

As filed with the Securities and Exchange Commission on April 20, 2006.

Registration No. _____

SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM S-8

REGISTRATION STATEMENT
Under The Securities Act of 1933

BRUSH ENGINEERED MATERIALS INC.

(Exact Name of Registrant as Specified in Its Charter)

Ohio
(State or Other Jurisdiction
of Incorporation or Organization)

34-1919973
(I.R.S. Employer Identification No.)

17876 St. Clair Avenue
Cleveland, Ohio 44110
(Address of Principal Executive Offices Including Zip Code)

Brush Engineered Materials Inc. 2006 Stock Incentive Plan
(Full Title of the Plan)

Michael C. Hasychak
Vice President, Secretary and Treasurer
Brush Engineered Materials Inc.
17876 St. Clair Avenue
Cleveland, Ohio 44110

(216) 486-4200
(Name , Address and Telephone Number of Agent For Service)

CALCULATION OF REGISTRATION FEE

Title of Securities to be Registered	Amount to be Registered ⁽¹⁾	Proposed Maximum Offering Price Per Share ⁽²⁾	Proposed Maximum Aggregate Offering Price ⁽²⁾	Amount of Registration Fee
Common Shares, without par value (3)	1,250,000	\$ 24.11	\$ 30,137,500.00	\$ 3,224.71

- (1) Pursuant to Rule 416 of the Securities Act of 1933 (the "Securities Act"), this registration statement also covers such additional Common Shares without par value (the "Common Shares") of Brush Engineered Materials Inc. (the "Registrant") as may become issuable pursuant to the anti-dilution provisions of the Registrant's 2006 Stock Incentive Plan (the "Plan").
- (2) Estimated solely for calculating the amount of the registration fee, pursuant to paragraphs (c) and (h) of Rule 457 of the General Rules and Regulations under the Securities Act, on the basis of the average of the high and low sale prices of such securities on the New York Stock Exchange on April 17, 2006, within five business days prior to filing.
- (3) One right (each, a "Right") to purchase Series A Junior Participating Preferred Stock of Brush Engineered Materials Inc. will be issued with each Common Share. The terms of the Rights are described in the Form 8-A filed by the Registrant on May 16, 2000.

[EXHIBIT INDEX APPEARS ON PAGE 8]

TABLE OF CONTENTS

PART II

- Item 3. Incorporation of Documents by Reference
- Item 4. Description of Securities
- Item 5. Interests of Named Experts and Counsel
- Item 6. Indemnification of Directors and Officers
- Item 7. Exemption from Registration Claimed
- Item 8. Exhibits
- Item 9. Undertakings

SIGNATURES

EXHIBIT INDEX

EX-5 Opinion of Counsel

EX-23.1 Auditors Consent

EX-24 Power of Attorney

PART II
INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3. Incorporation of Documents by Reference.

The following documents have been filed by the Registrant, with the Securities and Exchange Commission (the “Commission”) and are incorporated herein by reference:

- (a) The Registrant’s Annual Report on Form 10-K for the year ended December 31, 2005;
- (b) The Registrant’s Current Reports on Form 8-K, filed on January 3, 2006, January 6, 2006, February 8, 2006, and March 13, 2006;
- (c) The description of the Common Shares contained in the Registration Statement on Form S-4 (Registration No. 333-95917), filed by the Registrant on February 1, 2000, including any subsequently filed amendments and reports updating such description; and
- (d) The description of the Rights contained in the Form 8-A filed on May 16, 2000, as amended on December 13, 2004.

All documents filed by the Registrant with the Commission pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Securities Exchange Act of 1934 (the “Exchange Act”) subsequent to the date of this registration statement and prior to the filing of a post-effective amendment that indicates that all securities offered have been sold or which deregisters all securities then remaining unsold, will be deemed to be incorporated by reference in this registration statement and to be part hereof from the date of filing of such documents. Any statement contained in any document incorporated or deemed to be incorporated by reference herein will be deemed to be modified or superseded for purposes of this registration statement to the extent that a statement contained herein or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded will not be deemed, except as modified or superseded, to constitute a part of this registration statement.

Item 4. Description of Securities.

Not applicable.

Item 5. Interests of Named Experts and Counsel.

Not applicable.

