

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

FORM 10-Q

(Mark One)

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

for the quarterly period ended March 31, 2019

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: 1-13888



GRAFTECH INTERNATIONAL LTD.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

27-2496053
(I.R.S. Employer
Identification Number)

982 Keynote Circle
Brooklyn Heights, OH
(Address of principal executive offices)

44131
(Zip code)

Registrant's telephone number, including area code: (216) 676-2000

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 ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer," and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large Accelerated Filer ☐

Accelerated Filer ☐

Emerging Growth Company ☐

Non-Accelerated Filer ☒

Smaller Reporting Company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Exchange Act Rule 12b-2). Yes ☐ No ☒

As of April 15, 2019, 290,537,612 shares of common stock, par value \$0.01 per share, were outstanding.

TABLE OF CONTENTS

PART I. FINANCIAL INFORMATION:

Item 1. Financial Statements

<u>Condensed Consolidated Balance Sheets (unaudited)</u>	<u>5</u>
<u>Condensed Consolidated Statements of Operations and Comprehensive Income (unaudited)</u>	<u>6</u>
<u>Condensed Consolidated Statements of Cash Flows (unaudited)</u>	<u>7</u>
<u>Condensed Consolidated Statements of Stockholders' Equity</u>	<u>8</u>
<u>Notes to Condensed Consolidated Financial Statements (unaudited)</u>	<u>8</u>

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

24

Item 3. Quantitative and Qualitative Disclosures About Market Risk

32

Item 4. Controls and Procedures

33

PART II. OTHER INFORMATION:

Item 1. Legal Proceedings

35

Item 1A. Risk Factors

35

Item 6. Exhibits

35

SIGNATURE

37

Presentation of Financial, Market and Legal Data

We present our financial information on a consolidated basis. Unless otherwise noted, when we refer to dollars, we mean U.S. dollars.

Unless otherwise specifically noted, market and market share data in this Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2019 (the "Report") are our own estimates or derived from sources described in our Annual Report on Form 10-K for the year ended December 31, 2018 ("Annual Report on Form 10-K") filed on February 22, 2019. Our estimates involve risks and uncertainties and are subject to change based on various factors, including those discussed under "Forward Looking Statements" and "Risk Factors" in this Report and in our Annual Report on Form 10-K. We cannot guarantee the accuracy or completeness of this market and market share data and have not independently verified it. None of the sources has consented to the disclosure or use of data in this Report.

Forward Looking Statements

Some of the statements under "Management's Discussion and Analysis of Financial Condition and Results of Operations," and elsewhere in this Report may contain forward-looking statements that reflect our current views with respect to, among other things, future events and financial performance. You can identify these forward-looking statements by the use of forward-looking words such as "will," "may," "plan," "estimate," "project," "believe," "anticipate," "expect," "intend," "should," "would," "could," "target," "goal," "continue to," "positioned to" or the negative version of those words or other comparable words. Any forward-looking statements contained in Report are based upon our historical performance and on our current plans, estimates and expectations in light of information currently available to us. The inclusion of this forward-looking information should not be regarded as a representation by us that the future plans, estimates or expectations contemplated by us will be achieved. These forward-looking statements are subject to various risks and uncertainties and assumptions relating to our operations, financial results, financial condition, business, prospects, growth strategy and liquidity. Accordingly, there are or will be important factors that could cause our actual results to differ materially from those indicated in these statements. We believe that these factors include, but are not limited to:

- the cyclical nature of our business and the selling prices of our products may lead to periods of reduced profitability and net losses in the future;

- the possibility that we may be unable to implement our business strategies, including our initiative to secure and maintain longer-term customer contracts, in an effective manner;
- the possibility that tax legislation could adversely affect us or our stockholders;
- pricing for graphite electrodes has historically been cyclical and current prices are relatively high, however, the price of graphite electrodes may decline in the future;
- the sensitivity of our business and operating results to economic conditions;
- our dependence on the global steel industry generally and the electric arc furnace ("EAF") steel industry in particular;
- the possibility that global graphite electrode overcapacity may adversely affect graphite electrode prices;
- the competitiveness of the graphite electrode industry;
- our dependence on the supply of petroleum needle coke;
- our dependence on supplies of raw materials (in addition to petroleum needle coke) and energy;
- the possibility that our manufacturing operations are subject to hazards;
- changes in, or more stringent enforcement of, health, safety and environmental regulations applicable to our manufacturing operations and facilities;
- the legal, economic, social and political risks associated with our substantial operations in multiple countries;
- the possibility that fluctuation of foreign currency exchange rates could materially harm our financial results;
- the possibility that our results of operations could deteriorate if our manufacturing operations were substantially disrupted for an extended period, including as a result of equipment failure, climate change, regulatory issues, natural disasters, public health crises, political crises or other catastrophic events;
- our dependence on third parties for certain construction, maintenance, engineering, transportation, warehousing and logistics services;
- the possibility that we are unable to recruit or retain key management and plant operating personnel or successfully negotiate with the representatives of our employees, including labor unions;
- the possibility that we may divest or acquire businesses, which could require significant management attention or disrupt our business;
- the sensitivity of goodwill on our balance sheet to changes in the market;
- the possibility that we are subject to information technology systems failures, cybersecurity attacks, network disruptions and breaches of data security;
- our dependence on protecting our intellectual property;
- the possibility that third parties may claim that our products or processes infringe their intellectual property rights;
- the possibility that significant changes in our jurisdictional earnings mix or in the tax laws of those jurisdictions could adversely affect our business;
- the possibility that our indebtedness could limit our financial and operating activities or that our cash flows may not be sufficient to service our indebtedness;
- the possibility that restrictive covenants in our financing agreements could restrict or limit our operations;
- the fact that borrowings under certain of our existing financing agreements subjects us to interest rate risk;
- the possibility of a lowering or withdrawal of the ratings assigned to our debt;
- the possibility that disruptions in the capital and credit markets could adversely affect our results of operations, cash flows and financial condition, or those of our customers and suppliers;
- the possibility that highly concentrated ownership of our common stock may prevent minority stockholders from influencing significant corporate decisions;

- the possibility that we may not pay cash dividends on our common stock in the future;
- the fact that certain of our stockholders have the right to engage or invest in the same or similar businesses as us;
- the fact that certain provisions of our Amended and Restated Certificate of Incorporation and our Amended and Restated By-Laws could hinder, delay or prevent a change of control;
- the fact that the Court of Chancery of the State of Delaware will be the exclusive forum for substantially all disputes between us and our stockholders; and
- our status as a "controlled company" within the meaning of the New York Stock Exchange ("NYSE") corporate governance standards, which allows us to qualify for exemptions from certain corporate governance requirements.

These factors should not be construed as exhaustive and should be read in conjunction with the other cautionary statements that are included in our Annual Report on Form 10-K and other filings with the Securities and Exchange Commission ("SEC"). The forward-looking statements made in this Report relate only to events as of the date on which the statements are made. We do not undertake any obligation to publicly update or review any forward-looking statement except as required by law, whether as a result of new information, future developments or otherwise.

If one or more of these or other risks or uncertainties materialize, or if our underlying assumptions prove to be incorrect, our actual results may vary materially from what we may have expressed or implied by these forward-looking statements. We caution that you should not place undue reliance on any of our forward-looking statements. You should specifically consider the factors identified in this Report that could cause actual results to differ before making an investment decision to purchase our common stock. Furthermore, new risks and uncertainties arise from time to time, and it is impossible for us to predict those events or how they may affect us.

All subsequent written and oral forward-looking statements by or attributable to us or persons acting on our behalf are expressly qualified in their entirety by these factors. Except as otherwise required to be disclosed in periodic reports required to be filed by public companies with the SEC pursuant to the SEC's rules, we have no duty to update these statements.

For a more complete discussion of these and other factors, see "Risk Factors" in Part II of this Report and the "Risk Factors" section included in our Annual Report on Form 10-K and other SEC filings.

PART I. FINANCIAL INFORMATION

Item 1. Financial Statements

**GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
CONDENSED CONSOLIDATED BALANCE SHEETS**

(Dollars in thousands)

Unaudited

	As of March 31, 2019	As of December 31, 2018
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 42,289	\$ 49,880
Accounts and notes receivable, net of allowance for doubtful accounts of \$1,036 as of March 31, 2019 and \$1,129 as of December 31, 2018	278,410	248,286
Inventories	299,794	293,717
Prepaid expenses and other current assets	50,594	46,168
Total current assets	671,087	638,051
Property, plant and equipment	692,186	688,842
Less: accumulated depreciation	185,121	175,137
Net property, plant and equipment	507,065	513,705
Deferred income taxes	58,760	71,707
Goodwill	171,117	171,117
Other assets	121,670	110,911
Total assets	\$ 1,529,699	\$ 1,505,491
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 85,219	\$ 88,097
Short-term debt	15,492	106,323
Accrued income and other taxes	47,700	82,255
Other accrued liabilities	42,827	50,452
Related party payable - tax receivable agreement	23,852	—
Total current liabilities	215,090	327,127
Long-term debt	2,017,716	2,050,311
Other long-term obligations	69,471	72,519
Deferred income taxes	46,415	45,825
Related party payable - tax receivable agreement	62,625	86,478
Contingencies – Note 9		
Stockholders' equity:		
Preferred stock, par value \$0.01, 300,000,000 shares authorized, none issued	—	—
Common stock, par value \$0.01, 3,000,000,000 shares authorized, 290,537,612 shares issued and outstanding as of March 31, 2019 and December 31, 2018	2,905	2,905
Additional paid-in capital	819,915	819,622
Accumulated other comprehensive income (loss)	16,318	(5,800)
Accumulated deficit	(1,720,756)	(1,893,496)
Total stockholders' (deficit) equity	(881,618)	(1,076,769)
Total liabilities and stockholders' equity	\$ 1,529,699	\$ 1,505,491

See accompanying Notes to Condensed Consolidated Financial Statements

GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE INCOME
(Dollars in thousands)
(Unaudited)

	For the Three Months Ended March 31,	
	2019	2018
<u>CONSOLIDATED STATEMENTS OF OPERATIONS</u>		
Net sales	\$ 474,994	\$ 451,899
Cost of sales	195,524	145,149
Gross profit	279,470	306,750
Research and development	637	429
Selling and administrative expenses	15,226	15,876
Operating profit	263,607	290,445
Other expense (income), net	467	2,005
Interest expense	33,700	37,865
Interest income	(414)	(115)
Income from continuing operations before provision for income taxes	229,854	250,690
Provision for income taxes	32,418	28,643
Net income from continuing operations	197,436	222,047
Income from discontinued operations, net of tax	—	1,626
Net income	\$ 197,436	\$ 223,673
Basic income per common share*:		
Net income per share	\$ 0.68	\$ 0.74
Net income from continuing operations per share	\$ 0.68	\$ 0.73
Weighted average common shares outstanding	290,559,025	302,225,923
Diluted income per common share*:		
Income per share	\$ 0.68	\$ 0.74
Diluted income from continuing operations per share	\$ 0.68	\$ 0.73
Weighted average common shares outstanding	290,566,163	302,225,923
<u>STATEMENTS OF COMPREHENSIVE INCOME (LOSS)</u>		
Net income	\$ 197,436	\$ 223,673
Other comprehensive income:		
Foreign currency translation adjustments	(3,539)	5,040
Commodities derivatives, net of tax of (\$6,903) and \$0, respectively	25,657	(6,113)
Other comprehensive income (loss), net of tax:	22,118	(1,073)
Comprehensive income	\$ 219,554	\$ 222,600

*See Notes 1 and 13

See accompanying Notes to Condensed Consolidated Financial Statements

GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(Dollars in thousands, unaudited)

	For the Three Months Ended March 31,	
	2019	2018
Cash flow from operating activities:		
Net income	\$ 197,436	\$ 223,673
Adjustments to reconcile net income to cash provided by operations:		
Depreciation and amortization	15,585	16,328
Deferred income tax (benefit)/provision	6,427	19,791
Loss on extinguishment of debt	—	23,827
Interest expense	1,588	1,129
Other charges, net	3,268	2,574
Net change in working capital*	(71,443)	(150,527)
Change in long-term assets and liabilities	3,956	3,758
Net cash provided by operating activities	156,817	140,553
Cash flow from investing activities:		
Capital expenditures	(14,569)	(14,025)
Proceeds from the sale of assets	74	736
Net cash used in investing activities	(14,495)	(13,289)
Cash flow from financing activities:		
Short-term debt, net	—	(12,536)
Revolving Facility reductions	—	(45,692)
Debt issuance costs	—	(20,090)
Proceeds from the issuance of long-term debt, net of original issuance discount	—	1,492,500
Repayment of Senior Notes	—	(304,782)
Principal repayments on long-term debt	(125,000)	—
Dividends paid to non-related-party	(5,194)	—
Dividends paid to related-party	(19,502)	(1,112,000)
Net cash used in financing activities	(149,696)	(2,600)
Net change in cash and cash equivalents	(7,374)	124,664
Effect of exchange rate changes on cash and cash equivalents	(217)	344
Cash and cash equivalents at beginning of period	49,880	13,365
Cash and cash equivalents at end of period	\$ 42,289	\$ 138,373
* Net change in working capital due to changes in the following components:		
Accounts and notes receivable, net	\$ (31,389)	\$ (132,794)
Inventories	(4,705)	(28,679)
Prepaid expenses and other current assets	7,425	10,754
Income taxes payable	(38,333)	6,533
Accounts payable and accruals	(5,305)	(8,227)
Interest payable	864	1,886
Net change in working capital	\$ (71,443)	\$ (150,527)

See accompanying Notes to Condensed Consolidated Financial Statements

GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

(Dollars in thousands, except share data)

	Issued Shares of Common Stock	Common Stock	Additional Paid-in Capital	Accumulated Other Comprehensive Income(Loss)	Retained Earnings (Accumulated Deficit)	Total Stockholders' Equity
Balance as of December 31, 2018	<u>290,537,612</u>	<u>\$ 2,905</u>	<u>\$ 819,622</u>	<u>\$ (5,800)</u>	<u>\$ (1,893,496)</u>	<u>\$ (1,076,769)</u>
Comprehensive income (loss):						
Net income	—	—	—	—	197,436	197,436
Other comprehensive income:						
Commodity and foreign currency derivatives income, net of tax of (\$7,295)				27,113		27,113
Commodity and foreign currency derivatives reclassification adjustments, net of tax of \$392				(1,456)		(1,456)
Foreign currency translation adjustments	—	—	—	(3,539)	—	(3,539)
Total other comprehensive income	—	—	—	22,118	—	22,118
Stock-based compensation			293			293
Dividends paid to related party stockholder (\$0.085 per share)					(19,502)	(19,502)
Dividends paid to non-related party stockholders (\$0.085 per share)					(5,194)	(5,194)
Balance as of March 31, 2019	<u>290,537,612</u>	<u>\$ 2,905</u>	<u>\$ 819,915</u>	<u>\$ 16,318</u>	<u>\$ (1,720,756)</u>	<u>\$ (881,618)</u>
Balance as of December 31, 2017 ⁽¹⁾	<u>302,225,923</u>	<u>\$ 3,022</u>	<u>\$ 851,315</u>	<u>\$ 20,289</u>	<u>\$ (261,411)</u>	<u>\$ 613,215</u>
Comprehensive income (loss):						
Net income	—	—	—	—	223,673	223,673
Other comprehensive income:						
Commodity and foreign currency derivatives loss, net of tax of \$0	—	—	—	(6,113)	—	(6,113)
Foreign currency translation adjustments	—	—	—	5,040	—	5,040
Total other comprehensive loss	—	—	—	(1,073)	—	(1,073)
Stock-based compensation						—
Dividends paid to related party stockholder (\$3.68 per share)					(1,112,000)	(1,112,000)
Balance as of March 31, 2018 ⁽¹⁾	<u>302,225,923</u>	<u>\$ 3,022</u>	<u>\$ 851,315</u>	<u>\$ 19,216</u>	<u>\$ (1,149,738)</u>	<u>\$ (276,185)</u>

(1) On April 12, 2018, the Company effected a 3,022,259.23 to one split of the Company's common stock. We retroactively applied this split to all previous periods presented.

(1) Organization and Summary of Significant Accounting Policies

A. Organization

GrafTech International Ltd. (the "Company") is a leading manufacturer of high quality graphite electrode products essential to the production of electric arc furnace ("EAF") steel and other ferrous and non-ferrous metals. References herein to "we," "our," or "us" refer collectively to GrafTech International Ltd. and its subsidiaries. On August 15, 2015, we became an indirect wholly owned subsidiary of Brookfield Asset Management Inc. (together with its affiliates, "Brookfield") through a tender offer to our former stockholders and subsequent merger transaction. On April 23, 2018, the Company completed its initial public offering ("IPO").

The Company's only reportable segment, Industrial Materials, is comprised of our two major product categories: graphite electrodes and petroleum needle coke products. Needle coke is the key raw material used in the production of graphite electrodes. The Company's vision is to provide highly engineered graphite electrode services, solutions and products to EAF operators.

B. Basis of Presentation

The interim Condensed Consolidated Financial Statements are unaudited; however, in the opinion of management, they have been prepared in accordance with Rule 10-01 of Regulation S-X and in accordance with accounting principles generally accepted in the United States of America ("GAAP"). The December 31, 2018 financial position data included herein was derived from the audited consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2018 ("Annual Report on Form 10-K") filed on February 22, 2019 but does not include all disclosures required by GAAP in audited

financial statements. These interim condensed consolidated financial statements should be read in conjunction with the audited consolidated financial statements, including the accompanying notes, contained in our Annual Report on Form 10-K filed on February 22, 2019.

The unaudited condensed consolidated financial statements reflect all adjustments (all of which are of a normal, recurring nature) which management considers necessary for a fair statement of financial position, results of operations, comprehensive income and cash flows for the interim periods presented. The results for the interim periods are not necessarily indicative of results which may be expected for any other interim period or for the full year.

Earnings per share

The calculation of basic earnings per share is based on the number of common shares outstanding after giving effect to the stock split effected on April 12, 2018 and the common stock repurchase on August 13, 2018. Diluted earnings per share recognizes the dilution that would occur if stock options, deferred stock units or restricted stock units were exercised or converted into common shares. See Note 13 "Earnings Per Share".

C. New Accounting Standards

Recently Adopted Accounting Standards

In February 2016, the FASB issued ASU No. 2016-02, *Leases* (Topic 842). Under this new guidance, a company will now recognize most leases on its balance sheet as lease liabilities with corresponding right-of-use assets. This ASU is effective for fiscal years beginning after December 15, 2018. The Company adopted ASU No. 2016-02 on January 1, 2019. The adoption impact was not material to our financial position, results of operations or cash flows. See Note 3 "Leases" for information regarding this standard and its adoption.

Accounting Standards Not Yet Adopted

In January 2017, the FASB issued ASU No. 2017-04, *Intangibles-Goodwill and Other* (Topic 350). This guidance was issued to simplify the accounting for goodwill impairment. The guidance removes the second step of the goodwill impairment test, which requires that a hypothetical purchase price allocation be performed to determine the amount of impairment, if any. Under this new guidance, a goodwill impairment charge will be based on the amount by which a reporting unit's carrying value exceeds its fair value, not to exceed the carrying amount of goodwill. The guidance will become effective on a prospective basis for the Company on January 1, 2020 with early adoption permitted for interim or annual goodwill impairment tests performed on testing dates after January 1, 2017. The adoption of this standard is not expected to have a material effect on the Company's financial position, results of operations or cash flows.

PART I (CONT'D)
GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

(2) Revenue from Contracts with Customers

Disaggregation of Revenue

The following table provides information about disaggregated revenue by type of product and contract for the three months ended March 31, 2019 and 2018:

	For the Three Months Ended March 31, 2019	For the Three Months Ended March 31, 2018
	<i>(Dollars in thousands)</i>	
Graphite Electrodes - Three-to-five-year take-or-pay contracts	\$ 396,040	\$ 272,201
Graphite Electrodes - Short-term agreements and spot sales	47,296	143,710
By-products and other	31,658	35,988
Total Revenues	\$ 474,994	\$ 451,899

Effective the first quarter of 2019, the Graphite Electrodes revenue categories include only graphite electrodes manufactured by GrafTech. The revenue category "By-products and Other" now includes re-sales of low-grade electrodes purchased from third party suppliers, which represent a minimal contribution to our profitability. For comparability purposes, the prior period has been recast to conform to this presentation.

Contract Balances

Receivables, net of allowances for doubtful accounts, were \$278.4 million as of March 31, 2019 and \$248.3 million as of December 31, 2018. Accounts receivables are recorded when the right to consideration becomes unconditional. Payment terms on invoices range from 30 to 120 days depending on the customary business practices of the jurisdictions in which we do business.

Certain short-term and longer-term sales contracts require up-front payments prior to the Company's fulfillment of any performance obligation. These contract liabilities are recorded as current or long-term deferred revenue, depending on the lag between the pre-payment and the expected delivery of the related products. Additionally, under ASC 606, deferred revenue originates from contracts where the allocation of the transaction price to the performance obligations based on their relative stand-alone selling prices results in the timing of revenue recognition being different from the timing of the invoicing. In this case, deferred revenue is amortized into revenue based on the transaction price allocated to the remaining performance obligations.

Current deferred revenue is included in "Other accrued liabilities" and long-term deferred revenue is included in "Other long-term obligations" on the Condensed Consolidated Balance Sheets.

