By:

Title:

EXHIBIT NO. 2

EQUIPMENT SCHEDULE

SCHEDULE NO. _____
DATED THIS _____ DAY OF _____, 199__
TO MASTER LEASE AGREEMENT DATED AS OF December 30, 1996

Lessor & Mailing Address:	Lessee & Mailing Address:
NATIONAL CITY BANK, FOR ITSELF AND AS AGENT FOR CERTAIN PARTICIPANTS 1900 East 9th Street Cleveland, Ohio 44114	BRUSH WELLMAN INC. 17876 St. Clair Avenue Cleveland, Ohio 44110

This Equipment Schedule is executed pursuant to, and incorporates by reference the terms and conditions of, and capitalized terms not defined herein shall have the meanings assigned to them in, the Master Lease Agreement identified above ("Agreement;" said Agreement and this Schedule being collectively referred to as "Lease"). This Equipment Schedule, incorporating by reference the Agreement, constitutes a separate instrument of lease.

A. EQUIPMENT.

Pursuant to the terms of the Lease, Lessor agrees to acquire and lease to Lessee the Equipment listed on Annex A attached hereto and made a part hereof.

B. FINANCIAL TERMS.

1. Capitalized Lessor's Cost:
$_____ (being an amount equal to funds disbursed and Interim Rent accrued and unpaid in respect of the Equipment and its parts and components during the Interim Lease Period).

2. Daily Lease Rate Factor: LIBOR Rate plus the Applicable Margin per annum.

3. Basic Term: The thirty-three month period commencing on the Basic Term Commencement Date.

4. Basic Term Commencement Date: March 15, 1999.

5. Equipment Location: Lessee's plant in 14710 W. Portage River South Road, Harris Township, Ottawa County, Ohio 43416.

6. Lessee Federal Tax ID No.: 34-0119320

7. Lessee agrees and acknowledges that the Capitalized Lessor's Cost of the Equipment as stated on the Schedule is equal to the fair market value of the Equipment on the date hereof.

8. Renewal Term: Each Renewal Term will consist of a one-year period, and subject to Section XVIII(b), Lessee may elect up to seven (7) Renewal Terms.

9. Maximum Lease Term: The Term shall not exceed twelve (12) years.

10. Stipulated Loss Values: See Annex D.

11. Termination Values: See Annex D.

12. Assumed Interest Rate: _____% (which will be determined three (3) Business Days before the date of execution of this Schedule).

13. Last Delivery Date: February 15, 1999.

C. TERM AND RENT.

1. Basic Term and Renewal Term Rent. Commencing on the Basic Term Commencement Date and payable, in arrears, on the same day of each quarter thereafter (each, a "Rent Payment Date") during the Basic Term ("Basic Term Rent") and any Renewal Term ("Renewal Term Rent"), Lessee shall pay as Rent quarterly installments of (a) interest on the unamortized portion of the unpaid Capitalized Lessor's Cost as of the immediately preceding Rent Payment Date (after application of the Rent paid on such date) at the Daily Lease Rate Factor for the Interest Period following such immediately preceding Rent Payment Date and (b) of principal in the principal amounts described on the Amortization Schedule attached as Annex E. Interest shall be calculated on the basis of a 360 day year for the actual number of days elapsed. Said Rent consists of principal and interest components, such principal components being as provided in the Amortization Schedule attached hereto as Annex E.

As used herein, the following terms shall have the following meanings:

"APPLICABLE MARGIN" the particular rate per annum determined by the Lessor in accordance with the Pricing Grid Table which appears below, based on the ratio of Consolidated Total Debt to Consolidated EBITDAR and such Pricing Grid Table, and the following provisions:

(i) Initially, until changed hereunder in accordance with the following provisions, the Applicable Margin will be 250 basis points per annum.

(ii) Commencing with the fiscal quarter of the Lessee ended on or nearest to June 30, 2000, and continuing with each fiscal quarter thereafter, the Lessor will determine the Applicable Margin in accordance with the Pricing Grid Table, based on the ratio of (x) Consolidated Total Debt as of the end of the fiscal quarter, to (y) Consolidated EBITDAR for the Testing Period ended on the last day of the fiscal quarter, and identified in such Pricing Grid Table. Changes in the Applicable Margin based upon changes in such ratio shall become effective on the first day of the month following the receipt by the Lessor pursuant to section IV(b)(i) or (ii), as applicable, of the financial statements of the Lessee and the Parent, accompanied by the certificate and calculations referred to in section IV(b)(iii), demonstrating the computation of such ratio, based upon the ratio in effect at the end of the applicable period covered (in whole or in part) by such financial statements.

(iii) Notwithstanding the above provisions, during any period when (A) the Lessee has failed to timely deliver or caused to be delivered the financial statements referred to in section IV(b)(i) or
(ii), accompanied by the certificate and calculations referred to in section IV(b)(iii), (B) a Potential Default under section XI(a)(1) has occurred and is continuing, or (C) a Default has occurred and is continuing, the Applicable Margin shall each be the highest rate per

annum indicated therefor in the Pricing Grid Table, regardless of the ratio of Consolidated Total Debt to Consolidated EBITDAR at such time, plus 200 basis points.

(iv) Any changes in the Applicable Margin shall be determined by the Lessor in accordance with the above provisions and the Lessor will promptly provide notice of such determinations to the Lessee. Any such determination by the Lessor pursuant to these provisions shall be conclusive and binding absent manifest error.

PRICING GRID TABLE
(EXPRESSED IN BASIS POINTS)

RATIO OF CONSOLIDATED TOTAL DEBT TO CONSOLIDATED EBITDAR	APPLICABLE MARGIN
Greater than or equal to 4.00 to 1.00	325.00
> 3.50 to 1.00 and < 4.00 to 1.00	275.00
> 3.00 to 1.00 and (less than or equal to) 3.50 to 1.00	225.00
> 2.50 to 1.00 and (less than or equal to) 3.00 to 1.00	200.00
(less than or equal to) 2.50 to 1.00	175.00

Notwithstanding the above provisions, from September 28, 2001, through and including September 30, 2001, and thereafter until changed hereunder in accordance with the provisions set forth above, for all purposes hereof, the Applicable Margin will be 325 basis points per annum.

"INTEREST PERIOD" shall mean the period beginning on the Basic Term Commencement Date and ending on the next Rent Payment Date, and each subsequent quarterly period.

"LIBOR RATE" shall mean, with respect to any Interest Period occurring during the term of the Lease, (i) the rate per annum which appears on page 3750 of the Telerate Screen (or on any successor or substitute page, or on any electronic publication of a recognized service organization providing comparable rate quotations, in any case as determined from time to time by the Lessor) for deposits of $1,000,000 in same day funds for a maturity corresponding to such Interest Period as of 11:00 A.M. (London time) on the date which is two Business Days prior to the commencement of such Interest Period, divided (and rounded upward to the nearest 1/16th of 1%) by (ii) a percentage equal to 100% minus the then stated maximum rate of all reserve requirements (including, without limitation, any marginal, emergency, supplemental, special or other reserves and without benefit of credits for proration, exceptions or offsets which may be available from time to time) applicable to any member bank of the Federal Reserve System in respect of Eurocurrency liabilities as defined in Regulation D (or any successor category of liabilities under Regulation D).

In the event that such rate is not available at such time for any reason, the rate referred to in clause (i) above shall be the interest rate per annum equal to the average (rounded upward to the nearest 1/16th of 1% per annum), of the rate per annum at which U.S. Dollar deposits of $1,000,000 for a maturity corresponding to the Interest Period are offered to each of the Reference Banks by prime banks in the London interbank Eurodollar market, determined as of 11:00 A.M. (London time) on the date which is two Business Days prior to the commencement of such Interest Period.

"Reference Banks" shall mean (i) National City Bank, and (ii) any other bank or banks selected as a Reference Bank by National City Bank.

"Regulation D" shall mean Regulation D of the Board of Governors of the Federal Reserve (or any successor thereto), as amended or supplemented from time to time.

If at any time Lessor or any Participant (or, without duplication, the bank holding company of which such Participant is a subsidiary) determines that either adequate and reasonable means do not exist for ascertaining the LIBOR Rate, or it becomes impractical for Lessor or any Participant to obtain funds to make or maintain the financing hereunder with interest at the LIBOR Rate, or Lessor or any Participant reasonably determines that, as a result of changes to applicable law after the date of execution of the Agreement, or the adoption or making after such date of any interpretations, directives or regulations (whether or not having the force of law) by any court, governmental authority or reserve bank charged with the interpretation or administration thereof, it shall be or become unlawful or impossible to make, maintain, or fund the transaction hereunder at the LIBOR Rate, then Lessor promptly shall give notice to Lessee of such determination and Lessor and Lessee shall negotiate in good faith a mutually acceptable alternative method of calculating the Daily Lease Rate Factor and shall execute and deliver such documents as reasonably may be required to incorporate such alternative method of calculating the Daily Lease Rate Factor in this Schedule, within thirty (30) days after the date of Lessor's notice to Lessee. If the parties are unable mutually to agree to such alternative method of calculating the Daily Lease Rate Factor in a timely fashion, (a) effective on the commencement of the next succeeding Interest Period or the date that it becomes impractical for Lessor or any Participant to maintain the financing hereunder with interest at the LIBOR Rate as aforesaid, as case may be, the Daily Lease Rate Factor shall become a floating rate equal to the Federal Funds Rate plus sixty (60) basis points, and (b) on the Rent Payment Date next succeeding the expiration of such thirty (30) day period Lessee shall purchase all (but not less than all) of the Equipment described on all Schedules executed pursuant to the Agreement and shall pay to Lessor, in cash, the purchase price for the Equipment so purchased, determined as hereinafter provided. (As used herein, "Federal Funds Rate" means the rate of interest, as reasonably determined by Lessor, paid by or available to Lessor for the purchase of "federal funds" at the time or times in question on a daily overnight basis.) The purchase price of the Equipment shall be an amount equal to the Stipulated Loss Value of such Equipment calculated in accordance with Annex D as of the date of payment, together with all rent and other sums then due on such date, plus all taxes and charges upon sale and all other reasonable and documented expenses incurred by Lessor in connection with such sale. Upon satisfaction of the conditions specified in this Paragraph, Lessor will transfer, on an AS IS, WHERE IS BASIS, all of Lessor's interest in and to the Equipment. Lessor shall not be required to make and may specifically disclaim any representation or warranty as to the condition of the Equipment and other matters (except that Lessor shall warrant that it conveyed whatever interest it received in such Equipment free and clear of any Lien created by Lessor). Lessor shall execute and deliver to Lessee such Uniform Commercial Code statements of termination as reasonably may be required in order to terminate any interest of Lessor in and to the Equipment.

2. If the Rent Payment Date or any Rent Payment Date is not a Business Day, the Rent otherwise due on such date shall be payable on the immediately preceding Business Day.

3. Lessee shall pay to Lessor, for the account of each Participant, from time to time the amounts as such Participant may determine to be necessary to compensate it for any costs which such Participant determines are attributable to its making or maintaining its interest in the Lease and the Equipment (the "Interest") or any reduction in any amount receivable by such Participant in respect of any such Interest (such increases in costs and reductions in amounts receivable being herein called "Additional Costs"), resulting from any Regulatory Change (as defined below) which:

(i) changes the basis of taxation of any amounts payable to Lessor for the account of such Participant in respect of such Interest (other than taxes imposed on or measured by the overall net income of such Participant in respect of the interest by the jurisdiction in which such Participant has its principal office or its lending office); or

(ii) imposes or modifies any reserve, special deposit or similar requirements relating to any extensions of credit or other assets of, or any deposits with or other liabilities of, such Participant; or

(iii) imposes any other condition affecting this Lease or any Interest.

For purposes hereof, "Regulatory Change" shall mean any change after the date of this Lease in United States federal, state or foreign law or regulations (including, without limitation, Regulation D or the adoption or making after such date of any interpretation, directive or request applying to a class of banks including any Participant or under any United States federal, state or foreign law and whether or not failure to comply therewith would be unlawful) by any court or governmental or monetary authority charged with the interpretation or administration thereof.

Without limiting the effect of the foregoing Paragraph (but without duplication), Lessee shall pay to Lessor, for the account of each Participant, from time to time on request such amounts as such Participant may determine to be necessary to compensate such Participant (or, without duplication, the bank holding company of which such Participant is a subsidiary) for any costs which it determines are attributable to the maintenance by such Participant (or any lending office or such bank holding company), pursuant to any law or regulation or any interpretation, directive or request (whether or not having the force of law) of any court or governmental or monetary authority (i) following any Regulatory Change or (ii) implementing any risk-based capital guideline or requirement (whether or not having the force of law and whether or not the failure to comply therewith would be unlawful) heretofore or hereafter issued by any government or governmental or supervisory authority implementing at the national level the Basle Accord (including, without limitation, the Final Risk-Based Capital Guidelines of the Board of Governors of the Federal Reserve System (12 C.F.R. Part 208, Appendix A; 12 C.F.R. Part 225, Appendix A) and the Final Risk-Based Capital Guidelines of the Office of the Comptroller of the Currency (12 C.F.R. Part 3, Appendix A)), of capital in respect of such Participant's Interest (such compensation to include, without limitation, an amount equal to any reduction of the rate of return on assets or equity of such Participant (or any lending office or bank holding company) to a level below that which such Participant (or any lending office or bank holding company) could have achieved but for such law, regulation, interpretation, directive or request). For purposes of this Paragraph, "Basle Accord" shall mean the proposals for risk-based capital framework described by the Basle Committee on Banking Regulations and Supervisory Practices in its paper entitled "International Convergence of Capital Measurement and Capital Standards" dated July 1988, as amended, modified and supplemented and in effect from time to time or any replacement thereof.

Each Participant shall notify Lessee of any event occurring after the date of this Lease that will entitle such Participant to compensation under the preceding two Paragraphs as promptly as practicable, but in any event within thirty (30) days, after such Participant obtains actual knowledge thereof;

provided, that (i) if such Participant fails to give such notice within thirty (30) days after it obtains actual knowledge of such an event, such Participant shall, with respect to compensation payable pursuant to the preceding two Paragraphs in respect of any costs resulting from such event, only be entitled to payment under the referenced Paragraphs for costs incurred from and after the date thirty (30) days prior to the date that such Participant does give such notice, and (ii) such Participant will designate a different lending office for the Interest if such designation will avoid the need for, or reduce the amount of, such compensation and will not, in the sole opinion of such Participant, be disadvantageous to such Participant. Each Participant will furnish to Lessee a certificate setting forth the basis and amount of each request by such Participant for compensation under the preceding two Paragraphs. Determinations and allocations by each Participant for purposes of the preceding two Paragraphs shall be conclusive, absent manifest error.

D. INSURANCE.

1. Public Liability: $1,000,000 total liability per occurrence and $2,000,000 in the aggregate, with excess liability in umbrella form of $10,000,000 per occurrence and in the aggregate, with a maximum deductible amount of (a) $1,500,000 per occurrence or (b) an amount equal to $1,500,000 per occurrence plus the amount of any reserves specifically allocated by Lessee for this type of liability that are satisfactory to Lessor, but in no event greater than $2,500,000 per occurrence.

2. Casualty and Property Damage: An amount equal to the higher of the Stipulated Loss Value or the full replacement cost of the Equipment, with a maximum deductible amount of $1,000,000 per occurrence.

E. FIXED PURCHASE PRICE AND RESIDUAL RISK AMOUNT

End of	Fixed Purchase Price (Percent of Capitalized Lessor's Cost)	Residual Risk Amount (Percent of Capitalized Lessor's Cost)
Basic Term	100.0000%	13.2500%
Renewal Term 1	92.1681%	11.4000%
Renewal Term 2	83.7655%	10.5000%
Renewal Term 3	74.7508%	9.5000%
Renewal Term 4	64.8705%	8.6500%
Renewal Term 5	54.0542%	7.3000%
Renewal Term 6	42.4499%	6.2500%
Renewal Term 7	30.0000%	4.7000%

The Fixed Purchase Price and Residual Risk Amount are each expressed as a percentage of the Capitalized Lessor's Cost of the Equipment.

This Schedule is not binding or effective with respect to the Agreement or Equipment until executed on behalf of Lessor and Lessee by an authorized representative of Lessor and Lessee, respectively.

IN WITNESS WHEREOF, Lessee and Lessor have caused this Schedule to be executed by their duly authorized representatives as of the date first above written.

LESSOR:	LESSEE:
NATIONAL CITY BANK, FOR ITSELF AND AS AGENT FOR CERTAIN PARTICIPANTS	BRUSH WELLMAN INC.
By: ----------	By: ----------
Name: ----------	Name: ----------
Title: ----------	Title: ----------

ANNEX A
TO
SCHEDULE NO. _____
DATED THIS _____ DAY OF _____, 199__
TO MASTER LEASE AGREEMENT DATED AS OF December 30, 1996

DESCRIPTION OF EQUIPMENT

Vendor	Type and Serial Numbers	Model of Equipment	Number of Units	Cost per Unit

Initials:_____ _____
Lessor Lessee

ANNEX B
TO
SCHEDULE NO. _____
DATED THIS _____ DAY OF _____, 199__
TO MASTER LEASE AGREEMENT DATED AS OF December 30, 1996

ASSIGNMENT OF PURCHASE ORDERS

[See Exhibit No. 6 to Master Lease Agreement]

ANNEX C
TO
SCHEDULE NO. _____
DATED THIS _____ DAY OF _____, 199___
TO MASTER LEASE AGREEMENT DATED AS OF December 30, 1996

CERTIFICATE OF ACCEPTANCE

To: National City Bank,
for Itself and as Agent for Certain Participants

Pursuant to the provisions of the above Schedule and Master Lease Agreement (collectively, the "LEASE"; capitalized terms used but not defined herein have the meanings ascribed thereto in the Lease), Lessee hereby certifies and warrants that (a) all equipment listed in the attached invoice or invoices (the "Equipment") is in good condition, installed (if applicable), and in working order; and (b) Lessee accepts the Equipment for all purposes of the Lease, each Purchase Order relating to the Equipment and all attendant documents.

Lessee does further certify that as of the date hereof (i) no Default or Potential Default has occurred; and (ii) the representations and warranties made by Lessee pursuant to or under the Lease are true and correct on the date hereof.

BRUSH WELLMAN INC.

By:

Name:

Authorized Representative

Dated: _____, 199__

ANNEX D
TO
SCHEDULE NO. _____
DATED THIS _____ DAY OF _____, 199__
TO MASTER LEASE AGREEMENT DATED AS OF December 30, 1996

STIPULATED LOSS AND TERMINATION VALUE TABLE

NO. OF RENT PAYMENT DATE (after Basic Term Commencement Date)	STIPULATED LOSS AND TERMINATION VALUE*
1	100.0000%
2	100.0000%
3	100.0000%
4	100.0000%
5	100.0000%
6	100.0000%
7	100.0000%
8	100.0000%
9	100.0000%
10	100.0000%
11	100.0000%
12	98.0934%
13	96.1529%
14	94.1780%
15	92.1681%
16	90.1225%
17	88.0407%
18	85.9219%
19	83.7655%
20	81.5709%
21	79.3374%
22	77.0642%
23	74.7508%
24	72.3963%
25	70.0000%
26	67.4578%
27	64.8705%
28	62.2373%
29	59.5574%
30	56.8300%
31	54.0542%
32	51.2292%
33	48.3540%
34	45.4279%
35	42.4499%
36	39.4190%
37	36.3344%

NO. OF RENT PAYMENT DATE (after Basic Term Commencement Date)	STIPULATED LOSS AND TERMINATION VALUE*
38	33.1950%
39	30.0000%

Initials: _____ _____
Lessor Lessee

---

*The Stipulated Loss Value and Termination Value for any unit of Equipment shall be equal to the Capitalized Lessor's Cost of such unit multiplied by the appropriate percentage derived from the above table. In the event that the Lease is for any reason extended, then the last percentage figure shown above shall control throughout any such extended term.

ANNEX E
TO
SCHEDULE NO. _____
DATED THIS _____ DAY OF _____, 199__
TO MASTER LEASE AGREEMENT DATED AS OF December 30, 1996

AMORTIZATION SCHEDULE

NO. OF RENT PAYMENT DATE (after Basic Term Commencement Date)	PERCENT OF PRINCIPAL PAYABLE*	PERCENT OF REMAINING PRINCIPAL BALANCE*
1	0.0000%	100.0000%
2	0.0000%	100.0000%
3	0.0000%	100.0000%
4	0.0000%	100.0000%
5	0.0000%	100.0000%
6	0.0000%	100.0000%
7	0.0000%	100.0000%
8	0.0000%	100.0000%
9	0.0000%	100.0000%
10	0.0000%	100.0000%
11	0.0000%	100.0000%
12	1.9066%	98.0934%
13	1.9405%	96.1529%
14	1.9749%	94.1780%
15	2.0099%	92.1681%
16	2.0456%	90.1225%
17	2.0818%	88.0407%
18	2.1188%	85.9219%
19	2.1564%	83.7655%
20	2.1946%	81.5709%
21	2.2335%	79.3374%
22	2.2732%	77.0642%
23	2.3135%	74.7508%
24	2.3545%	72.3963%
25	2.3963%	70.0000%
26	2.5422%	67.4578%
27	2.5873%	64.8705%
28	2.6332%	62.2373%
29	2.6799%	59.5574%
30	2.7274%	56.8300%
31	2.7758%	54.0542%
32	2.8250%	51.2292%
33	2.8751%	48.3540%
34	2.9261%	45.4279%
35	2.9780%	42.4499%
36	3.0309%	39.4190%
37	3.0846%	36.3344%
38	3.1393%	33.1950%

NO. OF RENT PAYMENT DATE (after Basic Term Commencement Date)	PERCENT OF PRINCIPAL PAYABLE*	PERCENT OF REMAINING PRINCIPAL BALANCE*
39	3.1950%	30.0000%

Initials:_____ _____

Lessor Lessee

*The Principal, and the Outstanding Principal Balance as of any Rent Payment Date payment (assuming the principal payments due on each Rental Payment Date are paid when due), shall be equal to the Capitalized Lessor's Cost of the Equipment multiplied by the appropriate percentage derived from the above table.

ANNEX F
TO
SCHEDULE NO. _____
DATED THIS _____ DAY OF _____, 199___
TO MASTER LEASE AGREEMENT DATED AS OF December 30, 1996

RETURN PROVISIONS: In addition to the provisions provided for in Section X of this Lease, and provided that Lessee has elected not to exercise its purchase option pursuant to Section XVIII(d) of the Lease, Lessee shall, at its expense:

(a) at least one hundred eighty (180) days and not more than three hundred sixty-five (365) days prior to expiration or earlier termination of the Lease, provide to Lessor a detailed inventory of all components of the Equipment. The inventory should include, but not be limited to, a listing of models and serial numbers for all components comprising the Equipment;

(b) at least one hundred eighty (180) days prior to expiration or earlier termination of the Lease, upon receiving reasonable notice from Lessor, provide or cause the vendor(s) or manufacturer(s) to provide to Lessor the following documents: (i) one set of service manuals, blueprints, process flow diagrams and operating manuals including replacements and/or additions thereto, such that all documentation is completely up-to-date; (ii) one set of documents, detailing Equipment configuration, operating requirements, maintenance records, and other mechanical data concerning the set-up and operation of the Equipment, including replacements and/or additions thereto, such that all documentation is completely up-to-date;

(c) at least one hundred eighty (180) days prior to expiration or earlier termination of the Lease, upon receiving reasonable notice from Lessor, make the Equipment available for on-site operational inspections by potential purchasers, under power, and provide personnel, power and other requirements necessary to demonstrate electrical and mechanical systems for each item of the Equipment;

(d) at least ninety (90) days prior to expiration or earlier termination of the Lease, cause the manufacturer's representative or qualified equipment maintenance provider, acceptable to Lessor (the "Authorized Inspector"), to perform a comprehensive physical inspection, including testing all material and workmanship of the Equipment and if during such inspection, examination and test, the Authorized Inspector finds any of the material or workmanship to be defective or the Equipment not operating within the manufacturer's specifications, then Lessee shall repair or replace such defective material and, after corrective measures are completed, Lessee will provide for a follow-up inspection of the Equipment by the Authorized Inspector as outlined in the preceding Paragraph;

(e) have each item of Equipment returned with an in-depth field service report detailing said inspection as outlined in Subsection (d) above. The report shall certify that the Equipment has been properly inspected, examined and tested and is operating within the manufacturer's specifications;

(f) permit Lessor to videotape the Equipment "under power" at Lessee's or at any facility where any Equipment is located at a time during normal working hours mutually agreeable to Lessor and Lessee prior to deinstallation;

(g) have any repairs made to the Equipment in a professional and workmanlike manner. Any Equipment enhancements or additions will revert to Lessor upon expiration or earlier termination of the Lease and shall not affect, in an adverse manner, the Fair Market Value of the Equipment at Lease

expiration. Such additions or enhancements shall be made only with prior written approval of Lessor (whose approval shall not unreasonably be withheld);

(h) have the Equipment returned in good appearance with adequate protective coatings over all surfaces as originally painted or coated, and the Equipment shall be free from rust, and shall be in good, complete working order;

(i) have the Equipment cleaned (including the removal of all beryllium) and approved by the necessary governmental agencies which regulate the use and operation of such Equipment so as to be available for immediate use;

(j) properly remove all Lessee installed markings which are not necessary for the operation, maintenance or repair of the Equipment; and

(k) provide for the deinstallation and packing of the Equipment to include, but not be limited to, the following: (i) all process fluids shall be removed from the Equipment and disposed of in accordance with the then current waste disposal laws and regulations. At no time are materials which could be considered hazardous waste by any regulatory authority to be shipped with machinery; (ii) all internal fluids such as lube oil and hydraulic fluid are to be filled to operating levels; filler caps are to be secured and disconnected hoses are to be sealed to avoid spillage; (iii) the manufacturer's representative shall deinstall and match mark all Equipment in accordance with the specifications of the manufacturer; (iv) the Equipment shall be packed properly and in accordance with the manufacturer's recommendations; (v) Lessee shall provide for the transportation of the Equipment in a manner consistent with the manufacturer's recommendations and practices to any locations within the United States of America as Lessor shall direct; and shall have the Equipment unloaded at such locations; and (vi) Lessee shall obtain and pay for a policy of transit insurance for the redelivery period in an amount equal to the replacement value of the Equipment, and Lessor shall be named as the loss payee on all such policies of insurance.

