UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-Q

☑ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the quarterly period ended: September 30, 2020
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 1-1687

PPG INDUSTRIES INC.
(Exact name of registrant as specified in its charter)

25-0730780
(I.R.S. Employer Identification No.)
Pennsylvania
(State or Other Jurisdiction of Incorporation or Organization)
One PPG Place, Pittsburgh, Pennsylvania
(Address of Principal Executive Offices)
15272
(Zip Code)
(412) 434-3131
(Registrant's Telephone Number, Including Area Code)
Not Applicable
(Former Name, Former Address and Former Fiscal Year, if Changed Since Last Report)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value $1.66 2/3	PPG	New York Stock Exchange
0.875% Notes due 2022	PPG 22	New York Stock Exchange
0.875% Notes due 2025	PPG 25	New York Stock Exchange
1.400% Notes due 2027	PPG 27	New York Stock Exchange

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, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large Accelerated Filer	☑	Accelerated Filer	☐
Non-accelerated Filer	☐	Smaller Reporting Company	☐
		Emerging Growth 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 Rule 12b-2 of the Act). Yes ☐ No ☑

As of September 30, 2020, 236,204,417 shares of the Registrant's common stock, par value $1.66 2/3 per share, were outstanding.

PPG INDUSTRIES, INC. AND SUBSIDIARIES

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PART I. FINANCIAL INFORMATION

Item 1. Financial Statements

PPG INDUSTRIES, INC. AND SUBSIDIARIES

Condensed Consolidated Statement of Income (Unaudited)

($ in millions, except per share amounts)

	Three Months Ended September 30		Nine Months Ended September 30	
	2020	2019	2020	2019
Net sales	$3,685	$3,826	$10,077	$11,474
Cost of sales, exclusive of depreciation and amortization	2,026	2,181	5,637	6,542
Selling, general and administrative	836	887	2,507	2,710
Depreciation	96	99	280	276
Amortization	36	34	104	101
Research and development, net	92	107	279	323
Interest expense	34	33	107	99
Interest income	(4)	(10)	(18)	(23)
Business restructuring, net	—	2	172	175
Other charges	21	26	45	69
Other income	(24)	(14)	(53)	(61)
Income before income taxes	$572	$481	$1,017	$1,263
Income tax expense	124	109	224	297
Income from continuing operations	$448	$372	$793	$966
Income from discontinued operations, net of tax	—	1	3	3
Net income attributable to controlling and noncontrolling interests	$448	$373	$796	$969
Net income attributable to noncontrolling interests	(6)	(6)	(9)	(18)
Net income (attributable to PPG)	$442	$367	$787	$951
Amounts attributable to PPG:				
Income from continuing operations, net of tax	$442	$366	$784	$948
Income from discontinued operations, net of tax	—	1	3	3
Net income (attributable to PPG)	$442	$367	$787	$951
Earnings per common share:				
Income from continuing operations, net of tax	$1.87	$1.55	$3.32	$4.00
Income from discontinued operations, net of tax	—	—	0.01	0.01
Earnings per common share (attributable to PPG)	$1.87	$1.55	$3.33	$4.01
Earnings per common share – assuming dilution:				
Income from continuing operations, net of tax	$1.86	$1.54	$3.30	$3.98
Income from discontinued operations, net of tax	—	—	0.01	0.01
Earnings per common share (attributable to PPG) - assuming dilution	$1.86	$1.54	$3.31	$3.99

The accompanying notes to the condensed consolidated financial statements are an integral part of this condensed consolidated statement.

Condensed Consolidated Statement of Comprehensive Income/(Loss) (Unaudited)
($ in millions)

	Three Months Ended September 30		Nine Months Ended September 30	
	2020	2019	2020	2019
Net income attributable to the controlling and noncontrolling interests	$448	$373	$796	$969
Other comprehensive income/(loss), net of tax:				
Defined benefit pension and other postretirement benefits	3	(2)	9	4
Unrealized foreign currency translation adjustments	136	(103)	(453)	(37)
Derivative financial instruments	—	1	—	—
Other comprehensive income/(loss), net of tax	$139	($104)	($444)	($33)
Total comprehensive income	$587	$269	$352	$936
Less: amounts attributable to noncontrolling interests:				
Net income	(6)	(6)	(9)	(18)
Unrealized foreign currency translation adjustments	(2)	6	6	5
Comprehensive income attributable to PPG	$579	$269	$349	$923

The accompanying notes to the condensed consolidated financial statements are an integral part of this condensed consolidated statement.

PPG INDUSTRIES, INC. AND SUBSIDIARIES

Condensed Consolidated Balance Sheet (Unaudited)
($ in millions)

	September 30, 2020	December 31, 2019
Assets		
Current assets:		
Cash and cash equivalents	$2,008	$1,216
Short-term investments	87	57
Receivables, net	2,843	2,756
Inventories	1,672	1,710
Other current assets	392	431
Total current assets	$7,002	$6,170
Property, plant and equipment (net of accumulated depreciation of $4,281 and $4,082)	2,897	2,983
Goodwill	4,419	4,470
Identifiable intangible assets, net	1,930	2,131
Deferred income taxes	257	220
Investments	267	258
Operating lease right-of-use assets	829	782
Other assets	699	694
Total	$18,300	$17,708
Liabilities and Shareholders' Equity		
Current liabilities:		
Accounts payable and accrued liabilities	$3,482	$3,496
Restructuring reserves	282	196
Short-term debt and current portion of long-term debt	675	513
Current portion of operating lease liabilities	174	170
Total current liabilities	$4,613	$4,375
Long-term debt	4,828	4,539
Operating lease liabilities	670	622
Accrued pensions	711	745
Other postretirement benefits	653	661
Deferred income taxes	436	452
Other liabilities	965	911
Total liabilities	$12,876	$12,305
Commitments and contingent liabilities (Note 15)		
Shareholders' equity:		
Common stock	$969	$969
Additional paid-in capital	980	950
Retained earnings	19,325	18,906
Treasury stock, at cost	(13,176)	(13,191)
Accumulated other comprehensive loss	(2,788)	(2,350)
Total PPG shareholders' equity	$5,310	$5,284
Noncontrolling interests	114	119
Total shareholders' equity	$5,424	$5,403
Total	$18,300	$17,708

The accompanying notes to the condensed consolidated financial statements are an integral part of this condensed consolidated statement.

PPG INDUSTRIES, INC. AND SUBSIDIARIES

Condensed Consolidated Statement of Shareholders' Equity (Unaudited)

($ in millions)

	Common Stock	Additional Paid-In Capital	Retained Earnings	Treasury Stock	Accumulated Other Comprehensive (Loss)/Income	Total PPG	Non-controlling Interests	Total
January 1, 2020	$969	$950	$18,906	($13,191)	($2,350)	$5,284	$119	$5,403
Net income attributable to the controlling and noncontrolling interests	—	—	243	—	—	$243	5	$248
Other comprehensive loss, net of tax	—	—	—	—	(692)	($692)	(10)	($702)
Cash dividends	—	—	(120)	—	—	($120)	—	($120)
Issuance of treasury stock	—	12	—	4	—	$16	—	$16
Stock-based compensation activity	—	(8)	—	—	—	($8)	—	($8)
March 31, 2020	$969	$954	$19,029	($13,187)	($3,042)	$4,723	$114	$4,837
Net income attributable to the controlling and noncontrolling interests	—	—	102	—	—	$102	(2)	$100
Other comprehensive income, net of tax	—	—	—	—	117	$117	2	$119
Cash dividends	—	—	(121)	—	—	($121)	—	($121)
Issuance of treasury stock	—	2	—	3	—	$5	—	$5
Stock-based compensation activity	—	6	—	—	—	$6	—	$6
Dividends paid on subsidiary common stock to noncontrolling interests	—	—	—	—	—	$—	(3)	($3)
Reductions in noncontrolling interests	—	—	—	—	—	$—	(5)	($5)
June 30, 2020	$969	$962	$19,010	($13,184)	($2,925)	$4,832	$106	$4,938
Net income attributable to the controlling and noncontrolling interests	—	—	442	—	—	$442	6	$448
Other comprehensive income, net of tax	—	—	—	—	137	$137	2	$139
Cash dividends	—	—	(127)	—	—	($127)	—	($127)
Issuance of treasury stock	—	10	—	8	—	$18	—	$18
Stock-based compensation activity	—	8	—	—	—	$8	—	$8
Dividends paid on subsidiary common stock to noncontrolling interests	—	—	—	—	—	$—	(1)	($1)
Reductions in noncontrolling interests	—	—	—	—	—	$—	1	$1
September 30, 2020	$969	$980	$19,325	($13,176)	($2,788)	$5,310	$114	$5,424

	Common Stock	Additional Paid-In Capital	Retained Earnings	Treasury Stock	Accumulated Other Comprehensive (Loss)/Income	Total PPG	Non-controlling Interests	Total
January 1, 2019	$969	$788	$18,131	($12,958)	($2,300)	$4,630	$102	$4,732
Net income attributable to the controlling and noncontrolling interests	—	—	312	—	—	$312	5	$317
Other comprehensive income/(loss), net of tax	—	—	—	—	76	$76	(1)	$75
Cash dividends	—	—	(113)	—	—	($113)	—	($113)
Purchase of treasury stock	—	—	—	(175)	—	($175)	—	($175)
Issuance of treasury stock	—	121	—	63	—	$184	—	$184
Stock-based compensation activity	—	(10)	—	—	—	($10)	—	($10)
March 31, 2019	$969	$899	$18,330	($13,070)	($2,224)	$4,904	$106	$5,010
Net income attributable to the controlling and noncontrolling interests	—	—	272	—	—	$272	7	$279
Other comprehensive (loss)/income, net of tax	—	—	—	—	(6)	($6)	2	($4)
Cash dividends	—	—	(114)	—	—	($114)	—	($114)
Issuance of treasury stock	—	7	—	9	—	$16	—	$16
Stock-based compensation activity	—	7	—	—	—	$7	—	$7
Dividends paid on subsidiary common stock to noncontrolling interests	—	—	—	—	—	$—	(5)	($5)
Reductions in noncontrolling interests	—	—	—	—	—	$—	(2)	($2)
June 30, 2019	$969	$913	$18,488	($13,061)	($2,230)	$5,079	$108	$5,187
Net income attributable to the controlling and noncontrolling interests	—	—	367	—	—	$367	6	$373
Other comprehensive loss, net of tax	—	—	—	—	(98)	($98)	(6)	($104)
Cash dividends	—	—	(120)	—	—	($120)	—	($120)
Issuance of treasury stock	—	5	—	7	—	$12	—	$12
Stock-based compensation activity	—	7	—	—	—	$7	—	$7
September 30, 2019	$969	$925	$18,735	($13,054)	($2,328)	$5,247	$108	$5,355

The accompanying notes to the condensed consolidated financial statements are an integral part of this condensed consolidated statement.

PPG INDUSTRIES, INC. AND SUBSIDIARIES
Condensed Consolidated Statement of Cash Flows (Unaudited)

($ in millions)	Nine Months Ended September 30 2020	2019
Operating activities:		
Net income attributable to controlling and noncontrolling interests	$796	$969
Less: Income from discontinued operations	(3)	(3)
Income from continuing operations	793	966
Adjustments to reconcile net income to cash from operations:		
Depreciation and amortization	384	377
Pension expense	29	38
Debt extinguishment charge	7	—
Environmental remediation charges	12	61
Business restructuring, net	172	175
Stock-based compensation expense	29	28
Equity affiliate income, net of dividends	2	4
Deferred income taxes	4	(26)
Cash contributions to pension plans	(7)	(8)
Cash used for restructuring actions	(98)	(35)
Change in certain asset and liability accounts (net of acquisitions):		
Receivables	(63)	(188)
Inventories	36	(49)
Other current assets	26	(70)
Accounts payable and accrued liabilities	(23)	35
Taxes and interest payable	(72)	59
Noncurrent assets and liabilities, net	19	(52)
Other	(87)	(40)
Cash from operating activities - continuing operations	$1,163	$1,275
Cash from/(used for) operating activities - discontinued operations	1	(4)
Cash from operating activities	$1,164	$1,271
Investing activities:		
Capital expenditures	(170)	(224)
Business acquisitions, net of cash balances acquired	(45)	(564)
Payments for the settlement of cross currency swap contracts	(5)	(8)
Proceeds from the settlement of cross currency swap contracts	21	26
Other	8	22
Cash used for investing activities	($191)	($748)
Financing activities:		
Net change in borrowing with maturities of three months or less	(7)	6
Proceeds on commercial paper and short-term debt, net of payments	1,397	—
Repayment of Term Loan	(1,000)	—
Proceeds from revolving credit facility	800	—
Repayment of revolving credit facility	(800)	—
Proceeds from the issuance of debt, net of discounts and fees	415	595
Repayment of long-term debt	(503)	(3)
Repayment of acquired debt	(12)	(23)
Purchase of treasury stock	—	(175)
Issuance of treasury stock	23	32
Dividends paid on PPG common stock	(368)	(347)
Payments related to tax withholding on stock-based compensation awards	(11)	(15)
Other	(39)	(29)
Cash (used for)/from financing activities	($105)	$41
Effect of currency exchange rate changes on cash and cash equivalents	(76)	(34)
Net increase in cash and cash equivalents	$792	$530
Cash and cash equivalents, beginning of period	1,216	902
Cash and cash equivalents, end of period	$2,008	$1,432
Supplemental disclosures of cash flow information:		
Interest paid, net of amount capitalized	$121	$93
Taxes paid, net of refunds	$293	$282
Supplemental disclosure of noncash investing activities:		
Reissuance of common stock for business acquisition	$—	$164

The accompanying notes to the condensed consolidated financial statements are an integral part of this condensed consolidated statement.

PPG INDUSTRIES, INC. AND SUBSIDIARIES

Notes to Condensed Consolidated Financial Statements (Unaudited)

1. Basis of Presentation

The condensed consolidated financial statements included herein are unaudited and have been prepared following the requirements of the Securities and Exchange Commission (the "SEC") and accounting principles generally accepted in the United States of America ("U.S. GAAP") for interim reporting. Under these rules, certain footnotes and other financial information that are normally required for annual financial statements can be condensed or omitted. These statements include all adjustments, consisting only of normal, recurring adjustments, necessary for a fair presentation of the financial position and shareholders' equity of PPG as of September 30, 2020, and the results of its operations and cash flows for the three and nine months ended September 30, 2020 and 2019. All intercompany balances and transactions have been eliminated. Material subsequent events are evaluated through the report issuance date and disclosed where applicable. These condensed consolidated financial statements should be read in conjunction with the consolidated financial statements and notes included in PPG's 2019 Annual Report on Form 10-K (the "2019 Form 10-K").

Net sales, expenses, assets and liabilities can vary during each quarter of the year. Accordingly, the results of operations for the three and nine months ended September 30, 2020 and the trends in these unaudited condensed consolidated financial statements may not necessarily be indicative of the results to be expected for the full year.

2. New Accounting Standards

Accounting Standards Adopted in 2020

Effective January 1, 2020, PPG adopted Accounting Standards Update (“ASU”) No. 2016-13, "Financial Instruments - Credit Losses." This ASU requires an organization to measure all expected credit losses for financial assets, including trade receivables, held at the reporting date based on historical experience, current conditions, and reasonable and supportable information. Organizations will now use forward-looking information to better estimate their credit losses. PPG adopted this ASU using a modified retrospective approach. Under this method of adoption, PPG determined that there was no cumulative-effect adjustment to beginning Retained earnings on the condensed consolidated balance sheet. Adoption of this standard did not impact PPG’s Income before income taxes and had no impact on the condensed consolidated statement of cash flows. See Note 3, “Allowance for Credit Losses” for further details.

Effective January 1, 2020, PPG adopted ASU No. 2018-15, “Intangibles - Goodwill and Other - Internal-Use Software: Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract.” This ASU aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software (and hosting arrangements that include an internal-use software license). PPG adopted this ASU prospectively. Under this method of adoption, PPG determined there was not a material impact to the condensed consolidated balance sheet, Income before income taxes or the condensed consolidated statement of cash flows.

Accounting Standards to be Adopted in Future Years

In August 2020, the Financial Accounting Standards Board (“FASB”) issued ASU No. 2020-06, “Debt – Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging – Contracts in Entity’s Own Equity (Subtopic 815-40).” This ASU simplifies the accounting for convertible debt instruments by removing certain accounting separation models as well as the accounting for debt instruments with embedded conversion features that are not required to be accounted for as derivative instruments. The ASU also updates and improves the consistency of earnings per share calculations for convertible instruments. The amendments in this ASU are effective for fiscal years beginning after December 15, 2021, including interim periods within those fiscal years. PPG is currently assessing the potential impacts this ASU may have on its consolidated financial position, results of operations and cash flows.