The following table provides information about deferred revenue from contracts with customers (in thousands):

	Current deferred revenue	Long-Term deferred revenue
	<i>(dollars in thousands)</i>	
Balance as of December 31, 2018	\$ 5,380	\$ 7,716
Revenue recognized that was included in the deferred revenue balance at the beginning of the period	(1,424)	—
Increases due to cash received, excluding amounts recognized as revenue during the period	297	—
Foreign currency impact	\$ 4	(17)
Balance as of March 31, 2019	\$ 4,257	\$ 7,699

PART I (CONT'D)
GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

Transaction Price Allocated to the Remaining Performance Obligations

The following table presents estimated revenues expected to be recognized in the future related to performance obligations that are unsatisfied (or partially unsatisfied) at the end of the reporting period (in thousands). The estimated revenues do not include contracts with original duration of one year or less.

	Three-to-five-year take-or-pay contracts
	<i>(dollars in thousands)</i>
Remainder of 2019	1,066,322
2020	1,392,966
2021	1,237,952
2022	1,172,028
Thereafter	29,461
Total	\$ 4,898,729

In addition to the expected remaining revenue to be recognized with the longer-term sales contracts, the Company recorded \$396.0 million of revenue pursuant to these contracts in the three months ended March 31, 2019 .

(3) Leases

We lease certain transportation and mobile manufacturing equipment such as railcars and forklifts, as well as real estate.

The company adopted ASU 2016-02 "Leases: (Topic 842) ("ASC 842") on January 1, 2019. ASC 842 requires that all leases, financing and operating, be included on the balance sheet. The Company adopted ASC 842 using the modified retrospective approach under which prior periods' financial statements are not restated and a cumulative-effect adjustment to retained earnings at the beginning of the period of adoption is recorded, if applicable. The Company elected to adopt the transition package of practical expedients for lease identification, classification, initial direct costs and hindsight. At the adoption of ASC 842 on January 1, 2019, the Company recognized right-of-use ("RoU") assets and corresponding operating lease liabilities of \$7.5 million , with no cumulative-effect adjustment to retained earnings.

We determine if an arrangement is a lease at lease inception. When an arrangement contains a lease, we then determine if it meets any of the criteria for a financing lease. Leases with a term of 12 months or less are not recorded on the balance sheet.

RoU assets represent our right to use an underlying asset for the lease term and lease liabilities represent our obligation to make lease payments arising from the lease. RoU assets and lease liabilities are recognized at the lease commencement date based on the present value of the lease payments over the lease term.

In order to compute the lease liability, when the rate implicit in the lease is not readily determinable, we discount the lease payments using our estimated incremental borrowing rate for secured fixed rate debt over the same term, derived from information available at the lease commencement date. Our lease term includes the option to extend the lease when it is reasonably certain that we will exercise that option.

The Company has elected to account for the lease and non-lease components as a single lease component, except for leases of warehouse space where they will be accounted for separately. Leases may include variable lease and variable non-lease components costs which are accounted for as variable lease expense in the income statement.

PART I (CONT'D)
GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

Components of lease expense are as follows:

	For the Three Months Ended March 31, 2019
	<i>(Dollars in thousands)</i>
Operating lease cost	1,032
Short-term lease cost	4
Variable lease cost	52
Total lease cost	\$ 1,088

Supplemental cash-flow information is as follows:

	For the Three Months Ended March 31, 2019
	<i>(Dollars in thousands)</i>
RoU assets obtained in exchange for new operating lease liabilities (non-cash)	832
Operating (use of cash) from operating leases	(1,032)

Supplemental balance sheet information related to leases are as follows:

	As of March 31, 2019
	<i>(Dollars in thousands)</i>
Operating RoU Assets*	\$ 7,370
*Amount included in Other assets	
Current operating lease liabilities	3,701
Non-current operating lease liabilities	3,660
Total operating lease liabilities**	\$ 7,361
**Amounts included in other accrued liabilities assets and other long-term obligations	
Weighted average remaining lease term (in years)	2.78
Weighted average discount rate - operating leases	5.62%

As of March 31, 2019, lease commitments under non-cancelable operating leases extending for one year or more will require the following future payments:

	<i>(Dollars in thousands)</i>
Remainder of 2019	\$ 2,813
2020	2,832
2021	1,442
2022	313
2023	269
2024 and thereafter	366
Total lease payments	\$ 8,035
Less: Imputed interest	(674)
Present value of lease payments	7,361
Less: Current operating lease liability	(3,701)
Non-current operating lease liability	\$ 3,660

PART I (CONT'D)
GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

As of March 31, 2019, we have entered into an additional operating lease commitment of approximately \$0.3 million for a real estate lease to commence in the second quarter 2019 with a term of five years.

Disclosure related to periods prior to adoption of the new lease standard

As of December 31, 2018, lease commitments under non-cancelable operating leases required the following future payments:

<i>(Dollars in thousands)</i>		
2019	\$	4,474
2020		2,747
2021		1,497
2022		334
2023		269
2024 and thereafter		343
Total lease payments	\$	9,664

Total lease expenses under non-cancelable operating leases approximated \$4.9 million in 2018.

(4) Retirement Plans and Postretirement Benefits

The components of our consolidated net pension costs are set forth in the following table:

		For the Three Months Ended March 31,	
		2019	2018
		(Dollars in thousands)	
Service cost	\$	575	\$ 498
Interest cost		1,316	1,241
Expected return on plan assets		(1,338)	(1,502)
Net cost	\$	553	\$ 237

The components of our consolidated net postretirement costs are set forth in the following table:

		For the Three Months Ended March 31,	
		2019	2018
		(Dollars in thousands)	
Interest cost		242	251
Net cost		\$ 242	\$ 251

(5) Goodwill and Other Intangible Assets

We are required to review goodwill and indefinite-lived intangible assets annually for impairment. Goodwill impairment is tested at the graphite electrodes reporting unit level on an annual basis and between annual tests if an event occurs or circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying value.

The following tables represent the changes in the carrying value of goodwill and intangibles for the three months ended March 31, 2019 which are reported in "Other Assets" on the balance sheets:

PART I (CONT'D)
GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

Goodwill

(Dollars in thousands)

Balance as of December 31, 2018	\$	171,117
Adjustments		—
Balance as of March 31, 2019	\$	171,117

Intangible Assets

	As of March 31, 2019			As of December 31, 2018		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
	<i>(Dollars in Thousands)</i>					
Trade name	\$ 22,500	\$ (8,262)	\$ 14,238	\$ 22,500	\$ (7,721)	\$ 14,779
Technological know-how	55,300	(24,964)	30,336	55,300	(23,503)	31,797
Customer-related intangible	64,500	(16,173)	48,327	64,500	(15,070)	49,430
Total finite-lived intangible assets	\$ 142,300	\$ (49,399)	\$ 92,901	\$ 142,300	\$ (46,294)	\$ 96,006

Amortization expense of acquired intangible assets was \$3.1 million and \$3.3 million in the three months ended March 31, 2019 and 2018, respectively. Estimated amortization expense will approximate \$9.1 million in the remainder of 2019, \$11.4 million in 2020, \$10.7 million in 2021, \$10.1 million in 2022 and \$9.2 million in 2023.

(6) Debt and Liquidity

The following table presents our long-term debt:

	As of March 31, 2019	As of December 31, 2018
	<i>(Dollars in thousands)</i>	
2018 Credit Facility (2018 Term Loan and 2018 Revolving Facility)	2,032,463	2,155,883
Other Debt	745	751
Total debt	2,033,208	2,156,634
Less: Short-term debt	(15,492)	(106,323)
Long-term debt	\$ 2,017,716	\$ 2,050,311

On February 13, 2019, we repaid \$125 million on our 2018 Term Loan Facility, which satisfied the majority of our current obligations relative to the minimum quarterly installments.

The fair value of debt approximated the book value of \$2,033.2 million as of March 31, 2019.

Senior Notes and Old Credit Agreement

As of December 31, 2017, the Company had \$ 300 million of principal amount of 6.375% Senior Notes due 2020 (the "Senior Notes"). The Senior Notes were scheduled to mature on November 15, 2020.

Additionally, as of December 31, 2017, the Company was party to the Amended and Restated Credit Agreement ("Old Credit Agreement") which consisted of the Old Revolving Facility and the Old Term Loan Facility. As of December 31, 2017, the Company had \$39.5 million of borrowings on the Old Revolving Facility and \$8.7 million of letters of credit drawn against the Old Credit Facility. The balance of the Old Term Loan Facility was \$18.7 million as of December 31, 2017.

PART I (CONT'D)
GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

As described below, the outstanding indebtedness under the Senior Notes, Old Revolving Credit Facility and the Old Term Loan was repaid as of February 12, 2018 and all commitments thereunder have been terminated.

Refinancing

On February 12, 2018, the Company entered into a credit agreement (the "2018 Credit Agreement") among the Company, GrafTech Finance Inc., a Delaware corporation and a wholly owned subsidiary of GrafTech ("Finance"), GrafTech Switzerland SA, a Swiss corporation and a wholly owned subsidiary of GrafTech ("Swissco"), GrafTech Luxembourg II S.à.r.l., a Luxembourg société à responsabilité limitée and a wholly owned subsidiary of GrafTech ("Luxembourg Holdco" and, together with Finance and Swissco, the "Co-Borrowers"), the lenders and issuing banks party thereto and JPMorgan Chase Bank, N.A. as administrative agent and as collateral agent, which provides for (i) a \$1,500 million senior secured term facility (the "2018 Term Loan Facility") and (ii) a \$250 million senior secured revolving credit facility (the "2018 Revolving Credit Facility" and, together with the 2018 Term Loan Facility, the "Senior Secured Credit Facilities"), which may be used from time to time for revolving credit borrowings denominated in dollars or Euro, the issuance of one or more letters of credit denominated in dollars, Euro, Pounds Sterling or Swiss Francs and one or more swing line loans denominated in dollars. Finance is the sole borrower under the 2018 Term Loan Facility while Finance, Swissco and Lux Holdco are Co-Borrowers under the 2018 Revolving Credit Facility. On February 12, 2018, Finance borrowed \$1,500 million under the 2018 Term Loan Facility (the "2018 Term Loans"). The 2018 Term Loans mature on February 12, 2025. The maturity date for the 2018 Revolving Credit Facility is February 12, 2023.

The proceeds of the 2018 Term Loans were used to (i) repay in full all outstanding indebtedness of the Co-Borrowers under the Old Credit Agreement and terminate all commitments thereunder, (ii) redeem in full the Senior Notes at a redemption price of 101.594% of the principal amount thereof plus accrued and unpaid interest to the date of redemption, (iii) pay fees and expenses incurred in connection with (i) and (ii) above and the Senior Secured Credit Facilities and related expenses, and (iv) declare and pay a dividend to the sole pre-IPO stockholder, with any remainder to be used for general corporate purposes. See Note 8 "Interest Expense" for a breakdown of expenses associated with these repayments. In connection with the repayment of the Old Credit Agreement and redemption of the Senior Notes, all guarantees of obligations under the Old Credit Agreement, the Senior Notes and related indenture were terminated, all mortgages and other security interests securing obligations under the Old Credit Agreement were released and the Old Credit Agreement and the indenture were terminated.

Borrowings under the 2018 Term Loan Facility bear interest, at Finance's option, at a rate equal to either (i) the Adjusted LIBO Rate (as defined in the 2018 Credit Agreement), plus an applicable margin initially equal to 3.50% per annum or (ii) the ABR Rate (as defined in the 2018 Credit Agreement), plus an applicable margin initially equal to 2.50% per annum, in each case with one step down of 25 basis points based on achievement of certain public ratings of the 2018 Term Loans.

Borrowings under the 2018 Revolving Credit Facility bear interest, at the applicable Co-Borrower's option, at a rate equal to either (i) the Adjusted LIBO Rate, plus an applicable margin initially equal to 3.75% per annum or (ii) the ABR Rate, plus an applicable margin initially equal to 2.75% per annum, in each case with two 25 basis point step downs based on achievement of certain senior secured first lien net leverage ratios. In addition, the Co-Borrowers will be required to pay a quarterly commitment fee on the unused commitments under the 2018 Revolving Credit Facility in an amount equal to 0.25% per annum.

All obligations under the 2018 Credit Agreement are guaranteed by GrafTech, Finance and each domestic subsidiary of GrafTech, subject to certain customary exceptions, and all obligations under the 2018 Credit Agreement of each foreign subsidiary of GrafTech that is a Controlled Foreign Corporation (within the meaning of Section 956 of the Internal Revenue Code of 1986, as amended from time to time (the "Code")) are guaranteed by GrafTech Luxembourg I S.à.r.l., a Luxembourg société à responsabilité limitée and an indirect wholly owned subsidiary of GrafTech ("Luxembourg Parent"), Luxembourg Holdco and Swissco (collectively, the "Guarantors").

For borrowings under both the 2018 Term Loan Facility and the 2018 Revolving Credit Facility, if the Administrative Agent determines that adequate and reasonable means do not exist for ascertaining the Adjusted LIBO Rate or the LIBO Rate and such circumstances are unlikely to be temporary or the relevant authority has made a public statement identifying a date after which the LIBO Rate shall no longer be used for determining interest rates for loans, then the Administrative Agent and the Co-Borrowers shall endeavor to establish an alternate rate of interest, which shall be effective so long as the majority in interest of the lenders for each Class (as defined in the 2018 Credit Agreement) of loans under the 2018 Credit Agreement do not notify the Administrative Agent otherwise. Until such an alternate rate of interest is determined, (a) any request for a borrowing denominated in dollars based on the Adjusted LIBO Rate will be deemed to be a request for a borrowing at the ABR Rate plus the applicable margin for an ABR Rate borrowing of such loan while any request for a borrowing denominated in any other currency will be ineffective and (b) any outstanding borrowings based on the Adjusted LIBO Rate denominated in dollars will be converted to a

PART I (CONT'D)
GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

borrowing at the ABR Rate plus the applicable margin for an ABR Rate borrowing of such loan while any outstanding borrowings denominated in any other currency will be repaid.

All obligations under the 2018 Credit Agreement are secured, subject to certain exceptions and Excluded Assets (as defined in the 2018 Credit Agreement), by: (i) a pledge of all of the equity securities of Finance and each domestic Guarantor (other than GrafTech) and of each other direct, wholly owned domestic subsidiary of GrafTech and any Guarantor, (ii) a pledge on no more than 65% of the equity interests of each subsidiary that is a Controlled Foreign Corporation (within the meaning of Section 956 of the Code), and (iii) security interests in, and mortgages on, personal property and material real property of Finance and each domestic Guarantor, subject to permitted liens and certain exceptions specified in the 2018 Credit Agreement. The obligations of each foreign subsidiary of GrafTech that is a Controlled Foreign Corporation under the Revolving Credit Facility are secured by (i) a pledge of all of the equity securities of each Guarantor that is a Controlled Foreign Corporation and of each direct, wholly owned subsidiary of any Guarantor that is a Controlled Foreign Corporation, and (ii) security interests in certain receivables and personal property of each Guarantor that is a Controlled Foreign Corporation, subject to permitted liens and certain exceptions specified in the 2018 Credit Agreement.

The 2018 Term Loans amortize at a rate equal to 5% per annum of the original principal amount of the 2018 Term Loans payable in equal quarterly installments, with the remainder due at maturity. The Co-Borrowers are permitted to make voluntary prepayments at any time without premium or penalty, except in the case of prepayments made in connection with certain repricing transactions with respect to the 2018 Term Loans effected within twelve months of the closing date of the 2018 Credit Agreement, to which a 1.00% prepayment premium applies. Finance is required to make prepayments under the 2018 Term Loans (without payment of a premium) with (i) net cash proceeds from non-ordinary course asset sales (subject to customary reinvestment rights and other customary exceptions and exclusions), and (ii) commencing with the Company's fiscal year ending December 31, 2019, 75% of Excess Cash Flow (as defined in the 2018 Credit Agreement), subject to step-downs to 50% and 0% of Excess Cash Flow based on achievement of a senior secured first lien net leverage ratio greater than 1.25 to 1.00 but less than or equal to 1.75 to 1.00 and less than or equal to 1.25 to 1.00, respectively. Scheduled quarterly amortization payments of the 2018 Term Loans during any calendar year reduce, on a dollar-for-dollar basis, the amount of the required Excess Cash Flow prepayment for such calendar year, and the aggregate amount of Excess Cash Flow prepayments for any calendar year reduce subsequent quarterly amortization payments of the 2018 Term Loans as directed by Finance.

The 2018 Credit Agreement contains customary representations and warranties and customary affirmative and negative covenants applicable to GrafTech and restricted subsidiaries, including, among other things, restrictions on indebtedness, liens, investments, fundamental changes, dispositions, and dividends and other distributions. The 2018 Credit Agreement contains a financial covenant that requires GrafTech to maintain a senior secured first lien net leverage ratio not greater than 4.00 : 1.00 when the aggregate principal amount of borrowings under the 2018 Revolving Credit Facility and outstanding letters of credit issued under the 2018 Revolving Credit Facility (except for undrawn letters of credit in an aggregate amount equal to or less than \$35 million), taken together, exceed 35% of the total amount of commitments under the 2018 Revolving Credit Facility. The 2018 Credit Agreement also contains customary events of default.

Brookfield Promissory Note

On April 19, 2018, we declared a dividend in the form of a \$750 million promissory note (the "Brookfield Promissory Note") to the sole pre-IPO stockholder. The \$750 million Brookfield Promissory Note was conditioned upon (i) the Senior Secured First Lien Net Leverage Ratio (as defined in the 2018 Credit Agreement), as calculated based on our final financial results for the first quarter of 2018, being equal to or less than 1.75 to 1.00, (ii) no Default or Event of Default (each as defined in the 2018 Credit Agreement) having occurred and continuing or that would result from the \$750 million Brookfield Promissory Note and (iii) the satisfaction of the conditions occurring within 60 days from the dividend record date. Upon publication of our first quarter report on Form 10-Q, these conditions were met and, as a result, the Brookfield Promissory Note became payable.

The Brookfield Promissory Note had a maturity of eight years from the date of issuance and bore interest at a rate equal to the Adjusted LIBO Rate (as defined in the Brookfield Promissory Note) plus an applicable margin equal to 4.50% per annum, with an additional 2.00% per annum starting from the third anniversary from the date of issuance. We were permitted to make voluntary prepayments at any time without premium or penalty. All obligations under the Brookfield Promissory Note were unsecured and guaranteed by all of our existing and future domestic wholly owned subsidiaries that guarantee, or are borrowers under, the Senior Secured Credit Facilities. No funds were lent or otherwise contributed to us by the pre-IPO stockholder in connection with the Brookfield Promissory Note. As a result, we received no consideration in connection with its issuance. As described below, the Promissory Note was repaid in full on June 15, 2018.

PART I (CONT'D)
GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

First Amendment to 2018 Credit Agreement

On June 15, 2018, the Company entered into a first amendment (the “First Amendment”) to its 2018 Credit Agreement. The First Amendment amended the 2018 Credit Agreement to provide for an additional \$750 million in aggregate principal amount of incremental term loans (the “Incremental Term Loans”) to Finance. The Incremental Term Loans increased the aggregate principal amount of term loans incurred by Finance under the 2018 Credit Agreement from \$1,500 million to \$2,250 million. The Incremental Term Loans have the same terms as those applicable to the 2018 Term Loans, including interest rate, payment and prepayment terms, representations and warranties and covenants. The Incremental Term Loans mature on February 12, 2025, the same date as the 2018 Term Loans. GrafTech paid an upfront fee of 1.00% of the aggregate principal amount of the Incremental Term Loans on the effective date of the First Amendment.

The proceeds of the Incremental Term Loans were used to repay, in full, the \$750 million of principal outstanding on the Brookfield Promissory Note.

(7) Inventories

Inventories are comprised of the following:

	As of March 31, 2019	As of December 31, 2018
	<i>(Dollars in thousands)</i>	
Inventories:		
Raw materials	\$ 97,951	\$ 99,935
Work in process	138,664	125,767
Finished goods	63,179	68,015
Total	<u>\$ 299,794</u>	<u>\$ 293,717</u>

(8) Interest Expense

The following tables present the components of interest expense:

	For the Three Months Ended March 31,	
	2019	2018
	<i>(Dollars in thousands)</i>	
Interest incurred on debt	\$ 32,120	\$ 12,919
Senior Note redemption premium	—	4,782
Accretion of fair value adjustment on Senior Notes	—	19,414
Accretion of original issue discount on 2018 Term Loans	549	88
Amortization of debt issuance costs	1,031	662
Total interest expense	<u>\$ 33,700</u>	<u>\$ 37,865</u>

Interest Rates

The 2018 Credit Agreement had an effective interest rate of 6.00% as of March 31, 2019. The Old Revolving Facility and Old Term Loan Facility had an effective interest rate of 4.57% as of December 31, 2018 and the Senior Notes had a fixed interest rate of 6.375%, both of which were repaid on February 12, 2018 as part of our refinancing (see Note 6 "Debt and Liquidity").

As a result of our February 12, 2018 refinancing, we paid a prepayment premium for the redemption of our Senior Notes totaling \$4.8 million. The accretion of the August 15, 2015 fair value adjustment to our Senior Notes totaling \$19.4 million included accelerated accretion of \$18.7 million for the three months ended March 31, 2018 resulting from the prepayment. Amortization of debt issuance costs included \$0.3 million of accelerated amortization related to the refinancing.

PART I (CONT'D)
GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

(9) Contingencies

Legal Proceedings

We are involved in various investigations, lawsuits, claims, demands, environmental compliance programs and other legal proceedings arising out of or incidental to the conduct of our business. While it is not possible to determine the ultimate disposition of each of these matters, we do not believe that their ultimate disposition will have a material adverse effect on our financial position, results of operations or cash flows.