EXHIBIT NO. 3

COMPLIANCE CERTIFICATE

----------, ----

To: National City Bank, for itself and as Agent for certain Participants 1900 East Ninth Street
Cleveland, Ohio 44114

Subject: Master Lease Agreement, dated as of December 30, 1996, as amended, between National City Bank, for itself and as Agent for certain Participants, as lessor, and Brush Wellman Inc., as lessee (the "Lease Agreement")

Greetings:

Pursuant to Section IV(b)(iii) of the Lease Agreement and in my capacity as the chief financial officer of Brush Wellman Inc., I hereby certify that to the best of my knowledge and belief (capitalized terms used, but not defined herein shall have the meanings ascribed thereto in the Lease Agreement):

[Form to be agreed upon by Lessee and Lessor based on Section XXIII]

BRUSH WELLMAN INC.

By:

Title:

EXHIBIT NO. 4

LIST OF EQUIPMENT AND ACQUISITION COST

	EQUIPMENT	PURCHASE ORDER NO. AND VENDOR	TOTAL ACQUISITION COST
1.	Walking Beam Furnace	EX90006/Seco-Warwick	$2,200,000.00
2.	Hot Mill	EX90003/Griset Engineering	$12,400,000.00
3.	Bell Aging Furnace	EX90012/RAD-CON Inc.	$1,550,000.00
4.	Slab Mill	EX90007/Integrated Industrial Systems	$7,350,000.00
5.	Finish Pickle Line	EX90010/SMS Process Lines	$7,100,000.00
6.	Four-High Rolling Mill	EX90002/Griset Engineering	$9,200,000.00
7.	Anneal/Pickle Line	1. EX90009/SMS Process Lines Anneal/Pickle Line 2. EX90008/Drever Company Cont. Anneal Line	$13,400,000.00
8.	Degreasing Line	EX90011/SMS Process Lines	$2,300,000.00
	TOTAL		$55,500,000.00

EXHIBIT 10PP

EIGHTH AMENDMENT
TO MASTER LEASE AGREEMENT AND EQUIPMENT SCHEDULES

THIS EIGHTH AMENDMENT TO MASTER LEASE AGREEMENT AND EQUIPMENT SCHEDULES ("this Amendment") is made and entered into as of the 31st day of December, 2001, by BRUSH WELLMAN INC., an Ohio corporation (the "Lessee"), and NATIONAL CITY BANK, a national banking association, for itself and as agent for certain participants (the "Lessor").

RECITALS:

A. The Lessee and the Lessor entered into a Master Lease Agreement, dated as of December 30, 1996, as amended by the First Amendment to Master Lease Agreement, dated as of September 2, 1997, the Second Amendment to Master Lease Agreement and Amendment to Disbursement Schedules, dated as of January 26, 1999, the Third Amendment to Master Lease Agreement and Amendment to Equipment Schedules, dated as of September 30, 1999, the Fourth Amendment to Master Lease and Waiver, dated as of May 16, 2000, and Consolidated Amendment No.1 to Master Lease Agreement and Equipment Schedules, dated as of June 30, 2000, Consolidated Amendment No.2 to Master Lease Agreement and Equipment Schedules, dated as of March 30, 2001 and Consolidated Amendment No.3 to Master Lease Agreement and Equipment Schedules, dated as of September 28, 2001 (collectively, together with all Exhibits and Schedules thereto, the "Lease Agreement"), under which the Lessor agreed to lease to the Lessee certain equipment to be used by the Lessee at its Elmore, Ohio, facility, subject to certain conditions and in accordance with the terms thereof.

B. Capitalized terms used herein and not otherwise defined herein shall have the meanings assigned to such terms in the Lease Agreement.

C. The Lessee has requested that the Lessor consent to the Parent's acquisition (the "Acquisition") of all of the issued and outstanding capital stock of a company (the "Acquired Company") identified and described in a disclosure letter, to be delivered by the Parent to the Lessor and the participants care of the Lessor, which letter shall be approved by the Lessor in its sole discretion (if, as and when so delivered and approved, the "Disclosure Letter"). Without such consent, the Acquisition would otherwise be prohibited by the provisions of Section XXIV of the Lease Agreement (by reference to the definition of "Permitted Acquisition" set forth in Section XXV thereof).

D. The Lessor is willing to grant such consent upon and subject to the terms and conditions hereinafter set forth.

E. In addition, the Lessor and the Lessee have agreed to amend the Lease Agreement as hereinafter set forth.

AGREEMENTS:

NOW, THEREFORE, in consideration of the foregoing Recitals and the mutual agreements hereinafter set forth, the parties hereby agree as follows:

1. Consent. Subject to the terms and conditions of this Amendment, including, without limitation, this Section 1 and Section 3, below, the Lessor hereby consents to the Acquisition. The foregoing consent of the Lessor is subject to the Parent's and the Lessee's performance and satisfaction of each and all of the following conditions:

(i) all of the terms and conditions contained in the definition of "Permitted Acquisition" set forth in Section XXV of the Lease Agreement (other than the condition contained in clause (iv) thereof, which shall be deemed satisfied upon the effectiveness of this Amendment) shall have been satisfied prior to the consummation of the Acquisition;

(ii) the aggregate of (A) the aggregate consideration (in whatsoever form, including, without limitation, liabilities assumed by any Lease Party and consulting agreements, non-competition agreements, "golden parachute" agreements and the like) required to be paid in cash, directly or indirectly, by the Lessor, or any of the Participants, whether at the closing of such acquisition or on a deferred basis, in connection with the Acquisition and (B) the aggregate amount of all fees, commissions, and other expenses incurred by the Lessor, in connection with the Acquisition shall not exceed Twelve Million Dollars ($12,000,000);

(iii) not later than ten (10) Business Days prior to the date on which the Acquisition is consummated, the Parent shall deliver to the Lessor true and complete copies of the final acquisition agreement in respect thereof and all other material agreements by which the Parent or any other Lease Party will be bound in connection with the Acquisition;

(iv) the Acquisition shall be consummated on terms not less favorable in any material respect to the Parent than the terms therefor previously disclosed to the Lessor and the participants; and

(v) the Acquisition shall be consummated no later than September 30, 2002.

2. Amendments to the Lease Agreement. Subject to the terms and conditions of this Amendment, including, without limitation, Section 3, below, the Lease Agreement is hereby amended as follows:

A. Section XXIII (General Financial Standards) is amended and restated in its entirety to provide as follows:

Lessee agrees that so long as this Agreement remains in effect and thereafter until all obligations of Lessee hereunder shall have been paid and performed in full, Lessee will observe and cause to be observed each of the following:

(a) RATIO OF CONSOLIDATED TOTAL DEBT TO CONSOLIDATED TOTAL ADJUSTED CAPITAL AND INTEREST COVERAGE RATIO.

(i) Lessee will not at any time permit the ratio, expressed as a percentage, of (i) the amount of Consolidated Total Debt to (ii) Consolidated Total Adjusted Capital, to exceed (A) 50% from the date of this Agreement through and including September 30, 2001, (B) 43% for the period commencing October 1, 2001, through and including December 31, 2001; (C) 45% for the period commencing January 1, 2002, through and including September 30, 2002; and (D) 50% on and after October 1, 2002.

(ii) Lessee shall not permit the Interest Coverage Ratio, as of the end of either of the fiscal quarters of the Parent ending on June 30, 2002 and September 30, 2002, to be less than 1.00 to 1.00; provided, however, that (i) if the Acquisition occurs during the Parent's first fiscal quarter of 2002, the Lessee shall not permit the Interest Coverage Ratio, as of the end of the fiscal quarter of the Parent ending on June 30, 2002, to be less than 1.30 to 1.00, and (ii) if the Acquisition occurs during the Parent's second fiscal quarter of 2002, the Lessee shall not permit the Interest Coverage Ratio, as of the end of the fiscal quarter of the Parent ending on September 30, 2002, to be less than 2.25 to 1.00.

(b) RATIO OF CONSOLIDATED TOTAL DEBT TO CONSOLIDATED EBITDAR. Lessee will not permit the ratio at any time of (x) the amount of Consolidated Total Debt at such time to (y) Consolidated EBITDAR for the Testing Period most recently ended, to exceed (i) 3.50 to 1.00 for the Testing Period ending June 30, 2000, (ii) 3.25 to 1.00 for the Testing Periods ending September 30, 2000 and December 31, 2000, (iii) 3.00 to 1.00 for the Testing periods ending March 31, 2001, June 30, 2001 and September 30, 2001, and (iv) 3.50 to 1.00 for each Testing Period ending on and after December 31, 2002; provided, however, that for the purposes of this clause (iv), (A) the term "Testing Period" shall mean, as to each of the fiscal quarters ending on the following dates only, the respective period set forth opposite such fiscal quarter:

Fiscal Quarter Ending	Testing Period
December 31, 2002	October 1, 2002 through December 31, 2002
March 31, 2002	October 1, 2002 through March 31, 2003, and
June 30, 2003	October 1, 2002 through June 30, 2003.

and (B) in computing such ratio for the Testing Period ending December 31, 2002, Consolidated EBITDAR shall be deemed to mean an amount equal to Consolidated EBITDAR for such Testing Period, times four (4); in computing such ratio for the Testing Period ending March 31, 2003, Consolidated EBITDAR shall be deemed to mean amount equal to Consolidated EBITDAR for such Testing Period, times two (2); and, in computing such ratio for the Testing Period ending June 30, 2003, Consolidated EBITDAR shall be deemed to mean an amount equal to Consolidated EBITDAR for such Testing Period, times one and one-third (1 1/3).

(c) CONSOLIDATED FIXED CHARGE COVERAGE RATIO. Lessee will not at any time

permit the Consolidated Fixed Charge Coverage Ratio to be less than 2.00 to 1.00 for any Testing Period ending on or before September 30, 2001, or permit the Consolidated Fixed Charge Coverage Ratio for any of the Testing Periods set forth below to be less than the ratio set forth opposite such Testing Period:

Fiscal Quarter Ended	Minimum Fixed Charge Coverage Ratio
December 31, 2002	1.00 to 1.00
March 31, 2003	1.25 to 1.00
June 30, 2003 and thereafter	1.50 to 1.00;

provided, however, that for the purposes of this Section XXIII (c), the term "Testing Period" shall mean, as to each of the fiscal quarters ending on the following dates only, the respective period set forth opposite such fiscal quarter:

Fiscal Quarter Ending	Testing Period
December 31, 2002	October 1, 2002 through December 31, 2002
March 31, 2003	October 1, 2002 through March 31, 2003, and
June 30, 2003	October 1, 2002 through June 30, 2003.

(d) CONSOLIDATED TANGIBLE NET WORTH. Lessee, the Parent and the Subsidiaries will not permit the Consolidated Tangible Net Worth to be less than $200,000,000 as of December 31, 2001 or at any time thereafter.

B. Section XXIV (m)(e) of the Lease Agreement is amended and restated in its entirety to provide as follows:

(e) CAPITAL EXPENDITURES: The Parent, Lessee and the Subsidiaries shall be permitted to make Consolidated Capital Expenditures, provided that (A) expenses for mining property, plant and equipment shall not exceed $25,000,000 during any consecutive thirty-six (36) month period, and (B) Consolidated Capital Expenditures, excluding expense for mining property, plant or equipment, do not during any fiscal year of the Parent exceed the amount specified below:

Fiscal Year Ending	Amount
December 31, 2000	$35,000,000
December 31, 2001	$40,000,000
December 31, 2002	$25,000,000
December 31, 2003	$35,000,000

C. The following proviso is added to the end of Section XXIV
(n)(e) (Covenant) of the Lease Agreement immediately after the word "time" and before the period:

; provided, however, that the sale by Brush Wellman Japan, Ltd. of its Accounts to SMBC Finance Co. Ltd, pursuant to the proposed Agreement on the Sales of Notes in the form delivered to the Lessor prior to March 14, 2002 may be with recourse, but only so long as the aggregate amount for which Brush Wellman Japan, Ltd. has recourse liability does not at any time exceed $5,000,000.

D. Section XXIV (q) (Dividends, Stock Repurchase, etc.) of the Lease Agreement is amended and restated in its entirety to provide as follows:

(q) DIVIDENDS, STOCK REPURCHASE, ETC.

(i) The Parent will not directly or indirectly declare, order, pay or make any dividend (other than dividends payable solely in capital stock of the Parent) or other distribution on or in respect of any capital stock of any class of the Parent, whether by reduction of capital or otherwise.

(ii) The Parent and Lessee will not directly or indirectly make, or permit any of the Subsidiaries to directly or indirectly make, any purchase, redemption, retirement or other acquisition of (A) any of its capital stock of any class (other than for a consideration consisting solely of capital stock of that person), or (B) any warrants, rights or options to acquire or any securities convertible into or exchangeable for any of its capital stock.

E. Section XXIV (u) (Certain Leases) of the Lease Agreement is amended and restated in its entirety to provided as follows:

(u) CERTAIN LEASES. None of the Parent, Lessee or the Subsidiaries will permit the aggregate payments (excluding any property taxes, insurance or maintenance obligations paid by the Parent, Lessee and the Subsidiaries as additional rent or lease payments) by the Parent, Lessee and the Subsidiaries on a consolidated basis under agreements to rent or lease any real or personal property for a period exceeding 12 months (including any renewal or similar option periods) (other than any leases constituting Capital Leases, Synthetic Leases or, subject to Paragraph (s), above, leases between the Parent and Lessee, between Subsidiaries or between the Parent or Lessee and a Subsidiary), to exceed in any fiscal year of the Parent an amount greater than 5.00% of the Consolidated Net Worth of the Parent as of the date of the financial statements then most recently furnished to Lessor and the Participants under Section IV(b)(i).

F. The following definition is added to Section XXV (Certain Definitions) of the Lease Agreement in proper alphabetical order:

Acquisition shall have the meaning ascribed to such term in the Eighth Amendment to this Lease Agreement.

G. The definition of "Consolidated Fixed Charge Coverage Ratio" in Section XXV (Certain Definitions) of the Lease Agreement is amended and restated to provide as follows:

Consolidated Fixed Charge Coverage Ratio shall mean, for any Testing Period, the ratio of (a) Consolidated EBITDA for that Testing Period to (b) the sum of (i) Consolidated Interest Expense and Consolidated Income Tax Expense for that Testing Period, PLUS (ii) scheduled or mandatory repayments, prepayments or redemptions during that Testing Period of the principal of Indebtedness with a final maturity date more than one year after the end of that Testing Period, PLUS (iii) the sum of all payments for dividends, stock repurchases or other stock redemptions, and other purposes described in section XXIV, if any, in each case on a consolidated basis for the Parent, Lessee and the Subsidiaries for such Testing Period; PLUS
(iv) Consolidated Capital Expenditures for that Testing Period; provided that notwithstanding anything to the contrary contained herein, the Consolidated Fixed Charge Coverage Ratio for any Testing Period shall (A) include the appropriate financial items for any person or business unit which has been acquired by Lessee and the Parent, or any Subsidiaries for any portion of such Testing Period prior to the date of acquisition, and (A) exclude the appropriate financial items for any person or business unit which has been disposed of by Lessee, the Parent or any Subsidiary, for the portion of such Testing Period prior to the date of disposition.

H. The definition of "Consolidated Net Worth " in Section XXV (Certain Definitions) of the Lease Agreement is amended by adding the following clause to the end of such definition:

and PROVIDED FURTHER that Consolidated Net Worth shall be calculated
(i) before the effect of FAS 133 - Accounting for Derivatives Instruments and Hedging Activities and FAS 138 - Accounting for Certain Derivatives Instruments and Certain Hedging Activities (prior to the "Delivery Date" of this Amendment to the Lease Agreement, such item appearing under the stockholders' equity category "Foreign Currency Translation Adjustment") and (ii) without reduction for Directors Deferred Compensation (prior to the "Delivery Date" of this Amendment to the Lease Agreement, such item appearing under the stockholders' equity categories "Other Equity Transactions - Deferred Directors Shares and Deferred Compensation");

I. The following definition is added to Section XXV (Certain Definitions) of the Lease Agreement in proper alphabetical order:

Interest Coverage Ratio means, as of the end of any fiscal quarter of the Parent, the ratio of (i) Consolidated EBITDAR for such fiscal quarter to (ii) an amount equal to the sum of (a) Consolidated Interest Expense for such fiscal quarter, plus (b) Consolidated Rental Expense for such fiscal quarter.

J. The definition of "Lease Party" in Section XXV (Certain Definitions) of the Lease Agreement is amended by inserting the parenthetical "(other than Lessor)" immediately following the word "person" and before the world "that".

K. The definition of "Permitted Precious Metal Consignments" in
Section XXV (Certain Definitions) of the Lease Agreement is amended by deleting therefrom the words and numerals "does not exceed an amount greater than $140,000,000" and inserting in their stead, immediately following the words "those consignment arrangements" the words and numerals "(that is, the aggregate outstanding liability, fixed or contingent, but without duplication, of all Credit Parties in respect of all such consignment arrangements) does not exceed B$70,000,000 at any time".

L. The Pricing Grid Table and the last sentence of the definition of Applicable Margin contained in Exhibit No. 2 Equipment Schedules are amended and restated in their entirety to provide as follows:

PRICING GRID TABLE
(expressed in basis points per annum)

RATIO OF CONSOLIDATED TOTAL DEBT TO CONSOLIDATED EBITDAR	APPLICABLE MARGIN
Greater than or equal to 5.00 to 1.00	375
Greater than 4.00 to 1.00 and less than 5.00 to 1.00	325
Greater than 3.50 to 1.00 and less than or equal to 4.00 to 1.00	275
Greater than 3.00 to 1.00 and less than or equal to 3.50 to 1.00	225
Greater than 2.50 to 1.00 and less than or equal to 3.00 to 1.00	200
Less than or equal to 2.50 to 1.00	175

(i) Notwithstanding anything to the contrary contained in the foregoing, from April 1, 2002, through and including December 31, 2002, and thereafter until changed hereunder in accordance with the provisions of the Pricing Grid Table set forth above, for all purposes of this Lease Agreement, the Applicable Margin shall be three hundred seventy-five (375) basis points per annum; and (ii) the charging of Applicable Margin based upon the foregoing Pricing Grid Table based upon the first three ratio levels (reading from top to bottom) set forth therein shall not be construed to waive any Event of Default which may exist under paragraph (b) Section XXIII hereof or limit any right or remedy of the Lessor by reason thereof.

3. Delivery Date; Conditions Precedent. The consent set forth in Section 1, above, and the modifications to the Lease Agreement set forth in Section 2, above, are subject to the Parent and Lessee's performance of the following (the date on which all have been performed being the "Delivery Date"):

A. The Lessee's secretary or treasurer shall have certified to the Lessor (i) a copy of the

resolutions duly adopted by the Lessee's board of directors in respect of this Amendment; (ii) true and correct copies of the Lessee's current Charter or Articles of Incorporation and By-laws or Code of Regulations; (iii) the names and true signatures of the officers of the Lessee authorized to sign this Amendment on behalf of the Lessee; (iv) that, after giving effect to the amendments set forth herein, no Default or Potential Default exists; and (v) the representations and warranties of the Lessee under the Lease Agreement are reaffirmed as of the Delivery Date, subject only to variance therefrom acceptable to the Lessor.

B. The respective secretary or treasurer of the Parent and of Brush Ceramic Products, Inc. and Brush Resources, Inc. (the "Subsidiary Guarantors") shall have certified to the Lessor (i) a copy of the resolutions duly adopted by its board of directors in respect of this Amendment; (ii) true and correct copies of its current Charter or Articles of Incorporation and By-laws or Code of Regulations; (iii) the names and true signatures of its officers authorized to sign the Reaffirmation of Guaranty and Security Documents and Amendment to Intercreditor and Collateral Agency Agreement described below on behalf of it; and (iv) that, after giving effect to the amendments set forth herein, no Default or Potential Default exists.

C. Counsel to the Lessee, the Parent and the Subsidiary Guarantors shall have delivered to the Lessor a written opinion as to the due authorization, execution, delivery and enforceability of this Amendment and the other documents described in paragraphs G and H of this Section 3, in form and substance satisfactory to the Lessor.

D. The Lessee shall have paid to the Lessor, for the benefit of the Lessor and its participants, an amendment fee in the amount of One Hundred Fifty Thousand Dollars ($150,000).

E. The Lessee, the Parent, and the Subsidiary Guarantors shall have executed and delivered to the Lessor such Security Documents, and shall have taken or caused to be taken such

other actions, if any, as the Lessor may reasonably deem necessary or appropriate to cause the Lessor's Lien on the Lease Parties' patents and registered marks and applications therefor to be registered with the Office of Patents and Trademarks of the United States Department of Commerce.

F. The Lessee shall have delivered or caused to be delivered certificates of good standing for the Lessee, the Parent and the Subsidiary Guarantors issued by the Secretary of State, or other appropriate office, of the state of its incorporation.

G. The Lessee shall cause the Parent and the Subsidiary Guarantors to execute and deliver to the Lessor a confirmation of Guaranty and Security Documents in form of Attachment 1 hereto.

H. All of the parties to the Intercreditor and Collateral Agency Agreement dated September 28, 2001 shall have executed and delivered to the Lessor a First Amendment to Intercreditor and Collateral Agency Agreement in the form of Attachment 2 hereto.

I. All of the parties to the Credit Agreement shall have executed and delivered an amendment thereto in form and substance satisfactory to the Lessor, and all conditions to its effectiveness shall have been satisfied.

J. The Lessee shall have delivered or caused to be delivered such other documents as the Lessor may reasonably request.

4. No Other Modifications. Except as expressly provided in this Amendment, all of the terms and conditions of the Lease Agreement remain unchanged and in full force and effect.

5. Governing Law; Binding Effect. This Amendment shall be governed by and construed in accordance with the laws of the State of Ohio and shall be binding upon and inure to the benefit of the Lessee, the Lessor, and their respective successors and assigns.

6. Counterparts. This Amendment may be executed in separate counterparts, each of

which shall be deemed to be an original, and all of which together shall be deemed a fully executed agreement.

7. Miscellaneous.

A. The Lessee agrees to pay on demand all costs and expenses of the Lessor, including reasonable attorneys' fees and expenses, incurred in connection with the preparation, execution and delivery of this Amendment and the other documents contemplated hereby, including, without limitation, the Amendment to Intercreditor and Collateral Agency Agreement.

B. This Amendment is executed in accordance with and subject to
Section XIX(g) of the Lease Agreement. The execution, delivery and performance by the Lessor of this Amendment shall not constitute, or be deemed to be or construed as, a waiver of any right, power or remedy of the Lessor or a waiver of any provision of the Lease Agreement, except as expressly stated herein. None of the provisions of this Amendment shall constitute, or be deemed to be or construed as, a wavier of any Default or Potential Default.

IN WITNESS WHEREOF, the Lessee, the Lessor and its participants have hereunto set their hands as of the date first above written.

LESSEE:	LESSOR:
------	------
BRUSH WELLMAN INC.	NATIONAL CITY BANK, FOR ITSELF AND AS AGENT FOR CERTAIN PARTICIPANTS
By: ---------- , ----------	By: ---------- Janice E. Focke, Senior Vice President

THE FOREGOING AMENDMENT is hereby acknowledged, consented and agreed to by each of the undersigned by their respective duly authorized officers as of the day and year first above written.

Address:

1404 East Ninth Street
Cleveland, Ohio 44114
Fax: (216) 274-5507

FIFTH THIRD BANK, an Ohio banking corporation, f/k/a Fifth Third Bank, Northeastern Ohio

By: ----------

Title: ----------

Address:

P.O. Box 755 (111/10W)
Chicago, IL 60690-0755
Fax: (312) 461-5225

HARRIS TRUST AND SAVINGS BANK

By: ----------

Title: ----------

Address:

1350 Euclid Avenue, ML 4432
Cleveland, Ohio 44115
Fax: (216) 623-9208

U.S. BANK NATIONAL ASSOCIATION, f/k/a Firstar Bank, N.A.