Item 6. Indemnification of Directors and Officers.

The Registrant will indemnify, to the full extent then permitted by law, any director or officer or former director or officer of the Registrant who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of the fact that he is or was a member of the Registrant’s Board of Directors or an officer, employee or agent, or is or was serving at the Registrant’s request as a director, trustee, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise. The Registrant will pay, to the full extent then required by law, expenses, including attorney’s fees, incurred by a member of the Board of Directors in defending any such action, suit or proceeding as they are incurred, in advance of the final disposition thereof.

Table of Contents

To the full extent then permitted by law, the Registrant may indemnify employees, agents and other persons and may pay expenses, including attorney's fees, incurred by any employee, agent or other person in defending any action, suit or proceeding as such expenses are incurred, in advance of the final disposition thereof.

The indemnification and payment of expenses described above will not be exclusive of, and will be in addition to, any other rights granted to any person seeking indemnification under any law, the Registrant's amended and restated articles of incorporation, any agreement, vote of shareholders or disinterested members of the Board of Directors, or otherwise, both as to action in official capacities and as to action in another capacity while he or she is a member of the Board of Directors or an officer, employee or agent, and shall continue as to a person who has ceased to be a member of the Board of Directors, trustee, officer, employee or agent and shall inure to the benefit of the heirs, executors, and administrators of such a person.

The Registrant may, to the full extent then permitted by law and authorized by the Board of Directors, purchase and maintain insurance or furnish similar protection, including but not limited to trust funds, letters of credit or self-insurance, on behalf of or for any persons described above against any liability asserted against and incurred by any such person in any such capacity, or arising out of his status as such, whether or not the Registrant would have the power to indemnify such person against such liability. Insurance may be purchased from or maintained with a person in which we have a financial interest.

The Registrant, upon approval by the Board of Directors, may enter into agreements with any persons who it may indemnify under its amended and restated code of regulations or under law and may undertake thereby to indemnify such persons and to pay the expenses incurred by them in defending any action, suit or proceeding against them, whether or not we would have the power under law or its amended and restated code of regulations to indemnify any such person.

Under Ohio law, Ohio corporations are authorized to indemnify directors, officers, employees and agents within prescribed limits and must indemnify them under certain circumstances. Ohio law does not provide statutory authorization for a corporation to indemnify directors, officers, employees and agents for settlements, fines or judgments in the context of derivative suits. However, it provides that directors (but not officers, employees or agents) are entitled to mandatory advancement of expenses, including attorneys' fees, incurred in defending any action, including derivative actions, brought against the director, provided that the director agrees to cooperate with the corporation concerning the matter and to repay the amount advanced if it is proved by clear and convincing evidence that the director's act or failure to act was done with deliberate intent to cause injury to the corporation or with reckless disregard for the corporation's best interests.

Ohio law does not authorize payment of judgments to a director, officer, employee or agent after a finding of negligence or misconduct in a derivative suit absent a court order. Indemnification is permitted, however, to the extent such person succeeds on the merits. In all other cases, if a director, officer, employee or agent acted in good faith and in a manner he reasonably believed to be in or not opposed to be the best interests of the corporation, indemnification is discretionary except as otherwise provided by a corporation's articles, code of regulations or by contract except with respect to the advancement of expenses of directors.

Under Ohio law, a director is not liable for monetary damages unless it is proved by clear and convincing evidence that his action or failure to act was undertaken with deliberate intent to cause injury to the corporation or with reckless disregard for the best interests of the corporation. There is, however, no comparable provision limiting the liability of officers, employees or agents of a corporation.

Table of Contents

The statutory right to indemnification is not exclusive in Ohio, and Ohio corporations may, among other things, procure insurance for such persons.

Item 7. Exemption from Registration Claimed.

Not applicable.

Item 8. Exhibits.