Litigation has been pending in Brazil brought by employees seeking to recover additional amounts and interest thereon under certain wage increase provisions applicable in 1989 and 1990 under collective bargaining agreements to which employers in the Bahia region of Brazil were a party (including our subsidiary in Brazil). Companies in Brazil have settled claims arising out of these provisions and, in May 2015, the litigation was remanded in favor of the employees, by the Brazilian Supreme Court to the lower courts for further proceedings which included procedural aspects of the case, such as admissibility of instruments filed by the parties. On October 1, 2015, an action was filed by current and former employees against our subsidiary in Brazil to recover amounts under such provisions, plus interest thereon, which amounts together with interest could be material to us. In the first quarter of 2017, the state court ruled in favor of the employees. We have appealed this ruling and intend to vigorously defend it. As of March 31, 2019, we are unable to assess the potential loss associated with these proceedings as the claims do not currently specify the number of employees seeking damages or the amount of damages being sought.

Product Warranties

We generally sell products with a limited warranty. We accrue for known warranty claims if a loss is probable and can be reasonably estimated. We also accrue for estimated warranty claims incurred based on a historical claims charge analysis. Claims accrued but not yet paid and the related activity within the accrual for the three months ended March 31, 2019, are presented below:

	<i>(Dollars in thousands)</i>
Balance as of December 31, 2018	\$ 1,528
Product warranty accruals and adjustments	195
Settlements	(129)
Balance as of March 31, 2019	\$ 1,594

Tax Receivable Agreement

On April 23, 2018, the Company entered into a tax receivable agreement (the "TRA") that provides Brookfield, as the sole pre-IPO stockholder, the right to receive future payments from us for 85% of the amount of cash savings, if any, in U.S. federal income tax and Swiss tax that we and our subsidiaries realize as a result of the utilization of certain tax assets attributable to periods prior to our IPO, including certain federal net operating losses ("NOLs"), previously taxed income under Section 959 of the Code, foreign tax credits, and certain NOLs in Swissco (collectively, the "Pre-IPO Tax Assets"). In addition, we will pay interest on the payments we will make to Brookfield with respect to the amount of these cash savings from the due date (without extensions) of our tax return where we realize these savings to the payment date at a rate equal to LIBOR plus 1.00% per annum. The term of the TRA commenced on April 23, 2018 and will continue until there is no potential for any future tax benefit payments.

There was no liability recognized on the date we entered into the TRA as there was a full valuation allowance recorded against our deferred tax assets. During the second quarter of 2018, it was determined that the conditions were appropriate for the Company to release a valuation allowance of certain tax assets as we exited our three year cumulative loss position. This release and subsequent adjustment in the fourth quarter resulted in an \$86.5 million liability related to the TRA as of December 31, 2018. In the first quarter of 2019, we reclassified \$23.9 million to the current liability "Related party payable - tax receivable agreement" on the balance sheet, as we expect this portion to be settled within twelve months. \$62.6 million of the liability remains as a long-term liability in "Related party payable - tax receivable agreement" on the balance sheet as of March 31, 2019.

Long-term Incentive Plan

The long-term incentive plan ("LTIP") was adopted by the Company effective as of August 17, 2015, as amended and restated as of March 15, 2018. The purpose of the plan is to retain senior management personnel of the Company, to incentivize them to make decisions with a long-term view and to influence behavior in a way that is consistent with maximizing value for the pre-IPO stockholder of the Company in a prudent manner. Each participant is allocated a number of profit units, with a maximum of 30,000 profit units (or Profit Units) available under the plan. Awards of Profit Units generally vest in equal increments over a

PART I (CONT'D)
GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

five-year period beginning on the first anniversary of the grant date and subject to continued employment with the Company through each vesting date. Any unvested Profit Units that have not been previously forfeited will accelerate and become fully vested upon a “Change in Control” (as defined below).

Profit Units will generally be settled in a lump sum payment within 30 days following a Change in Control based on the “Sales Proceeds” (as defined below) received by Brookfield Capital Partners IV, L.P. (or, together with its affiliates, Brookfield Capital IV) in connection with the Change in Control. The LTIP defines “Change in Control” as any transaction or series of transactions (including, without limitation, the consummation of a combination, share purchases, recapitalization, redemption, issuance of capital stock, consolidation, reorganization or otherwise) pursuant to which (a) a Person not affiliated with Brookfield Capital IV acquires securities representing more than seventy percent (70%) of the combined voting power of the outstanding voting securities of the Company or the entity surviving or resulting from such transaction, (b) following a public offering of the Company’s stock, Brookfield Capital IV has ceased to have a beneficial ownership interest in at least 30% of the Company’s outstanding voting securities (effective on the first of such date), or (c) the Company sells all or substantially all of the assets of the Company and its subsidiaries on a consolidated basis. It is intended that the occurrence of a Change in Control in which Sales Proceeds exceed the Threshold Value would constitute a “substantial risk of forfeiture” within the meaning of Section 409A of the Code. The LTIP defines “Threshold Value” as, as of any date of determination, an amount equal to \$855,000,000, (which represents the amount of the total invested capital of Brookfield Capital IV as of August 17, 2015), plus the dollar value of any cash or other consideration contributed to or invested in the Company by Brookfield Capital IV after August 17, 2015. The Threshold Value shall be determined by the Board of Directors in its sole discretion. The LTIP defines “Sales Proceeds” as, as of any date of determination, the sum of all proceeds actually received by the Brookfield Capital IV, net of all Sales Costs (as defined below), (i) as consideration (whether cash or equity) upon the Change in Control and (ii) as distributions, dividends, repurchases, redemptions or otherwise as a holder of such equity interests in the Company. Proceeds that are not paid upon or prior to or in connection with the Change in Control, including earn-outs, escrows and other contingent or deferred consideration shall become “Sale Proceeds” only as and when such proceeds are received by Brookfield Capital IV. “Sales Costs” means any costs or expenses (including legal or other advisor costs), fees (including investment banking fees), commissions or discounts payable directly by Brookfield Capital IV in connection with, arising out of or relating to a Change in Control, as determined by the Board of Directors in its sole discretion.

Given the successful completion of the IPO in the second quarter, it is reasonably possible that a Change in Control, as defined above, may ultimately happen and that the awarded Profit Units will be subsequently paid out to the participants. Assuming 100% vesting of the awarded Profit Units and depending on Brookfield’s sales proceeds, the potential liability triggered by a Change in Control is estimated to be in the range of \$65 million to \$90 million. As of March 31, 2019, the awards are 60% vested.

(10) Income Taxes

We compute and apply to ordinary income an estimated annual effective tax rate on a quarterly basis based on current and forecasted business levels and activities, including the mix of domestic and foreign results and enacted tax laws. The estimated annual effective tax rate is updated quarterly based on actual results and updated operating forecasts. Ordinary income refers to income (loss) before income tax expense excluding significant, unusual, or infrequently occurring items. The tax effect of an unusual or infrequently occurring item is recorded in the interim period in which it occurs as a discrete item of tax.

The following tables summarize the provision for income taxes for the three months ended March 31, 2019 and March 31, 2018 :

	For the Three Months Ended March 31,	
	2019	2018
	(Dollars in thousands)	
Tax expense	\$ 32,418	\$ 28,643
Pretax income	229,854	250,690
Effective tax rates	14.1%	11.4%

The effective tax rate for the three months ended March 31, 2019 was 14.1% . This rate differs from the 2019 U.S. statutory rate of 21% primarily due to worldwide earnings from various countries taxed at different rates.

The effective tax rate for the three months ended March 31, 2018 was 11.4% . This rate differs from the U.S. statutory

PART I (CONT'D)
GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

rate of 21% primarily due to worldwide earnings from various countries taxed at different rates. This difference was partially enhanced by a favorable impact from the partial release of a valuation allowance recorded against the deferred tax asset related to U.S. tax attributes as a result of the utilization of these attributes against the 2018 first quarter taxable income.

Tax expense increased from \$28.6 million in the three months ended March 31, 2018 to \$32.4 million in the three months ended March 31, 2019. This change is primarily related the partial release of the valuation allowance recorded in the three months ended March 31, 2018.

As of March 31, 2019, we had unrecognized tax benefits of \$2.0 million which, if recognized, would have a favorable impact on our effective tax rate.

We file income tax returns in the U.S. federal jurisdiction, and various state and foreign jurisdictions. All U.S. federal tax years prior to 2015 are generally closed by statute or have been audited and settled with the applicable domestic tax authorities. All other jurisdictions are still open to examination beginning after 2012.

We continue to assess the realization of our deferred tax assets based on determinations of whether it is more likely than not that deferred tax benefits will be realized through the generation of future taxable income. Appropriate consideration is given to all available evidence, both positive and negative, in assessing the need for a valuation allowance. Examples of positive evidence would include a strong earnings history, an event or events that would increase our taxable income through a continued reduction of expenses, and tax planning strategies that would indicate an ability to realize deferred tax assets. In circumstances where the significant positive evidence does not outweigh the negative evidence in regards to whether or not a valuation allowance is required, we have established and maintained valuation allowances on those net deferred tax assets.

Tax Cuts and Jobs Act

On December 22, 2017, the U.S. government enacted the Tax Cuts and Jobs Act ("Tax Act"), which significantly revised the U.S. corporate income tax system. These changes include a federal statutory rate reduction from 35% to 21%, the elimination or reduction of certain domestic deductions and credits and limitations on the deductibility of interest expense and executive compensation. The Tax Act also transitions international taxation from a worldwide system to a modified territorial system and includes base erosion prevention measures which have the effect of subjecting certain earnings of our foreign subsidiaries to U.S. taxation as global intangible low taxed income (or GILTI). In general, these changes were effective beginning in 2018. The Tax Act also included a one time mandatory deemed repatriation or transition tax on the accumulated previously untaxed foreign earnings of our foreign subsidiaries.

On August 1, 2018, the U.S. Department of Treasury and the U.S. Internal Revenue Service ("IRS") issued proposed regulations under code section 965 and on January 15, 2019, the IRS issued final 965 regulations. As of March 31, 2019, the tax impact of the final 965 regulations to the company's financial statements was deemed to be immaterial. The Company continues to analyze the effects of the Tax Act and newly issued proposed regulations on its financial statements. The final impact of the Tax Act may differ from the amounts that have been recognized, possibly materially, due to, among other things, changes in the Company's interpretation of the Tax Act, legislative or administrative actions to clarify the intent of the statutory language provided that differ from the Company's current interpretation, any changes in accounting standards for income taxes or related interpretations in response to the Tax Act, or any updates or changes to estimates utilized to calculate the impacts, including changes to current year earnings estimates and applicable foreign exchange rates.

The Company also continues to evaluate the impact of the GILTI provisions under the Tax Act which are complex and subject to continuing regulatory interpretation by the IRS. The Company is required to make an accounting policy election of either (1) treating taxes due on future U.S. inclusions in taxable income related to GILTI as a current period expense when incurred (the "period cost method") or (2) factoring such amounts into the Company's measurement of its deferred taxes (the "deferred method"). The Company's accounting policy will be to treat taxes due on future U.S. inclusions in taxable income related to GILTI as a current period expense when incurred.

(11) Derivative Instruments

We use derivative instruments as part of our overall foreign currency and commodity risk management strategies to manage the risk of exchange rate movements that would reduce the value of our foreign cash flows and to minimize commodity price volatility. Foreign currency exchange rate movements create a degree of risk by affecting the value of sales made and costs incurred in currencies other than the U.S. dollar.

PART I (CONT'D)
GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

Certain of our derivative contracts contain provisions that require us to provide collateral. Since the counterparties to these financial instruments are large commercial banks and similar financial institutions, we do not believe that we are exposed to material counterparty credit risk. We do not anticipate nonperformance by any of the counterparties to our instruments. Our derivative assets and liabilities are included within "Other long-term assets", "Prepaid expenses and other current assets", "Long-term liabilities" and "Other current liabilities" on the Condensed Consolidated Balance Sheets and effects of these derivatives are recorded in "Other comprehensive income", "Cost of sales" and "Other income (expense)" on the Condensed Consolidated Statements of Operations.

Foreign currency derivatives

We enter into foreign currency derivatives from time to time to attempt to manage exposure to changes in currency exchange rates. These foreign currency instruments, which include, but are not limited to, forward exchange contracts and purchased currency options, attempt to hedge global currency exposures such as foreign currency denominated debt, sales, receivables, payables, and purchases.

We had no foreign currency cashflow hedges outstanding as of March 31, 2019 and December 31, 2018 and therefore, no unrealized gains or losses reported under accumulated other comprehensive income (loss).

As of March 31, 2019, we had outstanding Mexican peso, euro, Swiss franc, South African rand, British pound sterling, and Japanese yen currency contracts with an aggregate notional amount of \$49.9 million. These foreign currency derivatives outstanding as of March 31, 2019 have maturities through October 31, 2019. As of December 31, 2018, we had outstanding Mexican peso, South African rand, euro, Swiss franc and Japanese yen currency contracts, with an aggregate notional amount of \$19.6 million.

Commodity derivative contracts

We have entered into commodity derivative contracts for refined oil products. These contracts are entered into to protect against the risk that eventual cash flows related to these products will be adversely affected by future changes in prices. We had outstanding commodity derivative contracts as of March 31, 2019 with notional amount of \$130.2 million with maturities from April 2019 to June 2022. The outstanding commodity derivative contracts represented a pre tax net unrealized gain within "Other Comprehensive Income" of \$20.5 million as of March 31, 2019. We had outstanding commodity derivative contracts as of December 31, 2018 with notional amount of \$142.1 million representing a pre-tax net unrealized loss of \$10.7 million.

Net Investment Hedges

We use certain intercompany debt to hedge a portion of our net investment in our foreign operations against currency exposure (net investment hedge). Intercompany debt denominated in foreign currency and designated as a non-derivative net investment hedging instrument was \$9.5 million as of March 31, 2019 and December 31, 2018. Within the currency translation adjustment portion of "Other Comprehensive Income", we recorded no loss or gain as for the three months ended March 31, 2019 and a loss of \$0.7 million in the three months ended March 31, 2018.

PART I (CONT'D)
GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

The fair value of all derivatives is recorded as assets or liabilities on a gross basis in our Condensed Consolidated Balance Sheets. As of March 31, 2019 and December 31, 2018, the fair value of our derivatives and their respective balance sheet locations are presented in the following table:

Asset Derivatives		Liability Derivatives	
Location	Fair Value	Location	Fair Value
As of March 31, 2019			
<i>(Dollars in thousands)</i>			
Derivatives designated as cash flow hedges:			
Commodity derivative contracts	Prepaid and other current assets \$ 9,035	Other accrued liabilities	\$ 1
	Other long-term assets 11,481	Other long-term obligations	—
Total fair value	\$ 20,516		\$ 1

As of December 31, 2018

Derivatives designated as cash flow hedges:			
Commodity derivative contracts	Prepaid and other current assets \$ 90	Other accrued liabilities	\$ 4,630
	Other long-term assets 260	Other long-term obligations	6,393
Total fair value	\$ 350		\$ 11,023

Asset Derivatives		Liability Derivatives	
Location	Fair Value	Location	Fair Value
As of March 31, 2019			
<i>(Dollars in Thousands)</i>			
Derivatives not designated as hedges:			
Foreign currency derivatives	Prepaid and other current assets \$ 67	Other current liabilities	\$ 80

As of December 31, 2018

Derivatives not designated as hedges:			
Foreign currency derivatives	Prepaid and other current assets \$ —	Other current liabilities	\$ 43

The realized (gains) losses resulting from the settlement of commodity derivative contracts remain in Accumulated Other Comprehensive Income until they are recognized in the Statement of Operations when the hedged item impacts earnings, which is when the finished product is sold. As of March 31, 2019 and March 31, 2018, net realized pre-tax gains of \$8.4 million and \$0.6 million, respectively, were reported under AOCI and will be and were, respectively, released to earnings within the following 12 months. See table below for amounts recognized in the Statement of Operations.

The amount of pre-tax realized (gains) losses on commodity derivatives and on undesignated foreign currency derivatives recognized in the Statement of operations are as follows for the period ended March 31, 2019 and March 31, 2018:

Location of (Gain)/Loss Recognized in the Consolidated Statement of Operations		Amount of (Gain)/Loss Recognized	
		For the Three Months Ended March 31,	
		2019	2018
<i>(Dollars in thousands)</i>			
Derivatives designated as cash flow hedges:			
Commodity contract hedges	Cost of sales	(1,848)	—
Derivatives not designated as hedges:			
Foreign currency derivatives	Cost of sales, Other (income)/expense	(677)	118

PART I (CONT'D)
GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

(12) Accumulated Other Comprehensive Income (Loss)

The balance in our accumulated other comprehensive income (loss) is set forth in the following table:

	As of March 31, 2019	As of December 31, 2018
	<i>(Dollars in thousands)</i>	
Foreign currency translation adjustments, net of tax	\$ (6,461)	\$ (2,922)
Commodities and foreign currency derivatives, net of tax	22,779	(2,878)
Total accumulated comprehensive income (loss)	<u>\$ 16,318</u>	<u>\$ (5,800)</u>

(13) Earnings per Share

The following table shows the information used in the calculation of our basic and diluted earnings per share calculation as of March 31, 2019 and March 31, 2018.

	For the Three Months Ended March 31,	
	2019	2018
Weighted average common shares outstanding for basic calculation	290,559,025	302,225,923
Add: Effect of stock options, deferred stock units and restricted stock units	7,138	—
Weighted average common shares outstanding for diluted calculation	<u>290,566,163</u>	<u>302,225,923</u>

Basic earnings per common share are calculated by dividing net income (loss) by the weighted average number of common shares outstanding, which includes 21,413 shares of participating securities. Diluted earnings per share are calculated by dividing net income (loss) by the sum of the weighted average number of common shares outstanding plus the additional common shares that would have been outstanding if potentially dilutive securities had been issued.

The weighted average common shares outstanding for the diluted earnings per share calculation excludes consideration of 981,330 equivalent shares in the three months ended March 31, 2019, as these shares are anti-dilutive.

(14) Stock-Based Compensation

Our Board of Directors granted 157,000 stock options, 280 deferred stock units and 181,905 restricted stock units during the three months ended March 31, 2019 under our Omnibus Equity Incentive Plan.

Stock-based compensation expense was \$0.3 million in the three months ended March 31, 2019, of which \$0.2 million was recorded as "Selling and Administrative Expenses" in the Condensed Consolidated Statement of Operations. The remaining remainder was recorded in "Cost of Sales" and "Research and Development." There was no stock-based compensation expense recognized in the three months ended March 31, 2018.

As of March 31, 2019, unrecognized compensation cost related to non-vested stock options, deferred stock units and restricted stock units represents \$8.3 million, which will be recognized over the remaining weighted average life of 4.4 years.

Stock Option, Deferred Stock Unit and Restricted Stock Unit awards activity under the Omnibus Equity Incentive Plan for the three months ended March 31, 2019 was as follows:

Stock options

PART I (CONT'D)
GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

	Number of Shares	Weighted- Average Exercise Price
Outstanding unvested as of December 31, 2018	968,720	15.68
Granted	157,000	13.64
Forfeited	(24,670)	15.00
Outstanding unvested as of March 31, 2019	1,101,050	15.40

Deferred Stock Unit and Restricted Stock Unit awards

	Number of Shares	Weighted- Average Grant Date Fair Value
Outstanding unvested as of December 31, 2018	27,570	12.88
Granted	182,185	13.36
Vested	(143)	12.79
Outstanding unvested as of March 31, 2019	209,612	13.38

(15) Subsequent Events

On April 29, 2019, the Board of Directors declared our regular quarterly dividend of \$0.085 per share to stockholders of record as of the close of business on May 31, 2019, to be paid on June 28, 2019.

PART I (CONT'D)
GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
(Unaudited)

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

Outlook

GrafTech is a leading manufacturer of graphite electrodes, the critical consumable for the electric arc furnace ("EAF") industry. We are the only graphite electrode producer that is substantially vertically integrated into petroleum needle coke, the key raw material for graphite electrodes. Vertical integration has allowed us to adopt a commercial strategy with long-term, fixed price, fixed volume, take-or-pay contracts providing earnings stability and visibility. These contracts define volumes and prices, along with price-escalation mechanisms for inflation, and include significant termination payments (typically, 50% to 70% of remaining contracted revenue) and, in certain cases, parent guarantees and collateral arrangements to manage our customer credit risk. We have entered into three-to-five-year take-or-pay contracts to sell approximately 148,000, 145,000, 128,000 and 120,000 metric tons ("MT") in 2019, 2020, 2021 and 2022, respectively. We have contracted approximately 65-70% of our production capacity through these contracts. We also recently completed a debottlenecking project to increase our capacity by 20% to approximately 200,000 MT.

Our weighted average realized price of GrafTech manufactured electrodes was \$9,954 per MT in the first quarter of 2019 compared to \$9,989 per MT in the first quarter of 2018, which has been recast as described below. While spot prices have come down from recent historic highs, they still remain well above their historical average. Strong economics for the EAF producers that we serve has led to EAF production since 2016 resuming growth in line with its historical trend (2.8% annually from 1984-2017). A tight needle coke market is also contributing to these elevated prices. Needle coke demand from electric vehicle batteries is currently disrupting the supply chain and resulting in increased pricing and higher costs of sales. Although our vertical integration largely protects us from the increase in needle coke costs, we expect to purchase approximately one third of our needle coke supply from third parties. These higher needle coke costs will continue to impact our earnings.