By: ----------

Title: ----------

Address:

One West Pennsylvania Avenue
Suite 1000
Towson, Maryland 21204
Fax: (410) 769-9313

LASALLE NATIONAL LEASING CORPORATION

By: ----------

Title: ----------

Address:

One Foundation Plaza
Buffalo, New York 14203
Fax: (716) 848-7318

MANUFACTURERS AND TRADERS TRUST COMPANY

By: ----------

Title: ----------

Exhibit 13

OUR BUSINESS

Brush Engineered Materials Inc., through its wholly owned subsidiaries, is a leading manufacturer of high performance engineered materials serving the global telecommunications and computer, optical media, automotive electronics, industrial components, aerospace and defense, and appliance markets.

The Company's subsidiaries are organized into two reportable segments:
Metal Systems and Microelectronics.

Metal Systems includes Brush Wellman Inc. (Alloy Products and Beryllium Products) and Technical Materials, Inc. Brush Wellman Inc. is the only fully integrated producer of beryllium, beryllium alloys and beryllia ceramic in the world. In addition, Brush Wellman manufactures high performance copper-based spinodal alloys and Brush engineered bronze products. Technical Materials, Inc. produces engineered material systems including clad metals, plated metal, electron beam welded, solder-coated and reflow materials.

Microelectronics includes Williams Advanced Materials Inc. and Electronic Products, which consists of Zentrix Technologies Inc. and Brush Ceramic Products Inc. (a wholly owned subsidiary of Brush Wellman Inc.). Williams Advanced Materials Inc. manufactures precious metal and specialty alloy products. Zentrix Technologies Inc. produces electronic packaging, circuitry and powder metal products. Beyond its manufacturing capabilities, Zentrix markets and distributes beryllia ceramics for Brush Ceramic Products Inc.

Portions of Brush International, Inc. are included in both segments. The Company, with operations, service centers or major office locations in North America, Europe and Asia, has 1,946 employees.

Brush Engineered Materials Inc. is traded on the New York Stock Exchange under the symbol BW.

FINANCIAL HIGHLIGHTS

(Dollars in millions except per share amounts)	2001	2000	1999
Sales	$ 472.6	$ 563.7	$ 455.7
Net Income (Loss) as reported	(10.3)	14.2	6.4
Net Income (Loss) per share (diluted) as reported	(0.62)	0.86	0.40
Dividends per share	0.24	0.48	0.48
Shareholders' equity per share	12.98	14.11	13.62

REVENUE BY SEGMENT

[PIE GRAPH]

63% Metal Systems Group
36% Microelectronics Group
1% Other

REVENUE BY MARKET

[PIE GRAPH]

42% Telecommunications and Computer
15% Optical Media
12% Automotive Electronics

10% Industrial Components
8% Aerospace and Defense
8% Other
5% Appliance

REVENUE BY GEOGRAPHIC AREA

[PIE GRAPH]

72% Domestic
28% International

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[PHOTO]

To Our Shareholders:

On many fronts,2001 was a difficult year. Brush Engineered Materials was impacted significantly by the global economic slowdown and the unprecedented reversal of demand from the telecommunications and computer markets. Our sales and earnings suffered as a result.

Sales for the year of $472.6 million were 16% below 2000's record level. For the year, the Company reported a net loss of $10.3 million, or $0.62 per share, compared to net earnings of $14.2 million, or $0.86 per share, in 2000.

Clearly, these results are disappointing, especially following the strong results of 2000 when robust demand crossed all of our major markets, resulting in a 24% increase in sales and a more than doubling of earnings from the year earlier.

In a number of ways, our financial results mirror the broader economic conditions experienced throughout 2001. Demand from the once-booming technology sector suddenly and unexpectedly turned downward in the first half of 2001, resulting in a major drop in capital spending and the creation of significant excess capacity and inventories throughout the supply chain.

SALES BY MAJOR MARKET
(Dollars in millions)

[GRAPH]

TOTAL ANNUAL SALES
(Dollars in millions)

[GRAPH]

- Telecommunications and Computer
- Optical Media
- Automotive

Business conditions weakened in other sectors too, and by the second quarter, the U.S. economy had entered into recession, marking an end to the prolonged economic expansion. Outside of North America, other major world economies experienced sluggish or negative growth.

Beyond the drop in demand from the telecommunications and computer markets, which have historically accounted for about 50% of the Company's sales, we encountered softening in most other key markets such as aerospace and plastic mold tooling. Customer demand from each of these markets began to slow throughout the first half of 2001 and persisted at these levels through year end and into early 2002.

Optical media and data storage markets, in contrast, continued to generate strong demand in the year, partially offsetting the sales decline elsewhere in the organization.

BUSINESS PERFORMANCE REVIEW. Brush is organized into two major business segments, Metal Systems and Microelectronics. To highlight 2001 performance by segment:

Metal Systems, comprised of Brush Wellman Inc.'s Alloy Products and Beryllium Products business units and Technical Materials, Inc. (TMI), was significantly affected by a reversal of demand that just one year earlier produced record, double-digit revenue growth. Groupwide, sales and earnings were well below 2000 levels. The demand drop was led by the telecommunications and computer markets, resulting in a 19% decline in sales for Alloy and a 39% reduction in sales for TMI. While Alloy posted a loss for the year, TMI remained profitable, although at a reduced level.

Both Alloy Products and TMI carried out aggressive actions to lower costs and improve cash flow in the year. In the second half of 2001, Alloy Products lowered employment levels by 32% and substantially reduced inventories and overall spending. TMI reduced its workforce by nearly 30% and substantially reduced costs.

The strongest performer in the group was Beryllium Products which achieved a solid year of sales growth and profitability in 2001. This unit accounts for more than 9% of Metal Systems' sales and derives a significant amount of its revenue from military and defense markets which experienced positive growth in the year.

[PICTURE]

Telecommunications connectors use copper beryllium strip alloys to support transmission of power and signals.

The Microelectronics Group includes Williams Advanced Materials Inc. (WAM), and Electronic Products.

Microelectronics' 2001 sales were lower than the previous year. Electronic Products accounted for the majority of the drop in the Microelectronics Group's sales volume, due largely to a slowdown in wireless and fiber optic infrastructure markets.

Earnings for the group, while lower than 2000 levels, were driven by the continued strong performance of WAM, which achieved record profits for the year. Net of precious metal pricing, WAM's value-added contribution grew by more than 18% in 2001.

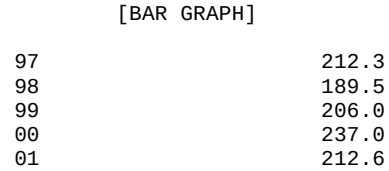
Of particular note was WAM's continued strength in physical vapor deposition targets used in a variety of end-use markets including optical media (DVDs and CD-R) and magnetic storage.

Also during the year, WAM added to its sales and product capabilities by acquiring the manufacturing assets of a former competitor that was exiting the business. A successful integration of those assets into existing WAM operations has been completed.

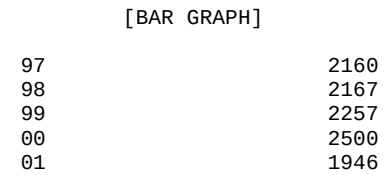
MEETING THE CHALLENGE HEAD ON.Against this backdrop, the Company was faced with a number of short-term challenges demanding a prompt and disciplined response.

Brush Engineered Materials launched a number of sizeable mitigating actions to align the Company's cost structure with the drop in sales. Most notably, a number of cost reduction and cash flow initiatives were implemented in the third and fourth quarters to lower the Company's breakeven point substantially, improve the balance sheet and strengthen the prospect of stronger earnings when our markets resume their growth.

SALES/AVERAGE NUMBER OF EMPLOYEES
(Dollars in thousands)



NUMBER OF EMPLOYEES



[PICTURE]

Connection sockets using Brush Wellman alloys serve the increased performance requirements of powerful new computer microprocessors.

These initiatives included a 22% workforce reduction across the organization, the closing of the Torrance, California service center, extended plant idlings, shortened work weeks, efficiency, reliability and quality improvements throughout the manufacturing system, wage freezes and other employee benefit changes, and the elimination and reduction of certain corporate supply and service costs.

Many of the cost reductions made are permanent and will be sustained when higher volumes resume.

Additionally, the Company improved liquidity and cash flow by taking aggressive actions to reduce inventories, collect receivables faster and limit capital spending. While we are committed to increasing shareholder value, we also felt it was prudent to suspend the quarterly cash dividend.

As a result of all of these actions, cash flow improved and debt was reduced during the second half of the year.

I am encouraged by our progress in reducing costs and strengthening our balance sheet, and look forward to this momentum carrying through 2002 and beyond.

BERYLLIUM HEALTH AND SAFETY. As a result of our far-reaching and proactive testing and research related to the unique health issues associated with beryllium production, we have in recent years attracted the interest of trial attorneys and, in turn, certain sensationalized media coverage related to these issues. Although it has been a sometimes frustrating period, I am pleased to report our continued exoneration by unbiased third parties who have taken the time to carefully weigh all the complex facts.

In 2001, we received, in Jefferson County Colorado District Court, a unanimous jury verdict after a three-week trial. In addition, we received favorable rulings from a variety of judges in several states involving workers exposed to beryllium particulate.

[PICTURE]

Magnetically transparent bulk product alloys allow oil and gas drilling customers to achieve improved drilling performance, as well as less equipment corrosion and fatique.

We continue to move forward with resolve to find answers to this complicated medical issue. We have worked with the National Institute for Occupational Safety and Health (NIOSH) in conducting additional detailed research in our manufacturing operations. Not only have we further improved many of our workplace safety practices as a result, but we have also earned the attention of certain regulatory bodies who are interested and supportive of this research. We are hopeful that we are on course to permanently eradicate health problems associated with beryllium production.

MAKING THE DIFFERENCE. As always, we recognize the importance of our devoted and loyal employees, customers and shareholders.

On behalf of the Board of Directors, I would like to thank our 1,946 employees for their responsiveness and ingenuity in dealing with the many challenges we faced in the year. I would also like to thank David Burner, Chairman, President and Chief Executive Officer of Goodrich Corporation, for his six years of service as a Director of the Company. Dave was faced with unavoidable scheduling conflicts and was unable to continue to serve as a Director.

During the year, we strengthened our requirements for senior executive leadership in the parent company by naming Bill Seelbach to President of Brush Engineered Materials Inc. Bill serves in this role in addition to his overall responsibility for Brush Wellman Inc., Brush Resources Inc. and Brush International, Inc.

In turn, Brush Wellman Inc., our largest wholly owned subsidiary, enhanced its senior management capabilities with the appointments of Don Klimkowicz to Vice President of Operations and Dick Hipple to Vice President, Strip Products, for the Alloy Group. Both joined Brush during the year following extensive careers in major North American materials and metals companies, respectively.

Additionally, Dick Sager was named President of Williams Advanced Materials, positioning him to succeed Jack Paschall who continues as WAM's Chairman and CEO.

FOREIGN SALES
(Dollars in millions)

[BAR GRAPH]

97	142.4
98	129.1
99	137.5
00	149.6
01	134.3

[PICTURE]

Williams Advanced Materials provides a single source for electronic packaging customers. Above: frame lid assemblies for hermetically sealed packages.

LOOKING AHEAD. While I am not satisfied with our sales and earnings performance during the year, I am particularly motivated by our own strengthened ability to leverage new demand to sustained bottom line improvement.

The Company's revenues will improve in step with a recovery in the telecommunication and computer markets. Once our customers' diminishing inventories are worked off, even a moderate increase in their demand will impact our business favorably.

Our planning assumptions do not include a repeat of the phenomenal growth that had defined these markets in recent years. In fact, many observers point to the previous run up in telecommunications and computers as an anomaly and not sustainable. Rather, we have reshaped and repositioned ourselves to benefit from a solid, but more measured level of growth from these two critical markets, as well as from the additional demand generated by a pick up in our other markets.

It is also encouraging to see that despite the economic overhang, technology has continued to advance. This bodes well for our materials and components which are being designed into a number of new and highly demanding end-use applications such as those highlighted later in this report. Across the product range, we are meeting or exceeding the ever-higher performance thresholds for reliability, miniaturization, thermal and electrical conductivity, reflectivity and strength.

Entering its 71(st) year in business, Brush Engineered Materials has a well-earned reputation for excellence. I am confident that we are moving into the future with the right organization and the determination to maintain that fine tradition and return Brush Engineered Materials to the level of performance you expect.

To our shareholders, your patience and support are appreciated.

/s/ Gordon D. Harnett

Gordon D. Harnett
Chairman and Chief Executive Officer

[PICTURE]

Packaging products from Zentriz Technologies are widely used throughout today's telecommunications equipment.

Building on our strengths to create customer solutions

Around the world, Brush Engineered Materials is well positioned to deliver customer solutions through its global supply and extensive technical and commercial assistance. Here, at Hon Hai's Network Interconnect Group Industrial Precision facility in Shenzhen, China, Lee Fu Shong, Plant Manager (middle) reviews the plant's capabilities with Jeffrey Oei, Manager, China, Brush Wellman (Singapore) Pte Ltd (left) and Tony Ong, Managing Director, Brush Wellman (Singapore) Pte Ltd. Hon Hai's Shenzhen operation manufactures connector parts for high performance computer applications.

[PICTURE]

ALLOY STRIP PRODUCTS

Computer microprocessor speeds continue to accelerate at a phenomenal pace, presenting new design challenges to makers of related parts.

The higher number of transistors on the microprocessor die, coupled with its enhanced functionality, has significantly increased the requirements for signal input and output lines. The die is housed in a package that allows signal connections between the die and other areas of the computer via gold-plated pins. A receiving connection socket, soldered onto the motherboard, completes the union and allows the processor to be easily installed or removed.

With each measure of improved microprocessor performance, socket designers are tasked with addressing a number of confounding factors. To illustrate:
Intel's new generation Pentium(R) 4 microprocessor and AMD's Thunderbird microprocessor each require sockets capable of accommodating nearly 500 pins - nearly three times as many as required by the 486 microprocessor.

Other performance issues affecting design include:

- Faster microprocessor speeds have increased electrical "noise," resulting in the need to reduce "crosstalk" and lower impedance, which affects switching speed.
- Lower operating voltages.
- Increased transistor density has also resulted in additional electrical "noise."
- Higher power demands generate significantly higher operating temperatures.

To help meet these more demanding requirements, socket designers are increasingly selecting Brush Wellman's high performance alloys for their unrivaled combination of strength, electrical conductivity and thermal stability.

Focused on advancing trends, Brush Wellman has several alloy enhancement research and development initiatives underway in preparation for the next generation of microprocessor.

High performance copper beryllium strip products allow for the electrical mechanical contact in computers and peripheral equipment. Inset: The Northwoods connection socket, which utilizes Brush Wellman alloys, and the new Intel Pentium(R)4 microprocessor it serves.

[PICTURE]

ALLOY BULK PRODUCTS

Textron Automotive turned to Brush Wellman and its die maker, Paragon Die & Engineering Company, to help it solve a familiar problem in plastic injection molding: thermal management.

The automotive components company produces vehicle instrument panels in annual volumes of up to 200,000 units per mold. Textron's experience with traditional steel tool materials resulted in difficult-to-cool parts, affecting not only the production of the instrument panel, but also the entire work cell that is assembled into the vehicle.

Brush Wellman's MoldMAX(R) XL spinodal alloy provided Textron a winning solution. Utilizing MoldMAX(R) in the central core of its mold tooling, Textron realized substantially improved thermal management, allowing cycle time to be reduced by nearly one third, boosting productivity and lowering costs, while improving quality. For Textron, payback on the investment was achieved in just one month.

MoldMAX(R) XL, the newest addition to Brush Wellman's family of MoldMAX(R) materials, is a copper-nickel-tin spinodal alloy developed to provide the strength of P-20 tool steel with enhanced thermal conductivity and exceptional machinability.

The complex central core of a Chevrolet Venture's instrument panel is produced by Textron Automotive using plastic injection mold tooling made of MoldMAX(R) XL copper-nickel-tin alloys.

[PICTURE]

BERYLLIUM PRODUCTS

It isn't enough that the U.S. Air Force's F-16 Fighting Falcon has to withstand extraordinary vibration, heat and gravitational pressures flying at 1,500 miles per hour. This highly maneuverable combat fighter must also maintain laser-like precision in its targeting capabilities.

Beryllium and beryllium-containing materials such as AlBeMet(R) from Brush Wellman help provide the answer.

For years, defense contractor Lockheed Martin has used beryllium products to construct the exterior-mounted chassis for the F-16's Forward Looking Infrared Sensing equipment (FLIR). The FLIR functions to provide the "eyes" for identification, tracking and laser designation of targets via real-time imagery presented to the pilot. Together with its housing, the FLIR system is referred to as a pod.

Throughout the development of its next generation F-16 pod, the Sniper XR (eXtended Range), Lockheed Martin worked with Brush Wellman to test and specify beryllium materials that can support the lightweight and reduced drag requirements of the system's low observable design. Beryllium and AlBeMet(R) use in the gimbal and optics design also serve to meet the unique needs of low jitter and long standoff ranges, permitting pilots to precisely acquire targets from a distance out of harm's way.

Beryllium and AlBeMet(R)'s low mass and high stiffness reduce vibration and improve the reliability of the optical system for target acquisition and tracking, while also providing a cost-effective solution for this demanding application.

The U.S. Air Force's F-16 combat fighter. Inset: Beryllium-containing materials from Brush Wellman are machined by Axsys Technologies for use in Lockheed Martin FLIR systems.

[PICTURE]

TECHNICAL MATERIALS, INC.

Providing innovative, results-oriented solutions is a guiding principle that sets TMI apart in the marketplace. It's the foundation of TMI's approach to meeting the needs of customers who make high performance connectors for the telecommunications and computer, and automotive electronics markets.

Designers of connectors in wireless handsets, laptop computers and automotive applications favor the unrivaled performance and reliability of TMI electroplated materials. Now, customers are turning to TMI for yet another competitive advantage-lower material costs.

TMI's advanced proprietary plating technology translates into immediate bottom line benefits. Select-Au-Plate(TM) allows more precise application of high-value precious metals on stamped and formed parts. Material costs are reduced by as much as 60% while superior levels of performance and reliability are also maintained.

TMI has increased electroplating capacity and upgraded technology at its Lincoln, Rhode Island facility where, within one site, it has the flexibility to offer customers a broad range of strategic material solutions.

Further, TMI's unmatched customer support system provides leading edge metallurgical expertise and state-of-the-art technical assistance.

As the demands of telecommunications and computer technology customers grow, TMI is firmly positioned to provide innovative, results-oriented solutions.

Electroplating investments have allowed TMI to extend a material solution to its customers, as well as end users, through precious metal savings. Inset:
Select-Au-Plate(TM) technology applied on telecommunications connectors.

[PICTURE]

WILLIAMS ADVANCED MATERIALS INC.

Day by day, little by little, the world is getting a little brighter...and products made by Williams Advanced Materials are playing an illuminating role in this transformation.

Around the globe broadband technologies, lasers, optical systems and lighting systems are being installed with components based on compound semiconductor technology. These components are designed to meet the light or transmission needs of the future in ways that traditional silicon-based semiconductors cannot.

Perhaps the most widespread of these applications is the Light Emitting Diode (LED). LEDs are tiny, bright and long-lasting lights that are being installed in rapidly growing numbers in traffic lights, scoreboards, signs and automobile displays. In addition, with the development of the white-color LED, conventional lighting as we know it may eventually shift to LED technology.

Williams' EVAPro(TM) evaporation materials were developed specifically for use in the fabrication of compound semiconductor components found in LEDs, and other wireless and photonic devices. In what is known as physical vapor deposition, EVAPro(TM) source material is heated under vacuum until it evaporates and then deposits onto a compound semiconductor wafer. EVAPro(TM) materials, such as gold, platinum, gold zinc, nickel and titanium, are used to create the base, barrier or contact layers on the wafer in a stringent, cleanroom environment.

EVAPro(TM) addresses problems that can occur during film deposition, ensuring a splatter-free process. It allows more stable production parameters, optimizes the precious metal use and minimizes film defects.

EVAPro(TM) has outperformed other materials in customer and independent testing. It has positioned Williams, a global manufacturer of metal and metal alloy materials for high-reliability applications, as the vendor of choice in wireless and photonics technology. Further, in-house refining and shield cleaning services provide a single point of support for Williams customers' precious metal needs.

Williams' EVAPro(R) vapor deposition source materials (inset) are deposited on semiconductor wafers installed in demanding new light transmission applications.

[PICTURE]

Zentrix Technologies Inc.

Imagine the technology that allows you to pick up a cellular wireless phone and check on the family, make an airline reservation and transmit a message to a global sales force - while stuck in traffic. For hundreds of millions of cell phone users around the world, staying connected is almost effortless...and it's reliable.

At the heart of the dependable and efficient wireless infrastructure are high-performance materials, including proprietary metal/ceramic semiconductor packaging products from Zentrix Technologies Inc.

The semiconductors in cellular base stations generate some of the most punishing temperatures found in technology-based equipment today.

Zentrix teamed up with major equipment providers to develop an innovative CuPack(R) packaging product that protects the semiconductor chips by dissipating the high temperatures created by amplifying signals from the tower base stations to the cellular user.

Higher power semiconductors are essential as the industry gears up for the increased demands of transmitting larger amounts of wireless text, e-mail and Internet data on a reliable basis.

In an industry where rapid changes in demand have extended lead times to an average of 14 weeks, Zentrix leverages its fully integrated manufacturing base to dramatically reduce the time from order placement to delivery to as short as one week.

Customers appreciate enhanced scheduling reliability, lower inventory costs and higher responsiveness capabilities. With fewer items to track, Zentrix Technologies saves in inventory costs and generates additional sales opportunities through this unique competitive advantage.

CuPack(R) packaging products from Zentrix protect the semiconductor chips in cellular base station amplifiers.

RESULTS OF OPERATIONS

(Millions, except for share data)	2001	2000	1999
Net Sales	$ 472.6	$ 563.7	$ 455.7
Operating Profit (Loss)	(14.1)	23.0	10.6
Diluted E.P.S	$ (0.62)	$ 0.86	$ 0.40

Consolidated net sales were $472.6 million in 2001 compared to $563.7 million in 2000. Sales declined 16% in 2001 after growing 24% in 2000 over sales in 1999. Sales declined in each quarter of 2001 after establishing five consecutive quarterly records beginning in the fourth quarter 1999. Sales from the Company's two reportable business segments - the Metal Systems Group and the Microelectronics Group (MEG) - were lower in 2001 than in 2000, while sales from both groups had increased in 2000 over 1999.

The fall off in sales in 2001 resulted from softening demand from the Company's two largest markets-telecommunications and computer electronics. This softer demand continued into the first quarter of 2002. Strong demand from these two markets was primarily responsible for the growth in sales in 2000. Demand from the automotive electronics and industrial components markets was also lower in 2001 compared to 2000 while sales into the optical media storage market and for defense applications improved during each of the last two years.

The sales order backlog at the start of 2001 was $59.3 million higher than it was at the start of 2000, which was a record sales year. However, the overall new order entry rate slowed down significantly during 2001 while many existing orders were canceled, reduced or pushed out as major demand generators continually adjusted their forecasts, ordering patterns and inventory requirements. The sales order backlog was $91.1 million at December 31, 2001, a decline of $80.4 million from the beginning of the year.

The slowdown in sales began mainly in the domestic markets in the first half of 2001. International sales grew in the first six months of 2001 compared to 2000, but then declined over the last two quarters of the year. Sales from the Company's international service centers are typically denominated in foreign currencies, primarily the euro, yen and sterling. The dollar strengthened on average against these currencies in 2001 compared to 2000, resulting in a reduced translated value of these sales. This adverse translation impact on sales was $4.5 million in 2001. The dollar was also stronger in 2000 than it was in 1999, resulting in an unfavorable $4.4 million translation effect on 2000's sales compared to 1999.

The Company faced increased pressures on its selling prices in light of the economic conditions of its major markets during 2001. While prices may have been reduced on isolated individual applications, overall prices in 2001 remained on par with the prior year. During 2000, portions of businesses within both the Metal Systems Group and the MEG had selective price increases.

In response to the fall off in sales, the Company initiated various cost reduction efforts beginning in the second quarter 2001 and continuing throughout the balance of the year. Total manpower was reduced by 22% by year-end 2001 compared to the beginning of the year. In addition, various facilities operated at 32-hour work weeks for a large portion of the year. Other cost reduction efforts included changes to employee benefits, elimination or reduction of outside service contracts and use of various consultants, the closing of a domestic service center and renegotiation of supply agreements. These efforts helped to mitigate the impact of the lower sales and reduced the Company's breakeven sales level. The one-time severance and other costs to implement these initiatives totaled $2.6 million in the second half of 2001, the majority of which was recorded in selling, general and administrative (SG&A) expense.

Gross margin was $68.0 million (14.4% of sales) in 2001, $118.7 million (21.1% of sales) in 2000 and $91.9 million (20.2% of sales) in 1999. The margin contribution lost due to the lower sales volume accounted for $35.3 million of the $50.7 million decline in margins in 2001 compared to 2000. The adverse currency impact reduced margins by an additional $4.5 million. The majority of the remaining $10.9 million decline in margins in 2001 was caused by the lower production volumes and extended plant shutdowns. While the manufacturing overhead spending rate was reduced by year end, it was not reduced as quickly or as much as the associated production volumes. Since the majority of the reduction occurred in the second half of the year, total manufacturing overhead costs for the whole year, including inventory valuation adjustments, were higher in 2001 than in 2000. The variable margin (sales less direct conversion costs including labor and supplies) as a percent of sales was slightly higher in 2001 than in 2000 as manufacturing improvements, mix issues and cost savings more than offset the unfavorable impact of the lower production volumes in the second half of the year.