In March 2020, the FASB issued ASU No. 2020-04, “Reference Rate Reform." This ASU provides optional guidance for a limited period of time to ease potential accounting impacts associated with transitioning away from reference rates that are expected to be discontinued, such as the London Interbank Offered Rate ("LIBOR"). The amendments in this ASU apply only to contracts, hedging relationships, and other transactions that reference LIBOR or another reference rate expected to be discontinued. The amendments in this ASU are effective through December 31, 2022. PPG is currently assessing the potential impacts this ASU may have on its consolidated financial position, results of operations and cash flows.

In December 2019, the FASB issued ASU No. 2019-12, "Income Taxes - Simplifying the Accounting for Income Taxes." This ASU is intended to simplify various aspects related to accounting for income taxes by eliminating certain exceptions within Accounting Standards Codification Topic 740, "Income Taxes" and clarifies certain aspects of the current accounting guidance. The amendments in this ASU are effective for fiscal years beginning after December 15, 2020 and for interim periods therein with early adoption permitted. PPG does not believe this ASU will have a material impact on its consolidated financial position, results of operations or cash flows.

3. Allowance for Credit Losses

All trade receivables are reported on the condensed consolidated balance sheet at the outstanding principal amount adjusted for any allowance for credit losses and any charge offs. PPG provides an allowance for credit losses to reduce trade receivables to their estimated net realizable value equal to the amount that is expected to be collected. This allowance is estimated based on historical collection experience, current regional economic and market conditions, the aging of accounts receivable, assessments of current creditworthiness of customers, and forward-looking information. The use of forward-looking information is based on certain macroeconomic and microeconomic indicators including, but not limited to, regional business environment risk, political risk, and commercial and financing risks.

PPG reviews its reserves for credit losses on a quarterly basis to ensure its reserves for credit losses reflect regional risk trends as well as current and future global operating conditions.

The following table summarizes the activity for the allowance for credit losses for the nine months ended September 30, 2020:

($ in millions)	Trade Receivables Allowance for Credit Losses
January 1, 2020	$22
Current-period provision for credit losses	41
Trade receivables written off as uncollectible, net of recoveries	(15)
Foreign currency impact	(1)
September 30, 2020	$47

In March 2020, PPG recorded estimated future credit losses for trade receivables of $30 million related to the potential financial impacts of the COVID-19 pandemic. These amounts were estimated based on regional business information, including certain forward-looking information and other considerations. During the third quarter of 2020, a customer filed for bankruptcy as a result of the COVID-19 pandemic and the trade receivables associated with that customer were written off against the previously established reserve. As of September 30, 2020, $25 million remains in the reserve for future COVID-19-related matters. PPG will continue to monitor the adequacy of this reserve as new information becomes available.

4. Acquisitions

On March 2, 2020, PPG completed the acquisition of Alpha Coating Technologies, LLC, a manufacturer of powder coatings for light industrial applications and heat sensitive substrates. The pro-forma impact on PPG's sales and results of operations, including the pro-forma effect of events that are directly attributable to the acquisition, was not significant. The results of this business since the date of acquisition have been reported within the industrial coatings business within the Industrial Coatings reportable business segment.

On January 31, 2020, PPG completed the acquisition of Industria Chimica Reggiana S.p.A ("ICR"), an Italian manufacturer of automotive refinish products. The pro-forma impact on PPG's sales and results of operations, including the pro-forma effect of events that are directly attributable to the acquisition, was not significant. The results of this business since the date of acquisition have been reported within the automotive refinish coatings business within the Performance Coatings reportable business segment.

On August 14, 2019, PPG completed the acquisition of Dexmet Corporation, a specialty materials manufacturer. Headquartered in Wallingford, Connecticut, Dexmet Corporation specializes in customized, highly-engineered, expanded and perforated metal foils and polymers used for structural applications. The pro-forma impact on PPG's sales and results of operations, including the pro forma effect of events that are directly attributable to the acquisition, was not significant. The results of this business since the date of acquisition have been reported within the aerospace coatings business within the Performance Coatings reportable segment.

On April 16, 2019, PPG completed the acquisition of Hemmelrath, a global manufacturer of coatings for automotive original equipment manufacturers ("OEMs"). The pro-forma impact on PPG's sales and results of operations,

including the pro-forma effect of events that are directly attributable to the acquisition, was not significant. The results of this business since the date of acquisition have been reported within the automotive OEM coatings business within the Industrial Coatings reportable business segment.

On March 1, 2019, PPG completed the acquisition of Whitford Worldwide Company ("Whitford"), a global manufacturer that specializes in low-friction and nonstick coatings for industrial applications and consumer products. Whitford operates 10 manufacturing facilities globally. The pro-forma impact on PPG's sales and results of operations, including the proforma effect of events that are directly attributable to the acquisition, was not significant. The results of this business since the date of acquisition have been reported within the industrial coatings business within the Industrial Coatings reportable business segment.

5. Inventories

($ in millions)	September 30, 2020	December 31, 2019
Finished products	$1,009	$1,047
Work in process	188	197
Raw materials	440	431
Supplies	35	35
Total Inventories	$1,672	$1,710

Most U.S. inventories are valued using the last-in, first-out method. These inventories represented approximately 34% of total inventories at September 30, 2020 and December 31, 2019. If the first-in, first-out method of inventory valuation had been used, inventories would have been $111 million and $124 million higher as of September 30, 2020 and December 31, 2019, respectively.

6. Goodwill and Other Identifiable Intangible Assets

The Company tests indefinite-lived intangible assets and goodwill for impairment by either performing a qualitative evaluation or a quantitative test at least annually, or more frequently if an indication of impairment arises. The qualitative evaluation is an assessment of factors to determine whether it is more likely than not that the fair value of a reporting unit or asset is less than its carrying amount.

Throughout the year, the Company has evaluated the effects of the COVID-19 pandemic and its negative impact on the global economy on each of the Company's reporting units and indefinite-lived intangible assets. Management reviews key assumptions, including revisions of projected future revenues for reporting units and the results of the previous annual impairment testing performed during the fourth quarter of 2019. The Company did not identify an indication of impairment for each of its reporting units and indefinite-lived intangible assets. Although it was determined that a triggering event had not occurred as of September 30, 2020, the Company will continue to monitor the impacts of the COVID-19 pandemic on the Company and significant changes in key assumptions that could result in future period impairment charges.

The change in the carrying amount of goodwill attributable to each reportable segment for the nine months ended September 30, 2020 was as follows:

($ in millions)	Performance Coatings	Industrial Coatings	Total
January 1, 2020	$3,442	$1,028	$4,470
Acquisitions, including purchase accounting adjustments	11	15	26
Foreign currency impact	(82)	5	(77)
September 30, 2020	$3,371	$1,048	$4,419

A summary of the carrying value of the Company's identifiable intangible assets is as follows:

($ in millions)	September 30, 2020 Gross Carrying Amount	September 30, 2020 Accumulated Amortization	September 30, 2020 Net	December 31, 2019 Gross Carrying Amount	December 31, 2019 Accumulated Amortization	December 31, 2019 Net
Indefinite-Lived Identifiable Intangible Assets						
Trademarks	$1,064	N/A	$1,064	$1,167	N/A	$1,167
Definite-Lived Identifiable Intangible Assets						
Acquired technology	$718	($572)	$146	$710	($549)	$161
Customer-related	1,574	(949)	625	1,578	(885)	693
Trade names	208	(120)	88	210	(111)	99
Other	49	(42)	7	51	(40)	11
Total Definite Lived Intangible Assets	$2,549	($1,683)	$866	$2,549	($1,585)	$964
Total Identifiable Intangible Assets	$3,613	($1,683)	$1,930	$3,716	($1,585)	$2,131

The Company’s identifiable intangible assets with definite lives are being amortized over their estimated useful lives.

As of September 30, 2020, estimated future amortization expense of identifiable intangible assets is as follows:

($ in millions)	Future Amortization Expense
Remaining three months of 2020	$35
2021	$125
2022	$125
2023	$110
2024	$90
2025	$85
Thereafter	$296

7. Business Restructuring

The Company records restructuring liabilities that represent charges incurred in connection with consolidations of certain operations, including operations from acquisitions, as well as headcount reduction programs. These charges consist primarily of severance costs and certain other cash costs. As a result of these programs, the Company will also incur incremental non-cash accelerated depreciation expense for certain assets due to their reduced expected asset life. These charges are not allocated to the Company’s reportable business segments. Refer to Note 17 Reportable Business Segment Information for additional information.

2020 Restructuring Program

In June 2020, the Company approved a business restructuring plan which included actions to reduce its global cost structure. The program addresses weakened global economic conditions stemming from the COVID-19 pandemic and related pace of recovery in a few end-use markets along with further opportunities to optimize supply chain and functional costs. The plan includes a voluntary separation program that was offered in the U.S. and Canada. A pretax restructuring charge of $176 million was recorded in PPG's second quarter 2020 financial results. This charge represents employee severance and other cash costs. The majority of restructuring actions are expected to be completed by the end of 2020 with the remainder of the actions expected to be completed in 2021.

2019 and 2018 Restructuring Programs

As a result of the COVID-19 pandemic, the Company expects delays in the timing of certain previously recorded restructuring actions. Program completion dates may differ from the originally targeted timeline, as noted below.

In June 2019, the Company approved a business restructuring plan which included actions to reduce its global cost structure. The program is the result of a comprehensive internal operational assessment to identify further opportunities to improve the profitability of the overall business portfolio. This program includes further manufacturing optimization; targeted pruning of low-profit business in certain regions; exiting certain smaller product lines that are not meeting profitability objectives; reorganization of certain business unit cost structures based on the current economic climate; and certain redundancy actions related to recent acquisitions. The majority of

restructuring actions are now expected to be completed by the end of the first quarter 2021 with the remainder of the actions expected to be completed in 2022.

In April 2018, the Company approved a business restructuring plan which included actions to reduce its global cost structure. The program was in response to the impacts of customer assortment changes in our U.S. architectural coatings business during the first quarter 2018 and sustained, elevated raw material inflation. The program aims to further right-size employee headcount and production capacity in certain businesses based on product demand, as well as reductions in various global functional and administrative costs. The majority of restructuring actions are now expected to be completed by the end of the fourth quarter of 2020.

The following table summarizes the reserve activity for the nine months ended September 30, 2020 and 2019:

	Total Reserve	
($ in millions)	2020	2019
January 1	$224	$110
Approved restructuring actions [(a)]	198	194
Release of prior reserves and other adjustments	(26)	(19)
Cash payments	(98)	(35)
Foreign currency impact	10	(8)
September 30	$308	$242

(a) In the first quarter of 2020, additional programs were approved by management and charges of $22 million were recorded in PPG's financial results.

8. Borrowings

In August 2020, PPG completed a public offering of $100 million aggregate principal amount of 3.75% notes due March 2028. These notes were issued as additional notes pursuant to PPG's existing shelf registration statement and pursuant to the Indenture between the Company and The Bank of New York Mellon Trust Company, N.A., as trustee, as supplemented (the "Indenture"), which is is the same Indenture pursuant to which we previously issued $700 million in aggregate principle amount of our 3.75% notes due March 2028 on February 27, 2018. The new notes will be treated as a single series of notes with the existing notes under indenture, have the same CUSIP number as the existing notes, and be fungible with the existing notes for US federal income tax purposes. The Indenture governing these notes contains covenants that limit the Company's ability to, among other things, incur certain liens securing indebtedness, engage in certain sale-leaseback transactions, and enter into certain consolidations, mergers, conveyances, transfers or leases of all or substantially all the Company's assets. The terms of these notes also require the Company to make an offer to repurchase the notes upon a Change of Control Triggering Event (as defined in the Indenture) at a price equal to 101% of their principal amount plus accrued and unpaid interest. The Company may issue additional debt from time to time pursuant to the Indenture. The aggregate cash proceeds from the notes, including the premium received at issuance, net of fees, was $119 million.

In June 2020, PPG completed an early redemption of the $500 million 3.6% notes due November 2020 using proceeds from the May 2020 public offering and cash on hand. The Company recorded a charge of $7 million in the second quarter for the debt redemption which consists of the aggregate make-whole cash premium of $6 million and a balance of unamortized fees and discounts of $1 million related to the debt redeemed.

In May 2020, PPG completed a public offering of $300 million aggregate principal amount of 2.55% notes due 2030. These notes were issued pursuant to PPG's existing shelf registration statement and pursuant to the Indenture. The Indenture governing these notes contains covenants that limit the Company's ability to, among other things, incur certain liens securing indebtedness, engage in certain sale-leaseback transactions, and enter into certain consolidations, mergers, conveyances, transfers or leases of all or substantially all the Company's assets. The terms of these notes also require the Company to make an offer to repurchase the notes upon a Change of Control Triggering Event (as defined in the Indenture) at a price equal to 101% of their principal amount plus accrued and unpaid interest. The Company may issue additional debt from time to time pursuant to the Indenture. The aggregate cash proceeds from the notes, net of discounts and fees, was $296 million.

In April 2020, PPG entered into a $1.5 billion 364-Day Term Loan Credit Agreement (the "Term Loan"). The Term Loan contains covenants that are consistent with those in the Credit Agreement described below and that are usual and customary restrictive covenants for facilities of its type, which include, with specified exceptions, limitations on the Company's ability to create liens or other encumbrances, to enter into sale and leaseback transactions and to enter into consolidations, mergers or transfers of all or substantially all of its assets. In September 2020, PPG repaid

$1.0 billion of the Term Loan using cash on hand. The remaining Term Loan terminates and all amounts outstanding are payable on April 13, 2021.

In August 2019, PPG amended and restated its five-year credit agreement (the "Credit Agreement") with several banks and financial institutions. The Credit Agreement provides for a $2.2 billion unsecured revolving credit facility. The Company has the ability to increase the size of the Credit Agreement by up to an additional $750 million, subject to the receipt of lender commitments and other conditions precedent. The Credit Agreement will terminate on August 30, 2024. The Company has the right, subject to certain conditions set forth in the Credit Agreement, to designate certain subsidiaries of the Company as borrowers under the Credit Agreement. In connection with any such designation, the Company is required to guarantee the obligations of any such subsidiaries under the Credit Agreement. In March 2020, PPG borrowed $800 million under the Credit Agreement and repaid that amount in full in April 2020. There were no amounts outstanding under the credit agreement as of September 30, 2020 and December 31, 2019.

The Term Loan and Credit Agreement require the Company to maintain a ratio of Total Indebtedness to Total Capitalization, as defined in the Term Loan and Credit Agreement, of 60% or less; provided, that for any fiscal quarter in which the Company has made an acquisition for consideration in excess of $1 billion and for the next five fiscal quarters thereafter, the ratio of Total Indebtedness to Total Capitalization may not exceed 65% at any time. As of September 30, 2020, Total Indebtedness to Total Capitalization as defined under the Credit Agreement and Term Loan was 48%.

The Credit Agreement also supports the Company's commercial paper borrowings which are classified as long-term based on PPG's intent and ability to refinance these borrowings on a long-term basis. There were no commercial paper borrowings outstanding as of September 30, 2020. Commercial paper borrowings of $100 million were outstanding as of December 31, 2019.

9. Earnings Per Common Share

The effect of dilutive securities on the weighted average common shares outstanding included in the calculation of earnings per diluted common share for the three and nine months ended September 30, 2020 and 2019 were as follows:

	Three Months Ended September 30		Nine Months Ended September 30	
(number of shares in millions)	2020	2019	2020	2019
Weighted average common shares outstanding	236.8	237.1	236.6	236.9
Effect of dilutive securities:				
Stock options	0.5	0.7	0.4	0.6
Other stock compensation plans	0.6	0.7	0.7	0.7
Potentially dilutive common shares	1.1	1.4	1.1	1.3
Adjusted weighted average common shares outstanding	237.9	238.5	237.7	238.2
Dividends per common share	$0.54	$0.51	$1.56	$1.47

Excluded from the computation of earnings per diluted share due to their antidilutive effect were 1.5 million and 2.0 million outstanding stock options for the three and nine months ended September 30, 2020, respectively, and 1.0 million outstanding stock options for both the three and nine months ended September 30, 2019.