We are impacted in varying degrees, both positively and negatively, as global, regional or country economic conditions fluctuate. Our discussions about market data and global economic conditions below are derived from published industry accounts and statistics. In its April 2019 report, the International Monetary Fund ("IMF") reported that after strong growth in 2017 and the first half of 2018, global economic activity slowed notably in the second half of 2018. The IMF estimated the global growth rate is expected to slow from 3.6% in 2018 to 3.3% in 2019. The estimate for 2019 is down 0.2% from the IMF January 2019 report as a result of a slowing second half of 2018.

Graphite electrode demand is primarily linked to the global production of steel in electric arc furnaces, and to a lesser extent, with the total production of steel and certain other metals. The World Steel Association's April 2019 Short Range Outlook estimated global steel demand outside of China increased by 2.2% in 2018. WSA decreased their growth forecast for steel demand outside of China for 2019 from 2.7% to 1.7% due to a slowing global economy and a deteriorating trade environment. WSA's growth forecast for steel demand outside of China for 2020 is 2.8%.

Key metrics used by management to measure performance

In addition to measures of financial performance presented in our Condensed Consolidated Financial Statements in accordance with GAAP, we use certain other financial measures and operating metrics to analyze the performance of our company. The "non-GAAP" financial measures consist of EBITDA from continuing operations and adjusted EBITDA from continuing operations, which help us evaluate growth trends, establish budgets, assess operational efficiencies and evaluate our overall financial performance. The key operating metrics consist of sales volume, weighted average realized price, production volume, production capacity and capacity utilization.

Key financial measures

(in thousands)	For the Three Months Ended March 31,	
	2019	2018
Net sales	\$ 474,994	\$ 451,899
Net income	197,436	223,673
EBITDA from continuing operations ⁽¹⁾	278,725	304,768
Adjusted EBITDA from continuing operations ⁽¹⁾	283,815	310,339

⁽¹⁾ See below for information and a reconciliation of EBITDA and adjusted EBITDA to net income, the most directly comparable financial measure calculated and presented in accordance with GAAP.

PART I (CONT'D)
GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
(Unaudited)

Key operating metrics

In an effort to improve transparency, effective the first quarter of 2019, we have recast the key metrics of sales volume and weighted average realized price per metric ton in the table below to include only graphite electrodes manufactured by GrafTech. This better reflects management's assessment of our revenue and profitability and excludes re-sales of low grade graphite electrodes manufactured by third-party suppliers. For comparability purposes, the prior period has been recast to conform to this presentation.

(in thousands, except price data)	For the Three Months Ended March 31,	
	2019	2018
Sales volume (MT) ⁽¹⁾	45	42
Weighted average realized price ⁽²⁾	\$ 9,954	\$ 9,989
Production volume (MT) ⁽³⁾	48	43
Production capacity excluding St. Marys during idle period (MT) ⁽⁴⁾⁽⁵⁾	51	44
Capacity utilization excluding St. Marys during idle period ⁽⁴⁾⁽⁶⁾	94%	98%
Total production capacity (MT) ⁽⁵⁾⁽⁷⁾	58	51
Total capacity utilization ⁽⁶⁾⁽⁷⁾	83%	84%

⁽¹⁾ Sales volume has been recast to reflect the total sales volume of GrafTech manufactured electrodes for which revenue has been recognized during the period. For additional information see "Key Operating Metrics" below.

⁽²⁾ Weighted average realized price has been recast to reflect the total revenues from sales of GrafTech manufactured electrodes for the period divided by the GrafTech manufactured electrode volume for that period. For additional information see "Key Operating Metrics" below.

⁽³⁾ Production volume reflects graphite electrodes we produced during the period.

⁽⁴⁾ The St. Marys, Pennsylvania facility was temporarily idled effective the second quarter of 2016 except for the machining of semi-finished products sourced from other plants. In the first quarter of 2018, our St. Marys facility began graphitizing a limited amount of electrodes sourced from our Monterrey, Mexico facility.

⁽⁵⁾ Production capacity reflects expected maximum production volume during the period under normal operating conditions, standard product mix and expected maintenance outage. Actual production may vary.

⁽⁶⁾ Capacity utilization reflects production volume as a percentage of production capacity.

⁽⁷⁾ Includes graphite electrode facilities in Calais, France; Monterrey, Mexico; Pamplona, Spain and St. Marys, Pennsylvania.

Non-GAAP financial measures

In addition to providing results that are determined in accordance with GAAP, we have provided certain financial measures that are not in accordance with GAAP. EBITDA from continuing operations and adjusted EBITDA from continuing operations are non-GAAP financial measures. We define EBITDA from continuing operations, a non-GAAP financial measure, as net income or loss plus interest expense, minus interest income, plus income taxes, discontinued operations and depreciation and amortization from continuing operations. We define adjusted EBITDA from continuing operations as EBITDA from continuing operations plus any pension and other post-employment benefit ("OPEB") plan expenses, rationalization-related charges, initial and follow-on public offering expenses, non-cash gains or losses from foreign currency remeasurement of non-operating liabilities in our foreign subsidiaries where the functional currency is the U.S. dollar, related party Tax Receivable Agreement expense, stock-based compensation and non-cash fixed asset write-offs. Adjusted EBITDA from continuing operations is the primary metric used by our management and our board of directors to establish budgets and operational goals for managing our business and evaluating our performance.

We monitor adjusted EBITDA from continuing operations as a supplement to our GAAP measures, and believe it is useful to present to investors, because we believe that it facilitates evaluation of our period-to-period operating performance by eliminating items that are not operational in nature, allowing comparison of our recurring core business operating results over multiple periods unaffected by differences in capital structure, capital investment cycles and fixed asset base. In addition, we believe adjusted EBITDA from continuing operations and similar measures are widely used by investors, securities analysts, ratings agencies, and other parties in evaluating companies in our industry as a measure of financial performance and debt-service capabilities.

Our use of adjusted EBITDA from continuing operations has limitations as an analytical tool, and you should not consider it in isolation or as a substitute for analysis of our results as reported under GAAP. Some of these limitations are:

- adjusted EBITDA from continuing operations does not reflect changes in, or cash requirements for, our working capital needs;

PART I (CONT'D)
GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
(Unaudited)

- adjusted EBITDA from continuing operations does not reflect our cash expenditures for capital equipment or other contractual commitments, including any capital expenditure requirements to augment or replace our capital assets;
- adjusted EBITDA from continuing operations does not reflect the interest expense or the cash requirements necessary to service interest or principal payments on our indebtedness;
- adjusted EBITDA from continuing operations does not reflect tax payments that may represent a reduction in cash available to us;
- adjusted EBITDA from continuing operations does not reflect expenses relating to our pension and OPEB plans;
- adjusted EBITDA from continuing operations does not reflect the non-cash gains or losses from foreign currency remeasurement of non-operating liabilities in our foreign subsidiaries where the functional currency is the U.S. dollar;
- adjusted EBITDA from continuing operations does not reflect initial and follow-on public offering expenses;
- adjusted EBITDA from continuing operations does not reflect related party Tax Receivable Agreement expense;
- adjusted EBITDA from continuing operations does not reflect rationalization-related charges, stock-based compensation or the non-cash write-off of fixed assets; and
- other companies, including companies in our industry, may calculate EBITDA from continuing operations and adjusted EBITDA from continuing operations differently, which reduces its usefulness as a comparative measure.

In evaluating EBITDA from continuing operations and adjusted EBITDA from continuing operations, you should be aware that in the future, we will incur expenses similar to the adjustments in this presentation. Our presentations of EBITDA from continuing operations and adjusted EBITDA from continuing operations should not be construed as suggesting that our future results will be unaffected by these expenses or any unusual or non-recurring items. When evaluating our performance, you should consider EBITDA from continuing operations and adjusted EBITDA from continuing operations alongside other financial performance measures, including our net income (loss) and other GAAP measures.

The following table reconciles our non-GAAP key financial measures to the most directly comparable GAAP measures:

	For the Three Months Ended March 31,	
	2019	2018
	(in thousands)	
Net income	197,436	223,673
Add:		
Discontinued operations	—	(1,626)
Depreciation and amortization	15,585	16,328
Interest expense	33,700	37,865
Interest income	(414)	(115)
Income taxes	32,418	28,643
EBITDA from continuing operations	278,725	304,768
Adjustments:		
Pension and OPEB plan expenses ⁽¹⁾	770	511
Initial and follow-on public offering expenses ⁽²⁾	685	3,187
Non-cash loss on foreign currency remeasurement ⁽³⁾	411	1,873
Stock-based compensation ⁽⁴⁾	292	—
Non-cash fixed asset write-off ⁽⁵⁾	2,932	—
Adjusted EBITDA from continuing operations	283,815	310,339

(1) Service and interest cost of our OPEB plans. Also includes a mark-to-market loss (gain) for plan assets as of December of each year.

(2) Legal, accounting, printing and registration fees associated with the initial and follow-on public offerings.

(3) Non-cash loss from foreign currency remeasurement of non-operating liabilities of our non-U.S. subsidiaries where the functional currency is the U.S. dollar.

PART I (CONT'D)
GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
(Unaudited)

- (4) Non-cash expense for stock-based compensation grants.
(5) Non-cash fixed asset write-off recorded for obsolete manufacturing equipment.

Key Operating Metrics

Key operating metrics consist of sales volume, weighted average realized price, production volume, production capacity and capacity utilization.

Sales volume reflects the total volume of GrafTech manufactured graphite electrodes sold for which revenue has been recognized during the period. Weighted average realized price reflects the total revenues from sales of GrafTech manufactured graphite electrodes for the period divided by the sales volume of the GrafTech manufactured electrodes for that period. Effective the first quarter of 2019, sales volume and weighted average realized price are presented excluding re-sales of low-grade graphite electrodes manufactured by third-party suppliers. Sales of these third-party manufactured electrodes are now included in the revenue category of "by-products and other," which represents a minimal contribution to our profitability. This change aligns these metrics with management's assessment of our revenue performance and profit margin and will help investors understand the factors that drive our profitability. For comparability purposes, the prior period sales volume and weighted average realized price have been recast to conform to this presentation.

Production volume reflects graphite electrodes produced during the period. Production capacity reflects expected maximum production volume during the period under normal operating conditions, standard product mix and expected maintenance downtime. Capacity utilization reflects production volume as a percentage of production capacity. Production volume, production capacity and capacity utilization help us understand the efficiency of our production, evaluate cost of sales and consider how to approach our contract initiative.

The Three Months Ended March 31, 2019 Compared to the Three Months Ended March 31, 2018

The tables presented in our period-over-period comparisons summarize our Condensed Consolidated Statements of Operations and illustrate key financial indicators used to assess the consolidated financial results. Throughout our Management's Discussion and Analysis, insignificant changes may be deemed not meaningful and are generally excluded from the discussion.

	For the Three Months Ended March 31,		Increase/ Decrease	% Change
	2019	2018		
	<i>(Dollars in thousands)</i>			
Net sales	\$ 474,994	\$ 451,899	\$ 23,095	5 %
Cost of sales	195,524	145,149	50,375	35 %
Gross profit	279,470	306,750	(27,280)	(9)%
Research and development	637	429	208	48 %
Selling and administrative expenses	15,226	15,876	(650)	(4)%
Operating income	263,607	290,445	(26,838)	(9)%
Other expense	467	2,005	(1,538)	(77)%
Interest expense	33,700	37,865	(4,165)	(11)%
Interest income	(414)	(115)	(299)	260 %
Income from continuing operations before provision for income taxes	229,854	250,690	(20,836)	(8)%
Provision for income taxes	32,418	28,643	3,775	13 %
Net income from continuing operations	197,436	222,047	(24,611)	(11)%
Income from discontinued operations, net of tax	—	1,626	(1,626)	(100)%
Net income	\$ 197,436	\$ 223,673	\$ (26,237)	(12)%

Net sales. Net sales increased by \$23.1 million , or 5% , from \$451.9 million in the three months ended March 31, 2018 to \$475.0 million in the three months ended March 31, 2019 . This increase was driven by a 7% increase in sales volume in the three

PART I (CONT'D)
GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
(Unaudited)

months ended March 31, 2019 compared to the same period in 2018, primarily due to the completion of our recent debottlenecking initiative. The weighted average realized price of GrafTech manufactured graphite electrodes was \$9,954 per MT in the three months ended March 31, 2019 and was in line with the \$9,989 per MT we realized in the three months ended March 31, 2018. Approximately 83% of our revenues were generated from long-term contracts in the three months ended March 31, 2019 versus 60% in the same period of 2018.

Cost of sales. Cost of sales increased by \$50.4 million, or 35%, from \$145.1 million in the three months ended March 31, 2018 to \$195.5 million in the three months ended March 31, 2019. This increase was primarily the result of higher input costs for needle coke and higher volumes primarily due to our recent debottlenecking projects coming online.

Selling and administrative expenses. Selling and administrative expenses decreased by \$0.7 million, or 4%, from \$15.9 million in the three months ended March 31, 2018 to \$15.2 million in the three months ended March 31, 2019. We incurred \$2.5 million lower costs related to our public offerings in the three months ended March 31, 2019, as compared to the same period of 2018. These savings were mostly offset by increases in selling and administrative expenses from increased headcount and ongoing costs of being a public company.

Other expense (income). Other expense decreased by \$1.5 million, or 77%, from \$2.0 million in the three months ended March 31, 2018 to \$0.5 million in the three months ended March 31, 2019. This decrease was primarily due to advantageous non-cash foreign currency impacts on non-operating assets and liabilities.

Interest expense. Interest expense decreased by \$4.2 million, or 11%, from \$37.9 million in the three months ended March 31, 2018 to \$33.7 million in the three months ended March 31, 2019. In the first quarter of 2018, we redeemed our Senior Notes resulting in accelerated accretion of the fair value adjustment on the Senior Notes of \$18.7 million and a premium redemption of \$4.8 million. This decrease was mostly offset by increased borrowing costs due to higher levels of debt.

Provision for income taxes. The following table summarizes the expense for income taxes:

	For the Three Months Ended March 31,	
	2019	2018
	(Dollars in thousands)	
Tax expense	\$ 32,418	\$ 28,643
Pretax income	229,854	250,690
Effective tax rates	14.1%	11.4%

The effective tax rate for the three months ended March 31, 2019 was 14.1%. This rate differs from the U.S. statutory rate of 21% primarily due to worldwide earnings from various countries taxed at different rates.

The effective tax rate for the three months ended March 31, 2018 was 11.4%. This rate differed from the U.S. statutory rate of 21% primarily due to worldwide earnings from various countries taxed at different rates. This difference was partially enhanced by a favorable impact from the partial release of a valuation allowance recorded against the deferred tax asset related to U.S. tax attributes as a result of the utilization of these attributes against the 2018 first quarter taxable income.

The tax expense increased from \$28.6 million for the three months ended March 31, 2018, to \$32.4 million for the three months ended March 31, 2019. This change is primarily related to the partial release of the valuation allowance recorded in the three months ended March 31, 2018.

Effects of Changes in Currency Exchange Rates

When the currencies of non-U.S. countries in which we have a manufacturing facility decline (or increase) in value relative to the U.S. dollar, this has the effect of reducing (or increasing) the U.S. dollar equivalent cost of sales and other expenses with respect to those facilities. In certain countries in which we have manufacturing facilities, and in certain export markets, we sell in currencies other than the U.S. dollar. Accordingly, when these currencies increase (or decline) in value relative to the U.S. dollar, this has the effect of increasing (or reducing) net sales. The result of these effects is to increase (or decrease) operating profit and net income.

PART I (CONT'D)
GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
(Unaudited)

Many of the non-U.S. countries in which we have a manufacturing facility have been subject to significant economic and political changes, which have significantly impacted currency exchange rates. We cannot predict changes in currency exchange rates in the future or whether those changes will have net positive or negative impacts on our net sales, cost of sales or net income.

The impact of these changes in the average exchange rates of other currencies against the U.S. dollar on our net sales was a decrease of \$3.2 million for the three March 31, 2019, compared to the same period of 2018. The impact of these changes on our cost of sales was a decrease of \$5.7 million for the three March 31, 2019, compared to the same period of 2018.

We have in the past and may in the future use various financial instruments to manage certain exposures to risks caused by currency exchange rate changes, as described under “Part I, Item 3—Quantitative and Qualitative Disclosures about Market Risk”.

Liquidity and Capital Resources

Our sources of funds have consisted principally of cash flow from operations and debt, including our credit facilities (subject to continued compliance with the financial covenants and representations). Our uses of those funds (other than for operations) have consisted principally of dividends, capital expenditures, scheduled debt repayments, optional debt prepayments, share repurchases and other obligations. Disruptions in the U.S. and international financial markets could adversely affect our liquidity and the cost and availability of financing to us in the future.

We believe that we have adequate liquidity to meet our needs. As of March 31, 2019, we had liquidity of \$287.8 million consisting of \$245.5 million of availability on our 2018 Revolving Facility (subject to continued compliance with the financial covenants and representations) and cash and cash equivalents of \$42.3 million. We had long-term debt of \$2,017.7 million and short-term debt of \$15.5 million as of March 31, 2019. As of December 31, 2018, we had liquidity of \$295.4 million consisting of \$245.5 million available on our 2018 Revolving Facility (subject to continued compliance with the financial covenants and representations) and cash and cash equivalents of \$49.9 million. We had long-term debt of \$2,050.3 million and short-term debt of \$106.3 million as of December 31, 2018.

As of March 31, 2019 and December 31, 2018, \$35.5 million and \$38.4 million, respectively, of our cash and cash equivalents were located outside of the United States. We repatriate funds from our foreign subsidiaries through dividends. All of our subsidiaries face the customary statutory limitation that distributed dividends do not exceed the amount of retained and current earnings. In addition, for our subsidiary in South Africa, the South Africa Central Bank imposes that certain solvency and liquidity ratios remain above defined levels after the dividend distribution, which historically has not materially affected our ability to repatriate cash from this jurisdiction. The cash and cash equivalents balances in South Africa were \$0.4 million and \$0.2 million as of March 31, 2019 and December 31, 2018, respectively. Upon repatriation to the United States, the foreign source portion of dividends we receive from our foreign subsidiaries is no longer subject to U.S. federal income tax as a result of the Tax Act.

Cash flow and plans to manage liquidity. Our cash flow typically fluctuates significantly between quarters due to various factors. These factors include customer order patterns, fluctuations in working capital requirements, timing of tax payments, timing of capital expenditures, acquisitions, divestitures and other factors. Although the global economic environment experienced significant swings in these periods, our working capital management and cost-control initiatives allowed us to remain operating cash-flow positive in both times of declining and improving operating results. Cash from operations is expected to remain at positive sustained levels due to the predictable earnings generated by our three-to-five-year sales contracts with our customers.

As of March 31, 2019 and December 31, 2018, we had access to the \$250 million 2018 Revolving Facility. We had \$4.5 million of letters of credit, for a total availability on the 2018 Revolving Facility of \$245.5 million. We also had \$0.5 million of surety bonds outstanding as of both March 31, 2019 and December 31, 2018.

On February 12, 2018, we entered into the 2018 Credit Agreement, which provides for the 2018 Revolving Facility and the 2018 Term Loan Facility. On February 12, 2018, our wholly owned subsidiary, GrafTech Finance, borrowed \$1,500 million under the 2018 Term Loan Facility. The funds received were used to pay off our outstanding debt, including borrowings under our Old Credit Agreement and the Senior Notes and accrued interest relating to those borrowings and the Senior Notes, declare and pay a dividend of \$1,112.0 million to our sole pre-IPO stockholder, pay fees and expenses incurred in connection therewith and for other general corporate purposes.

On April 19, 2018, we declared a dividend in the form of the Brookfield Promissory Note to the sole pre-IPO stockholder. The \$750 million Brookfield Promissory Note was conditioned upon (i) the Senior Secured First Lien Net Leverage Ratio (as defined in the 2018 Credit Agreement), as calculated based on our final financial results for the first quarter of 2018, being equal to or less than 1.75 to 1.00, (ii) no Default or Event of Default (each as defined in the 2018 Credit Agreement) having occurred and continuing or that would result from the \$750 million Brookfield Promissory Note and (iii) the satisfaction of the conditions

PART I (CONT'D)
GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
(Unaudited)

described in (i) and (ii) above occurring within 60 days from the dividend record date. Upon publication of our first quarter report on Form 10-Q, these conditions were met and, as a result, the Brookfield Promissory Note became payable.

The Brookfield Promissory Note had a maturity of eight years from the date of issuance and bore interest at a rate equal to the Adjusted LIBO Rate (as defined in the Brookfield Promissory Note) plus an applicable margin equal to 4.50% per annum, with an additional 2.00% per annum starting from the third anniversary from the date of issuance. We were permitted to make voluntary prepayments at any time without premium or penalty. All obligations under the Brookfield Promissory Note were unsecured and guaranteed by all of our existing and future domestic wholly owned subsidiaries that guarantee, or are borrowers under, the Senior Secured Credit Facilities. No funds were lent or otherwise contributed to us by Brookfield in connection with the Brookfield Promissory Note. As a result, we received no consideration in connection with its issuance. As described below, the Brookfield Promissory Note was repaid, in full, on June 15, 2018.

On April 19, 2018, we declared a \$160 million cash dividend payable to Brookfield, the sole pre-IPO stockholder. Payment of this dividend was conditional upon (i) the Senior Secured First Lien Net Leverage Ratio (as defined in the 2018 Credit Agreement), as calculated based on our final financial results for the first quarter of 2018, being equal to or less than 1.75 to 1.00, (ii) no Default or Event of Default (as defined in the 2018 Credit Agreement) having occurred and continuing or that would result from the payment of the dividend and (iii) the payment occurring within 60 days from the dividend record date. The conditions of this dividend were met upon filing of our first quarter 2018 report on Form 10-Q and the dividend was paid on May 8, 2018.