Gross margins improved $26.8 million in 2000 over 1999. Increased sales volumes in 2000 as compared to 1999 provided an additional $43.8 million of margin. Offsetting a portion of this benefit was an increase in manufacturing overheads of $8.3 million and an unfavorable currency effect of $4.4 million. The overall product mix effect was slightly unfavorable as well.

SG&A expenses were $75.3 million, or 15.9% of sales, in 2001 compared to $87.6 million, or 15.5% of sales, in 2000. The majority of the change in 2001 resulted from the cost reduction efforts, net of the severance costs, in response to the lower sales volume. Management compensation plan expenses were $4.4 million lower in 2001 than in 2000 as a result of the change in profitability. Corporate expenses associated with chronic beryllium disease, including litigation, medical research and testing and environmental, health and safety, declined by $1.1 million in 2001 from 2000.

SG&A expenses increased by $17.0 million in 2000 over 1999, but were unchanged as a percent of sales. The main cause of the increase was higher legal costs associated with chronic beryllium disease, other litigation matters and the corporate restructuring. Selling expenses were $3.5 million higher in 2000 in order to support the higher sales volumes and as a result of expansion of the Company's marketing efforts. Expenses under management compensation plans were $3.2 million higher as a result of the improved level of profitability in 2000.

Research and development (R&D) expenses totaled $6.3 million in 2001, $7.4 million in 2000 and $8.5 million in 1999. R&D expenses as a percent of sales were 1.3% in both 2001 and 2000 and 1.9% in 1999. The spending level within R&D was reduced in 2001 as part of the Company's overall cost reduction efforts. Given the need to reduce spending levels, the R&D investment has become more focused on the most critical projects. Expenses were lower in 2000 than in 1999 as a result of a planned reduction in the R&D activities supporting the Beryllium Products unit.

Other-net expense was $0.4 million in 2001 compared to $0.7 million in 2000 and $2.3 million in 1999. Other-net includes exchange gains of $2.3 million in 2001, $4.0 million in 2000 and $2.2 million in 1999. The financing fee on copper and precious metal inventories was $1.5 million lower in 2001 than in 2000 as a result of reduced inventories and lower available market rates. This expense was $0.3 million higher in 2000 than it was in 1999 due to the addition of a new copper financing arrangement during the first quarter 2000. The other-net line also includes the gain or loss on the disposal of fixed assets, bad debt expense, amortization of intangible assets and other non-operating items.

The Company had an operating loss of $14.1 million in 2001 compared to an operating profit of $23.0 million in 2000 and $10.6 million in 1999. The reduced margins, due primarily to the lower sales volumes plus the impact of expense level changes, caused the $37.1 million difference in profits between 2001 and 2000. Profit was higher in 2000 than in 1999 as a result of the higher sales generating improved margins offset in part by higher expenses.

Interest expense was $3.3 million in 2001 versus $4.7 million in 2000. Interest capitalized in association with long-term capital projects was $0.4 million higher in 2001 than it was in 2000. The average effective borrowing rate was lower in 2001 than in 2000 as was the daily average outstanding debt. Interest expense was $0.5 million higher in 2000 than it was in 1999 as the effect of a higher average borrowing in 2000, caused by higher market rates and an increase to the Company's credit spread, more than offset the benefit of slightly lower debt levels.

The loss before income taxes was $17.4 million in 2001 compared to income before income taxes of $18.3 million in 2000 and $6.4 million in 1999. A tax benefit rate of 40.9% was applied against the loss before income taxes in 2001. The major changes from the statutory rate include the impact of benefits from foreign source income and percentage depletion. The effective income tax rate was 22.7% of income before income taxes in 2000 while an income tax benefit rate of 0.8% was used in 1999. The benefits from foreign source income and depletion applied to 2000 and 1999 as well. The 1999 rate was affected by a large research and experimentation tax credit. See Note H to the Consolidated Financial Statements for a reconciliation between the statutory and effective tax rates.

The net loss for 2001 was $10.3 million, or $0.62 per share diluted, compared to net income of $14.2 million, or $0.86 per share diluted, in 2000 and $6.4 million, or $0.40 per share diluted, in 1999.

SEGMENT DISCLOSURE

The Company aggregates its businesses into two reportable segments - the Metal Systems Group and the Microelectronics Group. In prior years, corporate expenses, as well as the operating results from the Company's beryllium mine and extraction mill in Utah, historically were not included in either segment and were shown in the "All Other" column in the segment disclosures.

As a result of the corporate restructuring completed on January 1, 2001, the Company changed how costs flow between its various businesses and the corporate office. Certain costs that previously were recorded at the corporate office, primarily expenses related to beryllium health and safety and chronic beryllium disease, are being charged to the responsible businesses beginning in the first quarter 2001. Beginning in 2001, the "All Other" column in the segment disclosures includes the operating results of BEM Services, Inc. and Brush Resources Inc., two wholly owned subsidiaries of the Company, as well as the parent company's operating expenses. BEM Services charges a management fee for the services it provides, primarily corporate, administrative and financial oversight, to the other businesses within the Company on a cost-plus basis. Brush Resources sells

beryllium hydroxide, produced through its Utah operations, to outside customers and to businesses within the Metal Systems Group. The 2000 and 1999 segment results presented in Note L to the Consolidated Financial Statements, as well as in this Management's Discussion and Analysis, have been revised to reflect these changes on a pro forma basis. Management believes that these changes should more accurately reflect the operating results of its businesses on a go forward basis.

METAL SYSTEMS GROUP

	2001	2000	1999
(Millions)			
Net Sales	$ 295.7	$ 378.2	$ 306.1
Operating Profit (Loss)	(20.1)	10.2	(2.3)

The Metal Systems Group is comprised of Alloy Products, Technical Materials, Inc. (TMI), a wholly owned subsidiary of the Company, and Beryllium Products. These operations fabricate engineered materials that provide superior electrical, electronic, thermal or structural performance in a wide variety of applications. Customers tend to be one or more tiers removed from the end market demand generators which, during volatile economic conditions, can make it more difficult for these operations to accurately forecast their sales and production requirements. The following chart summarizes the individual business unit sales as a percent of the total Metal Systems Group sales:

	2001	2000	1999
Percent of Segment Sales:			
Alloy Products.	73.6%	71.4%	71.9%
Technical Materials, Inc.	17.1%	22.0%	20.5%
Beryllium Products.	9.3%	6.6%	7.6%

ALLOY PRODUCTS

Alloy Products is the Company's largest business unit, accounting for over 40% of the total sales and assets, and consists of two main product families - strip products and bulk products. Strip products are primarily copper beryllium and nickel beryllium alloys that provide high conductivity, high reliability and formability. Applications for strip products include electrical connectors, switches, relays, contacts and shieldings for use in telecommunications equipment, computer and automotive electronics, appliances and related markets. Strip products are manufactured at the Company's Elmore, Ohio and Reading, Pennsylvania facilities.

Sales of strip products declined 23% in 2001 from 2000 after growing 20% in 2000. The fall off in 2001 sales as well as the growth in sales in 2000 are attributable to the telecommunications and computer electronics markets. Sales into the automotive market, which remains an important market for strip products, were essentially unchanged throughout the 1999 to 2001 time period. Pounds sold of strip products were 29% lower in 2001 than in 2000. The majority of the decline in pounds sold was in the lower priced, lower beryllium-containing alloys. Pounds sold increased 28% in 2000 over 1999.

Throughout most of 2000 and a portion of 1999, manufacturing capacity limitations constrained the growth of strip sales. A new casting and strip manufacturing facility was installed in the late 90's at the Company's Elmore, Ohio plant site. Initially, this equipment did not produce the desired output on a reliable or consistent basis and yields and performance negatively impacted capacity and costs. By diverting internal resources and securing the services of outside technicians, the Company made operating improvements and mill output increased by 24% in 2000 over 1999, although output was still not sufficient to fully meet demand during that time period. The Company continued to make further improvements in equipment reliability and capability so that by the first quarter of 2001, and prior to the decline in sales volume, production capacity was no longer constraining sales.

Alloy bulk products are a family of copper, nickel and aluminum-based alloys manufactured in rod, bar, tube, plate and a variety of customized forms. They are used in applications that require superior strength, corrosion and wear resistance or thermal conductivity. Major applications for bulk products include bearings, bushings, housings for telecommunication equipment, plastic mold tooling and welding rods.

Sales of Alloy bulk products decreased 10% in 2001 from 2000 while sales in 2000 were 33% higher than 1999. Pounds sold were 13% lower in 2001 than 2000 after growing 16% in 2000 over 1999. Demand from the undersea telecommunications market, which was responsible for a large part of the sales growth in 2000, slowed down in the second half of 2001. Management anticipates that demand from this market will continue to be soft throughout 2002. Sales into the industrial components market were lower in 2001 than in 2000 while demand from the plastic tooling market softened in 2001 from the 2000 levels after having grown slightly in 2000.

Alloy products are distributed through the Company's domestic and international service centers as well as through independent agents. In the third quarter 2001, the Company closed the smallest of its four domestic service centers as a result of the declining sales volumes. The Company believes that its customers can receive the same high quality of service from one of the other existing distribution points.

TECHNICAL MATERIALS, INC.

TMI produces clad inlay and overlay metals, precious and base metal electroplated systems, electron beam welded systems, contour profiled metal systems and solder-coated metal systems. These engineered material systems provide varied electrical, thermal or mechanical properties from a surface area or particular section. Major applications for TMI's products include semi- conductors, contacts and connectors, while major markets include telecommunications, automotive and computer electronics.

After experiencing an eight-year trend of annual double-digit sales growth, including a record sales year in 2000, TMI sales decreased 39% in 2001. Management believes that the sales decline in 2001 is due to the economic condition of TMI's markets rather than a loss of market share or technological obsolescence. In response to the declining sales and incoming order rates, TMI implemented cost reduction initiatives in the second quarter 2001. These initiatives, which continued throughout the year, included reductions in force, reduced work hours for hourly and salary personnel and cost control programs. As a result, TMI remained profitable for 2001 despite the significantly lower volumes.

TMI's sales grew 33% in 2000 over sales in 1999 with the majority of the growth in inlay and plated products. The TMI facility operated at close to capacity during much of 2000 and TMI continued its incremental capacity and capability expansion programs.

BERYLLIUM PRODUCTS

Beryllium Products is the smallest of the Company's businesses with operations in Elmore, Ohio and Fremont, California that produce pure beryllium metal and beryllium aluminum alloys in a variety of customized forms. These products are uniquely positioned in that they provide a combination of high stiffness and low density. Major markets for beryllium products include defense, electronics, medical and optical scanning. Sales of beryllium products increased 11% in 2001 over 2000 after increasing slightly in 2000 over 1999. The growth in 2001 was caused by improved defense-related demand and increased sales of acoustic components for high performance loudspeaker applications. The Company anticipates that defense-related orders should continue to improve in 2002 over 2001.

METAL SYSTEMS GROUP GROSS MARGIN AND EXPENSES

The gross margin on Metal Systems Group sales declined by $39.3 million in 2001 from 2000, $31.7 million of which resulted from the lost margin contribution on the lower sales. The majority of the Company's unfavorable foreign currency translation impact affected Metal Systems Group's margins. The balance of the decline in margins was caused by the lower production volumes and unabsorbed manufacturing overhead costs.

The gross margin grew $17.8 million in 2000 from 1999 on a $72.1 million sales increase. Offsetting a portion of the improved volume benefit was the $4.4 million unfavorable foreign currency translation difference and a $5.9 million increase in manufacturing overhead spending. The higher spending was caused by a $1.7 million increase in lease payments for the Elmore strip mill equipment, as well as salary, fringe benefit and maintenance cost increases.

SG&A, R&D and other-net expenses were $9.0 million lower in 2001 than in 2000 as a result of the cost reduction efforts and the lower incentive compensation accrual. In addition, sales commissions and travel and entertainment expenses decreased approximately $1.3 million in 2001 from 2000, as those expenses tend to vary with the sales level. In 2000, SG&A, R&D and Other-net expenses were $5.4 million higher than in 1999. The growth in expenses in 2000 was due to higher incentive compensation and additional sales and marketing efforts.

The Metal Systems Group operating loss was $20.1 million in 2001 compared to a $10.2 million operating profit in 2000 and a $2.3 million operating loss in 1999.

MICROELECTRONICS GROUP

	2001	2000	1999
(Millions)			
Net Sales.	$ 169.6	$ 179.1	$ 140.6
Operating Profit	4.6	8.4	8.6

The Microelectronics Group (MEG) consists of Williams Advanced Materials Inc. (WAM), a wholly owned subsidiary of the Company, and Electronic Products. These business units manufacture customized precision parts that are sold to assemblers and other fabricators of electronic components and equipment. The following chart summarizes the individual business unit sales as a percent of the total MEG sales:

	2001	2000	1999
Percent of Segment Sales:			

Williams Advanced Materials Inc.	79.8%	76.1%	77.2%
Electronic Products	20.2%	23.9%	22.8%

Williams Advanced Materials Inc.

WAM manufactures precious, non-precious and specialty metal products at various facilities in the U.S. and Asia. Major product lines manufactured by WAM include vapor deposition materials, clad and precious pre-forms, high-temperature braze materials, frame lid assemblies and ultra fine wire. These materials are sold into the wireless, semiconductor and hybrid microelectronics market. The optical media, magnetic head, electron tube, aerospace and decorative and performance film markets represent important markets and applications for WAM's materials as well. WAM's in-house refining operations offer an additional service to customers by reclaiming precious metals from their scrap while also providing a cost-effective method of reclaiming precious metals from WAM's internally generated scrap.

WAM's sales declined by 1% in 2001 compared to 2000 after growing 26% in 2000 over 1999. The cost of the precious metal content is passed through to customers and WAM earns its margin on its fabrication or value added, which is the sales less the cost of the metal. Therefore, the cost and mix of the metals sold can affect the sales value, but not necessarily the margins or profits. In 2001, WAM's value added increased 18% over 2000 while the value added in 2000 was 4% higher than it was in 1999.

The majority of the increase in value added resulted from the strong demand from magnetic resistive (MR) and giant magnetic resistive (GMR) applications within the magnetic head market. These materials are produced by PureTech, a wholly owned subsidiary that WAM acquired in 1998. Demand for vapor deposition materials for digital videodisks from the optical media storage market also remained strong in 2001, as it was in 2000, while the demand for these materials from the wireless segment of the microelectronics market was soft throughout most of the current year. Demand for fiber optics applications, which was partially responsible for the value-added growth in 2000, softened in the second half of 2001. Demand for high temperature braze materials declined in 2001 due to market conditions after growing slightly in 2000.

In June 2001, WAM purchased manufacturing assets in the Philippines and the U.S. used for the production of frame lid assemblies from a former competitor who was exiting the business. As a result, WAM's frame lid assembly sales and value added increased in the second half of 2001.

ELECTRONIC PRODUCTS

Electronic Products manufactures beryllia ceramics, electronic packages, circuitry and powder metallurgy products for sale to the telecommunications, automotive electronics and defense markets. Major applications for these materials within the telecommunications market include fiber optics and wireless communications equipment. Sales from this unit were 20% lower in 2001 than in 2000 after growing 33% in 2000 over 1999. The decline in the current year was due to the soft demand from the telecommunications market, which typically accounts for approximately 70% of Electronic Products' sales. The majority of the sales fall off in 2001 was in beryllia ceramics, which is a mature product line with a limited customer base. Circuitry sales started to grow in the fourth quarter of 2000 and that growth continued into the first half of 2001 as a result of increased orders for fiber optic applications. While defense-related orders for circuitry increased in the second half of the year, total sales for those products started to slow down. Sales of electronic packages declined in 2001 while powder metallurgy product sales were unchanged. The growth in Electronic Products' sales in 2000 was caused by increased demand for beryllia ceramics, with a portion of that growth resulting from a competitor exiting the business in 1999. Sales of electronic packages and circuitry were also higher in 2000 than in 1999.

MICROELECTRONICS GROUP GROSS MARGIN AND EXPENSES

The gross margin on MEG sales declined by $3.6 million in 2001 from 2000 as a result of the lower sales volume. A favorable product mix, mainly from WAM, offset the unfavorable impact of the lower production levels and inventory valuation adjustments within Electronic Products. The gross margin in 2000 was $2.9 million higher than in 1999. Improved volumes contributed $10.7 million of additional margins, which was offset in part by higher manufacturing overhead spending of $4.3 million, inventory adjustments of $2.5 million and an unfavorable product mix.

SG&A, R&D and other-net expenses grew by $0.1 million in 2001 over 2000 as manpower reductions and the lower metal financing fee helped to keep expense levels essentially flat with the previous year. In 2000, these expenses grew $3.1 million over 1999 levels primarily in order to support the higher sales volumes.

Operating profit for the MEG was $4.6 million in 2001, or 2.7% of sales, $8.4 million in 2000, or 4.7% of sales, and $8.6 million in 1999, or 6.1% of sales. The decline in profitability in 2001 was due to the lower margin contribution as a result of the lower sales volume.

INTERNATIONAL SALES AND OPERATIONS

	2001	2000	1999
(Millions)			
From International Operations	$ 86.8	$ 98.4	$ 87.2
Exports from U.S. Operations.	47.5	51.2	50.3
Total International Net Sales	$ 134.3	$ 149.6	$ 137.5
Percent of Total Net Sales.	28%	27%	30%

The international sales in the above table are included in the Metal Systems Group and MEG sales figures previously discussed. The majority of the Company's international sales are to Western Europe, Asia (particularly the Pacific Rim and South Asia) and Canada. International sales in 2001 to Europe and Asia declined while sales to Canada increased from the 2000 levels. Sales from the international operations were negatively impacted by the previously discussed currency translation effect in 2001 and 2000. Local competition limits the Company's ability to adjust selling prices to compensate for currency exchange rate movements. The exports from the U.S. are predominately denominated in dollars.

The Company has two service centers in Europe and two in Asia, primarily for the distribution of alloy products, although these facilities provide additional support for various other businesses within the Company. WAM has finishing operations in Singapore as well as a finishing operation in the Philippines that was acquired in 2001. The Company also has several additional sales offices throughout the world along with a network of independent agents and distributors.

The international markets and their long-term growth potential remain strategically important to the Company. Geographic expansion of the Company's marketing efforts is a key for future sales growth. The major markets served by international operations are similar to the domestic markets; i.e., telecommunications, computer electronics and automotive electronics. The Company's market share is smaller overseas than it is domestically.

LEGAL PROCEEDINGS

One of the Company's subsidiaries, Brush Wellman Inc., is a defendant in proceedings in various state and federal courts brought by plaintiffs alleging that they have contracted chronic beryllium disease (CBD) or related ailments as a result of exposure to beryllium. Plaintiffs in CBD cases seek recovery under theories of intentional tort and various other legal theories and seek compensatory and punitive damages, in many cases of an unspecified sum. Spouses, if any, claim loss of consortium.

The following table summarizes the historic trend in CBD cases:

	December 31,		
	2001	2000	1999
Total cases pending	76	71	37
Total plaintiffs	193	192	119
Number of claims (plaintiffs) filed during period ended	19(37)	38(87)	20(28)
Number of claims (plaintiffs) settled during period ended	2 (3)	2 (5)	2 (4)
Aggregate cost of settlements during period ended (dollars in thousands)	$ 570	$ 730	$ 183
Number of claims (plaintiffs) otherwise dismissed	12(31)	2 (9)	0 (0)
Number of claims (plaintiffs) voluntarily withdrawn	0 (2)	0 (0)	0 (0)

Additional CBD claims may arise. Management believes that the Company has substantial defenses in these cases and intends to contest the suits vigorously. Employee cases, in which plaintiffs have a high burden of proof, have historically involved relatively small losses to the Company. Third-party plaintiffs (typically employees of customers) face a lower burden of proof than do employees or former employees, but these cases are generally covered by varying levels of insurance. In class actions, plaintiffs have historically encountered difficulty in obtaining class certification. A reserve was recorded for CBD litigation of $13.0 million at December 31, 2001 and $9.1 million at December 31, 2000. A receivable was recorded of $6.6 million at December 31, 2001 and $4.7 million at December 31, 2000 from the Company's insurance carriers as recoveries for insured claims.

Although it is not possible to predict the outcome of the litigation pending against the Company and its subsidiaries, the Company provides for costs related to these matters when a loss is probable and the amount is reasonably estimable. Litigation is subject to many uncertainties, and it is possible that some of these actions could be decided unfavorably in amounts exceeding the Company's reserves. An unfavorable outcome or settlement of a pending CBD case or additional adverse media coverage could encourage the commencement of additional similar litigation. The Company is unable to estimate its potential exposure to unasserted claims.

While the Company is unable to predict the outcome of the current or future CBD proceedings, based upon currently known facts and assuming collectibility of insurance, the Company does not believe that resolution of these proceedings will have a material adverse effect on the financial condition or the cash flow of the Company. However, the Company's results of operations could be materially affected by unfavorable results in one or

more of these cases. During the fourth quarter of 2001 and into the first quarter of 2002, the Company was engaged in settlement negotiations involving 21 of the above-referenced cases (involving 88 plaintiffs). As a result of this proposed settlement and the Company's current successes in defeating class certification, the Company is optimistic that all pending class actions against it will be dismissed. The Company's periodic reports will provide details concerning this potential settlement and other litigation updates, as appropriate.

Standards for exposure to beryllium are under review by governmental agencies, including the United States Occupational Safety and Health Administration, and by private standard-setting organizations. One result of these reviews might be more stringent worker safety standards. More stringent standards, as well as other factors such as the adoption of beryllium disease compensation programs and publicity related to these reviews may also affect buying decisions by the users of beryllium-containing products. If the standards are made more stringent or the Company's customers decide to reduce their use of beryllium-containing products, the Company's operating results, liquidity and capital resources could be materially adversely affected. The extent of the adverse effect would depend on the nature and extent of the changes to the standards, the cost and ability to meet the new standards, the extent of any reduction in customer use and other factors that cannot be estimated.

FINANCIAL POSITION

WORKING CAPITAL

While the Company had a net loss of $10.3 million in 2001, cash flow from operations was $22.5 million. The difference was primarily a result of the effects of depreciation and changes in working capital. Net cash generated from operations was $35.4 million in 2000. Cash balances totaled $7.0 million at December 31, 2001, an increase of $2.7 million for the year.

Accounts receivable declined $37.7 million in 2001, primarily due to the significant reduction in sales. Receivables were also lower due to a three-day improvement in the days sales outstanding. Accounts written off to bad debts totaled $0.2 million in 2001. Accounts receivable were $92.3 million at December 31, 2000, an increase of $12.5 million during the year due to the higher sales volumes. The days sales outstanding also improved three days in 2000.

Inventories were $6.5 million lower at the end of 2001 than at the end of 2000. However, inventories increased in the first half of 2001 as various businesses were anticipating continued sales increases and as a result of a temporary build as part of a planned shift in the location of buffer work-in-process inventories. Since the end of the second quarter 2001, inventories were reduced $20.6 million. The Metal Systems Group accounted for the majority of the inventory reduction in 2001. Alloy inventory pounds were down 26% at year end 2001 from year end 2000, with the reduction coming in lower valued in-process and raw material inventories. In addition, Alloy significantly reduced the quantity of no-value scrap pounds on the Elmore plant site during 2001. Inventories grew $5.1 million in 2000 partially to support the sales growth in that year. Inventories also increased within Alloy operations in 2000 due to the inefficiencies within the Elmore strip mill operations. Longer lead times on various bulk products contributed to the inventory build as well.

Accounts payable declined by $20.8 million during 2001 as a result of the reduced level of business activity and lower spending levels. The other liabilities and accrued items, salaries and wages, and taxes other than income taxes, decreased $4.8 million, mainly as a result of the lower incentive compensation accrual at year end 2001 compared to year end 2000. Other long- term liabilities increased by $7.0 million due to the recognition of derivative financial instruments under new accounting regulations effective beginning in 2001 and as a result of changes in litigation reserves. Accounts payable, other liabilities and accrued items and other long-term liabilities all increased in 2000 compared to 1999 in response to the higher levels of business.

The Company utilized $2.5 million in 2001 and $2.1 million in 2000 of excess assets from its defined pension plan to fund payments under its retiree medical plan. These transfers of funds were made in accordance with IRC Section 420 guidelines, which state that this type of transfer can only be made if certain criteria are satisfied, including having a minimum pension plan over-funded position of 125%. See Note J to the Consolidated Financial Statements. The Company does not anticipate making a similar transfer in 2002.

DEPRECIATION AND AMORTIZATION

Depreciation, depletion and amortization totaled $20.9 million in both 2001 and 2000. Amortization of deferred mine development was $0.7 million in 2001 and $1.8 million in 2000. The Company amortizes mine development costs based upon the units of production method as ore is extracted from the pits. The lower amortization in 2001 resulted from reduced mining activity in that year.