Exhibit Number	Description
4(a)	Amended and Restated Articles of Incorporation of the Registrant (filed as Annex B to the Registration Statement on Form S-4 filed by the Registrant on February 1, 2000, Registration No. 333-95917, and incorporated herein by reference)
4(b)	Amended and Restated Code of Regulations of the Registrant (filed as Exhibit 4(b) to the Registration Statement on Form S-8 filed by the Registrant on August 3, 2005, Registration No. 333-127130, and incorporated herein by reference)
4(c)	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 the Registrant on May 16, 2000 and incorporated herein by reference)
4(d)	First Amendment to Rights Agreement, dated as of December 7, 2004, by and between the Registrant and LaSalle Bank, N.A. as Rights Agent (filed as Exhibit 4.1 to the Current Report on Form 8-K filed by Brush Engineered Materials Inc. on December 13, 2004 and incorporated herein by reference)
4(e)	2006 Stock Incentive Plan (filed as Appendix B to the Registrant's Proxy Statement dated March 16, 2006 and incorporated herein by reference)
5	Opinion of Counsel
23.1	Consent of Independent Registered Public Accounting Firm
23.2	Consent of Counsel (Included in Exhibit 5)
24	Power of Attorney

Item 9. Undertakings.

(a) The Registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) to include any prospectus required by Section 10(a)(3) of the Securities Act;

(ii) to reflect in the prospectus any facts or events arising after the effective date of this registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in this registration statement. Notwithstanding the foregoing, any increase or decrease in the volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of a prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20 percent change in the maximum aggregate price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and

(iii) to include any material information with respect to the plan of distribution not previously disclosed in this registration statement or any material change to such information in this registration statement;

provided, however, that paragraphs (a)(1)(i) and (a)(1)(ii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed by the Registrant pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated by reference in this registration statement.

(2) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment will be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time will be deemed to be the initial *bona fide* offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(b) The Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the Registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in this registration statement will be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time will be deemed to be the initial *bona fide* offering thereof.

(c) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the city of Cleveland, State of Ohio, on April 20, 2006.

BRUSH ENGINEERED MATERIALS INC.

By: /s/ Michael C. Hasychak
Michael C. Hasychak
Vice President, Secretary and Treasurer

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on April 20, 2006.

Signature	Title
<u>*</u>	Chairman of the Board, Chief Executive Officer and Director (principal executive officer)
Gordon D. Harnett	
<u>*</u>	Senior Vice President and Chief Financial Officer (principal financial and accounting officer)
John D. Grampa	
<u>*</u>	Director
Albert C. Bersticker	
<u>*</u>	Director
Joseph P. Keithley	
<u>*</u>	Director
William B. Lawrence	
<u>*</u>	Director
William P. Madar	
<u>*</u>	Director
William G. Pryor	
<u>*</u>	Director
N. Mohan Reddy	
<u>*</u>	Director
William R. Robertson	
<u>*</u>	Director
John Sherwin, Jr.	

Table of Contents

* Michael C. Hasychak, the undersigned attorney-in-fact, by signing his name hereto, does hereby sign and execute this Registration Statement on behalf of the above indicated officers and directors thereof pursuant to a power of attorney filed with the Securities and Exchange Commission.

April 20, 2006

By: /s/ Michael C. Hasychak

Michael C. Hasychak, Attorney-in-Fact

EXHIBIT INDEX

<u>Exhibit Number</u>	<u>Description</u>
4(a)	Amended and Restated Articles of Incorporation of the Registrant (filed as Annex B to the Registration Statement on Form S-4 filed by the Registrant on February 1, 2000, Registration No. 333-95917, and incorporated herein by reference)
4(b)	Amended and Restated Code of Regulations of the Registrant (filed as Exhibit 4(b) to the Registration Statement on Form S-8 filed by the Registrant on August 3, 2005, Registration No. 333-127130, and incorporated herein by reference)
4(c)	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 the Registrant on May 16, 2000 and incorporated herein by reference)
4(d)	First Amendment to Rights Agreement, dated as of December 7, 2004, by and between the Registrant and LaSalle Bank, N.A. as Rights Agent (filed as Exhibit 4.1 to the Current Report on Form 8-K filed by Brush Engineered Materials Inc. on December 13, 2004 and incorporated herein by reference)
4(e)	2006 Stock Incentive Plan (filed as Appendix B to the Registrant's Proxy Statement dated March 16, 2006 and incorporated herein by reference)
5	Opinion of Counsel
23.1	Consent of Independent Registered Public Accounting Firm
23.2	Consent of Counsel (Included in Exhibit 5)
24	Power of Attorney

[LETTERHEAD OF BRUSH ENGINEERED MATERIALS INC.]