On June 15, 2018, GrafTech entered into the First Amendment to its 2018 Credit Agreement. The First Amendment amends the 2018 Credit Agreement to provide for the additional \$750 million in aggregate principal amount of the Incremental Term Loans to GrafTech Finance. The Incremental Term Loans increase the aggregate principal amount of term loans incurred by GrafTech Finance under the 2018 Credit Agreement from \$1,500 million to \$2,250 million. The Incremental Term Loans have the same terms as those applicable to the existing term loans under the 2018 Credit Agreement, including interest rate, payment and prepayment terms, representations and warranties and covenants. The Incremental Term Loans mature on February 12, 2025, the same date as the existing term loans. GrafTech paid an upfront fee of 1.00% of the aggregate principal amount of the Incremental Term Loans on the effective date of the First Amendment. The proceeds of the Incremental Term Loans were used to repay, in full, the \$750 million in principal outstanding on the Brookfield Promissory Note.

On August 13, 2018, the Company repurchased 11,688,311 shares directly from Brookfield. These shares were retired upon repurchase. The price per share paid by the Company was equal to the price at which the underwriters purchased the shares from Brookfield in Brookfield's August 2018 public secondary offering of 23,000,000 shares of our common stock, net of underwriting commissions and discounts. GrafTech funded the share repurchase from cash on hand.

We currently pay a quarterly cash dividend of \$0.085 per share, or an aggregate of \$0.34 per share on an annualized basis. Additionally, on December 31, 2018, we paid a special dividend of \$0.70 per share totaling \$203.4 million. There can be no assurance that we will pay dividends in the future in these amounts or at all. Our Board of Directors may change the timing and amount of any future dividend payments or eliminate the payment of future dividends in its sole discretion, without any prior notice to our stockholders. Our ability to pay dividends will depend upon many factors, including our financial position and liquidity, results of operations, legal requirements, restrictions that may be imposed by the terms of our current and future credit facilities and other debt obligations and other factors deemed relevant by our Board of Directors.

Potential uses of our liquidity include dividends, share repurchases, capital expenditures, acquisitions, scheduled debt repayments, optional debt prepayments and other general purposes. An improving economy, while resulting in improved results of operations, could increase our cash requirements to purchase inventories, make capital expenditures and fund payables and other obligations until increased accounts receivable are converted into cash. A downturn could significantly and negatively impact our results of operations and cash flows, which, coupled with increased borrowings, could negatively impact our credit ratings, our ability to comply with debt covenants, our ability to secure additional financing and the cost of such financing, if available.

On February 13, 2019, we repaid \$125 million on our 2018 Term Loan Facility. We are targeting to return approximately 50-60% of our cash flow after capital expenditures to stockholders in 2019 with the remainder to be used for debt repayment. During the three months ended March 31, 2019, we paid \$61.1 million to various tax collecting agencies worldwide.

In order to seek to minimize our credit risks, we may reduce our sales of, or refuse to sell (except for cash on delivery or under letters of credit or parent guarantees), our products to some customers and potential customers. Our unrecovered trade receivables worldwide have not been material during the last two years individually or in the aggregate.

We manage our capital expenditures by taking into account quality, plant reliability, safety, environmental and regulatory requirements, prudent or essential maintenance requirements, global economic conditions, available capital resources, liquidity,

PART I (CONT'D)
GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
(Unaudited)

long-term business strategy and return on invested capital for the relevant expenditures, cost of capital and return on invested capital of the Company as a whole and other factors.

In the event that operating cash flows fail to provide sufficient liquidity to meet our business needs, including capital expenditures, any such shortfall would need to be made up by increased borrowings under our 2018 Revolving Facility, to the extent available.

Cash Flows.

The following table summarizes our cash flow activities:

	For the Three Months Ended March 31,	
	2019	2018
	<i>in millions</i>	
Cash flow provided by (used in):		
Operating activities	\$ 156.8	\$ 140.6
Investing activities	\$ (14.5)	\$ (13.3)
Financing activities	\$ (149.7)	\$ (2.6)

Operating Activities

Cash flow from operating activities represents cash receipts and cash disbursements related to all of our activities other than investing and financing activities. Operating cash flow is derived by adjusting net income (loss) for:

- Non-cash items such as depreciation and amortization, impairment, post retirement obligations, and severance and pension plan changes;
- Gains and losses attributed to investing and financing activities such as gains and losses on the sale of assets and unrealized currency transaction gains and losses; and
- Changes in operating assets and liabilities which reflect timing differences between the receipt and payment of cash associated with transactions and when they are recognized in results of operations.

The net impact of the changes in working capital (operating assets and liabilities), which are discussed in more detail below, include the impact of changes in: receivables, inventories, prepaid expenses, accounts payable, accrued liabilities, accrued taxes, interest payable, and payments of other current liabilities.

During the three months ended March 31, 2019, changes in working capital resulted in a net use of funds of \$71.4 million which was impacted by:

- net cash outflows in accounts receivable of \$31.4 million from the increase in accounts receivable due to the timing of sales;
- net cash outflows from increases in inventory of \$4.7 million, due primarily to higher priced raw materials;
- net cash inflows from the utilization of prepaid assets of \$7.4 million;
- net cash outflows from decreases in accounts payable and accruals of \$5.3 million, due to the timing of payments; and
- net cash outflows from decreased income taxes payable of \$38.3 million resulting from required tax payments as our profitability has increased.

Uses of cash in the three months ended March 31, 2019 included contributions to pension and other benefit plans of \$0.7 million, cash paid for interest of \$31.4 million and taxes paid of \$61.1 million.

During the three months ended March 31, 2018, changes in working capital resulted in a net use of funds of \$150.5 million which was impacted by:

PART I (CONT'D)
GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
(Unaudited)

- net cash outflows in accounts receivable of \$132.8 million from the increase in accounts receivable due to increased sales driven by higher weighted average realized prices;
- net cash outflows from increases in inventory of \$28.7 million, due primarily to higher priced raw materials; and
- net cash inflows from decreased prepaid expense of \$10.8 million due to the reduction of advanced payments.

Other uses of cash in the three months ended March 31, 2018 included contributions to pension and other benefit plans of \$2.3 million, cash paid for interest of \$11.0 million and taxes paid of \$1.8 million.

Investing Activities

Net cash used investing activities was \$14.5 million during the three months ended March 31, 2019, resulting from capital expenditures.

Net cash used investing activities was \$13.3 million during the three months ended March 31, 2018, resulting from capital expenditures of \$14.0 million partially offset by proceeds from the sale of fixed assets of \$0.7 million.

Financing Activities

Net cash outflow from financing activities was \$149.7 million during the three months ended March 31, 2019, which was the result of our \$125.0 million payment on our long-term debt and dividends to stockholders totaling \$24.7 million.

Net cash outflow from financing activities was \$2.6 million during the three months ended March 31, 2018, which was the net impact of our February 12, 2018 refinancing, proceeds of which were used to repay outstanding debt and pay a dividend of \$1,112.0 million to Brookfield, our sole stockholder.

Related Party Transactions

We have engaged, from time to time, in transactions with affiliates or related parties and we expect to continue to do so in the future. These transactions include, among others, entry into agreements with Brookfield such as the Stockholder Rights Agreement, the Registration Rights Agreement, the Tax Receivable Agreement and the Share Repurchase Agreement.

We have also reimbursed certain costs incurred by Brookfield as required under the Investment Agreement dated May 4, 2015 between Brookfield and GrafTech, including in connection with, transactions with our current or former subsidiaries, compensatory transactions with directors and officers including employee benefits (including reimbursement to Brookfield for compensation costs incurred by it for certain personnel who devote substantially all of their working time to us), stock option and restricted stock grants, compensation deferral, stock purchases, and customary indemnification and expense advancement arrangements.

Recent Accounting Pronouncements

We discuss recently adopted accounting standards in Note 1, "Organization and Summary of Significant Accounting Policies" of the Notes to Condensed Consolidated Financial Statements.

Description of Our Financing Structure

We discuss our financing structure in more detail in Note 6, "Debt and Liquidity" of the Notes to Condensed Consolidated Financial Statements.

Item 3. Quantitative and Qualitative Disclosures about Market Risk

We are exposed to market risks, primarily from changes in interest rates, currency exchange rates, energy commodity prices and commercial energy rates. From time to time, we enter into transactions that have been authorized according to documented policies and procedures in order to manage these risks. These transactions relate primarily to financial instruments described below. Since the counterparties to these financial instruments are large commercial banks and similar financial institutions, we do not believe that we are exposed to material counterparty credit risk. We do not use financial instruments for trading purposes.

Our exposure to changes in interest rates results primarily from floating rate long-term debt tied to LIBOR or Euro LIBOR.

PART I (CONT'D)
GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
(Unaudited)

Our exposure to changes in currency exchange rates results primarily from:

- sales made by our subsidiaries in currencies other than local currencies;
- raw material purchases made by our foreign subsidiaries in currencies other than local currencies; and
- investments in and intercompany loans to our foreign subsidiaries and our share of the earnings of those subsidiaries, to the extent denominated in currencies other than the U.S. dollar.

Our exposure to changes in energy commodity prices and commercial energy rates results primarily from the purchase or sale of refined oil products and the purchase of natural gas and electricity for use in our manufacturing operations.

Interest rate risk management. We periodically enter into agreements with financial institutions that are intended to limit our exposure to additional interest expense due to increases in variable interest rates. These instruments effectively cap our interest rate exposure. We currently do not have any such instruments outstanding.

Currency rate management. We enter into foreign currency derivatives from time to time to attempt to manage exposure to changes in currency exchange rates. These foreign currency derivatives, which include, but are not limited to, forward exchange contracts and purchased currency options, attempt to hedge global currency exposures. Forward exchange contracts are agreements to exchange different currencies at a specified future date and at a specified rate. Purchased currency options are instruments which give the holder the right, but not the obligation, to exchange different currencies at a specified rate at a specified date or over a range of specified dates. Forward exchange contracts and purchased currency options are carried at market value.

The outstanding foreign currency derivatives represented no net unrealized gain or loss as of March 31, 2019 and December 31, 2018 .

Energy commodity management. We have entered into commodity derivative contracts to effectively fix some or all of our exposure to refined oil products. The outstanding commodity derivative contracts represented a net unrealized pre-tax gain of \$20.5 million and net unrealized pre-tax loss of \$10.7 million as of March 31, 2019 and December 31, 2018, respectively.

Sensitivity analysis. We use sensitivity analysis to quantify potential impacts that market rate changes may have on the underlying exposures as well as on the fair values of our derivatives. The sensitivity analysis for the derivatives represents the hypothetical changes in value of the hedge position and does not reflect the related gain or loss on the forecasted underlying transaction.

We had no interest rate derivative instruments outstanding as of March 31, 2019 . A hypothetical increase in interest rates of 100 basis points (1%) would have increased our interest expense by \$5.3 million for the three months ended March 31, 2019 .

As of March 31, 2019 , a 10% appreciation or depreciation in the value of the U.S. dollar against foreign currencies from the prevailing market rates would result in a corresponding decrease of \$2.0 million or a corresponding increase of \$2.0 million, respectively, in the fair value of the foreign currency hedge portfolio.

A 10% increase or decrease in the value of the underlying commodity prices that we hedge would result in a corresponding increase or decrease of \$13.4 million in the fair value of the commodity hedge portfolio as of March 31, 2019 . Because of the high correlation between the hedging instrument and the underlying exposure, fluctuations in the value of the instruments are generally offset by reciprocal changes in the value of the underlying exposure.

For further information related to the financial instruments described above, see Note 11 "Derivative Instruments" to the Consolidated Financial Statements.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures. Management is responsible for establishing and maintaining adequate disclosure controls and procedures at the reasonable assurance level. Disclosure controls and procedures are designed to ensure that information required to be disclosed by a reporting company in the reports that it files or submits under the Section 13 or 15(d) of the Securities and Exchange Act of 1934 is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by it in the reports that it files under the Exchange Act is accumulated and communicated to management, including the Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

PART I (CONT'D)
GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
(Unaudited)

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we have evaluated the effectiveness of the design and operation of our disclosure controls and procedures as of March 31, 2019 . Based on that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that these controls and procedures are effective at the reasonable assurance level as of March 31, 2019 .

Changes in Internal Control over Financial Reporting . There have been no changes in our internal control over financial reporting that occurred during the three months ended March 31, 2019 that materially affected or are reasonably likely to materially affect our internal control over financial reporting.

PART II. OTHER INFORMATION
GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES

Item 1. Legal Proceedings

We are involved in various investigations, lawsuits, claims, demands, labor disputes and other legal proceedings, including with respect to environmental and human exposure or other personal injury matters, arising out of or incidental to the conduct of our business. While it is not possible to determine the ultimate disposition of each of these matters and proceedings, we do not believe that their ultimate disposition will have a material adverse effect on our financial position, results of operations or cash flows.

Litigation has been pending in Brazil brought by employees seeking to recover additional amounts and interest thereon under certain wage increase provisions applicable in 1989 and 1990 under collective bargaining agreements to which employers in the Bahia region of Brazil were a party (including our subsidiary in Brazil). Companies in Brazil have settled claims arising out of these provisions and, in May 2015, the litigation was remanded in favor of the employees, by the Brazilian Supreme Court to the lower courts for further proceedings which included procedural aspects of the case, such as admissibility of instruments filed by the parties. On October 1, 2015, an action was filed by current and former employees against our subsidiary in Brazil to recover amounts under such provisions, plus interest thereon, which amounts together with interest could be material to us. In the first quarter of 2017, the state court ruled in favor of the employees. We have appealed this ruling and intend to vigorously defend it. As of March 31, 2019, we are unable to assess the potential loss associated with these proceedings as the claims do not currently specify the number of employees seeking damages or the amount of damages being sought.

On March 1, 2019, the Department of Sustainable Development of the State of Nuevo León provided notice of an administrative proceeding with respect to the Company's Monterrey facility. The proceeding requires the Company to design and implement certain corrective measures involving certain potential violations of state environmental law relating to emissions. The Company is cooperating with the Department with respect to this matter.

Item 1A. Risk Factors

There have been no material changes to the Risk Factors disclosed in Part I - Item 1A of our Annual Report on Form 10-K filed on February 22, 2019.

Item 6. Exhibits

The exhibits listed in the following table have been filed as part of this Report.

<u>Exhibit Number</u>	<u>Description of Exhibit</u>
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PART II. OTHER INFORMATION
GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES

3.1*#	Amended and Restated Certificate of Incorporation of GrafTech International Ltd.
3.2	Amended and Restated By Laws of GrafTech International Ltd. (incorporated by reference to Exhibit 3.2 to GrafTech International Ltd.'s Registration Statement on Form S-1/A (Registration No. 333 223791) filed April 13, 2018).
10.1*+	Form of Restricted Stock Unit Agreement under the GrafTech International Ltd. Omnibus Equity Incentive Plan
10.2*+	Form of Stock Option Grant Agreement under the GrafTech International Ltd. Omnibus Equity Incentive Plan
31.1*	Certification pursuant to Rule 13a-14(a) under the Exchange Act by David J. Rintoul, President and Chief Executive Officer (Principal Executive Officer).
31.2*	Certification pursuant to Rule 13a-14(a) under the Exchange Act by Quinn J Coburn, Vice President and Chief Financial Officer (Principal Financial Officer).
32.1*	Certification pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 by David J. Rintoul, President and Chief Executive Officer (Principal Executive Officer).
32.2*	Certification pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 by Quinn J Coburn, Vice President and Chief Financial Officer (Principal Financial Officer).
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

* Filed herewith

+ Indicates management contract or compensatory plan or arrangement

Corrected version of exhibit previously filed as Exhibit 3.1 to GrafTech International Ltd.'s Registration Statement on Form S-1/A filed April 13, 2018.

SIGNATURE

Pursuant to the requirements 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.

Date: May 1, 2019

GRAFTECH INTERNATIONAL LTD.
By: /s/ Quinn J. Coburn
Quinn J. Coburn
Vice President and Chief Financial
Officer (Principal Financial Officer)

AMENDED AND RESTATED
CERTIFICATE OF INCORPORATION
OF
GRAFTECH INTERNATIONAL LTD.

GrafTech International Ltd. was organized by filing its original Certificate of Incorporation with the Secretary of State of the State of Delaware on April 26, 2010. This Amended and Restated Certificate of Incorporation (as amended and/or restated from time to time, this “Certificate of Incorporation”) was duly adopted in accordance with Sections 242 and 245 of the Delaware General Corporation Law, as from time to time amended (the “DGCL”), and by the written consent of its board of directors and the sole stockholder in accordance with Section 228 of the DGCL. The time of filing of this Certificate of Incorporation with the Secretary of State of the State of Delaware is called the “Effective Time”. This Certificate of Incorporation amends and restates the existing Amended and Restated Certificate of Incorporation of the Corporation in its entirety as follows:

ARTICLE I - NAME

The name of the corporation is GrafTech International Ltd. (the “Corporation”).

ARTICLE - REGISTERED OFFICE AND AGENT

The address of the Corporation’s registered office in the State of Delaware is 1209 Orange Street, Wilmington, County of New Castle, Delaware 19801. The name of its registered agent at such address is The Corporation Trust Company.

ARTICLE III - PURPOSE

The purpose of the Corporation is to engage in any and all lawful acts or activities for which corporations may be organized under the DGCL.

ARTICLE IV - PERPETUAL EXISTENCE

The Corporation shall have perpetual existence.

ARTICLE V - CAPITAL STOCK

SECTION 1. Authorized Stock. The aggregate number of shares of capital stock that the Corporation shall have authority to issue is 3,300,000,000, which shall be divided into two classes consisting of 3,000,000,000 shares of common stock, par value \$0.01 per share (the “Common Stock”), and 300,000,000 shares of preferred stock, par value \$0.01 per share (the “Preferred Stock”). Upon the Effective Time, each share of common stock, par value \$0.01 per

share, of the Corporation issued and outstanding immediately or held by the Corporation in treasury immediately prior to the Effective Time (the “Old Common Stock”) shall automatically be reclassified into 3,022,259.23 validly issued, fully paid and non-assessable shares of Common Stock (the “Reclassification”). From and after the Effective Time, any certificate that, immediately prior to the Effective Time represented shares of Old Common Stock shall be deemed to represent the shares of Common Stock into which such shares of Old Common Stock shall have been reclassified pursuant to the Reclassification.

Subject to the rights of the holders of any outstanding class or series of Preferred Stock, the number of authorized shares of any class or series of Common Stock or Preferred Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by the holders of a majority in voting power of the capital stock of the Corporation entitled to vote thereon, voting as a single class, and no separate vote of the holders of any class or series shall be required therefor irrespective of Section 242(b) (2) of the DGCL.

SECTION 2. Preferred Stock. The Board of Directors of the Corporation (the “Board”) is hereby authorized to provide, without approval of the stockholders of the Corporation, for the issuance of shares of Preferred Stock in one or more series, to establish from time to time the number of shares to be included in any such series, the voting powers (full, limited or no voting powers), the cumulative or non-cumulative dividend rights, if any, the conversion, redemption or sinking fund rights, if any, the priorities, preferences and relative, participating, optional and other special rights, if any, and the qualification, limitations or restrictions thereof, of the shares of any such series and to file with the Secretary of State of the State of Delaware a certificate pursuant to the DGCL describing such terms (a “Preferred Stock Designation”). Except as otherwise provided in a Preferred Stock Designation or required by law, shares of Preferred Stock shall not entitle the holders thereof to vote at or receive notice of any meeting of stockholders.

SECTION 3. Common Stock.

(a) Voting. Except as otherwise provided in a Preferred Stock Designation or required by law, the holders of outstanding shares of Common Stock shall have the exclusive right to vote for the election of directors and on all other matters submitted to a vote of the stockholders of the Corporation. Each holder of outstanding shares of Common Stock shall be entitled to one vote in respect of each share of Common Stock held as of the applicable date on any matter that is submitted to a vote of stockholders of the Corporation. Except as otherwise required by law, shares of Common Stock shall not entitle the holders thereof to vote on any amendment to this Certificate of Incorporation (including to a Preferred Stock Designation) that alters or changes the powers, preferences, rights or other terms of solely one or more outstanding class or series of Preferred Stock if the holders of such affected series are entitled, separately or together with the holders of one or more other such series, to vote on such amendment pursuant to this Certificate of Incorporation (including a Preferred Stock Designation) or pursuant to the DGCL, or if no vote of stockholders is required pursuant to the DGCL.

(b) Dividends. Subject to applicable law and any preferential dividend rights of the holders of any outstanding class or series of Preferred Stock provided in the relevant Preferred Stock Designation, the holders of Common Stock shall be entitled to receive dividends out of funds legally available therefor at such times and in such amounts as the Board may determine in its sole discretion.

(c) Liquidation. Upon any liquidation, dissolution or winding up of the affairs of the Corporation, whether voluntary or involuntary (a “Liquidation Event”), after the payment or provision for payment of all debts and liabilities of the Corporation and all preferential amounts to which the holders of any outstanding class or series of Preferred Stock may be entitled pursuant to the terms thereof with respect to the distribution of assets in liquidation, the holders of Common Stock shall be entitled to share ratably in the remaining assets of the Corporation available for distribution. For the avoidance of doubt, the term “Liquidation Event” shall not be deemed to be occasioned by or to include, without limitation, any voluntary consolidation, reorganization, conversion or merger of the Corporation with or into any other corporation or entity or other corporations or entities or a sale, lease, transfer, exchange or conveyance of all or a part of the Corporation’s assets.