CAPITAL EXPENDITURES

Capital expenditures for property, plant and equipment and mine development were $23.3 million in 2001. While this is a $1.7 million increase over expenditures in 2000, the Company slowed down the spending rate in the second half of 2001. Capital expenditures were $15.8 million in the first half of 2001 and only $7.5 million in the second half of 2001. Expenditures for the Metal Systems Group were $13.0 million in 2001 compared

to $12.8 million in 2000. Major projects for the Metal Systems Group included a new annealer for bulk product manufacturing in Elmore, a furnace line for strip product manufacturing in Reading and additional plating and weld lines for TMI. Expenditures for the MEG were $6.5 million in 2001 and $5.9 million in 2000. Major projects within the MEG included an expansion of the thick film circuit manufacturing facility in Oceanside, California and the acquisition of the frame lid assembly manufacturing assets by WAM.

The Company also purchased land and mineral rights that were previously leased by its mining operations in Utah and land adjacent to its Utah extraction mill for $1.3 million. The purchased mineral rights cover approximately 95% of the Company's proven mineral reserves. The purchase provided additional security over the Company's mineral rights.

DEBT AND OFF-BALANCE SHEET OBLIGATIONS

Total debt on the balance sheet was $74.8 million at December 31, 2001, an increase of $6.1 million since December 31, 2000. Short-term debt increased $2.1 million and long-term debt increased $4.0 million during the year. Overall debt increased in the first half of 2001, but then declined over the last six months as the Company reduced its working capital and other cash outlays. Short-term debt totaled $27.6 million at December 31, 2001 and included $8.2 million of foreign currency denominated debt and $6.6 million of precious metal denominated debt. The remaining $12.8 million of short-term debt was borrowed under a $65.0 million revolving credit agreement. The $12.8 million short-term revolver borrowing includes $6.0 million denominated in yen that is used as a hedge of the investment in the Company's subsidiary in Japan. Long-term debt at December 31, 2001 included an $8.3 million variable rate industrial development bond, a $3.0 million variable rate demand bond, a $1.0 million promissory note and $35.0 million borrowed under the revolving credit agreement. Available loan capacity under the revolver was $17.2 million as of year end 2001.

The Company renegotiated its revolving credit agreement effective as of December 2001. The amended revolver is an asset- based lending arrangement with the banks taking a security interest in a portion of the Company's domestic accounts receivable, inventory and certain fixed assets up to a maximum of $65.0 million. The amendment revised or eliminated various covenants, including covenants regarding interest coverage, leverage, capital expenditure levels and permitted acquisitions. The amendment also prohibits the declaration of future dividends for the remaining term of the agreement. The most restrictive covenant is the ratio of funded debt to earnings before interest, income taxes, depreciation, amortization and certain lease expense.

In addition to the $74.8 million of debt on the balance sheet, the Company has two off-balance sheet operating leases that finance a portion of the Alloy Products' manufacturing equipment and facility at the Elmore plant site. The equipment being leased had an original cost of $59.8 million. The payments under this lease were structured to increase over time, as the payments for the first three-year base term, which ends in March 2002, did not include any principal amortization. Payments under the equipment lease are estimated to be $9.1 million in 2002, a $3.7 million increase over 2001. The amended covenants under this lease are similar to that of the Company's revolving line of credit. The facility, which had an original cost of $20.3 million, is being leased over a 14-year period beginning in 1997. Payments under this lease are $2.3 million per year. The Company also has other smaller operating leases for various facilities and pieces of office and manufacturing equipment. See Note E to the Consolidated Financial Statements for additional leasing details.

The Company maintains a portion of its precious metal inventories at its facilities on a consignment basis in order to reduce its price exposure. See the "Market Risk Disclosures" section of the Management's Discussion and Analysis for additional details. The notional value of this inventory was $25.6 million at December 31, 2001 and $51.1 million at December 31, 2000. The value of the consigned precious metals declined during 2001 as a result of an inventory reduction program, improved operating efficiencies and lower metal prices. The Company also has an off-balance sheet financing arrangement with a bank for a portion of its copper-based inventories. The notional value of this arrangement was $6.6 million at December 31, 2001 and $9.0 million at December 31, 2000. Since these inventories are owned by third parties, their costs are not reflected in the Company's consolidated balance sheets.

A summary of contractual payments under long-term debt agreements, operating leases and material purchase commitments by year is as follows:

	Payments Due In				
	2002	2003	2004	2005	2006
(Dollars in Millions)					
Long-term Debt Repayments	$ --	$ 35.0	$ --	$ 0.6	$ 0.6
Elmore Building Lease Payments	2.3	2.3	2.3	2.3	2.3
Other Operating Lease Payments	2.8	2.5	2.3	1.8	1.0
Subtotal Non-cancelable Leases	5.1	4.8	4.6	4.1	3.3
Elmore Equipment Lease Payments	9.1	10.1	10.0	9.9	9.9
Purchase Commitments	9.4	11.3	20.1	14.6	16.2
Total	$ 23.6	$ 61.2	$ 34.7	$ 29.2	$ 30.0

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The $35.0 million debt repayment represents the amount outstanding under the revolving credit agreement as of December 31, 2001. The revolver matures in October 2003, but it is the Company's intention, and past practice, to extend the term of the agreement prior to the actual maturity date. The $35.0 million may also be partially or fully repaid prior to the maturity in 2003 depending upon the Company's cash availability and requirements. The subtotal of the Elmore building lease payments and the other operating lease payments represents the amounts due under all non-cancelable operating leases with initial terms in excess of one year as of December 31, 2001. The Company has the option to renew the Elmore equipment lease annually for seven years beginning in 2002. The chart assumes the renewal of the lease each year. The purchase commitments are for raw materials to be acquired under long-term supply agreements. See Note K to the Consolidated Financial Statements.

COMMON STOCK

The Company suspended its regular quarterly dividend of $0.12 per outstanding share in the third quarter 2001 in order to improve the Company's future cash position in light of the current operating loss and market conditions. As a result, dividends paid declined to $6.0 million in 2001 compared to $7.9 million in 2000. Cash received from the exercise of stock options under employee compensation plans totaled $1.8 million in 2001 and $3.7 million in 2000. The 2001 proceeds were all received in the first half of the year when the Company's stock price was trading at higher levels.

OTHER

Funds from operations plus the available borrowing capacity are believed to be adequate to support operating requirements, capital expenditures and remediation projects. In early 2002, a major outside rating agency reduced the Company's credit rating. Because of this lower rating, coupled with the Company's current debt-to-equity ratio and the recent operating losses, the ability to raise debt financing in excess of the existing revolving credit agreement and other established lines may be limited in 2002.

The Company attempts to maintain cash balances at a minimum with any excess cash used to reduce overnight or other short-term borrowings. Cash balances, if any, are invested in high quality, highly liquid investments.

ENVIRONMENTAL

As indicated in Note K to the Consolidated Financial Statements, the Company has an active program of environmental compliance. For environmental remediation projects, estimates of the probable costs are made and reserves are established accordingly. The environmental remediation reserve balance was $7.5 million at December 31, 2001 and $8.2 million at December 31, 2000.

ORE RESERVES

The Company's reserves of beryllium-bearing bertrandite ore are located in Juab County, Utah. An ongoing drilling program has generally added to proven reserves. Proven reserves are the measured quantities of ore commercially recoverable through the open pit method. Probable reserves are the estimated quantities of ore known to exist, principally at greater depths, but prospects for commercial recovery are indeterminable. Ore dilution that occurs during mining is approximately 7%. About 87% of beryllium in ore is recovered in the extraction process. The Company augments its proven reserves of bertrandite ore through the purchase of imported beryl ore (approximately 4% beryllium), which is also processed at the Utah extraction plant.

Beginning in 1998, updated computer models have been used to estimate ore reserves, which are subject to economic and physical evaluation. Development drilling has affected the total ore reserves to some degree, although there was no development drilling activity in 2001. The requirement that reserves pass an economic test causes open-pit mineable ore to be found in both proven and probable geologic settings. Reserves declined in 2001 in part due to the termination of a particular lease and option during the year. As previously noted, the Company now owns, as opposed to leases, approximately 95% of the proven reserves. Based upon average production levels in recent years, proven reserves would last seventy-five years or more. Ore reserves classified as possible are excluded from the following table.

	2001	2000	1999	1998	1997
Proven bertrandite ore reserves at year end (thousands of dry tons)	7,270	7,690	7,769	7,747	6,924
Grade % beryllium.....	0.268%	0.263%	0.265%	0.259%	0.249%
Probable bertrandite ore reserves at year end (thousands of dry tons)	3,081	3,166	3,081	3,535	6,750
Grade % beryllium.....	0.219%	0.217%	0.215%	0.210%	0.277%
Bertrandite ore					

processed (thousands of dry tons, diluted)	48	84	93	113	110
Grade % beryllium, diluted	0.224%	0.235%	0.240%	0.234%	0.229%

CRITICAL ACCOUNTING POLICIES

The preparation of financial statements requires the inherent use of estimates and management's judgment in establishing those estimates. The following are the most significant accounting policies used by the Company that rely upon management's judgment.

ACCRUED LIABILITIES. The Company has various accrued liabilities on its balance sheet that are based in part upon management's judgment, including its accruals for litigation, environmental remediation and workers' compensation costs. The Company establishes these accruals at the best estimate determined by a review of the available facts with management and independent advisors and specialists as appropriate. If a best estimate cannot be determined, the accrual is established at the low end of the estimated reasonable range, as proscribed under SFAS No. 5, "Accounting for Contingencies". The accruals only cover identified and/or asserted claims; future claims could, therefore, give rise to increases to the accruals. The accruals are adjusted as the facts and circumstances change. The accruals may also be adjusted due to changes in the Company's strategies or regulatory requirements. The legal defense costs associated with these matters are expensed as incurred and are not included in the accruals. The ultimate resolution of the underlying item being accrued may indeed be lower or higher than the established accrued liability, which would then result in an additional charge or credit against income. See Note K to the Consolidated Financial Statements for further discussion on contingencies and commitments.

PENSIONS. The Company has a defined benefit pension plan that covers a large portion of its current and former domestic employees. The Company accounts for this plan in accordance with SFAS No. 87, "Employers' Accounting for Pensions". Under Statement No. 87, the carrying values of the associated assets and liabilities are determined on an actuarial basis using numerous actuarial and financial assumptions. Differences between the assumptions and current period actual results may be deferred into the net pension asset value and amortized against future income under established guidelines. The deferral process generally reduces the volatility of the recognized net pension asset and current period income or expense. The actuaries will adjust their assumptions to reflect changes in demographics and other factors as needed. The Company will periodically review other key assumptions, including the expected return on plan assets and the discount rate, against actual results, trends and industry standards and make adjustments accordingly. These adjustments may then lead to a higher or lower expense in a future period. The Company currently has assumed that the expected long-term rate of return on plan assets is 10%. While recent returns have been less than that, the Company's experience indicates that the 10% return over the long term is reasonable. Should the assets continue to earn a return less than 10%, in all likelihood, future pension income would decline. The Company establishes the discount rate used to determine the present value of the projected benefit obligation at the end of each year. The rate is established based upon the available market rates for high-quality, fixed income investments. As of December 31, 2001, the Company elected to use a discount rate of 7.125%. An increase to the discount rate would reduce the future pension expense and conversely, a lower discount rate would raise the future pension expense. See Note J to the Consolidated Financial Statements for additional details on the Company's pension plan.

LIFO INVENTORY. The prices of certain major raw materials, including copper, nickel, gold, silver and other precious metals purchased by the Company, fluctuate during a given year. Such changes in costs are generally reflected in selling price adjustments. The prices of labor and other factors of production generally increase with inflation. Additions to capacity, while more expensive over time, usually result in greater productivity or improved yields. However, market factors, alternative materials and competitive pricing affect the Company's ability to offset wage and benefit increases. Therefore, the Company uses the last-in, first-out (LIFO) method for costing the majority of its domestic inventories. Under the LIFO method, inflationary cost increases are charged against the current cost of goods sold in order to more closely match the cost with revenue. The carrying value of the inventory is based upon older costs and as a result, the LIFO cost of the inventory on the balance sheet is typically lower than it would be under most alternative costing methods. The LIFO expense in a given year is dependent upon the inflation rate impact on raw material purchases and manufacturing conversion costs, the level of purchases in a given year and the inventory balance.

DEFERRED TAX ASSETS. The Company records deferred tax assets and liabilities in accordance with SFAS No. 109, "Accounting For Income Taxes". The deferrals are determined based upon the temporary difference between the financial reporting and tax bases of assets and liabilities. The Company reviews the expiration date of the deferrals to determine if the deferral will or can be realized. If it is determined that it is not probable the deferral will be realized, a valuation allowance is established for that item. Certain deferrals, including the alternative minimum tax credit, do not have an expiration date. The Company did not have a valuation allowance established against any of its deferred tax assets as of December 31, 2001. However, should the Company continue to generate pre-tax losses, a valuation allowance for all or part of its deferred tax assets may become necessary in a subsequent period. See Note H to the Consolidated Financial Statements for additional deferred tax details.

DERIVATIVES. The Company uses derivative financial instruments to hedge its foreign currency, interest rate and commodity price exposures. See Note F to the Consolidated Financial Statements and the "Market Risk Disclosures" section of this Management's Discussion and Analysis for more details on the Company's derivatives. The Company applies hedge accounting when a highly effective hedge relationship can be documented and maintained. By so doing, changes in the fair value of the derivative are recorded in equity until the underlying hedged item matures. If the derivative does not qualify as highly effective, changes in its fair value are charged against income in the current period. The Company secures derivatives with the intention of hedging existing or forecasted transactions only and the Company does not engage in speculative derivative trading. The Company's annual budget and quarterly updated forecasts serve as the basis for determining forecasted transactions.

MARKET RISK DISCLOSURES

Consistent with the prior year, the Company is exposed to commodity price, interest rate and foreign exchange rate differences. The Company attempts to minimize the effects of these exposures through a combination of natural hedges and the use of derivatives. See Note F to the Consolidated Financial Statements. The Company's use of derivatives is governed by policies adopted by the Board of Directors.

The Company uses gold and other precious metals in manufacturing various MEG and Metal Systems products. While the mix of the different precious metals may have changed from time to time, the methods used to hedge the exposure have not. To minimize exposure to market price changes, precious metals are maintained on a consigned inventory basis. The metal is purchased out of consignment when it is ready to ship to a customer as a finished product. The Company's purchase price forms the basis for the price charged to the customer for the precious metal content and, therefore, the current cost is matched to the price. The Company does maintain a certain level of gold in its own inventory, but this is typically balanced out by having a loan denominated in gold for the same number of ounces. Any change in the market price of gold, either higher or lower, will result in an equal change in the book value of the asset and liability.

The Company is charged a consignment fee by the financial institutions that actually own the precious metal. This fee, along with the interest charged on the gold denominated loan, is partially a function of the market price of the metal. Because of market forces and competition, the fee, but not the interest on the loan, can be charged to customers on a case-by-case basis. To further limit price and financing rate exposures, under some circumstances the Company will require customers to furnish their own metal for processing. This practice is used more frequently when the rates are high and/or more volatile. Should the market price of precious metals used by the Company increase by 15% from the prices on December 31, 2001, the additional pre-tax cost to the Company on an annual basis would be approximately $0.2 million. This calculation assumes no changes in the quantity of inventory or the underlying fee and interest rates and that none of the additional fee is charged to customers.

The Company also uses base metals, primarily copper, in its production processes. Fluctuations in the market price of copper are passed on to customers in the form of price adders or reductions for the majority of the copper sales volumes. However, when the Company cannot pass through the price of copper, margins can be reduced by increases in the market price of copper. To hedge this exposure, the Company enters into copper price hedge (swap) contracts with financial institutions that exchange a variable price of copper for a fixed price. By so doing, the difference between the Company's purchase price and selling price of copper will be a known, fixed value for the quantities covered by the swaps. Based upon copper swaps outstanding at December 31, 2001 that will mature during 2002, management estimates a 10% decrease in the price of copper from the December 31, 2001 level will increase the pre-tax loss on these contracts by approximately $0.7 million. This calculation excludes the additional profit that the Company anticipates it would make by selling copper at a fixed price that cost 10% less than it does on December 31, 2001.

The Company is exposed to changes in interest rates on its debt and cash. This interest rate exposure is managed by maintaining a combination of short-term and long-term debt and variable and fixed-rate instruments. The Company also uses interest rate hedge contracts to fix the interest rate on variable debt obligations, as it deems appropriate. Excess cash, if any, is typically invested in high-quality instruments that mature in seven days or less. If interest rates were to increase 200 basis points (2%) from the December 31, 2001 rates and assuming no changes in debt or cash from the December 31, 2001 levels, the additional annual net expense would be approximately $0.6 million on a pre-tax basis. The calculation excludes any additional expense on fixed rate debt that upon maturity may or may not be extended at the prevailing interest rates.

The Company sells products in foreign currencies, mainly the euro, yen and sterling. The majority of these products' costs are incurred in U.S. dollars. The Company is exposed to currency movements in that if the U.S. dollar strengthens, the translated value of the foreign currency sale and the resulting margin will be reduced. The Company does not change the price of its products for short-term exchange rate movements because of its local competition. To minimize this exposure, the Company

purchases foreign currency forward contracts, options and collars. Should the dollar strengthen, the decline in margins should be offset by a gain on the contract. A decrease in the value of the dollar would result in larger margins but potentially a loss on the contract, depending upon the method used to hedge. If the dollar weakened 10% against all currencies from the December 31, 2001 exchange rates, the reduced gain and/or the increased loss (as applicable) on the outstanding contracts as of December 31, 2001 would reduce pre-tax profits by approximately $1.8 million. This calculation does not take into account the increase in margins as a result of translating foreign currency sales at the more favorable exchange rate, any changes in margins from potential volume fluctuations caused by currency movements or the translation effects on any other foreign currency denominated income statement or balance sheet item.

The notional value of the outstanding currency contracts declined from $51.6 million at December 31, 2000 to $28.5 million at December 31, 2001 as a result of lower projected business levels and a reduction in the coverage of exposures in excess of one year. The notional value of the copper swaps was $11.1 million at December 31, 2001 and $9.1 million at December 31, 2000. The notional value of the outstanding interest rate swaps was $57.8 million at December 31, 2001. An interest rate swap that hedged the initial term of a variable rate operating lease matured in the fourth quarter 2001.

The Company adopted SFAS No. 133, "Accounting for Derivative Instruments and Hedging Activities," and SFAS No. 138, "Accounting for Certain Derivative Instruments and Certain Hedging Activities," as of January 1, 2001. Accordingly, the Company began recording the fair value of all derivative financial instruments on its balance sheet in 2001. The fair value was determined by financial institutions and represents the market price for the instrument between two willing parties as of the balance sheet dates. Changes in the fair value of outstanding derivatives are recorded in equity or against income as appropriate under SFAS No. 133 guidelines. The fair value of the outstanding foreign currency contracts was an asset of $2.9 million at December 31, 2001, indicating that the average hedge rates were more favorable than the actual year-end market exchange rates. The fair value of the outstanding copper swaps as of December 31, 2001 was a loss of $1.3 million as the current market prices for copper were lower than the average swapped price. The fair value of the interest rate swaps was a loss of $3.4 million as the available interest rates were lower than the rates fixed under the swap contracts. One seven-year swap accounts for $3.3 million of the $3.4 million loss. The net derivative loss recorded in equity (in other comprehensive income) was $2.1 million as of December 31, 2001.

OUTLOOK

The Company believes that it offers high quality, competitively priced products that are well positioned in the markets they serve. The key to the Company's profitability in 2002 is the economic condition of the Company's major markets - telecommunications and computer electronics. The major demand generators in these markets indicate that they have little visibility into the demand for their products in their end-use markets, which makes it difficult for the Company to accurately predict when its sales will start to improve. The Company's research and marketing efforts continue to explore new opportunities and attempt to capture new applications, but these tend to be long-term efforts that do not necessarily impact the current year's sales. Based upon the available data, the Company is forecasting sales to slowly improve from the fourth quarter 2001 levels beginning in the second quarter of 2002. Given the high level of sales in the first half of 2001, even with this improvement, total 2002 sales may be lower than sales in 2001.

The cost reduction steps taken by the Company during 2001 have reduced the breakeven point in 2002. Management believes that a large portion of the 22% manpower reduction in 2001 is of a permanent nature. The Company's alloy strip mill operations made improvements in 2001, solving issues that had constrained capacity and productivity in the prior years. Therefore, when sales do improve, the Company's level of profitability should improve faster than it would have otherwise.

Other steps taken in 2001, including the suspension of the quarterly dividend, will help conserve cash and improve the level of outstanding debt in the coming quarters. Until sales and profits grow, however, portions of the business will be operated on a short-term cash generation basis, which means aggressive management of working capital levels and capital expenditure requirements. The Company anticipates capital expenditures to be in the $12 to $15 million range in 2002 compared to over $23 million in 2001.

The Company made significant progress in its CBD litigation in 2001. Courts in various jurisdictions consistently ruled in the Company's favor in 2001, confirming the Company's position that it has operated in a responsible manner without intent to harm any worker. While it is difficult to predict the outcome of pending litigation, the Company is hopeful that these court decisions will favorably impact its current caseload and that the outstanding cases can be resolved without a material impact to the Company's profitability or financial position. The Company will continue its investment in protection of workers from CBD, including education, work place practice improvements and medical research.

REPORT OF INDEPENDENT AUDITORS

Board of Directors and Shareholders
Brush Engineered Materials Inc.

We have audited the accompanying consolidated balance sheets of Brush Engineered Materials Inc. and subsidiaries as of December 31, 2001 and 2000, and the related consolidated statements of income, shareholders' equity, and cash flows for each of the three years in the period ended December 31, 2001. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Brush Engineered Materials Inc. and subsidiaries at December 31, 2001 and 2000, and the consolidated results of their operations and their cash flows for each of the three years in the period ended December 31, 2001 in conformity with accounting principles generally accepted in the United States.

/s/Ernst & Young LLP

Cleveland, Ohio
January 22, 2002

REPORT OF MANAGEMENT

The management of Brush Engineered Materials Inc. is responsible for the contents of the financial statements, which are prepared in conformity with generally accepted accounting principles. The financial statements necessarily include amounts based on judgements and estimates. Financial information elsewhere in the annual report is consistent with that in the financial statements.

The Company maintains a comprehensive accounting system, which includes controls designed to provide reasonable assurance as to the integrity and reliability of the financial records and the protection of assets. However, there are inherent limitations in the effectiveness of any system of internal controls and, therefore, it provides only reasonable assurance with respect to financial statement preparation. An internal audit staff is employed to regularly test and evaluate both internal accounting controls and operating procedures, including compliance with the Company's statement of policy regarding ethical and lawful conduct. The role of the independent auditors is to provide an objective review of the financial statements and the underlying transactions in accordance with generally accepted auditing standards.

The Audit Committee of the Board of Directors, comprised solely of Directors who are not members of management, meets regularly with management, the independent auditors, and the internal auditors to ensure that their respective responsibilities are properly discharged. The independent auditors and the internal audit staff have full and free access to the Audit Committee.

/s/John D. Grampa

John D. Grampa
Vice President Finance and Chief Financial Officer

FORWARD-LOOKING STATEMENTS

Portions of the narrative set forth in this document that are not statements of historical or current facts are forward-looking statements. The Company's actual future performance may materially differ from that contemplated by the forward-looking statements as a result of a variety of factors. These factors include, in addition to those mentioned elsewhere herein, the condition of the markets which the Company serves, including telecommunications and computers, optical media, automotive electronics, industrial components, aerospace and defense, and appliance markets or in particular geographic regions, the Company's success in implementing its strategic plans, the timely and successful completion of pending capital expansion projects, changes in government regulatory requirements, the enactment of new legislation that impacts the Company's obligations and the conclusion of pending litigation matters in accordance with the Company's expectation that there will be no material adverse effects.

CONSOLIDATED STATEMENTS OF INCOME

Brush Engineered Materials Inc. and Subsidiaries, Years Ended December 31, 2001, 2000 and 1999

(Dollars in thousands except per share amounts)

	2001	2000	1999
Net sales	$ 472,569	$ 563,690	$ 455,707
Cost of sales	404,574	444,951	363,773
Gross profit	67,995	118,739	91,934
Selling, general and administrative expenses	75,315	87,577	70,561
Research and development expenses	6,327	7,437	8,506
Other - net	422	739	2,309
Operating profit (loss)	(14,069)	22,986	10,558
Interest expense	3,327	4,652	4,173
INCOME (LOSS) BEFORE INCOME TAXES	(17,396)	18,334	6,385
Income taxes (benefit):			
Currently payable	(755)	1,876	555
Deferred	(6,367)	2,293	(609)
	(7,122)	4,169	(54)
NET INCOME (LOSS)	$ (10,274)	$ 14,165	$ 6,439
Net income (loss) per share of common stock - basic	$ (0.62)	$ 0.87	$ 0.40
Average number of shares of common stock outstanding - basic	16,518,691	16,292,431	16,198,885
Net income (loss) per share of common stock - diluted	$ (0.62)	$ 0.86	$ 0.40
Average number of shares of common stock outstanding - diluted	16,518,691	16,448,667	16,279,591

See Notes to Consolidated Financial Statements.