10. Income Taxes

	Nine Months Ended September 30	
	2020	2019
Effective tax rate on pretax income	22.0 %	23.5 %

The effective tax rate of 22.0% for the nine months ended September 30, 2020 reflects a benefit of $38 million of discrete items associated with PPG's U.S. and foreign jurisdictions. Income tax expense for the first nine months of 2020 is based on an estimated annual effective rate, which requires management to make its best estimate of annual pretax income or loss. Income tax expense for the nine months ended September 30, 2019 reflects $23 million for discrete items associated with PPG's U.S. and foreign locations and implementation of updated regulations associated with the 2017 Tax Cuts and Jobs Act for Global Intangible Low Taxed Income.

During the year, PPG management regularly updates forecasted annual pretax results for the various countries in which PPG operates based on changes in factors such as prices, shipments, product mix, raw material inflation and manufacturing operations. To the extent that actual 2020 pretax results for U.S. and foreign income or loss vary from estimates, the actual Income tax expense recognized in 2020 could be different from the forecasted amount used to estimate the Income tax expense for the nine months ended September 30, 2020.

11. Pensions and Other Postretirement Benefits

Service cost for net periodic pension and other postretirement benefit costs is included in Cost of sales, exclusive of depreciation and amortization, Selling, general and administrative, and Research and development, net in the accompanying condensed consolidated statements of income. All other components of net periodic benefit cost are recorded in Other charges in the accompanying condensed consolidated statements of income.

The net periodic pension and other postretirement benefit costs for the three and nine months ended September 30, 2020 and 2019 were as follows:

	Pension			
	Three Months Ended September 30		Nine Months Ended September 30	
($ in millions)	2020	2019	2020	2019
Service cost	$6	$6	$18	$17
Interest cost	22	26	65	79
Expected return on plan assets	(36)	(35)	(108)	(105)
Amortization of actuarial losses	17	16	53	47
Curtailments	—	—	1	—
Net periodic benefit cost	$9	$13	$29	$38

	Other Postretirement Benefits			
	Three Months Ended September 30		Nine Months Ended September 30	
($ in millions)	2020	2019	2020	2019
Service cost	$2	$3	$7	$7
Interest cost	5	6	15	19
Amortization of actuarial losses	4	2	12	6
Amortization of prior service credit	(14)	(14)	(44)	(43)
Net periodic benefit cost	($3)	($3)	($10)	($11)

PPG expects its 2020 net periodic pension and other postretirement benefit cost will be approximately $25 million, with pension expense representing approximately $40 million and other postretirement benefit cost representing a benefit of approximately $15 million.

Contributions to Defined Benefit Pension Plans

	Three Months Ended September 30		Nine Months Ended September 30	
($ in millions)	2020	2019	2020	2019
Non-U.S. defined benefit pension mandatory contributions	$2	$2	$7	$8

PPG expects to make mandatory contributions to its non-U.S. pension plans in the range of $5 million to $10 million during the remaining three months of 2020. PPG may make voluntary contributions to its defined benefit pension plans in 2020 and beyond.

12. Accumulated Other Comprehensive Loss

($ in millions)	Unrealized Foreign Currency Translation Adjustments	Pension and Other Postretirement Benefit Adjustments, net of tax (c)	Unrealized Gain on Derivatives, net of tax	Accumulated Other Comprehensive Loss
January 1, 2020	($1,627)	($724)	$1	($2,350)
Current year deferrals to AOCI (a)	(357)	—	—	(357)
Current year deferrals to AOCI, net of tax (b)	(90)	(7)	—	(97)
Reclassifications from AOCI to net income		16	—	16
Period change	($447)	$9	$—	($438)
September 30, 2020	($2,074)	($715)	$1	($2,788)
January 1, 2019	($1,734)	($568)	$2	($2,300)
Current year deferrals to AOCI (a)	(151)	—	—	(151)
Current year deferrals to AOCI, net of tax (b)	119	(6)	(3)	110
Reclassifications from AOCI to net income	—	10	3	13
Period change	($32)	$4	$—	($28)
September 30, 2019	($1,766)	($564)	$2	($2,328)

(a) Except for income taxes of $7 million and $6 million as of September 30, 2020 and 2019, respectively, related to foreign currency impacts of certain unasserted earnings, unrealized foreign currency translation adjustments related to translation of foreign denominated balance sheets are not presented net of tax given that no deferred U.S. income taxes have been provided on undistributed earnings of non-U.S. subsidiaries because they are deemed to be reinvested for an indefinite period of time.

(b) The tax benefit (cost) related to unrealized foreign currency translation adjustments on tax inter-branch transactions and net investment hedges as of September 30, 2020 and 2019 was $27 million and $(39) million, respectively.

(c) The tax cost related to the adjustment for pension and other postretirement benefits as of September 30, 2020 and 2019 was $5 million and $2 million, respectively. Reclassifications from AOCI are included in the computation of net periodic benefit costs (See Note 11, "Pensions and Other Postretirement Benefits").

13. Financial Instruments, Hedging Activities and Fair Value Measurements

Financial instruments include cash and cash equivalents, short-term investments, cash held in escrow, marketable equity securities, accounts receivable, company-owned life insurance, accounts payable, short-term and long-term debt instruments, and derivatives. The fair values of these financial instruments approximated their carrying values at September 30, 2020 and December 31, 2019, in the aggregate, except for long-term debt instruments.

Hedging Activities

The Company has exposure to market risk from changes in foreign currency exchange rates and interest rates. As a result, financial instruments, including derivatives, have been used to hedge a portion of these underlying economic exposures. Certain of these instruments qualify as fair value, cash flow, and net investment hedges upon meeting the requisite criteria, including effectiveness of offsetting hedged or underlying exposures. Changes in the fair value of derivatives that do not qualify for hedge accounting are recognized in Income before income taxes in the period incurred.

PPG's policies do not permit speculative use of derivative financial instruments. PPG enters into derivative financial instruments with high credit quality counterparties and diversifies its positions among such counterparties in order to reduce its exposure to credit losses. The Company did not realize a credit loss on derivatives during the three and nine month periods ended September 30, 2020 and 2019.

All of PPG's outstanding derivative instruments are subject to accelerated settlement in the event of PPG's failure to meet its debt or payment obligations under the terms of the instruments' contractual provisions. In addition, if the Company would be acquired and its payment obligations under its derivative instruments' contractual arrangements are not assumed by the acquirer, or if PPG would enter into bankruptcy, receivership or reorganization proceedings, its outstanding derivative instruments would also be subject to accelerated settlement.

There were no derivative instruments de-designated or discontinued as hedging instruments during the three and nine month periods ended September 30, 2020 and 2019 and there were no gains or losses deferred in Accumulated other comprehensive loss on the condensed consolidated balance sheet that were reclassified to

Income before income taxes in the condensed consolidated statement of income in the nine month periods ended September 30, 2020 and 2019 related to hedges of anticipated transactions that were no longer expected to occur.

Fair Value Hedges

The Company uses interest rate swaps from time to time to manage its exposure to changing interest rates. When outstanding, the interest rate swaps are typically designated as fair value hedges of certain outstanding debt obligations of the Company and are recorded at fair value.

PPG has interest rate swaps which converted $525 million of fixed rate debt to variable rate debt. These swaps are designated as fair value hedges and are carried at fair value. Changes in the fair value of these swaps and changes in the fair value of the related debt are recorded in interest expense in the accompanying condensed consolidated statement of income. The fair value of these interest rate swaps was $74 million and $35 million at September 30, 2020 and December 31, 2019, respectively.

Cash Flow Hedges

PPG designates certain foreign currency forward contracts as cash flow hedges of the Company's exposure to variability in exchange rates on third party transactions denominated in foreign currencies. There were no outstanding cash flow hedges at September 30, 2020. The underlying notional amounts relating to foreign currency forward contracts were $43 million at December 31, 2019. As of December 31, 2019, the fair value of all foreign currency forward contracts designated as cash flow hedges was a liability of $1 million.

Net Investment Hedges

PPG uses cross currency swaps and foreign currency euro-denominated debt to hedge a significant portion of its net investment in its European operations, as follows:

As of September 30, 2020 and December 31, 2019, PPG had U.S. dollar to euro cross currency swap contracts with a total notional amount of $875 million and designated these contracts as hedges of the Company's net investment in its European operations. During the term of these contracts, PPG will receive payment in U.S. dollars and make payments in euros to the counterparties. As of September 30, 2020 and December 31, 2019, the fair value of the U.S. dollar to euro cross currency swap contracts was a net asset of $34 million and a net asset of $48 million, respectively.

As of September 30, 2020 and December 31, 2019, PPG had designated €2.0 billion of euro-denominated borrowings as hedges of a portion of its net investment in the Company's European operations. The carrying value of these instruments as of September 30, 2020 and December 31, 2019 was $2.3 billion and $2.2 billion, respectively.

Other Financial Instruments

PPG uses foreign currency forward contracts to manage net transaction exposures that do not qualify for hedge accounting; therefore, the change in the fair value of these instruments is recorded in Other charges in the condensed consolidated statement of income in the period of change. Underlying notional amounts related to these foreign currency forward contracts were $1.1 billion and $2.8 billion at September 30, 2020 and December 31, 2019, respectively. As of September 30, 2020 and December 31, 2019 the fair value of these contracts was a net a net liability of $3 million and $6 million, respectively.

Gains/Losses Deferred in Accumulated Other Comprehensive Loss

As of September 30, 2020, the Company had accumulated pretax unrealized translation gains in Accumulated other comprehensive loss on the condensed consolidated balance sheet related to the euro-denominated borrowings, foreign currency forward contracts and the cross currency swaps of $120 million. As of December 31, 2019, the Company had accumulated pretax unrealized translation gains of $235 million.

The following table summarizes the location within the condensed consolidated financial statements and amount of gains/(losses) related to derivative and debt financial instruments for the nine months ended September 30, 2020 and 2019. All dollar amounts are shown on a pretax basis.

($ in millions)	September 30, 2020		September 30, 2019		Caption In Condensed Consolidated Statement of Income
	Gain Deferred in OCI	Gain Recognized	(Loss)Gain Deferred in OCI	Gain Recognized	
Economic					
Foreign currency forward contracts	$—	$27	$—	$44	Other charges
Fair Value					
Interest rate swaps	—	8	—	2	Interest expense
Cash Flow					
Foreign currency forward contracts	—	—	(4)	4	Other charges and Cost of sales
Total Cash Flow	$—	$35	($4)	$50	
Net Investment					
Cross currency swaps	$14	$13	$34	$12	Interest expense
Foreign denominated debt	101	—	130	—	
Total Net Investment	$115	$13	$164	$12	

Fair Value Measurements

The Company follows a fair value measurement hierarchy to measure its assets and liabilities. As of September 30, 2020 and December 31, 2019, the assets and liabilities measured at fair value on a recurring basis were cash equivalents, equity securities and derivatives. In addition, the Company measures its pension plan assets at fair value (see Note 13, "Employee Benefit Plans" under Item 8 in the 2019 Form 10-K for further details). The Company's financial assets and liabilities are measured using inputs from the following three levels:

Level 1 inputs are quoted prices in active markets for identical assets and liabilities that the Company has the ability to access at the measurement date. Level 1 inputs are considered to be the most reliable evidence of fair value as they are based on unadjusted quoted market prices from various financial information service providers and securities exchanges.

Level 2 inputs are directly or indirectly observable prices that are not quoted on active exchanges, which include quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets or liabilities in markets that are not active, inputs other than quoted prices that are observable for the asset or liability and inputs that are derived principally from or corroborated by observable market data by correlation or other means. The fair values of the derivative instruments reflect the instruments' contractual terms, including the period to maturity, and uses observable market-based inputs, including forward curves.

Level 3 inputs are unobservable inputs employed for measuring the fair value of assets or liabilities. The Company does not have any recurring financial assets or liabilities that are recorded in its condensed consolidated balance sheets as of September 30, 2020 and December 31, 2019 that are classified as Level 3 inputs.

Assets and liabilities reported at fair value on a recurring basis:

	September 30, 2020			December 31, 2019		
($ in millions)	Level 1	Level 2	Level 3	Level 1	Level 2	Level 3
Assets:						
Other current assets:						
Marketable equity securities	$5	$—	$—	$5	$—	$—
Foreign currency forward contracts [a]	—	9	—	—	14	—
Investments:						
Marketable equity securities	$89	$—	$—	$80	$—	$—
Other assets:						
Cross currency swaps [b]	$—	$39	$—	$—	$52	$—
Interest rate swaps [c]	—	74	—	—	35	—
Liabilities:						
Accounts payable and accrued liabilities:						
Foreign currency forward contracts [a]	$—	$12	$—	$—	$20	$—
Cross currency swaps [b]	—	4	—	—	—	—
Foreign currency forward contracts [d]	—	—	—	—	1	—
Other liabilities:						
Cross currency swap [b]	$—	$1	$—	$—	$4	$—

(a) Derivatives not designated as hedging instruments

(b) Net investment hedges

(c) Fair value hedges

(d) Cash flow hedges

Long-Term Debt

($ in millions)	September 30, 2020 [a]	December 31, 2019 [b]
Long-term debt - carrying value	$4,954	$5,031
Long-term debt - fair value	$5,520	$5,363

(a) Excluding finance lease obligations of $9 million and short-term borrowings of $540 million as of September 30, 2020.

(b) Excluding finance lease obligations of $11 million and short-term borrowings of $10 million as of December 31, 2019.

The fair values of the debt instruments were based on discounted cash flows and interest rates then currently available to the Company for instruments of the same remaining maturities and were measured using level 2 inputs.

14. Stock-Based Compensation

The Company's stock-based compensation includes stock options, restricted stock units ("RSUs") and grants of contingent shares that are earned based on achieving targeted levels of total shareholder return. All current grants of stock options, RSUs and contingent shares are made under the PPG Industries, Inc. Amended and Restated Omnibus Incentive Plan ("PPG Amended Omnibus Plan"), which was amended and restated effective April 21, 2016. Shares available for future grants under the PPG Amended Omnibus Plan were 6.2 million as of September 30, 2020.

Stock-based compensation and the income tax benefit recognized during the three and nine months ended September 30, 2020 and 2019 were as follows:

	Three Months Ended September 30		Nine Months Ended September 30	
($ in millions)	2020	2019	2020	2019
Stock-based compensation	$14	$9	$29	$28
Income tax benefit recognized	$3	$2	$7	$6

Grants of stock-based compensation during the nine months ended September 30, 2020 and 2019 were as follows:

	Nine Months Ended September 30			
	2020		2019	
Grant Details	**Shares**	**Fair Value**	**Shares**	**Fair Value**
Stock options	663,485	$21.93	588,870	$22.50
Restricted stock units	203,574	$109.99	233,306	$104.69
Contingent shares [(a)]	55,319	$119.52	51,850	$109.74

(a) The number of contingent shares represents the target value of the award.

Stock options are generally exercisable 36 months after being granted and have a maximum term of 10 years. Compensation expense for stock options is recorded over the vesting period based on the fair value on the date of grant. The fair value of the stock option grants issued during the nine months ended September 30, 2020 was calculated with the following weighted average assumptions:

Weighted average exercise price	$119.52
Risk free interest rate	1.6 %
Expected life of option in years	6.5
Expected dividend yield	1.5 %
Expected volatility	20.0 %

The risk-free interest rate is determined by using the U.S. Treasury yield curve at the date of the grant and using a maturity equal to the expected life of the option. The expected life of options is calculated using the average of the vesting term and the maximum term, as prescribed by accounting guidance on the use of the simplified method for determining the expected term of an employee share option. The expected dividend yield and volatility are based on historical stock prices and dividend amounts over past time periods equal in length to the expected life of the options.

Time-based RSUs generally vest over the three-year period following the date of grant, unless forfeited, and will be paid out in the form of stock, cash or a combination of both at the Company's discretion at the end of the vesting period. Performance-based RSUs vest based on achieving specific annual performance targets for earnings per share growth and cash flow return on capital over the three calendar year-end periods following the date of grant. Unless forfeited, the performance-based RSUs will be paid out in the form of stock, cash or a combination of both at the Company's discretion at the end of the three-year performance period if PPG meets the performance targets.

For awards granted in 2020, the amount paid upon vesting of performance-based RSUs may range from 0% to 200% of the original grant, based upon the level of earnings per share growth achieved and frequency with which the annual cash flow return on capital performance target is met over the three calendar year periods comprising the vesting period. For awards granted in 2019 and 2018, the amount paid upon vesting of performance-based RSUs may range from 0% to 180% of the original grant.