(d) No Pre-Emptive Rights. Shares of Common Stock shall not entitle any holder thereof to any pre-emptive, subscription, redemption or conversion rights.

ARTICLE VI - BOARD OF DIRECTORS

SECTION 1. Number; Classification

(a) Number. Except as otherwise provided in this Certificate of Incorporation or the DGCL, the business and affairs of the Corporation shall be managed by or under the direction of the Board consisting of not fewer than three individuals, nor more than eleven individuals (exclusive of Preferred Stock Directors (as defined below)). Subject to the rights granted to BCP IV GrafTech Holdings LP and its affiliates and successors (collectively, “Brookfield”) pursuant to the Stockholder Rights Agreement to be entered into by and between the Corporation and BCP IV GrafTech Holdings LP (as the same may be amended, supplemented, restated or otherwise modified from time to time, the “Stockholder Rights Agreement”), the exact number of directors constituting the Board shall be determined from time to time by resolution adopted by the affirmative vote of a majority of the total number of directors then in office.

(b) Classes. From and after the Effective Time, the directors (except as provided pursuant to the last paragraph of this Section 1) shall be divided into three classes, designated Class I, Class II and Class III. Each class shall consist, as nearly as may be possible, of one-third of the total number of directors constituting the entire Board. The initial division of the Board into classes shall be made by the decision of the affirmative vote of a majority of the total number of directors then in office. Class I directors shall serve for an initial term ending at the annual meeting of stockholders to be held in 2019, Class II directors shall serve for an initial term ending at the annual meeting

of stockholders to be held in 2020 and Class III directors shall serve for an initial term ending at the annual meeting of stockholders to be held in 2021. Commencing with the annual meeting of stockholders to be held in 2019, successors to the directors of the class whose term has expired at that annual meeting shall be elected for a three-year term and shall serve until the election and qualification of their respective successors in office.

(c) Written Ballot Not Required. Unless and except to the extent that the By-Laws of the Corporation (as amended and/or restated from time to time, the “By-Laws”) so require, the election of directors of the Corporation need not be by written ballot.

(d) Preferred Stock Directors. Notwithstanding the foregoing and notwithstanding Section 3 of this Article VI (and subject to the rights of Brookfield under the Stockholder Rights Agreement), whenever a Preferred Stock Designation expressly provides holders of any one or more series of Preferred Stock issued by the Corporation the right, voting separately by series or as a class, to elect directors (the “Preferred Stock Directors”), the total number of Preferred Stock Directors and the election, term of office, filling of vacancies and other features of such Preferred Stock directorships shall be governed by the applicable Preferred Stock Designation and the provisions of the DGCL applicable to Preferred Stock Directors and directorships. Upon commencement and for the duration of the period during which such right continues, the total number of directors of the Corporation authorized pursuant to Section 1(a) of this Article VI shall automatically increase by the number of Preferred Stock Directors specified in the applicable Preferred Stock Designation.

SECTION 2. Removal. Subject to the special rights, if any, of the holders of any outstanding class or series of Preferred Stock as provided in the relevant Preferred Stock Designation and except as otherwise required by the DGCL, any director may be removed from office at any time, but only for cause and only by the affirmative vote of holders of at least 66 2/3% of the voting power of the outstanding Common Stock; provided, however, that prior to the first date (the “Trigger Date”) on which Brookfield ceases to beneficially own (directly or indirectly) shares representing at least 50% of the then issued and outstanding shares of the Common Stock, with such beneficial ownership to be determined in accordance with Rule 13d-3 promulgated under the Securities Exchange Act of 1934, as amended (the “Exchange Act”), any such director may be removed at any time, with or without cause, by the holders of a majority of the voting power of the outstanding Common Stock.

SECTION 3. Vacancies and Newly Created Directorships. Subject to the special rights, if any, of the holders of any outstanding class or series of Preferred Stock as provided in the relevant Preferred Stock Designation, and subject to any requirements under the Stockholder Rights Agreement, any vacancies on the Board resulting from an increase in the authorized number of directors, or from the death, resignation, retirement, disqualification or removal of a director or from any other event may be filled solely by a majority vote of the directors then in office (even if they constitute less than a quorum) or by a sole remaining director. Any director elected to fill a vacancy shall hold office for the remaining term of such director’s predecessor. If the number of directors is changed, any increase or decrease shall be apportioned among the

classes as determined by a majority of the Board so as to maintain the number of directors in each class as nearly equal as possible, and any additional director of any class elected to fill a newly created directorship shall hold office for the remaining term of that class. No decrease in the authorized number of directors shall shorten the term of any incumbent director.

SECTION 4. Other Powers. In addition to the powers and authority hereinbefore or by statute expressly conferred upon them, the Board is hereby empowered to exercise all such powers and do all such acts and things as may be exercised or done by the Corporation, subject to the provisions of the DGCL, this Certificate of Incorporation and the By-Laws of the Corporation.

ARTICLE VII - LIABILITY OF DIRECTORS AND OFFICERS

SECTION 1. Elimination of Certain Liability of Directors. To the fullest extent permitted by the DGCL, a director of the Corporation shall not be personally liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director. If the DGCL is amended after the effective date hereof to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director of the corporation shall be eliminated or limited to the fullest extent permitted by the DGCL as so amended.

SECTION 2. Indemnification and Advancement of Expenses. The Corporation shall, to the fullest extent permitted by the DGCL (as it presently exists or may hereafter be amended but, in the case of any such amendment, only to the extent that such amendment permits the Corporation to provide broader indemnification rights than permitted prior to such amendment), indemnify, hold harmless and advance expenses to any person made or threatened to be made a party to, or is otherwise involved in, any action, suit or proceeding, whether criminal, civil, administrative, or investigative, by reason of the fact that such person, or the legal representative of such person, is or was a director or officer of the Corporation, or while serving as a director or officer of the Corporation, serves or served at the request of the Corporation as a director, officer, employee, agent or manager of any other corporation, partnership, limited liability company, joint venture, trust or other enterprise or nonprofit entity, including service with respect to an employee benefit plan, whether the basis of such proceeding is alleged action in an official capacity or in any other capacity while serving in such official capacity, against all expense, liability and loss (including attorneys' and other professionals' fees, judgments, fines, Employee Retirement Income Security Act of 1974 ("ERISA") taxes or penalties and amounts to be paid in settlement) actually and reasonably incurred or suffered by such person in connection therewith.

SECTION 3. Amendment, Repeal, Etc. No amendment or repeal of this Article VII, nor the adoption of any provision of this Certificate of Incorporation inconsistent with this Article VII, nor, to the fullest extent permitted by the DGCL, any modification of law, shall adversely affect any right or protection hereunder of any person in respect of any act or omission occurring prior to the time of such amendment, repeal or adoption of an inconsistent provision. Nothing contained in this Certificate of Incorporation shall in any way terminate, limit, diminish or otherwise adversely affect any rights an officer or director of the Corporation may have under the certificate of incorporation of the Corporation as in effect at any time prior to the

effectiveness of this Certificate of Incorporation, or under the By-Laws or any other agreement with the Corporation or otherwise.

SECTION 4. Interpretation. Any reference in this Article VII to an officer of the Corporation or to an officer of any other enterprise shall mean an officer of the Corporation appointed by the Board pursuant to the By-Laws or an officer of such other enterprise appointed by the board of directors or other governing body of such other enterprise pursuant to its governing documents, and the term officer, as used in this Article VII shall not be deemed to include an employee or other agent of the Corporation or any such other enterprise who is not an officer thereof so appointed, regardless of whether such person has been given the title “Vice President” or any other title that could be construed to suggest that such person is an officer of the Corporation or such other enterprise.

ARTICLE VIII - CORPORATE OPPORTUNITY

SECTION 1. Regulation of Certain Affairs. In recognition and anticipation that Exempted Persons (as defined below) (i) currently or may in the future serve as directors, officers or agents of the Corporation or its Subsidiaries (as defined below), (ii) currently or may in the future have access to information about the Corporation and its Subsidiaries that may, to the fullest extent permitted by applicable law, enhance each such Exempted Person’s knowledge and understanding of (A) the industries in which the Corporation and its Subsidiaries operate (collectively, “Acquired Knowledge”), (B) the activities in which the Corporation and its Subsidiaries now engage, may continue to engage or may in the future engage (which shall include, without limitation, other business activities that overlap or compete with those in which the Corporation and its Affiliates (as defined below) and Subsidiaries may engage directly or indirectly) or (C) related lines of business in which the Corporation or its Subsidiaries may engage directly or indirectly and (iii) currently or may in the future have an interest in the same or similar areas of corporate opportunity as the Corporation or its Subsidiaries may have an interest directly or indirectly, the provisions of this Article VIII are set forth to regulate and define, to the fullest extent permitted by applicable law, the conduct of certain affairs of the Corporation and its Subsidiaries with respect to certain classes or categories of business opportunities as they may involve an Exempted Person, and the powers, rights, duties and liabilities of the Corporation and its Subsidiaries and their respective direct or indirect partners, members, and stockholders in connection therewith.

(a) Notwithstanding any provision of this Certificate of Incorporation to the contrary, to the fullest extent permitted by applicable law, if any Exempted Person acquires knowledge of a potential Corporate Opportunity (as defined below) or otherwise is then exploiting any Corporate Opportunity, the Corporation and its Affiliates and Subsidiaries shall have no interest or expectancy in such Corporate Opportunity, or in being offered an opportunity to participate in such Corporate Opportunity, and any interest or expectancy in any Corporate Opportunity or any expectation in being offered the opportunity to participate in any Corporate Opportunity is hereby renounced and waived so that such Exempted Person, to the fullest extent permitted by applicable law, (i) shall have no duty to communicate or present such Corporate Opportunity to the

Corporation or any of its Affiliates or Subsidiaries or any stockholder; (ii) shall have the right to hold or pursue, directly or indirectly, any such Corporate Opportunity for such Exempted Person's own account and benefit or such Exempted Person may direct such Corporate Opportunity to another Person (as defined below); and (iii) shall not be liable to the Corporation, any of its Affiliates or Subsidiaries, their respective Affiliates or their respective direct or indirect partners, members, or stockholders, for breach of any duty as a stockholder, director or officer of the Corporation or otherwise solely by reason of the fact that it pursues or acquires such Corporate Opportunity, directs such Corporate Opportunity to another Person or does not communicate information regarding such Corporate Opportunity to the Corporation or any of its Affiliates or Subsidiaries.

(b) The Corporation hereby expressly acknowledges and agrees that the Exempted Persons have the right to, and shall have no duty not to, (i) directly or indirectly engage in the same or similar business activities or lines of business as the Corporation or any of its Subsidiaries engages or proposes to engage, on such Exempted Person's own behalf, or in partnership with, or as an employee, officer, director, member or stockholder of any other Person, including those lines of business deemed to be competing with the Corporation or any of its Subsidiaries; (ii) do business with any potential or actual customer or supplier of the Corporation or any of its Affiliates or Subsidiaries; and (iii) employ or otherwise engage any officer or employee of the Corporation or any of its Affiliates or Subsidiaries. The Corporation hereby expressly acknowledges and agrees that neither the Corporation nor any of its Affiliates or Subsidiaries nor any stockholder shall have any rights in and to the business ventures of any Exempted Person, or the income or profits derived therefrom. To the fullest extent permitted by law, none of the Exempted Persons shall be liable to the Corporation, any of its Affiliates or Subsidiaries, their respective Affiliates or their respective direct or indirect partners, members, or stockholders, for breach of any duty as a stockholder, director or officer of the Corporation or otherwise solely by reason that such Exempted Person is engaging in any activities or lines of business or competing with the Corporation or its Subsidiaries.

(c) The Corporation hereby acknowledges and agrees that, in relation to any Corporate Opportunity waived or renounced by the Corporation, to the fullest extent permitted by applicable law, (i) in the event of any conflict of interest between the Corporation or any of its Subsidiaries, on the one hand, and any Exempted Person, on the other hand, such Exempted Person may act in its best interest or in the best interest of any other Exempted Person and (ii) no Exempted Person shall be obligated to (A) reveal to the Corporation or any of its Subsidiaries confidential information belonging to or relating to the business of any Exempted Person or (B) recommend or take any action in its capacity as stockholder, director or officer, as the case may be, that prefers the interest of the Corporation or any of its Subsidiaries over the interest of any Exempted Person.

(d) The Corporation hereby acknowledges and agrees that, in relation to any Corporate Opportunity waived or renounced by the Corporation, to the fullest extent permitted by applicable law, Exempted Persons are not restricted from using Acquired

Knowledge in making investment, voting, monitoring, governance or other decisions relating to other entities or securities.

SECTION 2. Deemed Notice. Any Person purchasing or otherwise acquiring any interest in any shares of the capital stock of the Corporation shall be deemed to have notice of and to have consented to the provisions of this Article VIII.

SECTION 3. Severability. If this Article VIII or any portion hereof shall be invalidated or held to be unenforceable on any ground by any court of competent jurisdiction, the decision of which shall not have been reversed on appeal, this Article VIII shall be deemed to be modified to the minimum extent necessary to avoid a violation of law and, as so modified, this Article VIII and the remaining provisions hereof shall remain valid and enforceable in accordance with their terms to the fullest extent permitted by law.

SECTION 4. Effect of Stockholder Rights Agreement. The provisions of Sections 1 through 3 of this Article VIII (i) shall be subject to compliance with any procedures regarding Corporate Opportunities specified in the Stockholder Rights Agreement and (ii) shall continue with respect to an Exempted Person until the first date that both of the following conditions are true: (A) Brookfield is not entitled to designate at least one (1) nominee to the Board pursuant to the Stockholder Rights Agreement and (B) no individual is serving on the Board who has at any time been designated as a nominee by Brookfield.

Neither the alteration, amendment or repeal of this Article VIII nor the adoption of any provision of this Certificate of Incorporation inconsistent with this Article VIII shall eliminate or reduce the effect of this Article VIII in respect of any matter occurring, or any cause of action, suit or claim that, but for this Article VIII, would accrue or arise, prior to such alteration, amendment, repeal or adoption.

SECTION 5. Definitions. For the purposes of this Article VIII,

(a) “Affiliate” means a Person that directly, or indirectly through one or more intermediaries, controls, or is controlled by, or is under common control with, another Person.

(b) “Brookfield Affiliated Person” means, each of Brookfield and all of its respective partners, principals, directors, officers, members, managers, managing directors, advisors, consultants and employees, Brookfield’s Affiliates, the directors designated for nomination by Brookfield pursuant to the Stockholder’s Agreement, or any officer of the Corporation that is an Affiliate of Brookfield.

(c) “Corporate Opportunity” means (i) an investment or business opportunity or activity, including without limitation those that might be considered the same as or similar to the Corporation’s business or the business of any Affiliate or Subsidiary of the Corporation, including those deemed to be competing with the Corporation or any Affiliate or Subsidiary of the Corporation, or (ii) a prospective economic or competitive advantage in which the Corporation or any Affiliate or Subsidiary of the Corporation

could have an interest or expectancy. In addition to and notwithstanding the foregoing, a Corporate Opportunity shall not be deemed to be a potential opportunity for the Corporation or any Affiliates or Subsidiary if it is a business opportunity that (i) the Corporation, Affiliate or Subsidiary, as applicable, is not financially able or contractually permitted or legally able to undertake, (ii) from its nature, is not in the line of the Corporation's, Affiliate's or Subsidiary's, as applicable, business or is of no practical advantage to it or (iii) is one in which the Corporation, Affiliate or Subsidiary, as applicable, has no interest or reasonable expectancy.

(d) “Exempted Person” means any Brookfield Affiliated Person.

(e) “Person” means any individual, corporation, partnership, unincorporated association or other entity.

(f) “Stockholder Rights Agreement” means the Stockholder Rights Agreement by and among the Corporation and the stockholders party thereto, as amended from time to time.

(g) “Subsidiary” with respect to any Person means: (i) a corporation, a majority of whose capital stock with voting power, under ordinary circumstances, to elect directors is at the time, directly or indirectly owned by such Person, by a Subsidiary of such Person, or by such Person and one or more Subsidiaries of such Person, without regard to whether the voting of such capital stock is subject to a voting agreement or similar restriction, (ii) a partnership or limited liability company in which such Person or a Subsidiary of such Person is, at the date of determination, (A) in the case of a partnership, a general partner of such partnership or (B) in the case of a limited liability company, the managing member or, in the absence of a managing member, a member with the power affirmatively to direct the policies and management of such limited liability company or (iii) any other Person (other than a corporation) in which such Person, a Subsidiary of such Person or such Person and one or more Subsidiaries of such Person, directly or indirectly, at the date of determination thereof, has (A) the power to elect or direct the election of a majority of the members of the governing body of such Person (whether or not such power is subject to a voting agreement or similar restriction) or (B) in the absence of such a governing body, a majority ownership interest.

ARTICLE IX - STOCKHOLDER ACTION; MEETINGS

SECTION 1. Actions at Meetings Duly Called; No Written Consent. Except as provided with respect to the holders of any outstanding class or series of Preferred Stock in the relevant Preferred Stock Designation, (a) prior to the Trigger Date, any action required or permitted to be taken at any annual or special meeting of the stockholders of the Corporation may be taken upon a vote of the stockholders at an annual or special meeting duly called or by written consent of the stockholders and (b) from and after the Trigger Date, any action required or permitted to be taken at any annual or special meeting of the stockholders of the Corporation may be taken only upon the vote of the stockholders at an annual or special meeting duly called and may not be taken by written consent of the stockholders.

SECTION 2. Regulation of Stockholder Submissions. The By-Laws may establish procedures regulating the submission by stockholders of nominations, proposals and other business for consideration at meetings of stockholders of the Corporation.

SECTION 3. Special Meetings. Subject to the rights of the holders of Preferred Stock, special meetings of the stockholders of the Corporation may be called only by the Board pursuant to a resolution adopted by the affirmative vote of a majority of the total number of directors then in office or by the Chairman of the Board (the “Chairman”); provided, however, that prior to the Trigger Date, special meetings of the stockholders of the Corporation may be called at any time by (a) the affirmative vote of a majority of the total number of directors then in office, (b) the Chairman or (c) either the Board or the Chairman at the request of Brookfield.

ARTICLE X - BY-LAWS

In furtherance and not in limitation of the powers conferred by statute, the Board is expressly authorized to adopt, make, alter, amend or repeal the By-Laws of the Corporation. The stockholders of the Corporation may not adopt, amend or repeal any By-Law, and no provision of the By-Laws inconsistent therewith shall be adopted by the stockholders, unless (i) prior to the Trigger Date, such action is approved by the affirmative vote of the holders of a majority of the voting power of the outstanding Common Stock and (ii) from and after the Trigger Date, such action is approved by the affirmative vote of the holders of at least 66 2/3% of the voting power of the outstanding Common Stock.

ARTICLE XI - AMENDMENT OF CERTIFICATE IN CORPORATION

Subject to any requirement of applicable law and to any voting rights granted pursuant to a Preferred Stock Designation, the Corporation reserves the right at any time from time to time to amend, alter, change or repeal any provision contained in this Certificate of Incorporation, and any other provisions authorized by the DGCL at the time in force, in the manner now or hereafter prescribed by law; and all rights, preferences and privileges of any nature conferred upon stockholders, directors or any other persons by and pursuant to this Certificate of Incorporation in its present form or as hereafter amended are granted subject to the right reserved in this Article. Notwithstanding anything to the contrary contained in this Certificate of Incorporation, and notwithstanding that a lesser percentage may be permitted from time to time by applicable law, no provision of this Certificate of Incorporation may be altered, amended or repealed in any respect, nor may any provision inconsistent therewith be adopted or added, unless in addition to any other vote required by this Certificate of Incorporation, specified in any agreement or otherwise required by law, and in addition to any voting rights granted to or held by the holders of any outstanding class or series of Preferred Stock (i) prior to the Trigger Date, such alteration, amendment, repeal, adoption or addition is approved by the affirmative vote of the holders of a majority of the voting power of the outstanding Common Stock and (ii) from and after the Trigger Date, such alteration, amendment, repeal, adoption or addition is approved by the affirmative vote of the holders of at least 66 2/3% of the voting power of the outstanding Common Stock.

ARTICLE XII - SECTION 203 OF THE DGCL

SECTION 1. Opt Out of DGCL 203. The Corporation shall not be governed by Section 203 of the DGCL.

SECTION 2. Limitations on Business Combination. Notwithstanding the foregoing, the Corporation shall not engage in any Business Combination, at any point in time at which the Corporation's Common Stock is registered under Section 12(b) or 12(g) of the Exchange Act with any Interested Stockholder (as defined herein) for a period of three (3) years following the time that such stockholder became an Interested Stockholder, unless:

- (a) prior to such time, the Board approved either the Business Combination or the transaction which resulted in the stockholder becoming an Interested Stockholder, or
- (b) upon consummation of the transaction which resulted in the stockholder becoming an Interested Stockholder, the Interested Stockholder owned at least 85% of the Voting Stock (defined below) of the Corporation outstanding at the time the transaction commenced, excluding for purposes of determining the Voting Stock outstanding (but not the outstanding Voting Stock owned by the Interested Stockholder) those shares owned by (i) Persons who are directors and also officers or (ii) employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer, or
- (c) at or subsequent to such time, the Business Combination is approved by the Board and authorized at an annual or special meeting of the stockholders, and not by written consent, by the affirmative vote of at least 66 2/3% of the outstanding shares entitled to vote generally in the election of directors that are not owned by the Interested Stockholder.