CONSOLIDATED STATEMENTS OF CASH FLOWS

Brush Engineered Materials Inc. and Subsidiaries, Years Ended December 31, 2001, 2000 and 1999

(Dollars in thousands)

	2001	2000	1999
Cash Flows from Operating Activities:			
Net Income (Loss)	$(10,274)	$ 14,165	$ 6,439
Adjustments to Reconcile Net Income (Loss) to Net Cash Provided from Operating Activities:			
Depreciation, depletion and amortization	20,944	20,878	20,779
Amortization of mine development	665	1,786	6,258
Decrease (Increase) in accounts receivable	36,589	(15,453)	(16,833)
Decrease (Increase) in inventory	5,283	(6,312)	(7,641)
Decrease (Increase) in prepaid and other current assets	360	(1,062)	(6,487)
Increase (Decrease) in accounts payable and accrued expenses	(29,534)	16,291	16,080
Increase (Decrease) in interest and taxes payable	(5,341)	2,125	1,041
Increase (Decrease) in deferred income taxes	(2,977)	435	6,684
Increase (Decrease) in other long-term liabilities	2,747	608	(39)
Other - net	4,013	1,931	(1,806)
NET CASH PROVIDED FROM OPERATING ACTIVITIES	22,475	35,392	24,475
Cash Flows from Investing Activities:			
Payments for purchase of property, plant and equipment	(23,130)	(21,306)	(16,758)
Payments for mine development	(154)	(332)	(288)
Proceeds from sale of property, plant and equipment	16	600	--
Other investments - net	--	--	37
NET CASH USED IN INVESTING ACTIVITIES	(23,268)	(21,038)	(17,009)
Cash Flows from Financing Activities:			
Proceeds from issuance/ (repayment) of short-term debt	3,869	(894)	(16,884)
Proceeds from issuance of long-term debt	39,446	23,000	36,000
Repayment of long-term debt	(35,500)	(27,800)	(20,800)
Issuance of Common Stock under stock option plans	1,760	3,725	188
Payments of dividends	(5,967)	(7,867)	(7,843)
NET CASH FROM (USED IN) FINANCING ACTIVITIES	3,608	(9,836)	(9,339)
Effects of Exchange Rate Changes on Cash and Cash Equivalents	(115)	(303)	34
NET CHANGE IN CASH AND CASH EQUIVALENTS	2,700	4,215	(1,839)
CASH AND CASH EQUIVALENTS AT BEGINNING OF YEAR	4,314	99	1,938
CASH AND CASH EQUIVALENTS AT END OF YEAR	$ 7,014	$ 4,314	$ 99

See Notes to Consolidated Financial Statements.

CONSOLIDATED BALANCE SHEETS

Brush Engineered Materials Inc. and Subsidiaries, Years Ended December 31, 2001 and 2000

(Dollars in thousands)

ASSETS	2001	2000
CURRENT ASSETS		
Cash and cash equivalents	$ 7,014	$ 4,314
Accounts receivable (less allowance of $1,514 for 2001 and $1,677 for 2000)	54,616	92,334
Inventories	109,110	115,643
Prepaid expenses	9,910	8,525
Deferred income taxes	38,672	29,263
TOTAL CURRENT ASSETS	219,322	250,079
OTHER ASSETS	33,224	31,967
PROPERTY, PLANT AND EQUIPMENT		
Land	6,737	5,461
Buildings	95,645	93,927
Machinery and equipment	324,037	299,408
Software	19,949	20,134
Construction in progress	4,260	11,804
Allowances for depreciation	(284,659)	(266,200)
	165,969	164,534
Mineral resources	5,029	5,111
Mine development	14,006	13,852
Allowances for amortization and depletion	(13,708)	(13,037)
	5,327	5,926
PROPERTY, PLANT, AND EQUIPMENT - NET	171,296	170,460
	$ 423,842	$ 452,506
LIABILITIES AND SHAREHOLDERS' EQUITY		
CURRENT LIABILITIES		
Short-term debt	$ 27,582	$ 25,435
Accounts payable	13,869	34,714
Salaries and wages	10,051	16,590
Taxes other than income taxes	2,961	3,424
Other liabilities and accrued items	21,199	19,007
Dividends payable	-	1,987
Income taxes	3,917	5,535
TOTAL CURRENT LIABILITIES	79,579	106,692
OTHER LONG-TERM LIABILITIES	22,921	15,878
RETIREMENT AND POST-EMPLOYMENT BENEFITS	39,552	39,576
LONG-TERM DEBT	47,251	43,305
DEFERRED INCOME TAXES	20,189	17,148
SHAREHOLDERS' EQUITY		
Serial preferred stock, no par value; 5,000,000 shares authorized, none issued	-	-
Common stock, no par value		
Authorized 60,000,000 shares; 22,884,518 issued shares (22,764,088 for 2000)	92,861	90,743
Retained income	229,986	244,221
	322,847	334,964
Common stock in treasury, 6,275,363 shares in 2001 (6,250,307 in 2000)	(105,041)	(104,887)
Other equity transactions	(3,456)	(170)
TOTAL SHAREHOLDERS' EQUITY	214,350	229,907
	$ 423,842	$ 452,506

See Notes to Consolidated Financial Statements.

CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY

Brush Engineered Materials Inc. and Subsidiaries, Years Ended December 31, 2001, 2000 and 1999

(Dollars in thousands except per share amounts)

	Common Stock	Additional Paid-in-Capital	Retained Income	Common Stock in Treasury	Other Comprehensive Income(Loss)	Other	Total
BALANCES AT JANUARY 1, 1999	$ 22,481	$ 63,974	$ 239,230	$(104,050)	$ (67)	$ 243	$ 221,811
Net income	-	-	6,439	-	-	-	6,439
Foreign currency translation adjustment	-	-	-	-	59	-	59
Comprehensive income							6,498
Declared dividends $.48 per share	-	-	(7,776)	-	-	-	(7,776)
Proceeds from sale of 12,220 shares under option plans	12	168	-	-	-	-	180
Income tax benefit from employees' stock options	-	8	-	-	-	-	8
Other equity transactions	24	(249)	-	(272)	-	563	66
Forfeiture of restricted stock	-	-	-	(243)	-	94	(149)
BALANCES AT DECEMBER 31, 1999	22,517	63,901	237,893	(104,565)	(8)	900	220,638
Net income	-	-	14,165	-	-	-	14,165
Foreign currency translation adjustment	-	-	-	-	(1,197)	-	(1,197)
Comprehensive income							12,968
Transfer additional paid-in-capital to common stock	63,901	(63,901)	-	-	-	-	-
Declared dividends $.48 per share	-	-	(7,837)	-	-	-	(7,837)
Proceeds from sale of 218,380 shares under option plans	3,255	-	-	-	-	-	3,255
Income tax benefit from employees' stock options	470	-	-	-	-	-	470
Other equity transactions	600	-	-	36	-	(147)	489
Forfeiture of restricted stock	-	-	-	(358)	-	282	(76)
BALANCES AT DECEMBER 31, 2000	90,743	-	244,221	(104,887)	(1,205)	1,035	229,907
Net loss	-	-	(10,274)	-	-	-	(10,274)
Foreign currency translation adjustment	-	-	-	-	(1,084)	-	(1,084)
Change in fair value of derivative financial instruments	-	-	-	-	(2,061)	-	(2,061)
Comprehensive loss							(13,419)
Declared dividends $.24 per share	-	-	(3,961)	-	-	-	(3,961)
Proceeds from sale of 95,230 shares under option plans	1,530	-	-	-	-	-	1,530
Income tax benefit from employees' stock options	230	-	-	-	-	-	230
Other equity transactions	358	-	-	277	-	(273)	362
Forfeiture of restricted stock	-	-	-	(431)	-	132	(299)
BALANCES AT DECEMBER 31, 2001	$ 92,861	$ -	$ 229,986	$(105,041)	$(4,350)	$ 894	$ 214,350

See Notes to Consolidated Financial Statements.

Brush Engineered Materials Inc. and Subsidiaries, December 31, 2001

NOTE A - Significant Accounting Policies

ORGANIZATION: The Company is a holding company that owns operations in the United States, Western Europe and Asia. These operations manufacture engineered materials used in a variety of markets, including telecommunications and computer and related electronics, automotive electronics, optical media, data storage, decorative and performance film, aerospace/defense and appliance/consumer. The Company's operations are aggregated into two business segments - the Metal Systems Group and the Microelectronics Group - based upon the commonalities of their products, manufacturing processes, customers and other factors. The Metal Systems Group produces strip and bulk alloys (primarily copper beryllium), beryllium metal products and engineered material systems while the Microelectronics Group manufactures precious and non-precious vapor deposition targets, other precious and non-precious metal products, ceramics, electronic packages and thick film circuits. The Company is vertically integrated and distributes its products through a combination of Company-owned facilities and independent distributors and agents.

USE OF ESTIMATES: The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results may differ from those estimates.

CONSOLIDATION: The Consolidated Financial Statements include the accounts of Brush Engineered Materials Inc. and its subsidiaries, all of which are wholly owned. Intercompany accounts and transactions are eliminated in consolidation.

CASH EQUIVALENTS: All highly liquid investments with a put option or maturity of three months or less when purchased are considered to be cash equivalents.

INVENTORIES: Inventories are stated at the lower of cost or market. The cost of domestic inventories except ore and supplies is principally determined using the last-in, first-out (LIFO) method. The remaining inventories are stated principally at average cost.

PROPERTY, PLANT AND EQUIPMENT: Property, plant and equipment is stated on the basis of cost. Depreciation is computed principally by the straight-line method, except certain facilities for which depreciation is computed by the sum-of-the-years digits or units-of-production method. Depreciable lives that are used in computing the annual provision for depreciation by class of asset are as follows:

	Years
Land improvements	5 to 25
Buildings	10 to 40
Leasehold improvements	Life of lease
Machinery and equipment	3 to 15
Furniture and fixtures	4 to 15
Automobiles and trucks	2 to 8
Research equipment	6 to 12
Computer hardware	3 to 10
Computer software	3 to 10

Depreciation expense was $19.9 million in 2001, $19.5 million in 2000 and $18.4 million in 1999.

The Company adopted the provisions of Statement of Position 98-1, "Accounting for the Costs of Computer Software Developed or Obtained for Internal Use," in 1999. The impact of this adoption on the Company's financial statements was not significant.

Mineral Resources and Mine Development: Property acquisition costs and mining costs associated with waste rock removal are recorded at cost and are depleted or amortized by the units-of-production method based on recoverable proven beryllium reserves. Exploration and pre-production mine development expenses are charged to operations in the period in which they are incurred.

INTANGIBLE ASSETS: The cost of intangible assets is amortized by the straight-line method over the periods estimated to be benefited, which is generally twenty years or less. In June 2001, the FASB issued Statement No. 142, "Goodwill and Other Intangible Assets". Under this statement, goodwill and other indefinite lived intangible assets will no longer be amortized, but instead reviewed annually, or more frequently under certain circumstances, for impairment. Intangible assets with finite lives will continue to be amortized over their useful lives. The amortization provisions of the statement apply to any goodwill acquired after June 30, 2001. The Company adopted the statement as of January 1, 2002 as proscribed and determined that an initial goodwill impairment charge was not required. The Company had goodwill of $7.9 million on its balance sheet as of December 31, 2001 and goodwill amortization expense of $0.3 million in 2001.

ASSET IMPAIRMENT: In the event that facts and circumstances indicate that the carrying value of long-lived and intangible assets may be impaired, an evaluation of recoverability would be performed. If an evaluation is required, the estimated future undiscounted cash flow associated with the asset would be compared to the asset's carrying amount to determine if a writedown may be required.

DERIVATIVES: The Company adopted Statement No. 133, "Accounting for Derivative Instruments and Hedging Activities" as of January 1, 2001 as further described in Note F to the Consolidated Financial Statements. The Statement requires the Company to recognize all derivatives on the balance sheet at their fair value. If the derivative is a hedge, depending upon the nature of the hedge, changes in the fair value of the derivative are either offset against the change in fair value of the hedged asset, liability or firm commitment through earnings or recognized in other comprehensive income until the hedged item is recognized in earnings. The ineffective portion of a derivative's change in fair value, if any, is recognized in earnings immediately. If a derivative is not a hedge, changes in its fair value are adjusted through income.

Prior to adoption of Statement No. 133, forward foreign exchange currency contracts did not qualify for hedge accounting treatment and were marked-to-market using the applicable rates with any unrealized gains and losses taken to income. The foreign currency options and the commodity and interest rate derivatives outstanding as of December 31, 2000 qualified for hedge accounting treatment. Realized gains and losses on all derivatives were taken to income when the financial instrument matured. Gains and losses on foreign currency derivative contracts were recorded in Other-net while gains and losses on commodity derivative contracts were recorded in Cost of sales. Gains and losses on interest rate derivatives were recorded in Cost of sales or Interest expense depending upon the nature of the underlying hedged transaction.

REVENUE RECOGNITION: The Company adopted Staff Accounting Bulletin No. 101, "Revenue Recognition in Financial Statements," (SAB 101) effective with the beginning of the fourth quarter 2000 as proscribed. The provisions of SAB 101 codify the requirements for recognizing revenue. Adoption of SAB 101 did not have a material impact on the Company's statement of income or financial position. The Company recognizes revenue when the title to the goods passes to the customer.

SHIPPING AND HANDLING COSTS: The Company records shipping and handling costs for products sold to customers in Cost of sales on the Consolidated Statements of Income.

ADVERTISING COSTS:The Company expenses all advertising costs as incurred. Advertising costs were immaterial for the years presented in the Consolidated Financial Statements.

INCOME TAXES: The Company uses the liability method in measuring the provision for income taxes and recognizing deferred tax assets and liabilities on the balance sheet.

RECLASSIFICATION: Certain amounts in prior years have been reclassified to conform to the 2001 consolidated financial statement presentation.

NET INCOME PER SHARE: Basic earnings per share (E.P.S.) is computed by dividing income available to common stockholders by the weighted average number of common shares outstanding for the period. Diluted E.P.S. reflects the assumed conversion of all dilutive common stock equivalents as appropriate under the treasury stock method.

NEW PRONOUNCEMENT: In June 2001, the Financial Accounting Standards Board (FASB) issued Statement No. 141, "Business Combinations," which eliminates the pooling method of accounting for all business combinations initiated after June 30, 2001. The statement also addresses the initial recognition and measurement of goodwill and other intangible assets acquired in a business combination. The Company adopted this standard as proscribed.

NOTE B - Inventories

Inventories in the consolidated balance sheets are summarized as follows:

(Dollars in thousands)	December 31, 2001	2000
Principally average cost:		
Raw materials and supplies.	$ 17,510	$ 19,458
In process.	75,458	88,956
Finished goods.	41,789	33,202
Gross inventories.	134,757	141,616
Excess of average cost over LIFO Inventory value	25,647	25,973
Net inventories.	$ 109,110	$ 115,643

Average cost approximates current cost. Gross inventories accounted for using the LIFO method total $114,886,000 at December 31, 2001 and $110,384,000 at December 31, 2000. The liquidation of LIFO inventory layers in 2001 reduced cost of sales by $441,000.

NOTE C - Interest

Interest expense associated with active construction and mine development projects is capitalized and amortized over the future useful lives of the related assets. The following chart summarizes the accrued interest and the amount capitalized as well as the amortization of capitalized interest for 2001, 2000 and 1999.

(Dollars in thousands)	2001	2000	1999
Interest accrued	$ 3,918	$ 4,865	$ 4,302
Less capitalized interest	591	213	129
Total expense	$ 3,327	$ 4,652	$ 4,173
Amortization, included principally in cost of sales	$ 742	$ 822	$ 880

Interest paid was $4,092,000, $4,984,000 and $4,534,000 in 2001, 2000 and 1999, respectively.

In 1986, the Company purchased company-owned life insurance policies insuring the lives of certain United States employees. The contracts are recorded at cash surrender value, net of policy loans, in Other Assets. The net contract (income) expense, including interest expense recorded in Selling, general and administrative expenses, was ($261,000), $321,000 and ($283,000) in 2001, 2000 and 1999, respectively. The related interest expense was $1,379,000, $1,707,000 and $2,404,000, respectively.

NOTE D - Debt

A summary of long-term debt follows:

(Dollars in thousands)	December 31, 2001	2000
Variable rate demand bonds payable in installments beginning in 2005	$ 3,000	$ 3,000
Variable rate promissory note - Utah land purchase payable in 20 annual installments through 2021	965	--
Variable rate industrial development revenue bonds payable in 2016	8,305	8,305
Revolving credit agreement	35,000	32,000
	47,270	43,305
Current portion of long-term debt	(19)	--
	$ 47,251	$ 43,305

Maturities on long-term debt instruments as of December 31, 2001 are as follows:

2002	$ 19
2003	35,032
2004	33
2005	635
2006	637
Thereafter	10,914
	$ 47,270

The Company has a revolving credit agreement with six banks, which provides a maximum availability of $65,000,000 through October 1, 2003. At December 31, 2001, there was $35,000,000 in long-term borrowings outstanding against this agreement at an average rate of 4.96% that is fixed at several maturities through February, 2002 at which time it will be reset according to the terms and options available to the Company under the agreement. The agreement allows the Company to borrow money at a premium over LIBOR or prime rate and at varying maturities.

The following table summarizes the Company's short-term lines of credit. Amounts shown as outstanding are included in short-term debt on the Consolidated Balance Sheets.

	December 31, 2001		
(Dollars in thousands)	Total	Outstanding	Available
Domestic	$ 16,065	$ 12,796	$ 3,269
Foreign	14,006	8,168	5,838
Precious Metal	6,599	6,599	--
Total	$ 36,670	$ 27,563	$ 9,107

	December 31, 2000		
(Dollars in thousands)	Total	Outstanding	Available
Domestic	$ 16,969	$ 10,348	$ 6,621
Foreign	17,124	8,560	8,564
Precious Metal	6,527	6,527	--
Total	$ 40,620	$ 25,435	$ 15,185

The domestic line is committed and included in the $65.0 million maximum borrowing under the revolving credit agreement mentioned above. The foreign lines are uncommitted, unsecured and renewed annually. The precious metal facility (primarily gold) is uncommitted and secured. The average interest rate on short-term debt was 3.88% and 3.36% as of December 31, 2001 and 2000, respectively.

In November 1996, the Company entered into an agreement with the Lorain Port Authority, Ohio to issue $8,305,000 in variable rate industrial revenue bonds, maturing in 2016. The variable rate ranged from 1.37% to 4.77% in 2001 and 3.24% to 6.10% during 2000.

In 1994, the Company refunded its $3,000,000 industrial development revenue bonds. The 7.25% bonds were refunded into variable rate demand bonds. The variable rate ranged from 1.30% to 4.55% during 2001 and from 3.10% to 5.95% during 2000. In December 1995, the Company entered into an interest rate swap agreement to manage its interest rate exposure on the $3,000,000 variable rate demand bond. The Company converted the variable rate to a fixed rate of 4.75% under the interest rate swap agreement that matures in 2002.

The loan agreements, through September 2001,as amended, included certain restrictive covenants covering the incurrence of additional debt, interest coverage, and maintenance of working capital, tangible net worth (as defined) and debt to earnings ratio. Effective December 2001, the Company amended its revolving credit agreement, including revisions to certain definitions, covenants and security. As a result of the amendment, the bank group took a security position in a portion of the Company's domestic accounts receivable, inventory and certain fixed assets up to a maximum of $65,000,000. Other amendments were made to covenants regarding interest coverage, fixed charges, leverage tests,

certain rent expenses, capital expenditure levels and permitted acquisitions. The amendment also prohibits the declaration of dividends during the term of the agreement. The Company was in compliance with all of its debt covenants as of December 31, 2001.

NOTE E - Leasing Arrangements

The Company leases warehouse and manufacturing space, and manufacturing and computer equipment under operating leases with terms ranging up to 25 years. Rent expense amounted to $13.1 million, $12.4 million and $10.5 million during 2001, 2000 and 1999, respectively. The future estimated minimum lease payments under non-cancelable operating leases with initial lease terms in excess of one year at December 31, 2001, are as follows: 2002 - $5.1 million; 2003 - $4.8 million; 2004 - $4.6 million; 2005 - $4.1 million; 2006 - $3.3 million and thereafter - (all years in total) $14.5 million.

The Company has operating leases for a production facility and certain equipment located in that facility at the Elmore, Ohio plant site. The facility and related equipment are owned by third parties and cost approximately $80.1 million. Start up of this facility began in the fourth quarter of 1997. Lease payments for the facility continue through 2011 with options for renewal. The estimated minimum payments under this lease are included in the preceding paragraph. Lease payments for the related equipment began in 1999 and continue through the initial lease term expiring in 2002. The Company has options to renew the equipment lease for seven one-year periods and to purchase the equipment for its estimated fair value at the end of each term. The lease provides for a substantial residual value guarantee by the Company at the termination of the lease. The Company renewed the lease for the one-year period beginning March 2002 and the payments under this lease are estimated to be $9.1 million in 2002. The equipment lease is structured to be an operating lease for financial reporting purposes and a capital lease for federal income tax purposes.

The lease agreements include restrictive covenants covering certain liquidity ratios, maintenance of tangible net worth (as defined) and maximum rental expenses. In 2001, as well as in 2000 and 1999, the Company amended certain provisions of its master lease agreement, including its covenant regarding the funded debt to earnings before interest, taxes, depreciation, amortization and certain rents (EBITDAR) ratio. Effective December 2001, amendments were made to covenants regarding interest coverage, fixed charges, leverage tests, certain rent expenses, capital expenditure levels, dividend declarations and permitted acquisitions.

NOTE F - Derivative Financial Instruments and Fair Value Information

The Company is exposed to commodity price, interest rate and foreign currency exchange rate differences and attempts to minimize the effects of these exposures through a combination of natural hedges and the use of derivative financial instruments. The Company has policies approved by the Board of Directors that establish the parameters for the allowable types of derivative instruments to be used, the maximum allowable contract periods, aggregate dollar limitations and other hedging guidelines. The Company will only secure a derivative if there is an identifiable underlying exposure that is not otherwise covered by a natural hedge. In general, derivatives will be held until maturity. The following table summarizes the fair value of the Company's outstanding derivatives and debt as of December 31, 2001 and December 31, 2000.

	December 31, 2001			December 31, 2000		
Asset/(Liability) (Dollars in thousands)	Notional Amount	Carrying Amount	Fair Value	Notional Amount	Carrying Amount	Fair Value
FOREIGN CURRENCY CONTRACTS						
Forward contracts						
Yen	$ 1,874	$ 449	$ 449	$ 7,193	$702	$702
Sterling	2,892	37	37	820	72	72
Total	$ 4,766	$ 486	$ 486	$ 8,013	$ 774	$ 774
Options						
Yen	$ 17,641	$ 2,324	$ 2,324	$ 21,520	--	$ 1,187
Deutschmark/Euro	6,100	59	59	21,240	--	174
Sterling	--	--	--	805	--	93
Total	$ 23,741	$ 2,383	$ 2,383	$ 43,565	--	$ 1,454
COMMODITY PRICE CONTRACTS						
FLOATING TO FIXED	11,135	(1,301)	(1,301)	9,065	--	(308)
INTEREST RATE EXCHANGE CONTRACTS						
FLOATING TO FIXED	57,818	(3,401)	(3,401)	118,700	--	(1,330)
SHORT AND LONG-TERM DEBT	--	(74,833)	(74,833)	--	(68,740)	(68,740)

SFAS No. 107 defines fair value as the amount at which an instrument could be exchanged in a current transaction between willing parties, other than in a forced or liquidation sale. The fair value of the foreign currency, forward contracts and options and the commodity and interest rate contracts was calculated using the applicable market rates at December 31, 2001 and December 31, 2000. The fair value of the Company's debt was estimated using a discounted cash flow analysis based on the Company's current incremental borrowing rates for similar types of borrowing arrangements.

The Company adopted SFAS No. 133, "Accounting for Derivative Instruments and Hedging Activities" and SFAS No. 138, "Accounting for Certain Derivative Instruments and Certain Hedging Activities," which amended SFAS No. 133 as of January 1, 2001. The initial adjustment for adopting these statements did not have a material impact on earnings and resulted in a $0.4 million charge recorded against other comprehensive income on the balance sheet. All of the Company's commodity swaps, interest rate swaps and foreign currency derivative contracts have been designated as cash flow hedges as defined under these statements.

SFAS No. 133 requires the fair value of outstanding derivative instruments to be recorded on the balance sheet. As of December 31, 2001, the Company recorded derivative fair values of $2.4 million in Prepaid expenses, $0.4 million in Other assets, $1.8 million in Other liabilities and accrued items and $2.9 million in Other long-term liabilities on the Consolidated Balance Sheet. The balance sheet classification of the fair values is dependent upon the Company's rights and obligations under each derivative and the remaining term to maturity. Changes in fair values are recorded in income or other comprehensive income as appropriate under SFAS No. 133 guidelines. The change in the fair value of the Company's derivatives and other current year hedging activity resulted in a charge to other comprehensive income of $3.4 million during 2001. As a result of derivatives maturing, $1.2 million was relieved out of other comprehensive income and charged against income. Hedge ineffectiveness of $0.5 million was charged against income in 2001 and was included on the Other-net line on the Company's Consolidated Statement of Income. The net derivative loss recorded in other comprehensive income was $2.1 million as of December 31, 2001. The Company estimates that approximately $0.5 million of the $2.1 million in other comprehensive income at December 31, 2001 will be credited to income during 2002 as a result of maturing derivatives.