Exhibit 5

April 20, 2006

Securities and Exchange Commission
100 F Street, NE
Washington, D.C. 20549

Re: 1,250,000 Common Shares Without Par Value Issued Pursuant to the
Brush Engineered Materials Inc. 2006 Stock Incentive Plan

Ladies and Gentlemen:

I have acted as counsel for Brush Engineered Materials Inc., an Ohio corporation (the "Registrant"), in connection with the issuance and sale of up to 1,250,000 Common Shares, without par value of the Registrant (the "Plan Shares") pursuant to the Registrant's 2006 Non Stock Incentive Plan (the "Plan").

In rendering this opinion, I have examined such documents and records, including an examination of originals or copies certified or otherwise identified to my satisfaction, and matters of law as I have deemed necessary for purposes of this opinion. Based upon the foregoing and subject to the qualifications and limitations stated herein, I am of the opinion that the Plan Shares are duly authorized and, when issued and delivered pursuant to the terms of the Plan against payment of the consideration therefor as provided therein, will be validly issued, fully paid, and nonassessable.

I hereby consent to the filing of this opinion as Exhibit 5 to the Registration Statement on Form S-8 filed by the Registrant to effect registration of the Plan Shares under the Securities Act of 1933 (the "Securities Act"). In giving such consent, we do not thereby admit that we are included in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Securities and Exchange Commission promulgated thereunder.

Very truly yours,

/s/ John J. Pallam

John J. Pallam

Vice President and General Counsel

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the Registration Statement (Form S-8 No. 333-XXXXX) of the Brush Engineered Materials Inc. 2006 Stock Incentive Plan of our reports dated March 3, 2006, with respect to the consolidated financial statements of Brush Engineered Materials Inc., Brush Engineered Materials Inc. management's assessment of the effectiveness of internal control over financial reporting, and the effectiveness of internal control over financial reporting of Brush Engineered Materials, Inc. incorporated by reference in its Annual Report (Form 10-K) for the year ended December 31, 2005, and the related financial statement schedule included therein as to which our report date is March 16, 2006, filed with the Securities and Exchange Commission.

Cleveland, Ohio
April 20, 2006

/s/ Ernst & Young LLP

POWER OF ATTORNEY

Each of the undersigned officers and/or directors of Brush Engineered Materials Inc., an Ohio corporation (the “Registrant”), does hereby make, constitute and appoint each of Gordon D. Harnett, John D. Grampa, Michael C. Hasychak and David P. Porter, with full power of substitution and resubstitution, as attorney of the undersigned, to execute and file (i) a Registration Statement on Form S-8 (the “Form S-8 Registration Statement”) under the Securities Act of 1933 concerning Common Shares of the Registrant to be offered in connection with the 2006 Stock Incentive Plan, (ii) any and all amendments, including post-effective amendments, and exhibits to the Form S-8 Registration Statement and (iii) any and all applications or other documents to be filed with the Securities and Exchange Commission or any state securities commission or other regulatory authority with respect to the securities covered by the Form S-8 Registration Statement, with full power and authority to do and perform any and all acts and things whatsoever necessary, appropriate or desirable to be done in the premises, or in the name, place and stead of the said director and/or officer, hereby ratifying and approving the acts of said attorneys and any of them and any such substitute.

IN WITNESS WHEREOF, the undersigned have subscribed these presents as of the 30th day of March 2006

/s/ Gordon D. Harnett

Gordon D. Harnett, Chairman,
Chief Executive Officer and Director
(principal executive officer)

/s/ William P. Madar,

William P. Madar, Director

/s/ John D. Grampa

John D. Grampa, Vice President
Chief Financial Officer
(principal financial and accounting officer)

/s/ William G. Pryor

William G. Pryor, Director

/s/ Albert C. Bersticker

Albert C. Bersticker, Director

/s/ N. Mohan Reddy

N. Mohan Reddy, Director

/s/ Joseph P. Keithley

Joseph P. Keithley, Director

/s/ William R. Robertson,

William R. Robertson, Director

/s/ William B. Lawrence

William B. Lawrence, Director

/s/ John Sherwin, Jr.

John Sherwin, Jr., Director