Contingent share grants (referred to as "TSR awards") are made annually and are paid out at the end of each three-year period following the date of grant based on PPG's performance. Performance is measured by determining the percentile rank of the total shareholder return of PPG common stock in relation to the total shareholder return of the S&P 500 as it existed at the beginning of the three-year performance period excluding any companies that have been removed from the index because they ceased to be publicly traded during the performance period. For awards granted in 2020, the payment of awards following the three-year award period will be based on performance achieved in accordance with the scale set forth in the plan agreement and may range from 0% to 200% of the initial grant. For awards granted in 2019 and 2018, the amount paid following the three-year award period may range from 0% to 220% of the initial grant. Any payments made at the end of the award period may be in the form of stock, cash or a combination of both at the Company's discretion. The TSR awards qualify as liability awards, and compensation expense is recognized over the three-year award period based on the fair value of the awards (giving consideration to the Company's percentile rank of total shareholder return) remeasured in each reporting period until settlement of the awards.

15. Commitments and Contingent Liabilities

PPG is involved in a number of lawsuits and claims, both actual and potential, including some that it has asserted against others, in which substantial monetary damages are sought. These lawsuits and claims may relate to contract, patent, environmental, product liability, asbestos exposure, antitrust, employment, securities and other

matters arising out of the conduct of PPG's current and past business activities. To the extent that these lawsuits and claims involve personal injury, property damage, and certain other claims, PPG believes it has adequate insurance; however, certain of PPG's insurers are contesting coverage with respect to some of these claims, and other insurers, as they had prior to the asbestos settlement described below, may contest coverage with respect to some of the asbestos claims. PPG's lawsuits and claims against others include claims against insurers and other third parties with respect to actual and contingent losses related to environmental, asbestos and other matters.

The results of any current or future litigation and claims are inherently unpredictable. However, management believes that, in the aggregate, the outcome of all lawsuits and claims involving PPG will not have a material effect on PPG's consolidated financial position or liquidity; however, such outcome may be material to the results of operations of any particular period in which costs, if any, are recognized.

Shareholder Class Action

On May 20, 2018, a putative securities class action lawsuit was filed in the U.S. District Court for the Central District of California against the Company and three of its current and former officers. On September 21, 2018, an Amended Class Action Complaint was filed in the lawsuit. The Amended Complaint, captioned Trevor Mild v. PPG Industries, Inc., Michael H. McGarry, Vincent J. Morales, and Mark C. Kelly, asserted securities fraud claims under Sections 10(b) and 20(a) of the Securities Exchange Act of 1934 on behalf of a putative class of persons who purchased or otherwise acquired stock of the Company between January 19, 2017 and May 10, 2018. The allegations related to, among other things, allegedly false and misleading statements and/or failures to disclose information about the Company's business, operations and prospects. The parties reached a settlement in principal on May 1, 2019. On June 2, 2019, the plaintiff filed with the Court a Petition for Preliminary Approval of the proposed settlement, including the proposed settlement amount of $25 million. On November 22, 2019, the Court entered final judgment approving the settlement. PPG's insurance carriers fully funded the settlement escrow account and the court-approved settlement payments to class members are expected to be distributed by the claims administrator in late 2020 or early 2021.

Asbestos Matters

Prior to 2000, the Company had been named as a defendant in numerous claims alleging bodily injury from (i) exposure to asbestos-containing products allegedly manufactured, sold or distributed by the Company, its subsidiaries, or for which they are otherwise alleged to be liable; (ii) exposure to asbestos allegedly present at a facility owned or leased by the Company; or (iii) exposure to asbestos-containing products of Pittsburgh Corning Corporation ("PC") for which the Company was alleged to be liable under a variety of legal theories (the Company and Corning Incorporated were each 50% shareholders in PC prior to April 27, 2016).

Pittsburgh Corning Corporation asbestos bankruptcy

In 2000, PC filed for Chapter 11 in the U.S. Bankruptcy Court for the Western District of Pennsylvania in an effort to permanently and comprehensively resolve all of its pending and future asbestos-related liability claims. The Bankruptcy Court subsequently entered a series of orders preliminarily enjoining the prosecution of asbestos litigation against PPG until after the effective date of a confirmed PC plan of reorganization. During the pendency of this preliminary injunction staying asbestos litigation against PPG, PPG and certain of its historical liability insurers negotiated a settlement with representatives of present and future asbestos claimants. That settlement was incorporated into a PC plan of reorganization that was confirmed by the Bankruptcy Court on May 24, 2013 and ultimately became effective on April 27, 2016. With the effectiveness of the plan, the preliminary injunction staying the prosecution of asbestos litigation against PPG expired by its own terms on May 27, 2016. In accordance with the settlement, the Bankruptcy Court issued a permanent channeling injunction under Section 524(g) of the Bankruptcy Code that prohibits present and future claimants from asserting claims against PPG that arise, in whole or in part, out of exposure to asbestos or asbestos-containing products manufactured, sold and/or distributed by PC or asbestos on or emanating from any PC premises. The channeling injunction, by its terms, also prohibits codefendants in cases that are subject to the channeling injunction from asserting claims against PPG for contribution, indemnification or other recovery. The channeling injunction also precludes the prosecution of claims against PPG arising from alleged exposure to asbestos or asbestos-containing products to the extent that a claimant is alleging or seeking to impose liability, directly or indirectly, for the conduct of, claims against, or demands on PC by reason of PPG's prior: (i) ownership of a financial interest in PC; (ii) involvement in the management of PC, or service as an officer, director or employee of PC or a related party; (iii) provision of insurance to PC or a related party; or (iv) involvement in a financial transaction affecting the financial condition of PC or a related party. The foregoing PC related claims are referred to as "PC Relationship Claims."

The Bankruptcy Court's channeling injunction channels the Company's liability for PC Relationship Claims to a trust funded in part by PPG and its participating insurers for the benefit of current and future PC asbestos claimants (the

“Trust”). The Trust is the sole recourse for holders of PC Relationship Claims. PPG and its affiliates have no further liability or responsibility for, and are permanently protected from, pending and future PC Relationship Claims. The channeling injunction does not extend to present and future claims against PPG that arise out of alleged exposure to asbestos or asbestos-containing products historically manufactured, sold and/or distributed by PPG or its subsidiaries or for which they are alleged to be liable that are not PC Relationship Claims, and does not extend to claims against PPG alleging personal injury allegedly caused by asbestos on premises presently or formerly owned, leased or occupied by PPG. These claims are referred to as "non-PC Relationship Claims".

Non-PC relationship claims

With respect to the asbestos-related claims pending against the Company at the time PC filed for bankruptcy, the Company considers such claims to fall within one or more of the following categories: (1) claims that have been closed or dismissed as a result of processes undertaken during the bankruptcy; (2) claims that may have been previously filed on the dockets of state and federal courts in various jurisdictions, but are inactive as to the Company; and (3) claims that are subject, in whole or in part, to the channeling injunction and thus will be resolved, in whole or in part, in accordance with the Trust procedures established under the PC bankruptcy reorganization plan. As a result of the foregoing, the Company does not consider these three categories of claims to be open or active litigation against it, although the Company cannot now determine whether, or the extent to which, any of these claims may in the future be reinstituted, reinstated, or revived such that they may become open and active non-PC Relationship Claims against it.

Current open and active claims post-Pittsburgh Corning bankruptcy

As of September 30, 2020, the Company was aware of approximately 600 open and active asbestos-related claims pending against the Company and certain of its subsidiaries. These claims consist of non-PC Relationship Claims against PPG and claims against a PPG subsidiary the Company acquired on April 1, 2013. The Company is defending these open and active claims vigorously.

PPG has established reserves totaling approximately $190 million for asbestos-related claims that would not be channeled to the Trust which, based on presently available information, we believe will be sufficient to encompass all of PPG’s current and estimable potential future asbestos liabilities. These reserves, which are included within Other liabilities on the accompanying condensed consolidated balance sheets, represent PPG’s best estimate of its liability for these claims.

These reserves include a $162 million reserve established in 2009 in connection with an amendment to the PC plan of reorganization for non-PC Relationship Claims other than claims arising from premises-related exposures. PPG does not have sufficient current claim information or settlement history on which to base a better estimate of this liability in light of the fact that the Bankruptcy Court’s injunction staying most asbestos claims against the Company was in effect from April 2000 through May 2016.

These reserves also include PPG’s best estimate, following an analysis performed in 2019 of its claims history and discussions with consultants and its counsel, of the value of the Company’s potential liability for premises-related non-PC Relationship Claims against it and claims against PPG’s subsidiary acquired on April 1, 2013 that are presently pending, and that are projected to be asserted through December 31, 2028.

PPG monitors the activity associated with its asbestos claims and evaluates, on a periodic basis, its estimated liability for such claims, its insurance assets then available, and all underlying assumptions to determine whether any adjustment to the reserves for these claims is required.

The amount reserved for asbestos-related claims by its nature is subject to many uncertainties that may change over time, including (i) the ultimate number of claims filed; (ii) the amounts required to resolve both currently known and future unknown claims; (iii) the amount of insurance, if any, available to cover such claims; (iv) the unpredictable aspects of the litigation process, including a changing trial docket and the jurisdictions in which trials are scheduled; (v) the outcome of any trials, including potential judgments or jury verdicts; (vi) the lack of specific information in many cases concerning exposure for which PPG is allegedly responsible, and the claimants’ alleged diseases resulting from such exposure; and (vii) potential changes in applicable federal and/or state tort liability law. All of these factors may have a material effect upon future asbestos-related liability estimates. As a potential offset to any future asbestos financial exposure, under the PC plan of reorganization PPG retained, for its own account, the right to pursue insurance coverage from certain of its historical insurers that did not participate in the PC plan of reorganization. While the ultimate outcome of PPG’s asbestos litigation cannot be predicted with certainty, PPG believes that any financial exposure resulting from its asbestos-related claims will not have a material adverse effect on PPG’s consolidated financial position, liquidity or results of operations.

Environmental Matters

It is PPG's policy to accrue expenses for environmental contingencies when it is probable that a liability has been incurred and the amount of loss can be reasonably estimated. Reserves for environmental contingencies are exclusive of claims against third parties and are generally not discounted. In management's opinion, the Company operates in an environmentally sound manner and the outcome of the Company's environmental contingencies will not have a material effect on PPG's financial position or liquidity; however, any such outcome may be material to the results of operations of any particular period in which costs, if any, are recognized. Management anticipates that the resolution of the Company's environmental contingencies will occur over an extended period of time. See Note 14, "Commitments and Contingent Liabilities," under Item 8 of the 2019 Form 10-K for additional descriptions of the following environmental matters.

As remediation at certain legacy environmental sites progresses, PPG continues to refine its assumptions underlying the estimates of the expected future costs of its remediation programs. PPG's ongoing evaluation may result in additional charges against income to increase the reserves for these sites. Remediation activities at our legacy sites are not related to the ongoing operations of PPG. In 2020 and 2019, certain charges have been recorded based on updated estimates to increase existing reserves for these sites. Certain other charges related to environmental remediation actions are also expensed as incurred.

As of September 30, 2020 and December 31, 2019, PPG had reserves for environmental contingencies associated with PPG's former chromium manufacturing plant in Jersey City, New Jersey ("New Jersey Chrome"), glass and chemical manufacturing sites, and for other environmental contingencies, including current manufacturing locations and National Priority List sites. These reserves are reported as Accounts payable and accrued liabilities and Other liabilities in the accompanying condensed consolidated balance sheet.

Environmental Reserves

($ in millions)	September 30, 2020	December 31, 2019
New Jersey Chrome	$99	$134
Glass and chemical	99	96
Other	91	74
Total	$289	$304
Current portion	*$81*	*$62*

Pretax charges against income for environmental remediation costs are included in Other charges in the accompanying condensed consolidated statement of income. The pretax charges and cash outlays related to such environmental remediation for the three and nine months ended September 30, 2020 and 2019 were as follows:

	Three Months Ended September 30		Nine Months Ended September 30	
($ in millions)	2020	2019	2020	2019
Environmental remediation pretax charges	$6	$24	$21	$75
Cash outlays for environmental remediation activities	$15	$21	$52	$57

Remediation: New Jersey Chrome

In June 2009, PPG entered into a settlement agreement with the New Jersey Department of Environmental Protection ("NJDEP") and Jersey City, New Jersey (which had asserted claims against PPG for lost tax revenue) which was in the form of a Judicial Consent Order (the "JCO"). Under the JCO, PPG accepted sole responsibility for the remediation activities at its former chromium manufacturing location in Jersey City and 19 additional sites. The principal contaminant of concern is hexavalent chromium. The JCO also provided for the appointment of a court-approved Site Administrator who is responsible for establishing a master schedule for the remediation of the 20 PPG sites which existed at that time. One site was subsequently removed from the JCO process during 2014 and will be remediated separately at a future date. A total of 14 sites remain subject to the JCO process.

The most significant assumptions underlying the estimate of remediation costs for all New Jersey Chrome sites are those related to the extent and concentration of chromium impacts in the soil, as these determine the quantity of soil that must be treated in place, the quantity that will have to be excavated and transported for offsite disposal, and the nature of disposal required. PPG regularly evaluates the assessments of costs incurred to date versus current progress and the potential cost impacts of the most recent information, including the extent of impacted soils, percentage of hazardous versus non-hazardous soils, daily soil excavation rates, and engineering, administrative and other associated costs. Based on these assessments, the reserve is adjusted accordingly. Principal factors

affecting costs include refinements in the estimate of the mix of hazardous to non-hazardous soils to be excavated, an overall increase in soil volumes to be excavated, enhanced water management requirements, decreased daily soil excavation rates due to site conditions, initial estimates for remedial actions related to groundwater, and oversight and management costs. The reserve adjustments for the estimated costs to remediate all New Jersey Chrome sites are exclusive of any third party indemnification, as the recovery of any such amounts is uncertain.

Groundwater remediation at the former Garfield Avenue chromium manufacturing site and five adjacent sites is expected to occur over several years. Ongoing groundwater monitoring will be utilized to develop a final groundwater remedial action work plan which is currently expected to be submitted to NJDEP in the fourth quarter of 2020.

PPG's financial reserve for remediation of all New Jersey Chrome sites was $99 million at September 30, 2020. The major cost components of this liability continue to be related to excavation, transportation and disposal of impacted soil, as well as construction services. These components each account for approximately 20%, 15% and 37% of the accrued amount, respectively.

There are multiple, future events yet to occur, including further remedy selection and design, remedy implementation and execution and applicable governmental agency or community organization approvals. Considerable uncertainty exists regarding the timing of these future events for the New Jersey Chrome sites. Further resolution of these events is expected to occur over the next several years. As these events occur and to the extent that the cost estimates of the environmental remediation remedies change, the existing reserve for this environmental remediation matter will continue to be adjusted.

Remediation: Glass, Chemicals and Other Sites

Among other sites at which PPG is managing environmental liabilities, remedial actions are occurring at a chemical manufacturing site in Barberton, Ohio, where PPG has completed a Facility Investigation and Corrective Measure Study under the United States Environmental Protection Agency's Resource Conservation and Recovery Act Corrective Action Program. PPG has also been addressing the impacts from a legacy plate glass manufacturing site in Kokomo, Indiana under the Voluntary Remediation Program of the Indiana Department of Environmental Management and a site associated with a legacy plate glass manufacturing site near Ford City, Pennsylvania under the Pennsylvania Land Recycling Program under the oversight of the Pennsylvania Department of Environmental Protection. PPG is currently performing additional investigation and remedial activities at these locations.

With respect to certain other waste sites, the financial condition of other potentially responsible parties also contributes to the uncertainty of estimating PPG's final costs. Although contributors of waste to sites involving other potentially responsible parties may face governmental agency assertions of joint and several liability, in general, final allocations of costs are made based on the relative contributions of wastes to such sites. PPG is generally not a major contributor to such sites.

Remediation: Reasonably Possible Matters

In addition to the amounts currently reserved for environmental remediation, the Company may be subject to loss contingencies related to environmental matters estimated to be as much as $100 million to $200 million. Such unreserved losses are reasonably possible but are not currently considered to be probable of occurrence. These reasonably possible unreserved losses relate to environmental matters at a number of sites, none of which are individually significant. The loss contingencies related to these sites include significant unresolved issues such as the nature and extent of contamination at these sites and the methods that may have to be employed to remediate them.

The impact of evolving programs, such as natural resource damage claims, industrial site re-use initiatives and domestic and international remediation programs, also adds to the present uncertainties with regard to the ultimate resolution of this unreserved exposure to future loss. The Company's assessment of the potential impact of these environmental contingencies is subject to considerable uncertainty due to the complex, ongoing and evolving process of investigation and remediation, if necessary, of such environmental contingencies, and the potential for technological and regulatory developments.