The Company hedges a portion of its net investment in its Japanese subsidiary using yen-denominated debt. A net gain of $0.4 million associated with translating this debt into dollars was recorded in the cumulative translation adjustment as of December 31, 2001. The corresponding amount at December 31, 2000 was a net loss of $0.3 million.

FOREIGN EXCHANGE HEDGE CONTRACTS

The Company uses forward and option contracts to hedge anticipated foreign currency transactions, primarily foreign sales. The purpose of the program is to protect against the reduction in value of the foreign currency transactions from adverse exchange rate movements. Should the dollar strengthen significantly, the decrease in the translated value of the foreign currency transactions should be partially offset by gains on the hedge contracts. Depending upon the method used, the contract may limit the benefits from a weakening of the dollar. The Company's policy limits contracts to maturities of two years or less from the date of issuance. All of the contracts outstanding as of December 31, 2001 mature within 13 months. Realized gains and losses on foreign exchange contracts are recorded in Other-net on the Consolidated Statements of Income. The total exchange gain/(loss), which includes realized and unrealized losses, was $2.3 million in 2001, $4.0 million in 2000 and $2.2 million in 1999.

COMMODITY PRICE HEDGE CONTRACTS

The Company purchases and manufactures products containing copper. Purchases are exposed to price fluctuations in the copper market. However, for the majority of its copper-based products, the Company will adjust its selling prices to customers to reflect the change in its copper purchase price. This program is designed to be profit neutral; i.e., any changes in copper prices, either up or down, will be directly passed on to the customer.

The Company uses commodity price contracts (i.e., swaps) to hedge the copper purchase price for those volumes where price fluctuations cannot be passed on to the customer. Under these contracts, which are purchased from financial institutions, the Company makes or receives payments based on a difference between a fixed price (as specified in each individual contract) and the market price of copper. These payments will offset the change in prices of the underlying purchases and effectively fix the price of copper at the swap rate for the contracted volume. The Company's policy limits commodity hedge contracts to maturities of 27 months or less from the original date of issuance. All commodity hedges outstanding as of December 31, 2001 mature within 24 months. Realized gains and losses on these contracts are recorded in Cost of sales on the Consolidated Statements of Income.

INTEREST RATE HEDGE CONTRACTS

The Company attempts to minimize its exposure to interest rate variations by using combinations of fixed and variable rate instruments with varying lengths of maturities. Depending upon the interest rate yield curve, credit spreads, projected borrowing requirements and rates, cash flow considerations and other factors, the Company may elect to secure interest rate swaps, caps, collars, options or other related derivative instruments. Both fixed-to-variable and variable-to-fixed interest rate swaps may be used.

In December 1996, the Company entered into an interest rate swap agreement to hedge the variable rate payments to be made during the initial term of an equipment lease (see Note E to the Consolidated Financial Statements). In February 1998, the Company entered into an interest rate swap agreement to hedge the variable rate payments on the equipment for the remaining terms of the lease. The Company has accounted for these swaps as hedges effectively fixing the estimated lease payments throughout the life of the lease. The first swap matured in the fourth quarter 2001. The maximum notional amount covered by the remaining swap is $54.8 million. Gains and losses on the two swaps hedging the equipment leases are recorded in Cost of sales on the Consolidated Statements of Income.

In December 1995, the Company entered into an interest rate swap, converting to a fixed rate from a variable rate on a $3,000,000 industrial revenue development bond. Gains and losses on this swap are recorded in Interest expense on the Consolidated Statements of Income.

NOTE G - Capital Stock

On May 2, 2000, the Company's shareholders approved the reorganization of the Company's corporate structure. Through a merger, Brush Wellman Inc. became a wholly owned subsidiary of a holding company, Brush Engineered Materials Inc. According to the merger agreement, each share of Brush Wellman Inc. Common Stock was exchanged for one share of Brush Engineered Materials Inc. Common Stock. The merger was effective May 16, 2000.

Shares of Brush Engineered Materials Inc. Common Stock do not have a stated par value while Brush Wellman Inc.'s shares had a $1 par value. The balance in additional paid-in capital at the time of the merger was combined with the existing par value common stock balance accordingly, with the change reflected in the Consolidated Balance Sheets and the Consolidated Statements of Shareholders' Equity for the year ended December 31, 2000.

The Company has 5,000,000 shares of Serial Preferred Stock authorized (no par value), none of which has been issued. Certain terms of the Serial Preferred Stock, including dividends, redemption and conversion, will be determined by the Board of Directors prior to issuance.

On January 27, 1998, the Company's Board of Directors adopted a new share purchase rights plan and declared a dividend distribution of one right for each share of Common Stock outstanding as of the close of business on February 9, 1998. The plan allows for new shares issued after February 9, 1998 to receive one right subject to certain limitations and exceptions. Each right entitles the shareholder to buy one one-hundredth of a share of Serial Preferred Stock, Series A, at an initial exercise price of $110. A total of 450,000 unissued shares of Serial Preferred Stock will be designated as Series A Preferred Stock. Each share of Series A Preferred Stock will be entitled to participate in dividends on an equivalent basis with one hundred shares of Common Stock. Each share of Series A Preferred Stock will be entitled to one vote. The rights will not be exercisable and will not be evidenced by separate right certificates until a specified time after any person or group acquires beneficial ownership of 20% or more (or announces a tender offer for 20% or more) of Common Stock.The rights expire on January 27, 2008, and can be redeemed for 1 cent per right under certain circumstances.

The amended 1995 Stock Incentive Plan authorizes the granting of five categories of incentive awards: option rights, performance restricted shares, performance shares, performance units and restricted shares. As of December 31, 2001, no performance units have been granted.

Option rights entitle the optionee to purchase common shares at a price equal to or greater than market value on the date of grant. Option rights outstanding under the amended 1995 Stock Incentive Plan and previous plans generally become exercisable over a four-year period and expire ten years from the date of the grant. In 1995, the Company's right to grant options on a total of 228,565 shares (under the Company's 1979, 1984 and 1989 stock option plans) was terminated upon shareholder approval of the amended 1995 Stock Incentive Plan. No further stock awards will be made under the Company's 1979, 1984 and 1989 stock option plans except to the extent that shares become available for grant under these plans by reason of termination of options previously granted.

The 1990 Stock Option Plan for Non-employee Directors (the "1990 Plan") was terminated effective May 7, 1998. The 1997 Stock Incentive Plan for Non-employee Directors replaced the 1990 Plan and provides for a one-time grant of 5,000 options to up to six new non-employee directors who have not yet received options under the 1990 Plan at an option price equal to the fair market value of the shares at the date of the grant. Options are non-qualified and become exercisable six months after the date of grant. The options generally expire ten years after the date they were granted. The 1997 Stock Incentive Plan for Non-employee Directors was amended on May 1, 2001. The amendment added an additional 100,000 shares to the Plan and established a grant of up to 2,000 options to each Director annually.

Stock option, performance restricted share award, performance share award, and restricted share award activities are summarized in the following table:

	2001		2000		1999	
	Shares	Weighted Average Exercise Price	Shares	Weighted Average Exercise Price	Shares	Weighted Average Exercise Price
STOCK OPTIONS:						
Outstanding at beginning of year.	1,214,488	$ 17.75	1,323,908	$ 17.60	1,274,043	$ 18.57
Granted.	277,650	22.31	254,600	16.10	249,225	14.69
Exercised.	(95,230)	15.11	(223,580)	14.96	(12,220)	14.74
Canceled	(50,340)	17.35	(140,440)	17.77	(187,140)	20.85
Outstanding at end of year	1,346,568	18.83	1,214,488	17.75	1,323,908	17.60
Exercisable at end of year.	1,108,763	18.63	943,453	17.78	1,088,703	17.37
PERFORMANCE RESTRICTED AWARDS:						
Allocated and restricted at beginning of year .	-		55,062		60,450	
Awarded during the year.	-		-		-	
Vested.	-		-		-	
Forfeited.	-		(55,062)		(5,388)	
Awarded and restricted at end of year.	-		-		55,062	
PERFORMANCE AWARDS:						
Allocated at beginning of year.	78,000		105,531		109,947	
Allocated during the year.	-		-		-	
Issued.	-		-		(1,722)	
Forfeited.	(78,000)		(27,531)		(2,694)	
Allocated at end of year.	-		78,000		105,531	
RESTRICTED AWARDS:						
Awarded and restricted at beginning of year. . .	88,183		68,438		49,738	
Awarded during the year.	20,000		28,545		22,100	
Vested.	(37,160)		(5,600)		-	
Forfeited.	(10,278)		(3,200)		(3,400)	
Awarded and restricted at end of year.	60,745		88,183		68,438	

The market value of the performance restricted shares and the performance shares adjusted for management's expectation of reaching the Management Objectives as outlined in the plan agreement, and the related dividends on the performance restricted shares have been recorded as deferred compensation- restricted stock and are a component of other equity transactions of shareholders' equity. Deferred compensation is amortized over the vesting period. Amounts recorded against Selling, general and administrative expenses totaled $380,000 in 2001, $432,000 in 2000 and $10,000 in 1999.

The following table provides additional information about stock options outstanding as of December 31, 2001:

	Options Outstanding			Options Exercisable	
Range of Option Prices	Number Outstanding	Weighted-average Remaining Contract Life	Weighted-average Exercise Price	Number Exercisable	Weighted-average Exercise Price
$11.81 - $15.97	591,080	5.68	$ 15.27	490,750	$ 15.22
$16.06 - $19.78	297,603	4.63	18.00	297,003	18.00
$20.25 - $26.72	457,885	7.95	23.98	321,010	24.42
	1,346,568	6.22	$ 18.83	1,108,763	$ 18.63

The weighted-average remaining contractual life of options outstanding at December 31, 2000 and 1999 is 6.38 years and 5.86 years, respectively. The number of shares available for future grants as of December 31, 2001, 2000 and 1999 is 630,886 shares, 757,918 shares and 824,636 shares, respectively.

The Company has adopted the disclosure-only provisions of SFAS No. 123, "Accounting for Stock Based Compensation," but applies APB Opinion No. 25 and related interpretation in accounting for its stock incentive plan. If the Company had elected to recognize compensation expense for its stock incentive plan awards based on the estimated fair value of the awards on the grant dates, consistent with the method prescribed by SFAS No. 123 by amortizing the expense over the options' vesting period, the pro forma net income (loss) and earnings (loss) per share (E.P.S.) would have been as noted below:

(In thousands of dollars except per share amounts)		2001	2000	1999
Net income (loss)	As reported	$ (10,274)	$ 14,165	$ 6,439
	Pro Forma	(11,626)	13,068	5,307
Basic E.P.S.	As reported	(0.62)	0.87	0.40
	Pro Forma	(0.70)	0.80	0.33
Diluted E.P.S.	As reported	(0.62)	0.86	0.40
	Pro Forma	(0.70)	0.79	0.33

Note: The pro forma disclosures shown are not representative of the effects on net income and earnings per share in future years.

The weighted-average fair value of the Company's stock options used to compute the pro forma net income and earnings per share disclosures is $9.10, $5.34 and $3.96 for 2001, 2000 and 1999, respectively. The fair value is the estimated present value at grant date using the Black-Scholes option-pricing model with the following weighted-average assumptions for the various grants in 2001, 2000 and 1999:

	2001	2000	1999
Risk-free interest rate	5.09%	6.70%	4.77%
Dividend yield.	1.40%	2.63%	3.04%
Volatility of stock	36.50%	32.30%	30.40%
Expected life of option.	7 years	6 years	6 years

The annual dividend yield is a function of dividends declared in that year and the annual average stock price.

NOTE H - Income Taxes

Income (loss) before income taxes and income taxes (benefit)are comprised of the following components, respectively:

2001 2000 1999

(Dollars in thousands) Income(loss) before income taxes:

Domestic	$ (18,035)	$ 17,046	$ 4,983
Foreign	639	1,288	1,402
Total before income taxes	$ (17,396)	$ 18,334	$ 6,385
Income taxes(benefit):			
Current income taxes:			
Domestic	$ (1,588)	$ 1,460	$ (54)
Foreign	833	416	609
Total current	(755)	1,876	555
Deferred income taxes:			
Domestic	(5,785)	2,988	(183)
Foreign	(582)	(695)	(426)
Total deferred	(6,367)	2,293	(609)
Total income taxes	$ (7,122)	$ 4,169	$ (54)

A reconciliation of the federal statutory and effective income tax rates follows:

	2001	2000	1999
Federal statutory rate	(34.0)%	34.0%	34.0%
State and local income taxes, net of federal tax effect	1.0	1.5	1.8
Effect of excess of percentage depletion over cost depletion	(3.4)	(6.5)	(18.8)
Company-owned life insurance	(0.4)	0.7	(1.3)
Research and experimentation tax credit	--	(1.1)	(16.3)
Difference due to book and tax basis of assets of acquired businesses	--	0.1	0.3
Taxes on foreign source income	(5.6)	(5.2)	(9.4)
Valuation allowance	--	(1.9)	5.5
Other items	1.5	1.1	3.4
Effective tax rate	(40.9)%	22.7%	(0.8)%

Included in current portion of domestic income taxes, as shown in the Consolidated Statements of Income, are $253,000, $406,000 and $170,000 of state and local income taxes in 2001, 2000 and 1999, respectively.

The Company had domestic and foreign income tax payments (refunds), of $(640,000), $1,134,000 and $(290,000) in 2001, 2000 and 1999, respectively.

Under SFAS No. 109, "Accounting for Income Taxes," deferred tax assets and liabilities are determined based on temporary differences between the financial reporting bases and the tax bases of assets and liabilities. Deferred tax assets and (liabilities) recorded in the Consolidated Balance Sheets consist of the following at December 31:

	2001	2000
(Dollars in thousands)		
Post-retirement benefits other than pensions	$ 10,624	$ 12,280
Alternative minimum tax credit	14,048	13,706
Other reserves	8,688	8,759
Environmental reserves	2,238	2,508
Inventory	5,133	145
Tax credit carryforward	1,663	1,680
Net operating loss carryforward	13,138	7,632
Miscellaneous	338	399
Total deferred tax assets	55,870	47,109
Depreciation	(30,401)	(26,925)
Pensions	(2,864)	(4,102)
Mine development	(1,626)	(1,548)
Capitalized interest expense	(2,496)	(2,419)
Total deferred tax liabilities	(37,387)	(34,994)
Net deferred tax asset	$ 18,483	$ 12,115

At December 31, 2001, for income tax purposes, the Company had domestic net operating loss carryforwards of $35,340,000, which are scheduled to expire in calendar years 2019 through 2021. The Company also had foreign net operating loss carryforwards for income tax purposes of $2,493,000 that do not expire.

At December 31, 2001, the Company had research and experimentation tax credit carryforwards of $1,663,000 that are scheduled to expire in calendar years 2009 through 2020.

NOTE I - Earnings Per Share

The following table sets forth the computation of basic and diluted earnings (loss) per share (E.P.S.):

	2001	2000	1999
Numerator for basic and diluted E.P.S.:			

Net income (loss)	$(10,274,000)	$ 14,165,000	$6,439,000
Denominator:			
Denominator for basic E.P.S.:			
Weighted-average shares outstanding	16,518,691	16,292,431	16,198,885
Effect of dilutive securities:			
Employee stock options	--	91,952	28,420
Special restricted stock	--	64,284	52,286
Diluted potential common shares	--	156,236	80,706
Denominator for diluted E.P.S.:			
Adjusted weighted-average shares outstanding	16,518,691	16,448,667	16,279,591
Basic E.P.S.	$ (0.62)	$ 0.87	$ 0.40
Diluted E.P.S.	$ (0.62)	$ 0.86	$ 0.40

Under SFAS No.128, "Earnings per Share," no potential common shares shall be included in the computation of any diluted per-share amount when a loss from continuing operations exists. Accordingly, dilutive securities totaling approximately 131,896 shares have been excluded from the 2001 diluted E.P.S. calculation.

Options to purchase Common Stock with exercise prices in excess of the average share price totaling 749,488 at December 31, 2001, 239,925 at December 31, 2000 and 680,348 at December 31, 1999 were excluded from the diluted E.P.S. calculations as their effect would have been anti-dilutive.

NOTE J - Pensions and Other Post-retirement Benefits

(Dollars in thousands)	Pension Benefits		Other Benefits	
	2001	2000	2001	2000
CHANGE IN BENEFIT OBLIGATION				
Benefit obligation at end of prior year	$ 79,733	$ 76,914	$ 33,910	$ 31,204
Service cost	3,622	3,315	303	298
Interest cost	6,244	6,038	2,596	2,398
Amendments	95	868	--	--
Actuarial (gain) loss	13,242	(312)	6,468	2,847
Benefit payments	(7,620)	(7,090)	(3,057)	(2,837)
Curtailment	(2,438)	--	--	--
Benefit obligation at end of year	92,878	79,733	40,220	33,910
CHANGE IN PLAN ASSETS				
Fair value of plan assets at end of prior year	108,517	114,445	--	--
Actual return on plan assets	(3,749)	3,236	--	--
Employer contributions	(2,435)	(2,074)	3,057	2,837
Benefit payments	(7,620)	(7,090)	(3,057)	(2,837)
Fair value of plan assets at end of year	94,713	108,517	--	--
Funded status	1,835	28,784	(40,220)	
Unrecognized net actuarial (gain)	831	(25,135)	5,480	(988)
Unrecognized prior service cost	6,445	7,592	(1,132)	(1,244)
Unrecognized initial net (asset) obligation	(774)	(1,186)	--	--
Net amount recognized	$ 8,337	$ 10,055	$ (35,872)	$ (36,142)
AMOUNTS RECOGNIZED IN THE CONSOLIDATED BALANCE SHEET CONSIST OF:				
Prepaid benefit cost	$ 12,464	$ 13,485	$ --	$
Accrued benefit liability	(4,127)	(3,430)	(35,872)	(36,142)
Net amount recognized	$ 8,337	$ 10,055	$ (35,872)	$ (36,142)
WEIGHTED-AVERAGE ASSUMPTIONS AS OF DECEMBER 31				
Discount rate	7.125%	8.00%	7.125%	8.00%
Expected return on plan assets	10.00%	10.00%	N/A	N/A
Rate of compensation increase	5.00%	5.00%	N/A	N/A

For measurement purposes, a 10% annual rate of increase in the per capita cost of covered health care benefits was assumed for 2002 decreasing gradually to 6% in 2006 and remaining at that level thereafter for pre-65 benefits, an 8% annual rate of increase per capita cost of covered health care benefits was assumed for 2002 decreasing gradually to 6% in 2006 and remaining at that level thereafter for post-65 benefits and a 15% annual rate of increase in the per capita cost of prescription drugs was assumed for 2002 decreasing gradually to 6% in 2008 and remaining at that level thereafter.

The Company transferred $2.5 million in 2001 and $2.1 million in 2000 of excess pension assets out of the plan to fund a portion of the payments made under the Company's retiree medical plan. The transfers were made pursuant to IRC Section 420 guidelines. This type of transfer may only be made if certain criteria are met, including the actuarial value of the plan assets must be at least 125% of the current liability as of the plan valuation date. The transfer out is included on the employer contribution line in the above chart reconciling the change in pension plan assets in 2001 and 2000.

	Pension Benefits			Other Benefits		
	2001	2000	1999	2001	2000	1999
(Dollars in thousands)						
COMPONENTS OF NET PERIODIC BENEFIT COST						
Service cost	$ 3,622	$ 3,315	$ 3,649	$ 303	$ 298	$ 362
Interest cost	6,244	6,038	5,843	2,596	2,398	2,114
Expected return on plan assets	(10,455)	(10,074)	(9,288)	-	-	-
Amortization of prior service cost	672	613	613	(112)	(112)	-
Amortization of initial net (asset) obligation	(412)	(707)	(707)	-	-	-
Recognized net actuarial (gain) loss	(958)	(805)	-	-	(53)	(159)
Curtailment (gain) loss	570	-	-	-	-	-
Net periodic (benefit) cost	$ (717)	$ (1,620)	$ 110	$ 2,787	$ 2,531	$ 2,317

The Company recorded a plan curtailment in the fourth Assumed health care cost trend rates have a significant quarter 2001 in accordance with SFAS No. 88, "Employers' effect on the amounts reported for the health care plans. A one- Accounting for Settlement and Curtailment of Defined Benefit percentage-point change in assumed health care cost trend rates Pension Plans and for Termination Benefits". The curtailment would have the following effects: was required because of the significant reduction in the number of plan participants. The curtailment increased the pension expense in 2001 by $570,000 and reduced the benefit obligation by $2,438,000 at December 31, 2001.

The projected benefit obligation, accumulated benefit obligation, and fair value of plan assets for the pension plans with accumulated benefit obligations in excess of plan assets were $1,563,000, $1,458,000 and $0, respectively, as of December 31, 2001, and $1,756,000, $1,314,000 and $0, respectively, as of December 31, 2000.

Assumed health care cost trend rates have a significant effect on the amounts reported for the health care plans. A one-percentage-point change in assumed health care cost trend rates would have the following effects:

	1-Percentage-point Increase	1-Percentage-point Decrease
(Dollars in thousands)		
Effect on total of service and interest cost components	$ 123	$ (109)
Effect on post-retirement benefit obligation	2,085	(1,839)

The Company also has accrued unfunded retirement arrangements for certain directors. The projected benefit obligation was $178,000 at December 31, 2001 and $196,000 at December 31, 2000. A corresponding accumulated benefit obligation of $178,000 at December 31, 2001 and $196,000 at December 31, 2000 has been recognized as a liability in the balance sheet and is included in retirement and post-employment benefits. Certain foreign subsidiaries have funded and accrued unfunded retirement arrangements that are not material to the consolidated financial statements.

The Company also sponsors a defined contribution plan available to substantially all U.S. employees. Company contributions to the plan are based on matching a percentage of employee savings up to a specified savings level. The Company's contributions were $2,455,000 in 2001, $2,850,000 in 2000 and $2,358,000 in 1999. The Company reduced its matching percentage in half effective with the beginning of the fourth quarter 2001.

NOTE K - Contingencies and Commitments

CBD CLAIMS

The Company is a defendant in proceedings in various state and federal courts by plaintiffs alleging that they have contracted chronic beryllium disease ("CBD") or related ailments as a result of exposure to beryllium. Plaintiffs in CBD cases seek recovery under theories of intentional tort and various other legal theories and seek compensatory and punitive damages, in many cases of an unspecified sum. Spouses, if any, claim loss of consortium. Additional CBD claims may arise.

Management believes the Company has substantial defenses in these cases and intends to contest the suits vigorously. Employee cases, in which plaintiffs have a high burden of proof, have historically involved relatively small losses to the Company. Third-party plaintiffs (typically employees of our customers) face a lower burden of proof than do our employees, but these cases are generally covered by varying levels of insurance.

Although it is not possible to predict the outcome of the litigation pending against the Company and its subsidiaries, the Company provides for costs related to these matters when a loss is probable and the amount is reasonably estimable. Litigation is subject to many uncertainties, and it is possible that some of the actions could be decided unfavorably in amounts exceeding the Company's reserves. An unfavorable outcome or settlement of a pending CBD case or additional adverse media coverage could encourage the commencement of additional similar litigation. The Company is unable to estimate its potential exposure to unasserted claims. The Company recorded a reserve for CBD litigation of $13.0 million on its balance sheet at December 31, 2001 and $9.1 million at December 31, 2000. An asset of $6.6 million was recorded at December 31, 2001 and $4.7 million at December 31, 2000 for recoveries from insurance carriers for insured claims. The reserve is included in Other long-term liabilities and the recovery is included in Other assets on the Consolidated Balance Sheets.

While the Company is unable to predict the outcome of the current or future CBD proceedings based upon currently known facts and assuming collectibility of insurance, the Company does not believe that resolution of these proceedings will have a material adverse effect on the financial condition or cash flow of the Company. However, the Company's results of operations could be materially affected by unfavorable results in one or more of these cases.

ENVIRONMENTAL PROCEEDINGS

The Company has an active program for environmental compliance that includes the identification of environmental projects and estimating their impact on the Company's financial performance and available resources. Environmental expenditures that relate to current operations, such as wastewater treatment and control of airborne emissions, are either expensed or capitalized as appropriate. The Company records reserves for the probable costs for environmental remediation projects. The Company's environmental engineers perform routine ongoing analyses of the remediation sites. Accruals are based upon their analyses and are established at either the best estimate or at the low end of the estimated range of costs. The accruals are revised for the results of ongoing studies and for differences between actual and projected costs. The accruals are also affected by rulings and negotiations with regulatory agencies. The timing of payments often lags the accrual, as environmental projects typically require a number of years to complete. The Company established undiscounted reserves for environmental remediation projects of $7.5 million at December 31, 2001 and $8.2 million at December 31, 2000. The current portion of the reserve totaled $1.2 million at December 31, 2001 and is included in the

Consolidated Balance Sheet as Other liabilities and accrued items while the remaining $6.3 million of the reserve at December 31, 2001 is considered long term and is included under Other long-term liabilities. These reserves cover existing or currently foreseen projects. It is possible that additional environmental losses may occur beyond the current reserve, the extent of which cannot be estimated.

The environmental reserve was reduced by $1.0 million during 2001 as a result of a revised cost estimate for an established Voluntary Action Plan and the completion of another project for less than the previously estimated cost. The reserve was increased by $0.7 million in 2001 for RCRA projects, SWMU closure and other projects at the Elmore site. The items combined for a net credit of $0.3 million to income in 2001. The environmental expense was $0.2 million in 2000 and $0.9 million in 1999. The majority of the expense in these years is associated with the Elmore remediation projects.