SECTION 3. Definitions. For purposes of this Article XII,

- (a) “Affiliate” means a Person that directly, or indirectly through one or more intermediaries, controls, or is controlled by, or is under common control with, another Person.
- (b) “Associate,” when used to indicate a relationship with any Person, means:
 - (i) any corporation, partnership, unincorporated association or other entity of which such Person is a director, officer or partner or is, directly or indirectly, the owner of 20% or more of any class of Voting Stock;
 - (ii) any trust or other estate in which such Person has at least a 20% beneficial interest or as to which such Person serves as trustee or in a similar fiduciary capacity; and
 - (iii) any relative or spouse of such Person, or any relative of such spouse, who has the same residence as such Person.

(c) “Business Combination,” when used in reference to the Corporation and any Interested Stockholder of the Corporation, means:

(i) any merger or consolidation of the Corporation or any direct or indirect majority-owned subsidiary of the Corporation (a) with the Interested Stockholder, or (b) with any other corporation, partnership, unincorporated association or other entity if the merger or consolidation is caused by the Interested Stockholder and as a result of such merger or consolidation Section 2 of this Article XII is not applicable to the surviving entity;

(ii) any sale, lease, exchange, mortgage, pledge, transfer or other disposition (in one transaction or a series of transactions), except proportionately as a stockholder of the Corporation, to or with the Interested Stockholder, whether as part of a dissolution or otherwise, of assets of the Corporation or of any direct or indirect majority owned subsidiary of the Corporation which assets have an aggregate market value equal to 10% or more of either the aggregate market value of all the assets of the Corporation determined on a consolidated basis or the aggregate market value of all the outstanding stock of the Corporation;

(iii) any transaction which results in the issuance or transfer by the Corporation or by any direct or indirect majority-owned subsidiary of the Corporation of any stock of the Corporation or of such subsidiary to the Interested Stockholder, except: (a) pursuant to the exercise, exchange or conversion of securities exercisable for, exchangeable for or convertible into stock of the Corporation or any such subsidiary which securities were outstanding prior to the time that the Interested Stockholder became such; (b) pursuant to a merger under Section 251(g) of the DGCL; (c) pursuant to a dividend or distribution paid or made, or the exercise, exchange or conversion of securities exercisable for, exchangeable for or convertible into stock of the Corporation or any such subsidiary which security is distributed, pro rata to all holders of a class or series of stock of the Corporation subsequent to the time the Interested Stockholder became such; (d) pursuant to an exchange offer by the Corporation to purchase stock made on the same terms to all holders of said stock; or (e) any issuance or transfer of stock by the Corporation; provided, however, that in no case under items (iii)-(v) of this subsection (c) shall there be an increase in the Interested Stockholder’s proportionate share of the stock of any class or series of the Corporation or of the Voting Stock of the Corporation (except as a result of immaterial changes due to fractional share adjustments);

(iv) any transaction involving the Corporation or any direct or indirect majority-owned subsidiary of the Corporation which has the effect, directly or indirectly, of increasing the proportionate share of the stock of any class or series, or securities convertible into the stock of any class or series, of the Corporation or of any such subsidiary which is owned by the Interested Stockholder, except as a result of immaterial changes due to fractional share adjustments or as a result of any purchase or redemption of any shares of stock not caused, directly or indirectly, by the Interested Stockholder; or

(v) any receipt by the Interested Stockholder of the benefit, directly or indirectly (except proportionately as a stockholder of the Corporation), of any loans, advances, guarantees, pledges, or other financial benefits (other than those expressly permitted in subsections (i) to (iv) above) provided by or through the Corporation or any direct or indirect majority-owned subsidiary.

(d) “control,” including the terms “controlling,” “controlled by” and “under common control with,” means the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of a Person, whether through the ownership of Voting Stock, by contract, or otherwise. A Person who is the owner of 20% or more of the outstanding Voting Stock of the Corporation, partnership, unincorporated association or other entity shall be presumed to have control of such entity, in the absence of proof by a preponderance of the evidence to the contrary. Notwithstanding the foregoing, a presumption of control shall not apply where such Person holds Voting Stock, in good faith and not for the purpose of circumventing this Article XII, as an agent, bank, broker, nominee, custodian or trustee for one or more owners who do not individually or as a group have control of such entity.

(e) “Interested Stockholder” means any Person (other than the Corporation and any direct or indirect majority-owned subsidiary of the Corporation) that (i) is the owner of 15% or more of the outstanding Voting Stock of the Corporation, or (ii) is an Affiliate or Associate of the Corporation and was the owner of 15% or more of the outstanding Voting Stock of the Corporation at any time within the three (3) year period immediately prior to the date on which it is sought to be determined whether such Person is an Interested Stockholder, and the Affiliates and Associates of such Person; provided, however, that the term “Interested Stockholder” shall not include (a) Brookfield or any of its Affiliates or successor or any “group,” or any member of any such group, to which such Persons are a party under Rule 13d-5 of the Exchange Act or (b) any Person whose ownership of shares in excess of the 15% limitation set forth herein is the result of any action taken solely by the Corporation; provided that such Person specified in this clause (b) shall be an Interested Stockholder if thereafter such Person acquires additional shares of Voting Stock of the Corporation, except as a result of further corporate action not caused, directly or indirectly, by such Person. For the purpose of determining whether a Person is an Interested Stockholder, the Voting Stock of the Corporation deemed to be outstanding shall include stock deemed to be owned by the Person through application of the definition of “owner” below but shall not include any other unissued stock of the Corporation which may be issuable pursuant to any agreement, arrangement or understanding, or upon exercise of conversion rights, warrants or options, or otherwise.

(f) “owner,” including the terms “own” and “owned,” when used with respect to any stock, means a Person that individually or with or through any of its Affiliates or Associates:

(i) beneficially owns such stock, directly or indirectly; or

(ii) has (a) the right to acquire such stock (whether such right is exercisable immediately or only after the passage of time) pursuant to any agreement, arrangement or understanding, or upon the exercise of conversion rights, exchange rights, warrants or options, or otherwise; provided, however, that a Person shall not be deemed the owner of stock tendered pursuant to a tender or exchange offer made by such Person or any of such Person's Affiliates or Associates until such tendered stock is accepted for purchase or exchange; or (b) the right to vote such stock pursuant to any agreement, arrangement or understanding; provided, however, that a Person shall not be deemed the owner of any stock because of such Person's right to vote such stock if the agreement, arrangement or understanding to vote such stock arises solely from a revocable proxy or consent given in response to a proxy or consent solicitation made to ten (10) or more Persons; or

(iii) has any agreement, arrangement or understanding for the purpose of acquiring, holding, voting (except voting pursuant to a revocable proxy or consent as described in item (b) of subsection (ii) above), or disposing of such stock with any other Person that beneficially owns, or whose Affiliates or Associates beneficially own, directly or indirectly, such stock.

(g) “Person” means any individual, corporation, partnership, unincorporated association or other entity.

(h) “stock” means, with respect to any corporation, capital stock and, with respect to any other entity, any equity interest.

(i) “Voting Stock” means stock of any class or series entitled to vote generally in the election of directors.

ARTICLE XIII - EXCLUSIVE FORUM

(a) Unless the Corporation consents in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware shall, to the fullest extent permitted by law, be the sole and exclusive forum for (i) any derivative action or proceeding brought on behalf of the Corporation, (ii) any action asserting a claim of breach of a fiduciary duty owed by any director, officer or other employee or stockholder of the Corporation to the Corporation or the Corporation's stockholders, (iii) any action asserting a claim arising pursuant to any provision of the DGCL, or this Certificate of Incorporation or the By-Laws (as either may be amended and/or restated from time to time) or for any action asserting a claim governed by the internal affairs doctrine, provided, that, if and only if the Court of Chancery of the State of Delaware dismisses any such action for lack of subject matter jurisdiction, such action may be brought in another state court sitting in the State of Delaware.

(b) If any action the subject matter of which is within the scope of paragraph (a) above is filed in a court other than the Court of Chancery of the State of Delaware or another state court located within the State of Delaware (a “Foreign Action”) in the name of any stockholder, such stockholder shall be deemed to have consented to (i) the personal jurisdiction

of the Court of Chancery of the State of Delaware or another state court located within the State of Delaware in connection with any action brought in any such court to enforce paragraph (a) above (an “ FSC Enforcement Action”) and (ii) having service of process made upon such stockholder in any such FSC Enforcement Action by service upon such stockholder’s counsel in the Foreign Action as agent for such stockholder.

IN WITNESS WHEREOF, this Certificate of Incorporation of the Corporation has been executed by its duly authorized officer this 12th day of April 2018.

GrafTech International Ltd.

/s/ Cynthia A. Binns

Name: Cynthia A. Binns

Title: Secretary

[Form of GrafTech International Ltd.
Omnibus Equity Incentive Plan Restricted Stock Unit Agreement]

**GRAFTECH INTERNATIONAL LTD.
OMNIBUS EQUITY INCENTIVE PLAN
RESTRICTED STOCK UNIT AGREEMENT**

THIS AGREEMENT, made as of [●], 2019 between GrafTech International Ltd. (“GrafTech”) and [●] (the “Participant”).

WHEREAS, GrafTech has adopted the GrafTech International Ltd. Omnibus Equity Incentive Plan (the “Plan”);

WHEREAS, Section 7 of the Plan provides for the grant to Participants of equity-based or equity-related awards, including restricted stock units (“RSUs”).

NOW, THEREFORE, in consideration of the premises and the mutual covenants hereinafter set forth, the parties hereto hereby agree as follows:

1. **Grant of RSUs**. Pursuant to, and subject to, the terms and conditions set forth herein and in the Plan, GrafTech hereby grants to the Participant [●] RSUs. Each RSU represents a conditional right to receive one share of Common Stock.
 2. **Grant Date**. The grant date of the RSUs hereby granted is [●], 2019 (“Grant Date”).
 3. **Vesting**. Subject to the provisions of Section 5 hereof and to the Participant’s continued Employment with the Company through each applicable date, the RSUs shall vest in accordance with the following schedule (each such date, a “Vesting Date”):
 - (a) [] RSUs shall vest on the first anniversary of the Grant Date;
 - (b) [] RSUs shall vest on the second anniversary of the Grant Date;
 - (c) [] RSUs shall vest on the third anniversary of the Grant Date;
 - (d) [] RSUs shall vest on the fourth anniversary of the Grant Date; and
 - (e) [] RSUs shall vest on the fifth anniversary of the Grant Date;
 4. **Dividend Equivalents**. At the time GrafTech delivers shares of Common Stock in respect of the Participant’s vested RSUs under Section 6, GrafTech will also deliver to the Participant a number of shares of Common Stock equal to (i) the total cash dividends the Participant would have received had such number of shares of Common Stock (in respect of the then vested RSUs) been held from the Grant Date through the date of the Participant’s receipt of such shares of Common Stock in settlement of vested RSUs divided by (ii) the Fair Market Value of a share of Common Stock on the applicable Vesting Date, rounded down to the nearest whole share. No interest will accrue on such dividend equivalents. No dividend equivalent amounts will be delivered in respect of unvested or forfeited RSUs.
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5. **Change in Control**. In the event of a Change in Control, any then-outstanding unvested RSUs shall immediately vest in full as of the date of such Change in Control (even in the event the Participant's Employment is terminated on the date of such Change in Control). For purposes of this Agreement, a "**Change in Control**" shall occur upon (i) Brookfield Asset Management Inc. and any affiliates thereof (the "**Majority Stockholder**") ceasing to own stock of GrafTech that constitutes at least thirty percent (30%) of the total fair market value or total Voting Power of the stock of GrafTech or (ii) any one person, or more than one person acting as a group (as defined under Treasury Regulation § 1.409A-3(i)(5)(v)(B)) other than GrafTech, the Majority Stockholder or any employee benefit plan sponsored by GrafTech acquires ownership of stock of GrafTech that, together with stock held by such person or group, constitutes one hundred percent (100%) of the total fair market value or total Voting Power of the stock of GrafTech.

6. **Delivery of Common Stock**. Subject to Section 10 hereof, as soon as practicable following the applicable Vesting Date (or, if applicable, the date of a Change in Control for any RSUs vesting pursuant to Section 5 hereof) but in any event no later than the end of the calendar year in which such Vesting Date or Change in Control occurs, as applicable, GrafTech shall deliver one share of Common Stock to the Participant in respect of each vested RSU and shares, if any, in respect of such vested RSUs deliverable under Section 5 hereof; provided that to the extent required to avoid accelerated taxation and tax penalties under Section 409A of the Code, such shares (and cash, if any) will be delivered six months and one day after the Participant's separation from service (or the Participant's death, if earlier).

7. **Forfeiture**. Other than as set forth in Section 5 of this Agreement, any unvested RSUs shall expire and be forfeited upon the termination of Participant's Employment for any reason without any consideration and the Participant shall have no further rights thereto.

8. **Transferability**. No RSUs may be sold, pledged, hypothecated, or otherwise encumbered or subject to any lien, obligation, or liability of the Participant to any party (other than GrafTech), or assigned or transferred by such Participant, but immediately upon such purported sale, assignment, transfer, pledge, hypothecation or other disposal of any RSU will be forfeited by the Participant and all of the Participant's rights to such RSU shall immediately terminate without any payment or consideration from GrafTech.

9. **Incorporation of Plan**. All terms, conditions and restrictions of the Plan are incorporated herein and made part hereof as if stated herein. If there is any conflict between the terms and conditions of the Plan and this Agreement, the terms and conditions of the Plan shall govern (unless otherwise stated therein). All capitalized terms used and not defined herein shall have the meaning given to such terms in the Plan.

10. **Taxes**. To the extent required by applicable federal, state, local or foreign law, the Participant shall make arrangements satisfactory to GrafTech for the satisfaction of any withholding tax obligations that arise with respect to the vesting of the RSUs in accordance with Section 13 of the Plan. GrafTech shall not be required to deliver shares of Common Stock to the Participant until it determines such obligations are satisfied.

11. **Construction of Agreement**. Any provision of this Agreement (or portion thereof) which is deemed invalid, illegal or unenforceable in any jurisdiction shall, as to that jurisdiction and subject to this section, be ineffective to the extent of such invalidity, illegality or unenforceability, without affecting in any way the remaining provisions thereof in such jurisdiction or rendering that or any other provisions of this Agreement invalid, illegal, or unenforceable in any other jurisdiction. If any covenant should be deemed invalid, illegal or unenforceable because its scope is considered excessive, such covenant shall be modified so that the scope of the covenant is reduced only to the minimum extent necessary to render the modified covenant valid, legal and enforceable. No waiver of any provision or violation of this Agreement by GrafTech shall be implied by GrafTech's forbearance or failure to take action. No provision of this Agreement shall be given effect to the extent that such provision would cause any tax to become due under Section 409A of the Code.

12. **Delays or Omissions**. No delay or omission to exercise any right, power or remedy accruing to any party hereto upon any breach or default of any party under this Agreement, shall impair any such right, power or remedy of such party nor shall it be construed to be a waiver of any such breach or default, or an acquiescence therein, or of or in any similar breach or default thereafter occurring nor shall any waiver of any single breach or default be deemed a waiver of any other breach or default theretofore or thereafter occurring. Any waiver, permit, consent or approval of any kind or character on the part of any party of any breach or default under this Agreement, or any waiver on the part of any party or any provisions or conditions of this Agreement, shall be in writing and shall be effective only to the extent specifically set forth in such writing.

13. **No Special Employment Rights; No Right to Award**. Nothing contained in the Plan or any Stock Incentive Award shall confer upon any Participant any right with respect to the continuation of his Employment with the Company or interfere in any way with the right of the Company at any time to terminate such Employment or to increase or decrease the compensation of the Participant from the rate in existence at the time of the grant of the RSUs. The rights or opportunity granted to the Participant on the making of a Stock Incentive Award shall not give the Participant any rights or additional rights to compensation or damages in consequence of either: (i) the Participant giving or receiving notice of termination of his or her office or Employment; (ii) the loss or termination of his or her office or Employment with the Company for any reason whatsoever; or (iii) whether or not the termination (and/or giving of notice) is ultimately held to be wrongful or unfair.

14. **Stockholder's Rights**. The Participant shall have no rights as a stockholder of GrafTech with respect to any shares of Common Stock in respect of the RSUs awarded under this Agreement until the date of issuance to the Participant of a certificate or other evidence of ownership representing such shares of Common Stock in settlement thereof. For purposes of clarification, the Participant shall not have any voting or dividend rights with respect to the shares of Common Stock underlying the RSUs prior to settlement.

15. **Data Privacy**. By participating in the Plan each Participant consents to the collection, holding, processing and transfer of data relating to the Participant and, in particular, to

the processing of any sensitive personal data by the Company for all purposes connected with the operation of the Plan, including, but not limited to: (i) holding and maintaining details of the Participant and his or her participation in the Plan; (ii) transferring data relating to the Participant and his or her participation in the Plan to the Company registrars or brokers, the plan administrator or any other relevant professional advisers or service providers to the Company; (iii) disclosing details of the Participant and his or her participation in the Plan to a bona fide prospective purchaser of the Company (or the prospective purchaser's advisers), and (iv) with respect to Participants Employed in the European Economic Area, transferring data relating to the Participant and his or her participation in the Plan under (i) to (iii) above to a person who is resident in a country or territory outside the European Economic Area that may not provide the same statutory protection for the data as countries within the European Economic Area.

16. **Integration**. This Agreement, and the other documents referred to herein or delivered pursuant hereto which form a part hereof contain the entire understanding of the parties with respect to its subject matter. There are no restrictions, agreements, promises, representations, warranties, covenants or undertakings with respect to the subject matter hereof other than those expressly set forth herein and in the Plan. This Agreement, including without limitation the Plan, supersedes all prior agreements and understandings between the parties with respect to its subject matter.

17. **Clawback Policies**. Notwithstanding anything in the Plan to the contrary, GrafTech will be entitled, to the extent permitted or required by applicable law, Company policy and/or the requirements of an exchange on which GrafTech's shares of Common Stock are listed for trading, in each case, as in effect from time to time, to recoup compensation of whatever kind paid by GrafTech or any of its affiliates at any time to a Participant under the Plan and the Participant, by accepting this award of RSUs pursuant to the Plan and this Agreement, agrees to comply with any Company request or demand for such recoupment. In addition, a Participant's rights, payments, gains and benefits with respect to a Stock Incentive Award (whether granted hereunder or under any prior Award Agreement) shall be subject to, in the sole and good faith judgment of the Committee, reduction, cancellation, forfeiture or recoupment if the Participant engages in Detrimental Conduct (as defined below); provided, that any change to the terms of the Stock Incentive Awards shall be effected in a way that causes the Stock Incentive Awards to be excluded from the application of, or to comply with, Section 409A of the Code. For the purposes of this Agreement, "**Detrimental Conduct**" means activities which have been, are or would reasonably be expected to be detrimental to the interests of the Company, as determined in the sole and good faith judgment of the Committee. Such activities include unlawful conduct under securities, antitrust, tax or other laws, improper disclosure or use of confidential or proprietary information or trade secrets, competition with or improper taking of a corporate opportunity of any business of the Company, failure to cooperate in any investigation or legal proceeding, or misappropriation of property.

18. **Policy Against Insider Trading**. By accepting the RSUs, the Participant acknowledges that the Participant is bound by all the terms and conditions of GrafTech's insider trading policy as may be in effect from time to time.

19. **280G Provisions**. Notwithstanding any other provision of this Agreement or any other plan, arrangement, or agreement to the contrary, if any of the payments or benefits provided or to be provided by the Company to the Participant or for the Participant's benefit pursuant to the terms of this Agreement or otherwise ("Covered Payments") constitute parachute payments ("Parachute Payments") within the meaning of Section 280G of the Code and would, but for this Section 19 subject to the excise tax imposed under Section 4999 of the Code (or any successor provision thereto) or any similar tax imposed by state or local law or any interest or penalties with respect to such taxes (collectively, the "Excise Tax"), then the Covered Payments shall be payable either (i) in full or (ii) after reduction to the minimum extent necessary to ensure that no portion of the Covered Payments is subject to the Excise Tax, whichever of the foregoing (i) or (ii) results in the Participant's receipt on an after-tax basis of the greatest amount of benefits after taking into account the applicable federal, state, local and foreign income, employment and excise taxes (including the Excise Tax), notwithstanding that all or some portion of such benefits may be taxable under the Excise Tax.

Unless the Company and the Participant otherwise agree in writing, any determination required under this Section 19 shall be made in writing in good faith by a nationally recognized accounting firm (the "Accountants"). In the event of a reduction in Covered Payments hereunder, the reduction of the total payments shall apply as follows, unless otherwise agreed in writing and such agreement is in compliance with Section 409A of the Code: (i) first, any cash severance payments due shall be reduced and (ii) second, any acceleration of vesting of any equity shall be deferred with the tranche that would vest last (without any such acceleration) first deferred. For purposes of making the calculations required by this Section 19, the Accountants may make reasonable assumptions and approximations concerning applicable taxes and may rely on reasonable, good faith interpretations concerning the application of the Code, and other applicable legal authority. The Company and the Participant shall furnish to the Accountants such information and documents as the Accountants may reasonably request in order to make a determination under this Section 19. The Company shall bear all costs the Accountants may reasonably incur in connection with any calculations contemplated by this Section 19.