Other Matters

The Company had outstanding letters of credit and surety bonds of $137 million and guarantees of $9 million as of September 30, 2020. The Company does not believe any loss related to such guarantees is likely.

16. Revenue Recognition

The Company recognizes revenue when control of the promised goods or services is transferred to the customer and in amounts that the Company expects to collect. The timing of revenue recognition takes into consideration the various shipping terms applicable to the Company's sales. For most transactions, control passes in accordance with agreed upon delivery terms.

The Company delivers products to company-owned stores, home centers and other regional or national consumer retail outlets, paint dealers, concessionaires and independent distributors, company-owned distribution networks, and directly to manufacturing companies and retail customers. Each product delivered to a third party customer is considered to satisfy a performance obligation. Performance obligations generally occur at a point in time and are satisfied when control of the goods passes to the customer. The Company is entitled to collection of the sales price under normal credit terms in the regions in which it operates. Accounts receivable are recognized when there is an unconditional right to consideration. Payment terms vary from customer to customer, depending on creditworthiness, prior payment history and other considerations.

The Company also provides services by applying coatings to customers' manufactured parts and assembled products and by providing technical support to certain customers. Performance obligations are satisfied over time as critical milestones are met and as services are provided. PPG is entitled to payment as the services are rendered. For the three and nine months ended September 30, 2020 and 2019, service revenue constituted approximately 5% of total revenue.

Net sales by segment and region for the three and nine months ended September 30, 2020 and 2019 were as follows:

	Three Months Ended September 30		Nine Months Ended September 30	
($ in millions)	2020	2019	2020	2019
Performance Coatings				
United States and Canada	$958	$1,060	$2,825	$3,123
Europe, Middle East and Africa ("EMEA")	789	732	2,140	2,213
Asia Pacific	274	278	728	804
Latin America	230	243	635	711
Total	$2,251	$2,313	$6,328	$6,851
Industrial Coatings				
United States and Canada	$526	$605	$1,444	$1,841
EMEA	382	395	1,018	1,283
Asia Pacific	398	366	969	1,066
Latin America	128	147	318	433
Total	$1,434	$1,513	$3,749	$4,623
Total Net Sales				
United States and Canada	$1,484	$1,665	$4,269	$4,964
EMEA	1,171	1,127	3,158	3,496
Asia Pacific	672	644	1,697	1,870
Latin America	358	390	953	1,144
Total PPG	$3,685	$3,826	$10,077	$11,474

17. Reportable Business Segment Information

PPG is a multinational manufacturer with 9 operating segments (which the Company refers to as “strategic business units”) that are organized based on the Company’s major products lines. The Company’s reportable business segments include the following two segments: Performance Coatings and Industrial Coatings. The operating segments have been aggregated based on economic similarities, the nature of their products, production processes, end-use markets and methods of distribution.

The Performance Coatings reportable business segment is comprised of the automotive refinish coatings, aerospace coatings, architectural coatings – Americas and Asia Pacific, architectural coatings - EMEA, and protective and marine coatings operating segments. This reportable business segment primarily supplies a variety of protective and decorative coatings, sealants and finishes along with paint strippers, stains and related chemicals, as well as transparencies and transparent armor.

The Industrial Coatings reportable business segment is comprised of the automotive OEM coatings, industrial coatings, packaging coatings, and the specialty coatings and materials operating segments. This reportable business segment primarily supplies a variety of protective and decorative coatings and finishes along with adhesives, sealants, metal pretreatment products, optical monomers and coatings, precipitated silicas, and other specialty materials.

Reportable business segment net sales and segment income for the three and nine months ended September 30, 2020 and 2019 were as follows:

	Three Months Ended September 30		Nine Months Ended September 30	
($ in millions)	2020	2019	2020	2019
Net sales:				
Performance Coatings	$2,251	$2,313	$6,328	$6,851
Industrial Coatings	1,434	1,513	3,749	4,623
Total	$3,685	$3,826	$10,077	$11,474
Segment income:				
Performance Coatings	$426	$380	$1,060	$1,102
Industrial Coatings	253	206	468	659
Total	$679	$586	$1,528	$1,761
Corporate	(55)	(43)	(165)	(134)
Interest expense, net of interest income	(30)	(23)	(89)	(76)
Business restructuring-related costs, net [(a)]	(14)	(18)	(200)	(203)
Expenses incurred due to a natural disaster[(b)]	(8)	—	(8)	—
Debt extinguishment charge	—	—	(7)	—
Environmental remediation charges	—	(21)	(12)	(61)
Increase in allowance for doubtful accounts related to COVID-19	—	—	(30)	—
Costs associated with accounting investigations	—	—	—	(7)
Acquisition-related costs [(c)]	—	—	—	(17)
Income before income taxes	$572	$481	$1,017	$1,263

(a) Included in business restructuring-related costs, net are business restructuring charges, accelerated depreciation of certain assets and other related costs, offset by releases related to previously approved programs.

(b) In the third quarter 2020, Hurricane Laura caused damages to a southern U.S. factory that supports the Company's specialty coatings and materials business.

(c) Acquisition-related costs include advisory, legal, accounting, valuation, and other professional or consulting fees incurred to effect acquisitions. These costs are included in Selling, general and administrative expense in the condensed consolidated statement of income. Acquisition-related costs also include the impact for the step up to fair value of inventory acquired in certain acquisitions which are included in Cost of Sales, exclusive of depreciation and amortization in the condensed consolidated statement of income.

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

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our unaudited financial statements and the notes thereto included in the condensed consolidated financial statements in Part I, Item 1, "Financial Statements," of this report and in conjunction with the 2019 Form 10-K.

Executive Overview

During the quarter, Hurricane Laura caused significant damages to a PPG factory that supports the Company's specialty coatings and materials business. The net earnings impact of the damage to PPG's assets was $8 million in the third quarter 2020. These costs were reported as a natural-disaster-related charge excluded from adjusted net income in the third quarter. Additionally, the company estimated lost revenue of $7 million due to the production interruption from late August to late September. Although production resumed at the end of the third quarter, the facility shut down again in early October due to another hurricane at the production site. It is expected that fourth quarter sales could be impacted by a similar amount to that of the third quarter due to issues caused by both weather events.

Below are our key financial results for the three months ended September 30, 2020:

- Net sales were approximately $3.7 billion, down 3.7% compared to the prior year.
- Cost of sales, exclusive of depreciation and amortization ("Cost of sales") was $2.0 billion, down 7.1% versus prior year primarily due to lower sales volumes as a result of COVID-19 and lower manufacturing costs. As a percentage of sales, Cost of sales decreased 2.0%.
- Selling, general and administrative ("SG&A") expense was $836 million, down 5.7% year-over-year due to cost mitigation initiatives. As a percentage of sales, SG&A expense decreased 0.5%.
- Income before income taxes was $572 million.
- The reported effective tax rate was 21.7%. The adjusted effective tax rate was 21.9%.
- Net income from continuing operations attributable to PPG was $442 million.
- Earnings per diluted share from continuing operations attributable to PPG was $1.86.

For the nine months ended September 30, 2020:

- Cash flows provided by operating activities from continuing operations was $1,163 million, a decrease of $112 million year-over-year.
- Capital expenditures, including business acquisitions (net of cash acquired), was $215 million.
- The Company paid $368 million in dividends.
- In September 2020, PPG repaid $1.0 billion of the $1.5 billion 364-Day Term Loan Credit Agreement due in April 2021 using cash on hand.

Performance in the third quarter of 2020 compared to the third quarter of 2019

Performance Overview

Net Sales by Region

($ in millions, except percentages)	Three Months Ended September 30		Percent Change
	2020	2019	2020 vs. 2019
United States and Canada	$1,484	$1,665	(10.9) %
Europe, Middle East and Africa ("EMEA")	1,171	1,127	3.9 %
Asia Pacific	672	644	4.3 %
Latin America	358	390	(8.2) %
Total	$3,685	$3,826	(3.7) %

Net sales decreased $141 million due to the following:

- *Lower sales volumes (-5%)*

Partially offset by:

- *Higher selling prices (1%)*

As a result of COVID-19 and reduced global economic activity, lower sales volumes resulted in lower net sales in both reportable business segments. Higher selling prices partially offset this downturn.

For specific business results, see the Performance of Reportable Business Segments section within Item 2 of this Form 10-Q.

Cost of Sales, exclusive of depreciation and amortization

	Three Months Ended September 30		Percent Change
($ in millions, except percentages)	2020	2019	2020 vs. 2019
Cost of sales, exclusive of depreciation and amortization	$2,026	$2,181	(7.1) %
Cost of sales as a percentage of net sales	55.0 %	57.0 %	(2.0) %

Cost of sales, exclusive of depreciation and amortization, decreased $155 million primarily due to the following:

- *Lower sales volumes*

Partially offset by:

- *Cost of sales attributable to acquired businesses*

Selling, general and administrative expenses

	Three Months Ended September 30		Percent Change
($ in millions, except percentages)	2020	2019	2020 vs. 2019
Selling, general and administrative expenses (SG&A)	$836	$887	(5.7) %
Selling, general and administrative expenses as a percentage of net sales	22.7 %	23.2 %	(0.5 %)

SG&A expense decreased $51 million primarily due to the following:

- *Cost savings initiatives, including restructuring actions*

Other costs and other income

	Three Months Ended September 30		Percent Change
($ in millions, except percentages)	2020	2019	2020 vs. 2019
Interest expense, net of Interest income	$30	$23	30.4 %
Other charges	$21	$26	(19.2) %
Other income	($24)	($14)	71.4 %

Interest expense, net of Interest income

Interest expense, net of Interest income was higher in the three months ended September 30, 2020 due to the $1.5 billion 364-day term loan credit agreement entered into in April 2020. As of September 30, 2020, $500 million remains outstanding under this agreement.

Other charges

Other charges were lower in the three months ended September 30, 2020 compared to prior year due to lower environmental remediation charges during the quarter.

Effective tax rate and earnings per diluted share

($ in millions, except percentages)	Three Months Ended September 30		Percent Change
	2020	2019	2020 vs. 2019
Income tax expense	$124	$109	13.8 %
Effective tax rate	21.7 %	22.7 %	(1.0) %
Adjusted effective tax rate, continuing operations*	21.9 %	22.7 %	(0.8) %
Earnings per diluted share, continuing operations	$1.86	$1.54	20.8 %
Adjusted earnings per diluted share*	$1.93	$1.67	15.6 %
*See Regulation G Reconciliation below			

The effective tax rate for the three months ended September 30, 2020 reflects the impact of certain discrete tax items for the quarter. The Company expects that its fourth quarter 2020 effective tax rate will be between 18% and 21%, including potential favorable discrete tax items.

Adjusted earnings per diluted share for the three months ended September 30, 2020 increased year-over-year due to the items described further in the Regulation G reconciliation.

Regulation G Reconciliations - Results from Operations

PPG believes investors' understanding of the Company's performance is enhanced by the disclosure of net income from continuing operations, earnings per diluted share from continuing operations and PPG's effective tax rate adjusted for certain items. PPG's management considers this information useful in providing insight into the Company's ongoing performance because it excludes the impact of items that cannot reasonably be expected to recur on a quarterly basis or that are not attributable to our primary operations. Net income from continuing operations, earnings per diluted share from continuing operations and the effective tax rate adjusted for these items are not recognized financial measures determined in accordance with U.S. generally accepted accounting principles ("U.S. GAAP") and should not be considered a substitute for net income from continuing operations, earnings per diluted share from continuing operations, the effective tax rate or other financial measures as computed in accordance with U.S. GAAP. In addition, adjusted net income, adjusted earnings per diluted share and the adjusted effective tax rate may not be comparable to similarly titled measures as reported by other companies.

Income before income taxes from continuing operations is reconciled to adjusted income before income taxes from continuing operations, the effective tax rate from continuing operations is reconciled to the adjusted effective tax rate and net income (attributable to PPG) and earnings per share – assuming dilution (attributable to PPG) are reconciled to adjusted net income (attributable to PPG) and adjusted earnings per share – assuming dilution below:

	Three Months Ended September 30, 2020				
($ in millions, except percentages and per share amounts)	Income Before Income Taxes	Tax Expense	Effective Tax Rate	Net income (attributable to PPG)	Earnings per diluted share[a]
As reported, continuing operations	$572	$124	21.7 %	$442	$1.86
Adjusted for:					
Business restructuring-related costs, net [b]	14	4	26.2 %	10	0.04
Expenses incurred due to a natural disaster[c]	8	2	24.3 %	6	0.03
Adjusted, continuing operations, excluding certain items	$594	$130	21.9 %	$458	$1.93

	Three Months Ended September 30, 2019				
($ in millions, except percentages and per share amounts)	Income Before Income Taxes	Tax Expense	Effective Tax Rate	Net income (attributable to PPG)	Earnings per diluted share[a]
As reported, continuing operations	$481	$109	22.7 %	$366	$1.54
Adjusted for:					
Business restructuring-related costs, net [b]	18	4	23.3 %	14	0.06
Environmental remediation charges, net	21	5	25.2 %	16	0.07
Adjusted, continuing operations, excluding certain items	$520	$118	22.7 %	$396	$1.67

(a) Earnings per diluted share is calculated based on unrounded numbers. Figures in the table may not recalculate due to rounding.

(b) Included in business restructuring-related costs, net are business restructuring charges, accelerated depreciation of certain assets and other related costs, offset by releases related to previously approved programs.

(c) In the third quarter 2020, Hurricane Laura caused damages to a southern U.S. factory that supports the Company's specialty coatings and materials business.

Performance of Reportable Business Segments

Performance Coatings

	Three Months Ended September 30		$ Change	% Change
($ in millions, except per share amounts)	2020	2019	2020 vs. 2019	2020 vs. 2019
Net sales	$2,251	$2,313	($62)	(2.7) %
Segment income	$426	$380	$46	12.1 %

Performance Coatings net sales decreased due to the following:

- *Lower sales volumes (-5%)*

Partially offset by:

- *Higher selling prices (2%)*
- *Acquisition-related sales (1%)*

Architectural coatings - Americas and Asia Pacific net sales, excluding the impact of currency and acquisitions ("organic sales") increased a low-single-digit percentage with differences by channel and region. Sales volumes were mixed by channel during the quarter, including the unfavorable impact of inclement weather in the southern U.S. and lower commercial repaint activity impacting the company-owned stores channel. Despite challenging economic conditions in Mexico, the PPG Comex architectural coatings business organic sales increased by a mid-single-digit percentage compared to the prior year as most concessionaire locations have reopened after mandated shutdowns.

Architectural coatings – EMEA organic sales increased by about 10%, driven in part by strong consumer demand after many countries permitted retail stores to reopen after mandatory closures during the second quarter.

Sales volumes for automotive refinish coatings declined about 10% versus prior year, despite strong sales volumes in China during the quarter. Higher selling prices were more than offset by lower sales volumes in each region reflecting lower collision claims in the U.S. and continued lower traffic density in most of the world.

Aerospace coatings sales volumes decreased about 35% year-over-year due to a sharp decline in commercial OEM and after-market demand due to lower airline activity. Net sales benefited from consistent military demand year-over-year and acquisition-related sales from Texstars and Dexmet.

Sales volumes in the protective and marine coatings business were down a mid-single-digit percentage driven by lower sales volumes in all regions, with the exception of Asia Pacific, driven by continued weak demand in the oil and gas sector and project delays.

Segment income increased $46 million year-over-year due to the execution of cost-mitigation efforts, higher selling prices, and restructuring initiatives, partially offset by lower sales volumes related to the pandemic.

Looking Ahead

Looking ahead for the Performance Coatings segment, net sales are expected to be lower year-over-year by a mid-single-digit percentage, with continued sharper declines in the commercial aerospace coatings businesses. Overall segment sales are anticipated to be lower sequentially due to normal seasonality. Lastly, acquisitions are forecast to add about $15 million of net sales primarily from Texstars and ICR, and foreign currency translation is expected to have an unfavorable impact on segment sales and earnings of about $10 million to $20 million and $5 million, respectively, based on recent exchange rates.

Industrial Coatings

	Three Months Ended September 30		$ Change	% Change
($ in millions, except per share amounts)	2020	2019	2020 vs. 2019	2020 vs. 2019
Net sales	$1,434	$1,513	($79)	(5.2) %
Segment income	$253	$206	$47	22.8 %

Industrial Coatings segment net sales decreased due to the following:

- *Lower sales volumes (-5%)*

Automotive OEM coatings sales volumes were flat year-over-year driven by strong year-over-year automotive OEM retail sales in China and improving production build rates in the U.S. and Europe. In addition, sales volumes were strongest in China, increasing by a low-teen-percentage compared to the prior year third quarter.