LONG-TERM OBLIGATION

The Company has a long-term supply arrangement with Ulba/Kazatomprom of the Republic of Kazakhstan and its marketing representative, Nukem, Inc. of New York. The agreement was signed in 2000 and amended in 2001. Under the agreement, the Company will purchase from Nukem a stated quantity of beryllium-copper master that is sourced from Ulba/Kazatomprom each year from 2002 to 2010. The annual base purchase commitments total $5.2 million in 2002, $6.9 million in 2003, $8.6 million in 2004, $10.3 million in 2005, $12.0 million in 2006 and $13.7 million per year thereafter. The contract allows for the Company to purchase up to 10% fewer pounds in 2002 with an annual variation of plus or minus 15% to 25% of the base quantity to be purchased thereafter, depending upon the year. Nukem will also maintain stated minimum quantities of beryllium-copper master in consignment at the Company's Elmore, Ohio facility in excess of the Company's annual base purchase commitments. Both parties may terminate the agreement at any time with written notice for various causes of action. The Company purchased $3.3 million of beryllium- containing material from Nukem in 2001.

The Company has agreements to purchase stated quantities of beryl ore, beryllium metal and beryllium-copper master alloy from the Defense Logistics Agency of the U.S. Government. The agreements have expiration dates ranging form 2002 to 2007. Annual purchase commitments total $4.2 million in 2002, $4.4 million in 2003, $11.5 million in 2004, $4.3 million in 2005 and $4.2 million in 2006. The beryllium component of the contract price in a given year will be adjusted from these stated totals based upon fluctuations in the non-seasonally adjusted consumer price index in the prior year. The Company may elect to take delivery of the materials in advance of the commitment dates. Purchases under these agreements totaled approximately $6.4 million in 2001 and $13.7 million in 2000. The purchased material will serve as raw material input for operations within Brush Wellman Inc. and Brush Resources Inc.

OTHER

The Company has outstanding letters of credit totaling $1.6 million related to workers' compensation and environmental remediation issues. The letters expire in 2002.

The Company is subject to various other legal or other proceedings that relate to the ordinary course of its business. The Company believes that the resolution of these other legal or other proceedings, individually or in the aggregate, will not have a material adverse impact upon the Company's Consolidated Financial Statements.

NOTE L - Segment Reporting and
Geographic Information

As a result of the corporate restructuring completed on January 1, 2001, the Company changed how costs flowed between businesses. Certain costs that previously were included in the "All Other" column in the segment disclosures were charged to Metal Systems and Microelectronics beginning January 1, 2001. Beginning in 2001, the "All Other" column includes the operating results of BEM Services, Inc. and Brush Resources Inc., two wholly owned subsidiaries of the Company, as well as the parent company's operating expenses. BEM Services charges a management fee for the services provided to the other businesses within the Company on a cost-plus basis. Brush Resources sells beryllium hydroxide, produced from its mine and extraction mill in Utah, to external customers and to businesses within the Metal Systems Group. Segment results from 2000 and 1999 have been adjusted to reflect these changes on a pro forma basis.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Brush Engineered Materials Inc. and Subsidiaries, December 31, 2001

Selected financial data by business segment as proscribed by SFAS No.131, "Disclosures about Segments of an Enterprise and Related Information," for 2001, 2000 and 1999 are as follows:

(Dollars in thousands)	Metal Systems	Micro-electronics	Total Segments	All Other	Total
2001					
Revenues from external customers	$ 295,690	$ 169,598	$ 465,288	$ 7,281	$ 472,569
Intersegment revenues	2,596	2,066	4,662	12,036	16,698
Depreciation, depletion and amortization	12,560	3,780	16,340	5,269	21,609
Profit (loss) before interest and taxes	(20,117)	4,568	(15,549)	1,480	(14,069)
Assets	265,371	68,401	333,772	90,070	423,842
Expenditures for long-lived assets	13,031	6,841	19,872	3,412	23,284
2000					
Revenues from external customers	$ 378,178	$ 179,111	$ 557,289	$ 6,401	$ 563,690
Intersegment revenues	311	1,376	1,687	--	1,687
Depreciation, depletion and amortization	13,048	2,859	15,907	6,757	22,664
Profit (loss) before interest and taxes	10,230	8,364	18,594	4,392	22,986
Assets	300,490	70,995	367,485	81,021	452,506
Expenditures for long-lived assets	12,802	5,917	18,719	2,919	21,638
1999					
Revenues from external customers	$ 306,118	$ 140,566	$ 446,684	$ 9,023	$ 455,707
Intersegment revenues	276	1,560	1,836	--	1,836
Depreciation, depletion and amortization	13,437	2,305	15,742	11,295	27,037
Profit (loss) before interest and taxes	(2,279)	8,622	6,343	4,215	10,558
Assets	280,868	61,298	342,166	86,240	428,406
Expenditures for long-lived assets	11,410	3,437	14,847	2,199	17,046

Segments are evaluated using earnings before interest and taxes. Assets shown in All Other include cash, computer hardware and software, deferred taxes, capitalized interest and the operating assets for Brush Resources Inc. Inventories for Metal Systems and Microelectronics are shown at their FIFO values with the LIFO reserve included under the All Other column. Intersegment revenues are eliminated in consolidation. The revenues from external customer totals are presented net of the intersegment revenues.

The Company's sales from U.S. operations to external customers, including exports, were $385,780,000 in 2001, $463,728,000 in 2000 and $368,494,000 in 1999. Revenues attributed to countries based upon the location of customers and long-lived assets deployed by the Company by country are as follows:

(Dollars in thousands)	2001	2000	1999
REVENUES			
United States.	$ 338,233	$ 414,090	$ 318,188
All Other	134,336	149,600	137,519
Total.	$ 472,569	$ 563,690	$ 455,707
LONG-LIVED ASSETS			
United States.	$ 166,126	$ 164,808	$ 149,048
All Other	5,170	5,652	6,641
Total.	$ 171,296	$ 170,460	$ 155,689

No individual country, other than the United States, or customer accounted for 10% or more of the Company's revenues for the years presented. Revenues from outside the U.S. are primarily from Europe and Asia.

NOTE M - Quarterly Data (Unaudited)

Years ended December 31, 2001 and 2000. (Dollars in thousands except per share amounts)

	2001				
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
Net Sales	$ 145,524	$ 128,456	$ 106,194	$ 92,395	$ 472,569
Gross Profit	34,034	23,576	7,253	3,132	67,995
Percent of Sales	23.4%	18.4%	6.8%	3.4%	14.4%
Net Income (Loss)	6,206	1,275	(7,767)	(9,988)	(10,274)
Earnings (Loss) Per Share of Common Stock:					
Basic	0.37	0.08	(0.47)	(0.60)	(0.62)
Diluted	0.37	0.08	(0.47)	(0.60)	(0.62)
Dividends Per Share of Common Stock	0.12	0.12	--	--	0.24
Stock Price Range					
High	24.19	23.05	17.60	14.24	
Low	17.80	16.00	12.37	9.45	

	2000				
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
Net Sales	$ 135,424	$ 137,182	$ 143,926	$ 147,158	$ 563,690
Gross Profit	28,295	29,708	28,622	32,114	118,739
Percent of Sales	20.9%	21.7%	19.9%	21.8%	21.1%
Net Income (Loss)	2,249	3,898	4,084	3,934	14,165
Earnings (Loss) Per Share of Common Stock:					
Basic	0.14	0.24	0.25	0.24	0.87
Diluted	0.14	0.24	0.25	0.23	0.86
Dividends Per Share of Common Stock	0.12	0.12	0.12	0.12	0.48
Stock Price Range					
High	18.06	18.56	24.00	21.63	
Low	14.94	14.00	15.31	17.81	

Brush Engineered Materials Inc. and Subsidiaries
(Dollars in thousands except per share amounts)

	2001	2000	1999	1998	1997
FOR THE YEAR					
Net sales	$ 472,569	$ 563,690	$ 455,707	$ 409,892	$ 433,801
Cost of sales	404,574	444,951	363,773	325,173	324,463
Gross profit	67,995	118,739	91,934	84,719	109,338
Operating profit (loss)	(14,069)	22,986	10,558	(10,313)	36,024
Interest expense	3,327	4,652	4,173	1,249	553
Income (loss) from continuing operations Before income taxes	(17,396)	18,334	6,385	(11,562)	35,471
Income taxes (benefit)	(7,122)	4,169	(54)	(4,430)	9,874
Net income (loss)	(10,274)	14,165	6,439	(7,132)	25,597
Earnings per share of common stock:					
Basic net income (loss)	(0.62)	0.87	0.40	(0.44)	1.58
Diluted net income (loss)	(0.62)	0.86	0.40	(0.44)	1.56
Dividends per share of common stock	0.24	0.48	0.48	0.48	0.46
Depreciation and amortization	21,609	22,664	27,037	24,589	19,329
Capital expenditures	23,130	21,306	16,758	36,732	53,155
Mine development expenditures	154	332	288	433	9,526
YEAR-END POSITION					
Working capital	$ 139,743	$ 143,387	$ 124,831	$ 100,992	$ 100,599
Ratio of current assets to current liabilities	2.8 to 1	2.3 to 1	2.3 to 1	2.1 to 1	2.3 to 1
Property and equipment:					
At cost	$ 469,663	$ 449,697	$ 440,234	$ 421,467	$ 463,689
Cost less depreciation and impairment	171,296	170,460	170,939	164,469	173,622
Total assets	423,842	452,506	428,406	403,690	383,852
Other long-term liabilities	62,473	55,454	53,837	49,955	48,025
Long-term debt	47,251	43,305	42,305	32,105	17,905
Shareholders' equity	214,350	229,907	220,638	221,811	236,813
Book value per share:					
Basic	$ 12.98	$ 14.11	$ 13.62	$ 13.63	$ 14.60
Diluted	12.87	13.98	13.55	13.50	14.41
Average number of shares of stock outstanding:					
Basic	16,518,691	16,292,431	16,198,885	16,267,804	16,214,718
Diluted	16,650,587	16,448,667	16,279,591	16,424,747	16,429,468
Shareholders of record	1,981	2,101	2,330	2,313	2,329
Number of employees	1,946	2,500	2,257	2,167	2,160

A special charge reduced net income by $16.5 million in 1998.
Impairment and restructuring charges reduced net income by $30.8 million in 1991.
The cumulative effect of a change in accounting for post-retirement benefits reduced net income by $16.5 million in 1991. See Notes to Consolidated Financial Statements.

1996	1995	1994	1993	1992	1991
$ 376,279	$ 369,618	$ 345,878	$ 295,478	$ 265,034	$ 267,473
271,149	268,732	253,938	227,686	192,944	202,080
105,130	100,886	91,940	67,792	72,090	65,393
34,305	29,086	25,098	10,658	16,949	(57,354)
1,128	1,653	2,071	2,952	3,206	3,755
33,177	27,433	23,027	7,706	13,743	(61,109)
8,686	6,744	4,477	1,248	3,243	(17,091)
24,491	20,689	18,550	6,458	10,500	(44,018)
1.55	1.28	1.15	0.40	0.65	(2.74)
1.53	1.27	1.15	0.40	0.65	(2.74)
0.42	0.36	0.26	0.20	0.26	0.59
22,954	20,911	19,619	21,720	20,180	22,759
26,825	24,244	17,214	11,901	13,604	13,605
3,663	787	543	814	848	6,389
$ 128,172	$ 125,156	$ 116,708	$ 105,272	$ 88,616	$ 80,427
2.9 to 1	2.9 to 1	2.8 to 1	3.1 to 1	2.5 to 1	2.2 to 1
$ 404,127	$ 374,367	$ 350,811	$ 337,342	$ 332,971	$ 321,981
130,220	121,194	116,763	118,926	127,991	132,579
355,779	331,853	317,133	293,372	310,039	307,296
47,271	45,445	43,354	40,663	40,332	38,029
18,860	16,996	18,527	24,000	33,808	34,946
219,257	200,302	186,940	172,075	168,824	162,264
$ 13.84	$ 12.40	$ 11.61	$ 10.70	$ 10.50	$ 10.10
13.72	12.30	11.57	10.69	10.48	10.09
15,846,358	16,159,508	16,102,350	16,087,250	16,080,554	16,069,902
15,980,481	16,289,795	16,156,159	16,093,696	16,111,090	16,080,568
2,407	2,351	2,521	2,566	2,762	3,116
1,926	1,856	1,833	1,803	1,831	1,943

ENVIRONMENTAL, HEALTH AND SAFETY POLICY

VALUES

The protection of people and the environment are our highest priorities.

Work is to be performed safely in a manner that encourages the health and well-being of people and the environment.

POLICY

It is the policy of Brush Engineered Materials to design, manufacture and distribute products and to manage, recycle and dispose of materials in a safe, environmentally responsible manner.

PRINCIPLES

In support of our Environmental, Health and Safety Policy, the following principles have been developed to provide additional direction on specific issues and accountabilities.

- WE BELIEVE THAT INCIDENTS, INJURIES AND ILLNESSES ARE PREVENTABLE. We utilize a thorough and disciplined Health and Safety Management System for maximizing worker protection.

- LINE MANAGEMENT IS RESPONSIBLE for integrating these environmental, health and safety principles into daily work activities and for diligently responding to employee concerns.

- WE SHARE ACCOUNTABILITY, BUT ARE INDIVIDUALLY RESPONSIBLE. To be successful, we promote the acceptance of individual responsibility for environmental, health and safety issues. Each employee is responsible for maintaining an awareness of safe work practices and preventing conditions that may result in an unsafe situation or harm the environment. No operation or task will be performed in an unsafe manner. It is the responsibility of each employee to promptly notify management of any adverse situation.

- WE ARE COMMITTED TO UTILIZING OUR RESOURCES AND TECHNICAL CAPABILITIES to protect the health and safety of our employees and visitors, our customers and vendors, the general public and the environment.

- WE UTILIZE MEASUREMENTS AND ACCOUNTABILITIES for managing our environmental, health and safety programs and support them by assessing performance within our management system framework.

- WE PROMOTE THE SAFE AND ENVIRONMENTALLY RESPONSIBLE USE AND HANDLING OF OUR PRODUCTS AND MATERIALS. We work to meet or exceed all regulatory requirements through proactive education, distribution of literature and issuance of hazard communications to our customers, vendors, distributors and contractors.

This policy applies to all Brush Engineered Materials Inc. business units worldwide.

ANNUAL MEETING

The Annual Meeting of Shareholders will be held on May 7, 2002 at 11:00 a.m. at The Forum, One Cleveland Center, 1375 East Ninth Street, Cleveland, Ohio.

INVESTOR INFORMATION

Brush Engineered Materials Inc. maintains an active program of communication with shareholders, securities analysts, and other members of the investment community. Management makes regular presentations in major financial centers around the world. To obtain:

- additional copies of the annual report
- SEC Form 10K/10Q
- product literature

Please contact:
Michael C. Hasychak
Vice President, Treasurer and Secretary

WEB SITE

Brush Engineered Materials Inc.'s web site on the Internet offers financial information, news and facts about the Company, its businesses, markets and products.

Visit the site at: http://www.beminc.com

DIVIDEND REINVESTMENT PLAN

Brush Engineered Materials Inc. has a plan for its shareholders which provides automatic reinvestment of dividends toward the purchase of additional shares of the Company's common stock. For a brochure describing the plan please contact our transfer agent, National City Bank, at (800) 622-6757.

AUDITORS

Ernst & Young LLP
925 Euclid Avenue, Suite 1300, Cleveland, Ohio 44115

TRANSFER AGENT AND REGISTRAR

National City Bank
Corporate Trust Operations
P.O. Box 92301, Cleveland, OH 44193-0900 For shareholder inquiries, call: (800) 622-6757

STOCK LISTING

New York Stock Exchange/Symbol: BW

CORPORATE HEADQUARTERS

Brush Engineered Materials Inc.
17876 St. Clair Ave., Cleveland, Ohio 44110
(216) 486-4200 - Facsimile: (216) 383-4091

BRUSH ENGINEERED MATERIALS INC. DIRECTORS, OFFICERS AND FACILITIES

BOARD OF DIRECTORS
AND COMMITTEES OF THE
BOARD

ALBERT C. BERSTICKER(2, 3, 4)
Retired Chairman
Ferro Corporation

CHARLES F. BRUSH, III(1, 4)
Personal Investments

GORDON D. HARNETT(2)
Chairman and CEO
Brush Engineered Materials Inc.

DAVID H. HOAG(2, 3, 4)
Retired Chairman
The LTV Corp.

JOSEPH P. KEITHLEY(2, 3, 4)
Chairman, President and CEO
Keithley Instruments, Inc.

WILLIAM P. MADAR(2, 3, 4)
Chairman
Nordson Corporation

N. MOHAN REDDY(1, 4)
Professor
The Weatherhead School of Management
Case Western Reserve University

WILLIAM R. ROBERTSON(1, 4)
Managing Partner
Kirtland Capital Partners

JOHN SHERWIN, JR.(1, 2, 4)
President
Mid-Continent Ventures, Inc.

1 Audit Committee
2 Executive Committee
3 Governance Committee
4 Organization and Compensation Committee

CORPORATE AND
EXECUTIVE OFFICERS

GORDON D. HARNETT(1, 2)
Chairman of the Board and CEO

JOHN D. GRAMPA(1, 2)
Vice President Finance
and Chief Financial Officer

WILLIAM R. SEELBACH(1, 2)
President

DANIEL A. SKOCH(1, 2)
Senior Vice President
Administration

MICHAEL C. HASYCHAK(1)
Vice President, Treasurer and Secretary

JAMES P. MARROTTE(1)
Vice President, Controller

JOHN J. PALLAM(1)
Vice President, General Counsel

GARY W. SCHIAVONI(1)
Assistant Treasurer and Assistant Secretary

1 Corporate Officers
2 Executive Officers

OPERATING GROUPS

Brush Wellman Inc.
WILLIAM R. SEELBACH, PRESIDENT

Brush International, Inc.
STEPHEN FREEMAN, PRESIDENT

Brush Resources Inc.
DONALD J. MCMILLAN, PRESIDENT

Technical Materials, Inc.
ALFONSO T. LUBRANO, PRESIDENT

Williams Advanced Materials Inc.
JOHN J. PASCHALL, CHAIRMAN AND CEO
RICHARD W. SAGER, PRESIDENT

Zentrix Technologies Inc.
JORDAN P. FRAZIER, PRESIDENT

OFFICES AND FACILITIES

MANUFACTURING FACILITIES
Brewster, New York
Buffalo, New York
Delta, Utah
Elmore, Ohio
Fremont, California
Kuala Lumpur, Malaysia
Lincoln, Rhode Island
Lorain, Ohio
Newburyport, Massachusetts
Oceanside, California
Reading, Pennsylvania
Santa Clara, California
Singapore
Subic Bay, Philippines
Tucson, Arizona
Wheatfield, New York

RESEARCH FACILITIES AND
ADMINISTRATIVE OFFICES
Cleveland, Ohio

SERVICE AND DISTRIBUTION
CENTERS
Elmhurst, Illinois
Fairfield, New Jersey
Singapore
Stuttgart, Germany
Theale, England
Tokyo/Fukaya, Japan
Warren, Michigan

SUBSIDIARIES
BEM Services, Inc.
Cleveland, Ohio
Brush Wellman Inc.
Cleveland, Ohio
Brush Ceramic Products Inc.
Tucson, Arizona
Brush International, Inc.
Cleveland, Ohio
Brush Resources Inc.
Delta, Utah
Brush Wellman GmbH,
Stuttgart, Germany
Brush Wellman (Japan), Ltd.,
Tokyo, Japan
Brush Wellman Limited,
Theale, England
Brush Wellman (Singapore) Pte Ltd
Singapore
Circuits Processing Technology, Inc.
Oceanside, California
Technical Materials, Inc.
Lincoln, Rhode Island
Williams Advanced Materials Inc.
Buffalo, New York
Williams Advanced Materials
Far East Pte Ltd.
Singapore
Zentrix Technologies Inc.
Tucson, Arizona

EXHIBIT 21

Subsidiaries of Registrant

The Company has the following subsidiaries, all of which are wholly owned and included in the consolidated financial statements.

Name of Subsidiary	State or Country of Incorporation
BEM Services, Inc.	Ohio
Brush Wellman Inc.	Ohio
Brush Ceramic Products Inc.	Arizona
Brush International, Inc.	Ohio
Brush Resources Inc.	Utah
Brush Wellman GmbH	Germany
Brush Wellman (Japan), Ltd.	Japan
Brush Wellman Limited	England
Brush Wellman (Singapore) Pte Ltd.	Singapore
Circuits Processing Technology, Inc.	California
Technical Materials, Inc.	Ohio
Williams Advanced Materials Inc.	New York
Williams Advanced Materials Pte Ltd.	Singapore
Zentrix Technologies Inc.	Arizona
Zentrix Technologies (m) SDN BHD	Malaysia
Zentrix Technologies SARL	France

Exhibit 23

Consent of Independent Auditors

We consent to the incorporation by reference in this Annual Report (Form 10-K) of Brush Wellman Inc. of our report dated January 22, 2002, included in the 2001 Annual Report to Shareholders of Brush Engineered Materials Inc.

Our audits also included the financial statement schedule of Brush Engineered Materials Inc. listed in Item 14(a) 2. This schedule is the responsibility of the Company's management. Our responsibility is to express an opinion based on our audits. In our opinion, the financial statement schedule referred to above, when considered in relation to the basic financial statements taken as a whole, presents fairly in all material respects the information set forth therein.

We also consent to the incorporation by reference in the following Registration Statements and Post-Effective Amendments of our report dated January 22, 2002, with respect to the consolidated financial statements incorporated herein by reference and our report included in the preceding paragraph with respect to the financial statement schedule included in the Annual Report (Form 10-K) of Brush Engineered Materials Inc. for the year ended December 31, 2001:

Post-Effective Amendment Number 1 to Registration Statement Number 333-74296 on Form S-8 dated November 30, 2001;

Post-Effective Amendment Number 5 to Registration Statement Number 2-64080 on Form S-8 dated May 17, 2000;

Post-Effective Amendment Number 1 to Registration Statement Number 333-63353 on Form S-8 dated May 17, 2000;

Post-Effective Amendment Number 1 to Registration Statement Number 333-28605 on Form S-8 dated May 17, 2000;

Post-Effective Amendment Number 1 to Registration Statement Number 333-63353 on Form S-8 dated May 17, 2000;

Post-Effective Amendment Number 1 to Registration Statement Number 333-63357 on Form S-8 dated May 17, 2000;

Post-Effective Amendment Number 1 to Registration Statement Number 33-52141 on Form S-8 dated May 17, 2000;

Post-Effective Amendment Number 1 to Registration Statement Number 2-90724 on Form S-8 dated May 17, 2000;

Registration Statement Number 333-63353 on Form S-8 dated September 14, 1998;

Registration Statement Number 333-63355 on Form S-8 dated September 14, 1998;

Registration Statement Number 333-63357 on Form S-8 dated September 14, 1998;

Registration Statement Number 333-52141 on Form S-8 dated May 5, 1998;

Registration Statement Number 33-28605 on Form S-8 dated May 5, 1989;

Registration Statement Number 2-90724 on Form S-8 dated April 27, 1984; and

Post-Effective Amendment Number 3 to Registration Statement Number 2-64080 on Form S-8 dated April 22, 1983.

ERNST & YOUNG LLP

Cleveland, Ohio
March 27, 2002

EXHIBIT 24

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each of the undersigned directors and officers of BRUSH ENGINEERED MATERIALS INC., an Ohio corporation (the "Corporation"), hereby constitutes and appoints Gordon D. Harnett, John D. Grampa, Michael C. Hasychak and David P. Porter, and each of them, their true and lawful attorney or attorneys-in-fact, with full power of substitution and revocation, for them and in their names, place and stead, to sign on their behalf as a director or officer, or both, as the case may be, of the Corporation, an Annual Report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 on Form 10-K for the fiscal year ended December 31, 2001, and to sign any and all amendments to such Annual Report, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission granting unto said attorney or attorneys-in-fact, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as they might or could do in person, hereby ratifying and confirming all that said attorney or attorneys-in-fact or any of them or their substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

IN WITNESS WHEREOF, the undersigned have hereunto set their hands as of the 5th day of March, 2002.

/s/ Gordon D. Harnett --- *Gordon D. Harnett, Chairman,* *Chief Executive Officer and Director* *(Principal Executive Officer)*	*/s/ Joseph P. Keithley* --- *Joseph P. Keithley, Director*
/s/ Albert C. Bersticker --- *Albert C. Bersticker, Director*	*/s/ William P. Madar* --- *William P. Madar, Director*
/s/ Charles F. Brush, III --- *Charles F. Brush, III, Director*	*/s/ N. Mohan Reddy* --- *N. Mohan Reddy, Director*
/s/ David H. Hoag --- *David H. Hoag, Director*	*/s/ William R. Robertson* --- *William R. Robertson, Director*
/s/ John D. Grampa --- *John D. Grampa, Vice President* *Finance, Chief Financial Officer* *(Principal Accounting Officer)*	*/s/ John Sherwin* --- *John Sherwin, Director*