If notwithstanding any reduction described in this Section 19, the Internal Revenue Service ("IRS") determines that the Participant is liable for the Excise Tax as a result of the receipt of the Covered Payments, then the Participant shall be obligated to pay back to the Company, within thirty (30) days after a final IRS determination or in the event that the Participant challenges the final IRS determination, a final judicial determination a portion of such amounts equal to the "Repayment Amount." The Repayment Amount shall be the smallest such amount, if any, as shall be required to be paid to the Company so that the Participant's net after-tax proceeds with respect to any payment of the Covered Payments (after taking into account the payment of the Excise Tax and all other applicable taxes imposed on the Covered Payments) shall be maximized. The Repayment Amount with respect to the payment of Covered Payments shall be zero if a Repayment Amount of more than zero would not result in the Participant's net after-tax proceeds with respect to the payment of the Covered Payments being maximized. If the Excise Tax is not eliminated pursuant to this paragraph, the Participant shall pay the Excise Tax. Notwithstanding any other provision of this Section 19, if (i) there is a

reduction in the payment of Covered Payments as described in this Section 19, (ii) the IRS later determines that the Participant is liable for the Excise Tax, the payment of which would result in the maximization of the Participant's net after-tax proceeds (calculated as if the Covered Payments had not previously been reduced), and (iii) the Participant pays the Excise Tax, then the Company shall pay to the Participant those Covered Payments which were reduced pursuant to this Section 19 contemporaneously or as soon as administratively possible after the Participant pays the Excise Tax so that the Participant's net after-tax proceeds with respect to the payment of Covered Payments are maximized.

20. **Counterparts**. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which shall constitute one and the same instrument.

21. **Governing Law**. This Agreement shall be governed by and construed and enforced in accordance with the laws of the State of Delaware without regard to the provisions governing conflict of laws.

22. **Participant Acknowledgment**. The Participant hereby acknowledges receipt of a copy of the Plan. The Participant hereby acknowledges that all decisions, determinations and interpretations of the Committee in respect of the Plan and this Agreement shall be final and conclusive. The Participant acknowledges that there may be adverse tax consequences upon vesting of the RSUs or disposition of the underlying shares of Common Stock and that the Participant should consult a tax advisor prior to such vesting or disposition.

* * * * *

IN WITNESS WHEREOF, GrafTech has caused this Agreement to be duly executed by its duly authorized officer and said Participant has hereunto signed this Agreement on his or her own behalf, thereby representing that the Participant has carefully read and understands this Agreement and the Plan as of the day and year first written above.

GrafTech International Ltd.

By:
Title:

Participant:

**[Form of GrafTech International Ltd. Omnibus Equity Incentive Plan
Stock Option Grant Agreement (*Non-Qualified Stock Options*)]**

**GRAFTECH INTERNATIONAL LTD.
OMNIBUS EQUITY INCENTIVE PLAN
STOCK OPTION GRANT AGREEMENT
(*Non-Qualified Stock Options*)**

THIS AGREEMENT, made as of [●], 2019 between GrafTech International Ltd. (“GrafTech”) and [●] (the “Participant”).

WHEREAS, GrafTech has adopted the GrafTech International Ltd. Omnibus Equity Incentive Plan (the “Plan”);

WHEREAS, Section 6 of the Plan provides for the grant to Participants of non-qualified stock options to purchase shares of Common Stock of GrafTech.

NOW, THEREFORE, in consideration of the premises and the mutual covenants hereinafter set forth, the parties hereto hereby agree as follows:

1. **Grant of Options**. Pursuant to, and subject to, the terms and conditions set forth herein and in the Plan, GrafTech hereby grants to the Participant [●] non-qualified stock options (the “Options”) each with respect to one (1) share of Common Stock of GrafTech.
 2. **Grant Date**. The grant date of the Options hereby granted is [●], 2019 (“Grant Date”).
 3. **Exercise Price**. The exercise price for each Option hereby granted is \$[closing price of EAF on the Grant Date].
 4. **Vesting of Options**. Subject to the provisions of Section 5 hereof and to the Participant’s continued Employment with the Company through each applicable date, the Options shall vest and become exercisable in accordance with the following schedule (each such date, a “Vesting Date”):
 - (a) [] Options shall vest and become exercisable on the first anniversary of the Grant Date;
 - (b) [] Options shall vest and become exercisable on the second anniversary of the Grant Date;
 - (c) [] Options shall vest and become exercisable on the third anniversary of the Grant Date;
 - (d) [] Options shall vest and become exercisable on the fourth anniversary of the Grant Date; and
 - (e) [] Options shall vest and become exercisable on the fifth anniversary of the Grant Date.
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5. **Manner of Exercise**. Options shall be exercised by delivery of an electronic or physical written notice to the Secretary of GrafTech, or such other form as permitted by the Committee from time to time and communicated to the Participant (the “Exercise Notice”), which shall state the election to exercise Options, specify the number of Options being exercised, and such other representations and agreements as may be required by the Committee pursuant to the provisions of the Plan. The Exercise Notice shall include payment for an amount equal to the Exercise Price multiplied by the number of Options specified in such Exercise Notice. Such payment may be made in (i) cash; (ii) shares of Common Stock held by the Participant having a Fair Market Value equal to the aggregate Exercise Price; (iii) a combination of cash and shares; (iv) through a broker-assisted exercise, or (v) by the withholding from delivery upon exercise shares of Common Stock having a Fair Market Value equal to the aggregate Exercise Price, but only to the extent such right or the utilization of such right would not cause the Options to be subject to Section 409A of the Code and to the extent the use of net-physical settlement is permitted by, and is in compliance with, applicable law; provided no such method will be permitted if it would have an adverse accounting effect in respect of the Options. The partial exercise of Options, alone, shall not cause the expiration, termination or cancellation of the remaining Options.

6. **Expiration of Options**. Options shall be exercisable, in accordance with the provisions of Sections 4, 5 and 7 hereof, through the tenth (10th) anniversary of the Grant Date, unless terminated earlier as provided herein. In the event the Participant’s Employment is terminated for any reason, (a) Options unvested on the date of termination shall immediately be forfeited for no consideration as of the date of such termination and (b) Options vested on the date of termination may be exercised by the Participant or the Participant’s estate or legal representative, as applicable, at any time prior to the tenth (10th) anniversary of the Grant Date.

7. **Change in Control**. In the event of a Change in Control, any then-outstanding unvested Options shall immediately vest in full as of the date of such Change in Control (even in the event that the Participant’s Employment is terminated on the date of such Change in Control) and shall be exercisable for the period set forth in Section 6. For purposes of this Agreement, a “Change in Control” shall occur upon (a) Brookfield Asset Management Inc. and any affiliates thereof (the “Majority Stockholder”) ceasing to own stock of GrafTech that constitutes at least thirty percent (30%) of the total fair market value or total Voting Power of the stock of GrafTech or (b) any one person, or more than one person acting as a group (as defined under Treasury Regulation § 1.409A-3(i)(5)(v)(B)) other than GrafTech, the Majority Stockholder or any employee benefit plan sponsored by GrafTech acquires ownership of stock of GrafTech that, together with stock held by such person or group, constitutes one hundred percent (100%) of the total fair market value or total Voting Power of the stock of GrafTech.

8. **Transferability**. Options are exercisable during the Participant’s lifetime only by the Participant or his or her guardian or legal representative, and may not be sold, pledged, hypothecated, or otherwise encumbered or subject to any lien, obligation, or liability of the Participant to any party (other than GrafTech), or assigned or transferred by such Participant, but immediately upon such purported sale, assignment, transfer, pledge, hypothecation or other disposal of Options will be forfeited by the Participant and all of the Participant’s rights to such

Options shall immediately terminate without any payment or consideration from GrafTech. Upon the death of a Participant, outstanding Options granted to such Participant may be exercised only by the executors or administrators of the Participant's estate or by any person or persons who shall have acquired such right to exercise by will or by the laws of descent and distribution pursuant to Section 16 of the Plan.

9. **Incorporation of Plan**. All terms, conditions and restrictions of the Plan are incorporated herein and made part hereof as if stated herein. If there is any conflict between the terms and conditions of the Plan and this Agreement, the terms and conditions of the Plan shall govern (unless otherwise stated therein). All capitalized terms used and not defined herein shall have the meaning given to such terms in the Plan.

10. **Taxes**. To the extent required by applicable federal, state, local or foreign law, the Participant shall make arrangements satisfactory to GrafTech for the satisfaction of any withholding tax obligations that arise with respect to the exercise of Options in accordance with Section 13 of the Plan. GrafTech shall not be required to deliver shares of Common Stock to the Participant until it determines such obligations are satisfied.

11. **Construction of Agreement**. Any provision of this Agreement (or portion thereof) which is deemed invalid, illegal or unenforceable in any jurisdiction shall, as to that jurisdiction and subject to this section, be ineffective to the extent of such invalidity, illegality or unenforceability, without affecting in any way the remaining provisions thereof in such jurisdiction or rendering that or any other provisions of this Agreement invalid, illegal, or unenforceable in any other jurisdiction. If any covenant should be deemed invalid, illegal or unenforceable because its scope is considered excessive, such covenant shall be modified so that the scope of the covenant is reduced only to the minimum extent necessary to render the modified covenant valid, legal and enforceable. No waiver of any provision or violation of this Agreement by GrafTech shall be implied by GrafTech's forbearance or failure to take action. No provision of this Agreement shall be given effect to the extent that such provision would cause any tax to become due under Section 409A of the Code.

12. **Delays or Omissions**. No delay or omission to exercise any right, power or remedy accruing to any party hereto upon any breach or default of any party under this Agreement, shall impair any such right, power or remedy of such party nor shall it be construed to be a waiver of any such breach or default, or an acquiescence therein, or of or in any similar breach or default thereafter occurring nor shall any waiver of any single breach or default be deemed a waiver of any other breach or default theretofore or thereafter occurring. Any waiver, permit, consent or approval of any kind or character on the part of any party of any breach or default under this Agreement, or any waiver on the part of any party or any provisions or conditions of this Agreement, shall be in writing and shall be effective only to the extent specifically set forth in such writing.

13. **No Special Employment Rights; No Right to Award**. Nothing contained in the Plan or any Stock Incentive Award shall confer upon any Participant any right with respect to the continuation of his employment by or service to the Company or interfere in any way with the right of the Company at any time to terminate such employment or service or to increase or

decrease the compensation of the Participant from the rate in existence at the time of the grant of the Options. The rights or opportunity granted to the Participant on the making of a Stock Incentive Award shall not give the Participant any rights or additional rights to compensation or damages in consequence of either: (i) the Participant giving or receiving notice of termination of his or her office or employment; (ii) the loss or termination of his or her office or Employment with the Company for any reason whatsoever; or (iii) whether or not the termination (and/or giving of notice) is ultimately held to be wrongful or unfair.

14. **Data Privacy**. By participating in the Plan each Participant consents to the collection, holding, processing and transfer of data relating to the Participant and, in particular, to the processing of any sensitive personal data by the Company for all purposes connected with the operation of the Plan, including, but not limited to: (i) holding and maintaining details of the Participant and his or her participation in the Plan; (ii) transferring data relating to the Participant and his or her participation in the Plan to the Company's registrars or brokers, the plan administrator or any other relevant professional advisers or service providers to the Company; (iii) disclosing details of the Participant and his or her participation in the Plan to a bona fide prospective purchaser of the Company (or the prospective purchaser's advisers), and (iv) with respect to Participants employed in the European Economic Area, transferring data relating to the Participant and his or her participation in the Plan under (i) to (iii) above to a person who is resident in a country or territory outside the European Economic Area that may not provide the same statutory protection for the data as countries within the European Economic Area.

15. **Integration**. This Agreement, and the other documents referred to herein or delivered pursuant hereto which form a part hereof contain the entire understanding of the parties with respect to its subject matter. There are no restrictions, agreements, promises, representations, warranties, covenants or undertakings with respect to the subject matter hereof other than those expressly set forth herein and in the Plan. This Agreement, including without limitation the Plan, supersedes all prior agreements and understandings between the parties with respect to its subject matter.

16. **Clawback Policies**. Notwithstanding anything in the Plan to the contrary, GrafTech will be entitled, to the extent permitted or required by applicable law, Company policy and/or the requirements of an exchange on which GrafTech's shares of Common Stock are listed for trading, in each case, as in effect from time to time, to recoup compensation of whatever kind paid by GrafTech or any of its affiliates at any time to a Participant under the Plan and the Participant, by accepting this award of Options pursuant to the Plan and this Agreement, agrees to comply with any Company request or demand for such recoupment. In addition, a Participant's rights, payments, gains and benefits with respect to a Stock Incentive Award (whether granted hereunder or under any prior Award Agreement) shall be subject to, in the sole and good faith judgment of the Committee, reduction, cancellation, forfeiture or recoupment while Participant is employed or upon or following termination of Participant's Employment for Cause, for Participant's violation of material Company policies, for Participant's breach of noncompetition, confidentiality or other restrictive covenants, or for Participant's engagement in Detrimental Conduct (as defined below); provided, that any change to the terms of the Stock Incentive Awards shall be effected in a way that causes the Stock Incentive Awards to be

excluded from the application of, or to comply with, Section 409A of the Code. For the purposes of this Agreement, “ Detrimental Conduct ” means activities which have been, are or would reasonably be expected to be detrimental to the interests of the Company, as determined in the sole and good faith judgment of the Committee. Such activities include unlawful conduct under securities, antitrust, tax or other laws, improper disclosure or use of confidential or proprietary information or trade secrets, competition with or improper taking of a corporate opportunity of any business of the Company, failure to cooperate in any investigation or legal proceeding, or misappropriation of property.

17. **Policy Against Insider Trading**. By accepting the Options, the Participant acknowledges that the Participant is bound by all the terms and conditions of GrafTech’s insider trading policy as may be in effect from time to time.

18. **280G Provisions**. Notwithstanding any other provision of this Agreement or any other plan, arrangement, or agreement to the contrary, if any of the payments or benefits provided or to be provided by the Company to the Participant or for the Participant’s benefit pursuant to the terms of this Agreement or otherwise (“ Covered Payments ”) constitute parachute payments (“ Parachute Payments ”) within the meaning of Section 280G of the Code and would, but for this Section 18 be subject to the excise tax imposed under Section 4999 of the Code (or any successor provision thereto) or any similar tax imposed by state or local law or any interest or penalties with respect to such taxes (collectively, the “ Excise Tax ”), then the Covered Payments shall be payable either (i) in full or (ii) after reduction to the minimum extent necessary to ensure that no portion of the Covered Payments is subject to the Excise Tax, whichever of the foregoing (i) or (ii) results in the Participant’s receipt on an after-tax basis of the greatest amount of benefits after taking into account the applicable federal, state, local and foreign income, employment and excise taxes (including the Excise Tax), notwithstanding that all or some portion of such benefits may be taxable under the Excise Tax.

Unless the Company and the Participant otherwise agree in writing, any determination required under this Section 18 shall be made in writing in good faith by a nationally recognized accounting firm (the “ Accountants ”). In the event of a reduction in Covered Payments hereunder, the reduction of the total payments shall apply as follows, unless otherwise agreed in writing and such agreement is in compliance with Section 409A of the Code: (i) first, any cash severance payments due shall be reduced and (ii) second, any acceleration of vesting of any equity shall be deferred with the tranche that would vest last (without any such acceleration) first deferred. For purposes of making the calculations required by this Section 18, the Accountants may make reasonable assumptions and approximations concerning applicable taxes and may rely on reasonable, good faith interpretations concerning the application of the Code, and other applicable legal authority. The Company and the Participant shall furnish to the Accountants such information and documents as the Accountants may reasonably request in order to make a determination under this Section 18. The Company shall bear all costs the Accountants may reasonably incur in connection with any calculations contemplated by this Section 18.

If notwithstanding any reduction described in this Section 18, the Internal Revenue Service (“IRS”) determines that the Participant is liable for the Excise Tax as a result of the receipt of the Covered Payments, then the Participant shall be obligated to pay back to the Company, within thirty (30) days after a final IRS determination or in the event that the Participant challenges the final IRS determination, a final judicial determination a portion of such amounts equal to the “Repayment Amount.” The Repayment Amount shall be the smallest such amount, if any, as shall be required to be paid to the Company so that the Participant’s net after-tax proceeds with respect to any payment of the Covered Payments (after taking into account the payment of the Excise Tax and all other applicable taxes imposed on the Covered Payments) shall be maximized. The Repayment Amount with respect to the payment of Covered Payments shall be zero if a Repayment Amount of more than zero would not result in the Participant’s net after-tax proceeds with respect to the payment of the Covered Payments being maximized. If the Excise Tax is not eliminated pursuant to this paragraph, the Participant shall pay the Excise Tax. Notwithstanding any other provision of this Section 18, if (i) there is a reduction in the payment of Covered Payments as described in this Section 18, (ii) the IRS later determines that the Participant is liable for the Excise Tax, the payment of which would result in the maximization of the Participant’s net after-tax proceeds (calculated as if the Covered Payments had not previously been reduced), and (iii) the Participant pays the Excise Tax, then the Company shall pay to the Participant those Covered Payments which were reduced pursuant to this Section 18 contemporaneously or as soon as administratively possible after the Participant pays the Excise Tax so that the Participant’s net after-tax proceeds with respect to the payment of Covered Payments are maximized.

19. **Counterparts**. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which shall constitute one and the same instrument.

20. **Governing Law**. This Agreement shall be governed by and construed and enforced in accordance with the laws of the State of Delaware without regard to the provisions governing conflict of laws.

21. **Participant Acknowledgment**. The Participant hereby acknowledges receipt of a copy of the Plan. The Participant hereby acknowledges that all decisions, determinations and interpretations of the Committee in respect of the Plan and this Agreement shall be final and conclusive. The Participant acknowledges that there may be adverse tax consequences upon exercise of the Options or disposition of the underlying shares of Common Stock and that the Participant should consult a tax advisor prior to such exercise or disposition.

* * * * *

IN WITNESS WHEREOF, GrafTech has caused this Agreement to be duly executed by its duly authorized officer and said Participant has hereunto signed this Agreement on his or her own behalf, thereby representing that he or she has carefully read and understands this Agreement and the Plan as of the day and year first written above.

GrafTech International Ltd.

By:
Title:

Participant:

CERTIFICATION

I, David J. Rintoul, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of GrafTech International Ltd. (the "Registrant");
2. Based on my knowledge, this Report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this Report;
3. Based on my knowledge, the financial statements, and other financial information included in this Report, fairly present in all material respects the financial condition, results of operations and cash flows of the Registrant as of, and for, the periods presented in this Report;
4. The Registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the Registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the Registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this Report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this Report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this Report based on such evaluation; and
 - (d) Disclosed in this report any change in the Registrant's internal control over financial reporting that occurred during the Registrant's most recent fiscal quarter (the Registrant's fourth fiscal quarter in the case of the annual report) that has materially affected, or is reasonably likely to materially affect, the Registrant's internal control over financial reporting; and
5. The Registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Registrant's auditors and the audit committee of the Registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the Registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the Registrant's internal control over financial reporting.

By: /s/ David J. Rintoul

David J. Rintoul
President and Chief Executive Officer,
(Principal Executive Officer)

May 1, 2019

CERTIFICATION

I, Quinn J. Coburn, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of GrafTech International Ltd. (the "Registrant");
2. Based on my knowledge, this Report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this Report;
3. Based on my knowledge, the financial statements, and other financial information included in this Report, fairly present in all material respects the financial condition, results of operations and cash flows of the Registrant as of, and for, the periods presented in this Report;
4. The Registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the Registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the Registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this Report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this Report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this Report based on such evaluation; and
 - (d) Disclosed in this report any change in the Registrant's internal control over financial reporting that occurred during the Registrant's most recent fiscal quarter (the Registrant's fourth fiscal quarter in the case of the annual report) that has materially affected, or is reasonably likely to materially affect, the Registrant's internal control over financial reporting; and
5. The Registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Registrant's auditors and the audit committee of the Registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the Registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the Registrant's internal control over financial reporting.

By: /s/ Quinn J. Coburn

Quinn J. Coburn
Chief Financial Officer, Vice President Finance and Treasurer
(Principal Financial and Accounting Officer)

May 1, 2019

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In accordance with the rules and regulations of the Securities and Exchange Commission, the following Certification shall not be deemed to be filed with the Commission under the Securities Exchange Act of 1934, as amended, or otherwise subject to the liabilities of Section 18 of the Exchange Act and shall not be deemed to be incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Exchange Act, notwithstanding any general incorporation by reference of the Quarterly Report of GrafTech International Ltd. (the "Corporation") on Form 10-Q for the period ended March 31, 2019, as filed with the Commission on the date hereof (the "Report"), into any other document filed with the Commission.

In connection with the Report, I, David J. Rintoul, President and Chief Executive Officer of the Corporation, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of my knowledge:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Exchange Act; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and result of operations of the Corporation.

By: /s/ David J. Rintoul

David J. Rintoul
President and Chief Executive Officer,
(Principal Executive Officer)

May 1, 2019

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In accordance with the rules and regulations of the Securities and Exchange Commission, the following Certification shall not be deemed to be filed with the Commission under the Securities Exchange Act of 1934, as amended, or otherwise subject to the liabilities of Section 18 of the Exchange Act and shall not be deemed to be incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Exchange Act, notwithstanding any general incorporation by reference of the Quarterly Report of GrafTech International Ltd. (the "Corporation") on Form 10-Q for the period ended March 31, 2019, as filed with the Commission on the date hereof (the "Report"), into any other document filed with the Commission.

In connection with the Report, I, Quinn J. Coburn, Vice President and Chief Financial Officer, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of my knowledge:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Exchange Act; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and result of operations of the Corporation.

By: /s/ Quinn J. Coburn

Quinn J. Coburn
Chief Financial Officer, Vice President Finance and Treasurer
(Principal Financial and Accounting Officer)
May 1, 2019