For the industrial coatings business, net sales decreased by a mid-single-digit percentage year-over-year due to mixed demand by sub-segment. Electronic materials and appliances had strong year-over-year growth, and sales volumes in China were higher than the prior year.

Packaging coatings organic sales decreased by a low-single-digit percentage year-over-year as strong demand in the U.S. and Latin America was offset by softer aggregate demand in Asia and Europe.

Segment income increased $47 million year-over-year due to cost-mitigation actions and restructuring cost savings.

Looking ahead

Looking ahead for the Industrial Coatings segment, on a sequential basis, demand is expected to be modestly better in the fourth quarter compared to the third quarter, but likely will remain below prior-year levels. Aggregate net sales for the business segment are expected to be lower by a low-single-digit percentage and it is anticipated that selling prices will be flat. Based on current exchange rates, foreign currency translation is not expected to have a significant impact on segment sales or earnings for the third quarter. All businesses are focusing on strong cost management and cost mitigation actions along with cash flow optimization.

Performance in the first nine months of 2020 compared to the first nine months of 2019

Performance Overview

Net Sales by Region

($ in millions, except percentages)	Nine Months Ended September 30		Percent Change
	2020	2019	2020 vs. 2019
United States and Canada	$4,269	$4,964	(14.0) %
EMEA	3,158	3,496	(9.7) %
Asia-Pacific	1,697	1,870	(9.3) %
Latin America	953	1,144	(16.7) %
Total	$10,077	$11,474	(12.2) %

Net sales decreased $1,397 million due to the following:

- *Lower sales volumes (-13%)*
- *Unfavorable foreign currency translation (-2%)*

Partially offset by:

- *Higher selling prices (2%)*
- *Acquisition-related sales (1%)*

As a result of COVID-19 and reduced global economic activity, lower sales volumes and unfavorable foreign currency translation reduced net sales in each region and in both reportable business segments. Higher selling prices and acquisition-related sales partially offset this downturn.

Foreign currency translation decreased net sales by approximately $210 million as the U.S. dollar strengthened against several foreign currencies versus the prior year, most notably the Mexican peso.

For specific business results, see the Performance of Reportable Business Segments section within Item 2 of this Form 10-Q.

Cost of Sales, exclusive of depreciation and amortization

($ in millions, except percentages)	Nine Months Ended September 30		Percent Change
	2020	2019	2020 vs. 2019
Cost of sales, exclusive of depreciation and amortization	$5,637	$6,542	(13.8) %
Cost of sales as a percentage of net sales	55.9 %	57.0 %	(1.1) %

Cost of sales, exclusive of depreciation and amortization, decreased $905 million primarily due to the following:

- *Lower sales volumes*
- *Foreign currency translation*

Partially offset by:

- *Cost of sales attributable to acquired businesses*

Selling, general and administrative expenses

($ in millions, except percentages)	Nine Months Ended September 30		Percent Change
	2020	2019	2020 vs. 2019
Selling, general and administrative expenses (SG&A)	$2,507	$2,710	(7.5) %
Selling, general and administrative expenses as a percentage of net sales	24.9 %	23.6 %	1.3 %

SG&A expense decreased $203 million primarily due to the following:

- *Cost savings initiatives, including restructuring actions*
- *Foreign currency translation*

Partially offset by:

- *Charge for potential uncollectible accounts related to COVID-19 incurred in the first quarter of 2020*

Other costs and income

($ in millions, except percentages)	Nine Months Ended September 30		Percent Change
	2020	2019	2020 vs. 2019
Interest expense, net of Interest income	$89	$76	17.1 %
Other charges	$45	$69	(34.8) %
Other income	($53)	($61)	(13.1) %

Interest expense, net of Interest income

Interest expense, net of Interest income was higher in the nine months ended September 30, 2020 due to the $1.5 billion 364-day term loan credit agreement entered into in April 2020. As of September 30, 2020, $500 million remains outstanding under this agreement.

Other charges

Other charges were lower in the nine months ended September 30, 2020 compared to prior year due to lower environmental remediation charges, offset by a debt extinguishment charge related to the early retirement of debt in the second quarter 2020.

Effective tax rate and earnings per diluted share

($ in millions, except percentages)	Nine Months Ended September 30		Percent Change
	2020	2019	2020 vs. 2019
Income tax expense	$224	$297	(24.6) %
Effective tax rate	22.0 %	23.5 %	(1.5) %
Adjusted effective tax rate, continuing operations*	22.8 %	23.6 %	(0.8) %
Earnings per diluted share, continuing operations	$3.30	$3.98	(17.1) %
Adjusted earnings per diluted share*	$4.11	$4.90	(16.1) %

*See Regulation G Reconciliation below

The effective tax rate for the nine months ended September 30, 2020 reflects the impact of certain discrete tax items. The Company expects that its full year 2020 effective tax rate will be between 21% and 23%.

Adjusted earnings per diluted share for the nine months ended September 30, 2020 decreased year-over-year due to the items described further in the Regulation G reconciliation.

Regulation G Reconciliation - Results from Operations

PPG believes investors' understanding of the Company’s performance is enhanced by the disclosure of net income from continuing operations, earnings per diluted share from continuing operations and PPG's effective tax rate adjusted for certain items. PPG’s management considers this information useful in providing insight into the Company’s ongoing performance because it excludes the impact of items that cannot reasonably be expected to recur on a quarterly basis or that are not attributable to our primary operations. Net income from continuing operations, earnings per diluted share from continuing operations and the effective tax rate adjusted for these items are not recognized financial measures determined in accordance with U.S. GAAP and should not be considered a substitute for net income from continuing operations, earnings per diluted share from continuing operations, the effective tax rate or other financial measures as computed in accordance with U.S. GAAP. In addition, adjusted net income, adjusted earnings per diluted share and the adjusted effective tax rate may not be comparable to similarly titled measures as reported by other companies.

Income before income taxes from continuing operations is reconciled to adjusted income before income taxes from continuing operations, the effective tax rate from continuing operations is reconciled to the adjusted effective tax rate from continuing operations and net income from continuing operations (attributable to PPG) and earnings per share – assuming dilution (attributable to PPG) are reconciled to adjusted net income from continuing operations (attributable to PPG) and adjusted earnings per share – assuming dilution below:

	Nine Months Ended September 30, 2020				
($ in millions, except percentages and per share amounts)	Income Before Income Taxes	Tax Expense	Effective Tax Rate	Net income from continuing operations (attributable to PPG)	Earnings per diluted share[a]
As reported, continuing operations	$1,017	$224	22.0 %	$784	$3.30
Adjusted for:					
Business restructuring-related costs, net [b]	200	52	26.0 %	148	0.62
Increase in allowance for doubtful accounts related to COVID-19	30	7	23.2 %	23	0.10
Environmental remediation charges	12	3	24.3 %	9	0.04
Expenses incurred due to a natural disaster[c]	8	2	24.3 %	6	0.03
Debt extinguishment charge	7	2	24.3 %	5	0.02
Adjusted, continuing operations, excluding certain items	$1,274	$290	22.8 %	$975	$4.11

	Nine Months Ended September 30, 2019				
($ in millions, except percentages and per share amounts)	Income Before Income Taxes	Tax Expense	Effective Tax Rate	Net income from continuing operations (attributable to PPG)	Earnings per diluted share[a]
As reported, continuing operations	$1,263	$297	23.5 %	$948	$3.98
Adjusted for:					
Business restructuring-related costs, net [b]	203	49	24.1 %	154	0.65
Environmental remediation charges, net	61	14	23.0 %	47	0.20
Acquisition-related costs	17	4	23.5 %	13	0.05
Costs associated with accounting investigations	7	2	28.6 %	5	0.02
Adjusted, continuing operations, excluding certain items	$1,551	$366	23.6 %	$1,167	$4.90

(a) Earnings per diluted share is calculated based on unrounded numbers. Figures in the table may not recalculate due to rounding.

(b) Included in business restructuring-related costs, net are business restructuring charges, accelerated depreciation of certain assets and other related costs, offset by releases related to previously approved programs.

(c) In the third quarter 2020, Hurricane Laura caused damages to a southern U.S. factory that supports the Company's specialty coatings and materials business.

Performance of Reportable Business Segments

Performance Coatings

	Nine Months Ended September 30		$ Change	% Change
($ in millions, except per share amounts)	2020	2019	2020 vs. 2019	2020 vs. 2019
Net sales	$6,328	$6,851	($523)	(7.6) %
Segment income	$1,060	$1,102	($42)	(3.8) %

Performance Coatings net sales decreased due to the following:

- *Lower sales volumes (-9%)*
- *Unfavorable foreign currency translation (-2%)*

Partially offset by:

- *Higher selling prices (2%)*
- *Acquisition-related sales (1%)*

Architectural coatings - Americas and Asia Pacific net sales decreased a low-single-digit percentage during the first nine months of the year with differences by channel and region. Higher DIY sales volumes were more than offset by the unfavorable impact of retail store shutdowns in the U.S., Canada and Mexico and unfavorable foreign currency translation driven by the Mexican peso.

Architectural coatings – EMEA organic sales increased by a low-single-digit percentage driven by a strong volumes in the third quarter offset by lower demand in Southern Europe earlier in the year when various countries mandated the closure of retail paint stores.

Net sales for automotive refinish coatings were down about 15% versus prior year driven by a sharp decline in global miles driven and traffic density in most of the world.

Aerospace coatings sales volumes decreased about 20% year-over-year due to a sharp decline in commercial OEM, general aviation and after-market products. Net sales benefited from consistent demand for the company's military applications and acquisition-related sales from Dexmet and Texstars.

Sales volumes in the protective and marine coatings business were down a mid-single-digit percentage driven by delayed projects as a result of the pandemic and lower demand in the U.S. oil and gas sector.

Segment income decreased $42 million year-over-year, including unfavorable foreign currency translation impacts of approximately $20 million. Segment income was impacted by lower sales volumes related to the pandemic and unfavorable foreign currency translation partially offset by higher selling prices, execution of cost-mitigation efforts and restructuring initiatives.

Industrial Coatings

	Nine Months Ended September 30		$ Change	% Change
($ in millions, except per share amounts)	2020	2019	2020 vs. 2019	2020 vs. 2019
Net sales	$3,749	$4,623	($874)	(18.9) %
Segment income	$468	$659	($191)	(29.0) %

Industrial Coatings segment net sales decreased due to the following:

- *Lower sales volumes (-18%)*
- *Unfavorable foreign currency translation (-2%)*

Partially offset by:

- *Acquisition-related sales (1%)*

Automotive OEM coatings sales volumes decreased by about 25% year-over-year, driven by the significant curtailment in global automotive industry production rates.

For the industrial coatings business, net sales decreased by about 15% compared to prior year. Acquisition-related sales from Whitford were more than offset by lower demand stemming from reduced industrial production in most regions due to customer shutdowns.

Packaging coatings organic sales were flat year-over-year as modestly higher selling prices were offset by lower sales volumes stemming from pandemic-related customer shutdowns.

Segment income decreased $191 million year-over-year, including unfavorable foreign currency translation impacts of about $10 million. Segment income was impacted by lower sales volumes driven by customer shutdowns related to the pandemic, partially offset by cost-mitigation actions, restructuring cost savings, and modestly higher selling prices.

Liquidity and Capital Resources

PPG had cash and short-term investments totaling $2.1 billion and $1.3 billion at September 30, 2020 and December 31, 2019, respectively.

Cash provided by operating activities from continuing operations for the nine months ended September 30, 2020 and 2019 was $1,163 million and $1,275 million, respectively. Operating cash flow decreased primarily due to lower net income and increased cash payments for restructuring actions partially offset by improvement in working capital in the first nine months of 2020 compared to the prior year.

Other uses of cash during the nine months ended September 30, 2020 included:

- Capital expenditures, excluding acquisitions, of $170 million.

- Business acquisition cash spending of $45 million.
- Cash dividends paid of $368 million.

In August 2020, PPG completed a public offering of $100 million aggregate principal amount of 3.75% notes due March 2028. These notes were issued as additional notes pursuant to PPG's existing shelf registration statement and pursuant to the Indenture between the Company and The Bank of New York Mellon Trust Company, N.A., as trustee, as supplemented (the "Indenture"), which is is the same Indenture pursuant to which we previously issued $700 million in aggregate principle amount of our 3.75% notes due March 2028 on February 27, 2018. The new notes will be treated as a single series of notes with the existing notes under indenture, have the same CUSIP number as the existing notes, and be fungible with the existing notes for US federal income tax purposes. The Indenture governing these notes contains covenants that limit the Company's ability to, among other things, incur certain liens securing indebtedness, engage in certain sale-leaseback transactions, and enter into certain consolidations, mergers, conveyances, transfers or leases of all or substantially all the Company's assets. The terms of these notes also require the Company to make an offer to repurchase the notes upon a Change of Control Triggering Event (as defined in the Indenture) at a price equal to 101% of their principal amount plus accrued and unpaid interest. The Company may issue additional debt from time to time pursuant to the Indenture. The aggregate cash proceeds from the notes, including the premium received at issuance, net of fees, was $119 million.

In June 2020, PPG completed an early redemption of the $500 million 3.6% notes due November 2020 using proceeds from the May 2020 public offering and cash on hand. The Company recorded a charge of $7 million in the second quarter for the debt redemption which consists of the aggregate make-whole cash premium of $6 million and a balance of unamortized fees and discounts of $1 million related to the debt redeemed.

In May 2020, PPG completed a public offering of $300 million aggregate principal amount of 2.55% notes due 2030. These notes were issued pursuant to PPG's existing shelf registration statement and pursuant to the Indenture. The Indenture governing these notes contains covenants that limit the Company's ability to, among other things, incur certain liens securing indebtedness, engage in certain sale-leaseback transactions, and enter into certain consolidations, mergers, conveyances, transfers or leases of all or substantially all the Company's assets. The terms of these notes also require the Company to make an offer to repurchase notes upon a Change of Control Triggering Event (as defined in the Indenture) at a price equal to 101% of their principal amount plus accrued and unpaid interest. The Company may issue additional debt from time to time pursuant to the Indenture. The aggregate cash proceeds from the notes, net of discounts and fees, was $296 million.

In April 2020, PPG entered into a $1.5 billion 364-Day Term Loan Credit Agreement (the "Term Loan"). The Term Loan contains covenants that are consistent with those in the Credit Agreement described below and that are usual and customary restrictive covenants for facilities of its type, which include, with specified exceptions, limitations on the Company's ability to create liens or other encumbrances, to enter into sale and leaseback transactions and to enter into consolidations, mergers or transfers of all or substantially all of its assets. In September 2020, PPG repaid $1.0 billion of the Term Loan using cash on hand. The remaining Term Loan terminates and all amounts outstanding are payable on April 13, 2021.

In March 2020, PPG borrowed $800 million under the Credit Agreement and repaid this amount in full in April 2020. There were no amounts outstanding under the Credit agreement as of September 30, 2020 and December 31, 2019.

In August 2019, PPG completed a public debt offering of $300 million aggregate principal amount of 2.4% notes due 2024 and $300 million aggregate principal amount of 2.8% notes due 2029 and received aggregate net proceeds of $594 million.

The Term Loan and Credit Agreement require the Company to maintain a ratio of Total Indebtedness to Total Capitalization, as defined in the Term Loan, of 60% or less; provided, that for any fiscal quarter in which the Company has made an acquisition for consideration in excess of $1 billion and for the next five fiscal quarters thereafter, the ratio of Total Indebtedness to Total Capitalization may not exceed 65% at any time. As of September 30, 2020, Total Indebtedness to Total Capitalization as defined under the Credit Agreement and the Term Loan was 48%.

The Company's commercial paper borrowings are supported by the five-year revolving credit agreement (the "Credit Agreement") entered into in 2019. As a result, commercial paper borrowings are classified as long-term debt based on PPG's intent and ability to refinance these borrowings on a long-term basis. As of September 30, 2020, no commercial paper borrowings were outstanding. As of December 31, 2019, there were $100 million of commercial paper borrowings outstanding.

Total capital spending in 2020 is expected to be $325 million to $350 million, an increase versus the prior Company estimate reflecting the initiation of certain additional projects. The Company continues to defer non-essential capital spending in response to lower industry demand conditions. PPG expects to make mandatory contributions to its non-U.S. pension plans in the range of $5 million to $10 million during the remaining three months of 2020. PPG may make voluntary contributions to its defined benefit pension plans in 2020 and beyond.

A primary focus for the Company in 2020 will be to maintain appropriate balance sheet flexibility, including cash on hand, due to the uncertain nature and unpredictable timing of the COVID-19 pandemic.

Operating working capital is a subset of total working capital and represents (1) trade receivables – net of the allowance for doubtful accounts (2) FIFO inventories and (3) trade liabilities. We believe operating working capital represents the key components of working capital under the operating control of our businesses. A key metric we use to measure our working capital management is operating working capital as a percentage of sales (current quarter sales annualized).

($ in millions, except percentages)	September 30, 2020	December 31, 2019	September 30, 2019
Trade receivables, net	$2,495	$2,479	$2,737
Inventories, FIFO	1,784	1,834	1,987
Trade creditors' liabilities	2,055	2,098	2,190
Operating working capital	$2,224	$2,215	$2,534
Operating working capital as a % of Sales	15.1 %	15.1 %	16.6 %
Days sales outstanding	56	56	59
Days payable outstanding	97	94	95

Other Liquidity Information

The Company continues to believe that cash on hand and short-term investments, cash from operations and the Company's access to capital markets will continue to be sufficient to fund our operating activities, capital spending, acquisitions, dividend payments, debt service, share repurchases, contributions to pension plans and PPG's significant contractual obligations.

Environmental

	Three Months Ended September 30		Nine Months Ended September 30	
($ in millions)	2020	2019	2020	2019
Cash outlays for environmental remediation activities	$15	$21	$52	$57

($ in millions)	Remainder of 2020	Annually 2021 - 2024
Projected future cash outlays for environmental remediation activities	$10 - $20	$20 - $50

Restructuring

In June 2020, PPG initiated a $176 million restructuring program. The program addresses weakened global economic conditions stemming from the COVID-19 pandemic and related pace of recovery in a few end-use markets along with further opportunities to optimize supply chain and functional costs. The plan includes a voluntary separation program that was offered in the U.S. and Canada. We expect to achieve annualized cost savings from the 2020 program of $160 to $170 million by the expected completion date in 2021.

As a result of the COVID-19 pandemic, the Company expects delays in the timing of certain previously recorded restructuring actions. Program completion dates may differ from the originally targeted timeline, as noted below.

In June 2019, PPG initiated a $184 million restructuring program. This program is a result of a comprehensive internal operational assessment to identify further opportunities to improve the profitability of the overall business portfolio. PPG recognized $15 million of savings from this program in 2019. The 2019 program is expected to achieve approximately $125 million of annualized cost savings by the expected completion date in 2022.

In April 2018, PPG initiated an $83 million global restructuring program. The program is largely centered around the change in customer assortment related to the U.S. architectural coatings DIY business. PPG recognized $55 million of savings from this program in 2019. We expect to achieve annualized cost savings from the 2018 program of $85 million once fully implemented in 2020.

Total restructuring savings are expected to be between $100 million and $110 million in 2020. In addition, the Company continues to review its cost structure to identify additional cost savings opportunities. See Note 7, “Business Restructuring,” to the accompanying condensed consolidated financial statements for further details on the Company's business restructuring programs.

Currency

Comparing spot exchange rates at December 31, 2019 and at September 30, 2020, the U.S. dollar strengthened against currencies of many countries within the regions PPG operates. As a result, consolidated net assets at September 30, 2020 decreased by $447 million compared to December 31, 2019 primarily driven by the Mexican peso.

Comparing average exchange rates during the first nine months of 2020 to those of the first nine months of 2019, the U.S. dollar strengthened against currencies of most countries within the regions PPG operates. This had an unfavorable impact on Income before income taxes for the nine months ended September 30, 2020 of $30 million from the translation of these foreign earnings into U.S. dollars.

New Accounting Standards

See Note 2, “New Accounting Standards,” to the accompanying condensed consolidated financial statements for further details on recently issued accounting guidance.

Commitments and Contingent Liabilities, including Environmental Matters

PPG is involved in a number of lawsuits and claims, both actual and potential, including some that it has asserted against others, in which substantial monetary damages are sought. See Part II, Item 1, “Legal Proceedings” of this Form 10-Q and Note 15, “Commitments and Contingent Liabilities” to the accompanying condensed consolidated financial statements for a description of certain of these lawsuits.

As discussed in Part II, Item 1 and Note 15, although the result of any future litigation of such lawsuits and claims is inherently unpredictable, management believes that, in the aggregate, the outcome of all lawsuits and claims involving PPG, including asbestos-related claims, will not have a material effect on PPG's consolidated financial position or liquidity; however, any such outcome may be material to the results of operations of any particular period in which costs, if any, are recognized.

As also discussed in Note 15, PPG has significant reserves for environmental contingencies. Please refer to the Environmental Matters section of Note 15 for details of these reserves. A significant portion of our reserves for environmental contingencies relate to ongoing remediation at PPG's former chromium manufacturing plant in Jersey City, N.J. and associated sites ("New Jersey Chrome"). The Company continues to analyze, assess and remediate the environmental issues associated with New Jersey Chrome. Information will continue to be generated from the ongoing groundwater remedial investigation activities related to New Jersey Chrome and will be incorporated into a final draft remedial action work plan for groundwater expected to be submitted to the New Jersey Department of Environmental Protection in the fourth quarter 2020.

It is possible that technological, regulatory and enforcement developments, the results of environmental studies and other factors could alter the Company’s expectations with respect to future charges against income and future cash outlays. Specifically, the level of expected future remediation costs and cash outlays is highly dependent upon activity related to New Jersey Chrome.

Forward-Looking Statements

Management’s Discussion and Analysis and other sections of this Quarterly Report contain forward-looking statements that reflect the Company’s current views with respect to future events and financial performance. You can identify forward-looking statements by the fact that they do not relate strictly to current or historic facts. Forward-looking statements are identified by the use of the words “aim,” “believe,” “expect,” “anticipate,” “intend,” “estimate,” “project,” “outlook,” “forecast” and other expressions that indicate future events and trends. Any forward-looking statement speaks only as of the date on which such statement is made, and the Company undertakes no obligation to update any forward looking statement, whether as a result of new information, future events or otherwise. You are advised, however, to consult any further disclosures we make on related subjects in our reports to the Securities and Exchange Commission ("SEC"). Also, note the following cautionary statements.

Many factors could cause actual results to differ materially from the Company’s forward-looking statements. Such factors include statements related to the expected effects on our business of the COVID-19 pandemic, global economic conditions, increasing price and product competition by foreign and domestic competitors, fluctuations in cost and availability of raw materials, the ability to achieve selling price increases, the ability to recover margins,

customer inventory levels, our ability to maintain favorable supplier relationships and arrangements, the timing of and the realization of anticipated cost savings from restructuring initiatives, the ability to identify additional cost savings opportunities, difficulties in integrating acquired businesses and achieving expected synergies therefrom, economic and political conditions in the markets we serve, the ability to penetrate existing, developing and emerging foreign and domestic markets, foreign exchange rates and fluctuations in such rates, fluctuations in tax rates, the impact of future legislation, the impact of environmental regulations, unexpected business disruptions, the effectiveness of our internal control over financial reporting, the results of governmental investigations, and the unpredictability of existing and possible future litigation. However, it is not possible to predict or identify all such factors.

Consequently, while the list of factors presented here, in the 2019 Form 10-K under Item 1A and in this Form 10-Q under Item 1A is considered representative, no such list should be considered to be a complete statement of all potential risks and uncertainties. Unlisted factors may present significant additional obstacles to the realization of forward-looking statements.

Consequences of material differences in the results compared with those anticipated in the forward-looking statements could include, among other things, lower sales or income, business disruption, operational problems, financial loss, legal liability to third parties, other factors set forth in Item 1A of the 2019 Form 10-K and in Item 1A of this Form 10-Q and similar risks, any of which could have a material adverse effect on the Company's consolidated financial condition, results of operations or liquidity.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Foreign Currency Risk

At September 30, 2020 and December 31, 2019, PPG had non-U.S. dollar denominated borrowings outstanding of $2.3 billion. A weakening of the U.S. dollar by 10% against European currencies and by 20% against Asian and South American currencies would have resulted in unrealized translation losses on these borrowings of $265 million at September 30, 2020 and $255 million at December 31, 2019, respectively.

The fair value of foreign currency forward contracts outstanding at September 30, 2020 and December 31, 2019 was a net liability of $3 million and a net liability of $7 million, respectively. The potential reduction in PPG's Income before income taxes resulting from the impact of adverse changes in exchange rates on the fair value of its outstanding foreign currency hedge contracts of 10% for European and Canadian currencies and 20% for Asian and Latin American currencies for the period ended September 30, 2020 was $183 million and $357 million for the period ended December 31, 2019.

PPG has U. S. dollar to euro cross currency swap contracts with a total notional amount of $875 million outstanding, resulting in a net asset of $34 million and a net asset of $48 million at September 30, 2020 and December 31, 2019, respectively. A 10% increase in the value of the euro to the U.S. dollar would have had an unfavorable effect on the fair value of these swap contracts by reducing the value of these instruments by $92 million and $87 million at September 30, 2020 and December 31, 2019, respectively.

Interest Rate Risk

The Company manages its interest rate risk of fixed and variable rates while attempting to minimize its interest costs. PPG has interest rate swaps which converted $525 million of fixed rate debt to variable rate debt. The fair value of these contracts was an asset of $74 million and $35 million at September 30, 2020 and December 31, 2019, respectively. An increase in variable interest rates of 10% would lower the fair value of these swaps and increase interest expense by $1 million and $7 million for the periods ended September 30, 2020 and December 31, 2019, respectively. A 10% increase in interest rates in the U.S., Canada, Mexico and Europe and a 20% increase in interest rates in Asia and South America would have an insignificant effect on PPG's variable rate debt obligations and interest expense for the periods ended September 30, 2020 and December 31, 2019. Further a 10% reduction in interest rates would have increased the fair value of the Company's fixed rate debt by approximately $51 million and $67 million at September 30, 2020 and December 31, 2019, respectively; however, such changes would not have had an effect on PPG's income before income taxes or cash flows.

There were no other material changes in the Company's exposure to market risk from December 31, 2019 to September 30, 2020. See Note 13, "Financial Instruments, Hedging Activities and Fair Value Measurements" for a description of our instruments subject to market risk.

Item 4. Controls and Procedures

a. Evaluation of disclosure controls and procedures. Based on their evaluation as of the end of the period covered by this Form 10-Q, the Company's principal executive officer and principal financial officer have concluded that the

Company's disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934 (the "Exchange Act")) are effective to ensure that information required to be disclosed by the Company in reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in Securities and Exchange Commission rules and forms and to ensure that information required to be disclosed by the Company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the Company's management, including its principal executive and principal financial officers, as appropriate, to allow timely decisions regarding required disclosure.

b. Changes in internal control over financial reporting. There were no changes in the Company's internal control over financial reporting that occurred during the Company's most recent fiscal quarter that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings

PPG ("the Company") is involved in a number of lawsuits and claims, both actual and potential, including some that it has asserted against others, in which substantial monetary damages are sought. These lawsuits and claims may relate to contract, patent, environmental, product liability, asbestos exposure, antitrust, employment, securities and other matters arising out of the conduct of PPG's current and past business activities. To the extent these lawsuits and claims involve personal injury, property damage and certain other claims, PPG believes it has adequate insurance; however, certain of PPG's insurers are contesting coverage with respect to some of these claims, and other insurers may contest coverage. PPG's lawsuits and claims against others include claims against insurers and other third parties with respect to actual and contingent losses related to environmental, asbestos and other matters.

As previously disclosed, the SEC is conducting a non-public investigation of accounting matters described in the Explanatory Note and in Note 2, "Restatement of Previously Reported Consolidated Annual Financial Statements" under Item 8 of the Company's 2017 Form 10-K/A. On September 26, 2019, PPG announced a final settlement with the SEC as to the Company. Without admitting or denying the findings in the SEC's administrative cease-and-desist order, the Company consented to the entry of the order, which imposed no financial penalty. The Company continues to cooperate fully with the SEC's ongoing investigation relating to these accounting matters. The Company is also cooperating fully with an investigation into the same accounting matters commenced by the U.S. Attorney's Office for the Western District of Pennsylvania ("USAO"). As previously disclosed, the USAO has informed PPG that it will not pursue any action as to the Company.

Between January and early April 2020, the Company, as a nominal defendant, and certain of its current or former officers and directors were named as defendants in four shareholder derivative actions. All of the actions were filed in Pittsburgh, three in the U.S. District Court for the Western District of Pennsylvania and one in the Court of Common Pleas for Allegheny County. The plaintiffs in these actions allege breach of fiduciary duty, unjust enrichment and/or corporate waste arising out of various alleged acts, and alleged failures to act, by the individually named defendants following financial restatements by the Company. One of the federal court actions also alleges breach of fiduciary duty and unjust enrichment claims arising out of certain environmental liabilities the Company incurred, and continues to incur, related to its former Ford City glass plant. The three federal court derivative actions have been consolidated. On May 28, 2020, a Motion to Dismiss all three federal court derivative actions was filed. The court has confirmed that the Company and the individual defendants need not respond to the lawsuits while the Motion to Dismiss is pending. The state court derivative action has been stayed pending the outcome of the federal court Motion to Dismiss.

On May 20, 2018, a putative securities class action lawsuit was filed in the U.S. District Court for the Central District of California against the Company and three of its current and former officers. On September 21, 2018, an Amended Class Action Complaint was filed in the lawsuit. The Amended Complaint, captioned Trevor Mild v. PPG Industries, Inc., Michael H. McGarry, Vincent J. Morales, and Mark C. Kelly, asserted securities fraud claims under Sections 10(b) and 20(a) of the Securities Exchange Act of 1934 on behalf of a putative class of persons who purchased or otherwise acquired stock of the Company between January 19, 2017 and May 10, 2018. The allegations related to, among other things, allegedly false and misleading statements and/or failures to disclose information about the Company's business, operations and prospects. The parties reached a settlement in principal on May 1, 2019. On June 2, 2019, the plaintiff filed with the court a Petition for Preliminary Approval of the proposed settlement, including the proposed settlement amount of $25 million. On November 22, 2019, the court entered final judgment approving the settlement. PPG's insurance carriers fully funded the settlement escrow account and the court-approved settlement payments to class members are expected to be distributed by the claims administrator in late 2020 or early 2021.

From the late 1880's until the early 1970's, PPG owned property located in Cadogan and North Buffalo Townships, Pennsylvania which was used for the disposal of solid waste from PPG's former glass manufacturing facility in Ford City, Pennsylvania. In October 2018, the Pennsylvania Department of Environmental Protection (the "DEP") approved PPG's cleanup plan for the Cadogan Property. In April 2019, PPG and the DEP entered into a consent order and agreement ("CO&A") which incorporated PPG's approved cleanup plan and a draft final permit for the collection and discharge of seeps emanating from the former disposal area. The CO&A includes a civil penalty of $1.2 million for alleged past unauthorized discharges. PPG's former disposal area is also the subject of a citizens' suit filed by the Sierra Club and PennEnvironment seeking remedial measures beyond the measures specified in PPG's approved cleanup plan, a civil penalty in addition to the penalty included in the CO&A and plaintiffs' attorneys fees. PPG believes that the citizen's suit is without merit and intends to defend itself vigorously.

For many years, PPG has been a defendant in lawsuits involving claims alleging personal injury from exposure to asbestos. For a description of asbestos litigation affecting the Company, see Note 15, "Commitments and Contingent Liabilities" to the accompanying condensed consolidated financial statements under Part I, Item 1 of this Form 10-Q.

In the past, the Company and others have been named as defendants in several cases in various jurisdictions claiming damages related to exposure to lead and remediation of lead-based coatings applications. PPG has been dismissed as a defendant from most of these lawsuits and has never been found liable in any of these cases. After having not been named in a new lead-related lawsuit for 15 years, PPG was named as a defendant in two Pennsylvania state court lawsuits filed by Montgomery County and Lehigh County in the respective counties on October 4, 2018 and October 12, 2018. Both suits seek declaratory relief arising out of alleged public nuisances in the counties associated with the presence of lead paint on various buildings constructed prior to 1980. The Company believes these actions are without merit and intends to defend itself vigorously.

Item 1A. Risk Factors

Except for the effects of COVID-19 as a result of its negative impact to the global economy as described below, there were no material changes in the Company's risk factors from the risks disclosed in the 2019 Form 10-K.

The effects of the recent COVID-19 outbreak are negatively impacting, and are expected to continue to adversely impact our financial condition and results of operations.

The effects of the public health crisis caused by the COVID-19 outbreak have interfered with the ability of PPG, our suppliers, customers, and others to conduct business and have negatively affected consumer confidence and the global economy. Public health officials have recommended or mandated certain precautions to mitigate the spread of COVID-19, including prohibitions on congregating in groups, shelter-in-place orders or similar measures. Preventative and protective actions that public health officials, governments or PPG have taken with respect to COVID-19 have and will continue to adversely impact our business, suppliers, distribution channels, and customers, including business shutdowns or disruptions for an indefinite period of time, reduced operations, reduced ability to supply products, or reduced demand for our products. Our financial condition, liquidity and results of operations have been and will continue to be adversely impacted by these preventative actions and the disruption to our business and that of our suppliers and customers. As we cannot predict the duration or scope of the COVID-19 pandemic, the negative financial impact to our results cannot be reasonably estimated, but could be material.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

Issuer Purchases of Equity Securities

No shares were repurchased in the three months ended September 30, 2020 under the current $2.5 billion share repurchase program approved in December 2017. The maximum number of shares that may yet be purchased under this program is 12,371,858 shares as of September 30, 2020. This repurchase program has no expiration date.

Item 6. Exhibits

See the Index to Exhibits on page 41.

PPG INDUSTRIES, INC. AND SUBSIDIARIES

Index to Exhibits

The following exhibits are filed as part of, or incorporated by reference into, this Form 10-Q.

†10	PPG Industries, Inc. Deferred Compensation Plan related to compensation deferred on or after to January 1, 2005, as amended and restated effective January 1, 2021.
†31.1	Certification of Principal Executive Officer Pursuant to Rule 13a-14(a) or 15d-14(a) of the Exchange Act, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
†31.2	Certification of Principal Financial Officer Pursuant to Rule 13a-14(a) or 15d-14(a) of the Exchange Act, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
††32.1	Certification of Chief Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
††32.2	Certification of Chief Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS*	Inline XBRL Instance Document
101.SCH**	Inline XBRL Taxonomy Extension Schema Document
101.CAL**	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF**	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB**	Inline XBRL Taxonomy Extension Label Linkbase Document
101.PRE**	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104	Inline XBRL for the cover page of this Quarterly Report on Form 10-Q, included in the Exhibit 101 Inline XBRL Document Set.

† Filed herewith.
†† Furnished herewith.
*The instance document does not appear in the Interactive Data File because its XBRL (Extensible Business Reporting Language) tags are embedded within the Inline XBRL document.
**Attached as Exhibit 101 to this report are the following documents formatted in Inline XBRL: (i) the Condensed Consolidated Statement of Income for the nine months ended September 30, 2020 and 2019, (ii) the Condensed Consolidated Balance Sheet at September 30, 2020 and December 31, 2019, (iii) the Condensed Consolidated Statement of Cash Flows for the nine months ended September 30, 2020 and 2019, and (iv) Notes to Condensed Consolidated Financial Statements for the nine months ended September 30, 2020.

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SIGNATURES

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.

PPG INDUSTRIES, INC.
(Registrant)

Date: October 20, 2020

By: /s/ Vincent J. Morales
Vincent J. Morales
Senior Vice President and Chief Financial Officer
(Principal Financial Officer and Duly Authorized Officer)

By: /s/ William E. Schaupp
William E. Schaupp
Vice President and Controller
(Principal Accounting Officer and Duly Authorized Officer)

Exhibit 10

PPG INDUSTRIES, INC.

DEFERRED COMPENSATION PLAN

Preamble

The Plan is adopted primarily for the purpose of providing deferred compensation to a select group of management and highly compensated employees.

This PPG Industries, Inc. Deferred Compensation Plan (this "Plan") is an amendment and restatement of the PPG Industries, Inc. Deferred Compensation Plan as in effect on December 12, 2007 (the "Prior Plan"). Except as otherwise provided herein, this amended and restated Plan applies to deferrals of all compensation that is earned or that becomes vested on or after January 1, 2005 (including any earnings thereon) (except that the Plan was operated in good faith compliance with the requirements of Section 409A of the Internal Revenue Code for periods prior to January 1, 2008). All such deferred compensation shall be paid in accordance with the terms of this amended and restated Plan. The Prior Plan applies to deferrals of all compensation that was earned and vested prior to January 1, 2005 (including any earnings thereon). This amendment and restatement of the Plan is made on September 1, 2020, and is effective as of January 1, 2021, except as otherwise provided.

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SECTION I - DEFINITIONS

1.01 **Account** means all deferred Award amounts, all deferred Salary amounts, all deferred Payments pursuant to the LTIP or Executive Officers' LTIP, all deferred Omnibus Plan Stock Awards, all Savings Plan Restoration Contributions and all Defined Contribution Retirement Plan Restoration Contributions and earnings on each of the foregoing held at any particular time in the form of Stock Account Shares or Investment Account Shares in a Participant's account established pursuant to the terms hereof.

1.02 **Administrator** means an officer or officers of the Company appointed by the Committee, and any person(s) designated by such Administrator to assist in the administration of the Plan

1.03 **Affiliate** means any business entity, other than a Subsidiary, in which PPG has an equity interest.

1.04 **Annual Plan** means the PPG Industries, Inc. Executive Officers' Annual Incentive Compensation Plan, as amended from time to time.

1.05 **Award** means a grant to a Participant under the IC Plan, MAP or the Annual Plan, and a Short-Term Cash Incentive Award under Article X of the Omnibus Plan which such person may elect to defer.

1.06 **Beneficiary** means the person or persons designated by a Participant to receive benefits hereunder following the Participant's death, in accordance with Section 6.02. For purposes of this Section 1.06, "person or persons" is limited to an individual, a Trustee or a Participant's estate.

1.07 **Board** means the Board of Directors of PPG Industries, Inc.

1.08 **Code** means the Internal Revenue Code of 1986, and amendments thereto.

1.09 **Committee** means the Officers-Directors Compensation Committee (or any successor) of the Board.

1.10 **Company or PPG** means PPG Industries, Inc.

1.11 **Conversion Formula** means, with respect to the cash component of an Award, the number of Stock Account Shares obtained by dividing such Award amount by the closing price as reported on the New York Stock Exchange Composite Tape of PPG Stock on the date payment of the Award is processed.

1.12 **Corporation** means PPG and any Subsidiary or Affiliate designated by the Administrator to permit such Subsidiary's or Affiliate's employees to participate in the Plan, and which, by proper authorization of the board of directors or other governing body of such Subsidiary or Affiliate, elects to participate in the Plan.

1.13 **Defined Contribution Plan Restoration Contributions** means contributions to a Participant's Account in accordance with Section 4.02.

1.14 **Disability** means a medical or physical impairment that can be expected to result in death or that can be expected to last for a continuous period of not less than 12 months, by reason of which, a Participant has received income replacement benefits for a period of not less than six months under the Corporation's disability plans, within the meaning of Section 409A of the Code.

1.15 **Discretionary Transaction** means a transaction pursuant to any employee benefit plan of the Company that:

(a) Is at the volition of the plan participant;

(b) Is not made in connection with the participant's death, disability, retirement or termination of employment;

(c) Is not required to be made available to a plan participant pursuant to a provision of the Code; and

(d) Results in either an intra-plan transfer involving a PPG Stock Fund or a cash distribution funded by a volitional disposition of PPG Stock by the plan participant.

1.16 **Employee** means any full-time or permanent part-time salaried employee (including any officer) of the Corporation.

1.17 **ERISA** means the Employee Retirement Income Security Act of 1974, as amended.

1.18 **Executive Officers' LTIP** means the PPG Industries, Inc Executive Officers' Long Term Incentive Plan, as amended from time to time.

1.19 **IC Plan** means the PPG Industries, Inc. Incentive Compensation Plan for Key Employees, as amended from time to time and formerly known as the PPG Industries, Inc. Incentive Compensation and Deferred Income Plan for Key Employees.

1.20 **Insider** means a Participant who at any time within the prior six (6) months was a person subject to Section 16 of the Securities Act of 1934.

1.21 **Investment Account** means, for any Participant, one or more recordkeeping accounts the value of which is based on or derived from such investment funds, money market accounts or other investment vehicles as determined by the Committee from time to time and pursuant to which such Participant makes elections pursuant to Section III hereof.

1.22 **Investment Account Share** means a recordkeeping unit for the appropriate Investment Account, in each case, equal in value to one share or other ownership unit of the investment fund, money market account or other investment vehicle upon which the value of the particular Investment Account is based.

1.23 **Key Employee** has the meaning assigned to that term under Section 416(i) of the Code (determined without regard to subsection 416(i)(5) thereof). For purposes of Sections 5.02(h) and 5.03(b), a Participant who is a Key Employee for a calendar year shall be treated as a Key Employee during the 12-month period commencing on the first day of the fourth month following the last day of such calendar year.

1.24 **LTIP** means the PPG Industries, Inc. Long Term Incentive Plan, as amended from time to time.

1.25 **MAP** means the PPG Industries, Inc. Management Award and Deferred Income Plan, as amended from time to time and formerly known as the PPG Industries, Inc. Management Award and Deferred Income Plan.

1.26 **Omnibus Plan** means the PPG Industries, Inc. Omnibus Incentive Plan, as amended from time to time.

1.27 **Omnibus Plan Stock Award** means an Award (as that term is defined under the Omnibus Plan) other than an Option, Stock Appreciation Right (as those terms are defined in the Omnibus Plan) or Short-Term Cash Incentive Award under Article X of the Omnibus Plan, whether settled in cash or in PPG Stock.

1.28 **Participant** means an Employee who is approved to participate in either the LTIP, the Executive Officers' LTIP, the IC Plan, MAP, or the Annual Plan or who is eligible to receive an Omnibus Plan Stock Award or Short-Term Cash Incentive Award under Article X of the Omnibus Plan and has made one or more deferral elections pursuant to Section II hereof.

1.29 **Payment** has the meaning assigned to that term under the LTIP or the Executive Officers' LTIP, as applicable.

1.30 **Plan** means this PPG Industries, Inc. Deferred Compensation Plan as amended and restated effective as of January 1, 2021.

1.31 **Plan Year** means any calendar year.

1.32 **PPG Stock** means, as of any date, the then issued and outstanding voting common stock of the Company. Shares of PPG Stock issued or transferred in accordance with the terms of the Plan may be either authorized but unissued shares or issued shares acquired by the Company and held in its treasury.

1.33 **PPG Stock Account** means a record-keeping account maintained for a Participant who elects to defer all or part of an Award, Salary, Payment, or Omnibus Plan Stock Award and/or to maintain all or part of a deferred Award, Salary, Payment, or Omnibus Plan Stock Award in the form of Stock Account Shares.

1.34 **PPG Stock Fund** means the PPG Stock Account or any other fund or account of any other benefit plan of the Company or a Subsidiary which account or fund is invested in, or valued based upon, PPG Stock.

1.35 **Prohibited Discretionary Transaction** means a Discretionary Transaction to be effected pursuant to an election made less than six months following the date of the most recent previous election to make a Discretionary Transaction with respect to any employee benefit plan of the Company which most recent previous election effected:

(a) An increase in a PPG Stock Fund if the current transaction would entail a disposition of PPG Stock or a decrease in a PPG Stock Fund; or

(b) A disposition of PPG Stock or a decrease in a PPG Stock Fund if the current transaction would entail an increase in a PPG Stock Fund.

1.36 **Retired Participant** means a Participant who elects to maintain an Account in the Plan after his/her Retirement Date.

1.37 **Retirement Age** means the date on which a Participant is eligible to receive a benefit from a retirement plan sponsored by the Corporation.

1.38 **Retirement Date** means the first day of the month following a Participant's termination of employment on or after such Participant's Retirement Age.

1.39 **Salary** means a Participant's monthly base salary from the Corporation (excluding bonuses, commissions and other non-regular forms of compensation) and including payments from the PPG Industries Salary Continuance Plan, before reductions for deferrals under the Plan or under any other Plan sponsored by the Corporation. In the case of Salary continuance, Salary deferral elections shall be applied to the actual amount of Salary continuance being paid. Effective January 1, 2009, any temporary reduction in a Participant's monthly base salary pursuant to the Fiber Glass business unit temporary salary reduction program shall be

disregarded in determining such Participant's Salary, and such Participant's Salary shall be determined without regard to such temporary reduction.

1.40 **Savings Plan** means the PPG Industries Employee Savings Plan, as amended from time to time.

1.41 **Savings Plan Restoration Contributions** means contributions to a Participant's Account in accordance with Section 4.01.

1.42 **Stock Account Share** means a record-keeping unit which is equivalent to one share of PPG Stock.

1.43 **Subsidiary** means any corporation of which fifty percent (50%) or more of the outstanding voting stock or voting power is owned, directly or indirectly, by the Company and any partnership or other entity in which the Company has a fifty percent (50%) or more ownership interest.

1.44 **Unforeseeable Emergency** means a severe financial hardship to a Participant resulting from (i) an illness or accident of such Participant, the Participant's spouse, the Participant's Beneficiary, or the Participant's dependent (as defined in Code Section 152, without regard to subsections 152(b)(1), (b)(2) and (d)(1)(B)), (ii) loss of the Participant's property due to casualty (including the need to rebuild a home following damage to a home not otherwise covered by insurance, for example, not as a result of a natural disaster), or (iii) other similar extraordinary and unforeseeable circumstances arising as a result of events beyond the control of the Participant, to the extent that such financial hardship is not or may not be relieved through reimbursement or compensation from insurance or otherwise, by liquidation of the Participant's assets (to the extent the liquidation of such assets would not cause severe financial hardship), or by cessation of deferrals of Salary, Awards or Payments.

SECTION II - DEFERRALS

2.01 Deferral of Salary

(a) Prior to the beginning of each Plan Year, a Participant may, in accordance with procedures established from time to time by the Administrator, elect to defer a percentage, in whole percentages only, of his/her Salary for services performed for such Plan Year as follows:

Minimum Deferral	Maximum Deferral
1%	50%

(b) Elections made pursuant to Section 2.01 shall remain in effect until (i) the last day of the Plan Year to which such election applies, or (ii) in the discretion of the Administrator, terminated or modified pursuant to a new election filed by a Participant in accordance with the requirements of Section 2.01(a) and Section 2.01(c). Notwithstanding the foregoing, a Participant may elect to cancel a deferral election (i) upon an Unforeseeable Emergency, or (ii) pursuant to the Participant's Disability, provided that such cancellation election is made by the later of December 31 of the Plan Year in which the Disability occurs or the 15th day of the third month following the date of the Disability.

(c) Except as provided by Section 2.05, any election filed by a Participant pursuant to Section 2.01(a), including any election to terminate or modify an election, must be received by the Administrator on or before the last business day of the Plan Year prior to the Plan Year in which such election is to become effective. Deferred Salary shall be credited to the Participant's Account on the last day of the month in which the deferral is made.

(d) The number of Stock Account Shares credited to the PPG Stock Account shall be determined by the closing price as reported on the New York Stock Exchange Composite Tape for PPG Stock on the last business day of the month in which the deferral is made.

(e) The number of Investment Account Shares credited to the appropriate Investment Account shall be determined by the closing market price for shares of the mutual fund on which the value of the Investment Account is based on the last business day of the month in which the deferral is made.

(f) Notwithstanding any other provision of this Section 2.01, a Participant may file a new deferral election with respect to Salary for services performed during the 2005 Plan Year no later than March 15, 2005 (and any such new election filed between January 1, 2005 and March 15, 2005 shall replace any election filed on or before December 31, 2004) that (i) increases the deferral of Salary earned on or after April 1, 2005, or (ii) cancels all deferral elections with respect to Salary earned from January 1, 2005 through April 15, 2005. In the event of a cancellation of a deferral election pursuant to clause (ii) above, the amount deferred prior to the filing of such election, adjusted for earning or losses, shall be paid to such Participant as soon as practicable after the election is filed, but in no event later than December 31, 2005.

2.02 Deferral of Awards

(a) Prior to the beginning of the Plan Year, a Participant may, in accordance with procedures established from time to time by the Administrator, elect to defer a percentage, in whole percentages only and no less than 10%, of his/her Award granted for such Plan Year. Elections made pursuant to Section 2.02 shall be effective (i) with respect to Awards earned during the Plan Year to which such election applies, or (ii) in the discretion of the Administrator, with respect to Awards earned in subsequent Plan Years until terminated or modified pursuant to a new election filed by a Participant in accordance with the requirements of Section 2.02(a) and Section 2.02(b).

(b) Except as otherwise provided in Section 2.05, any election filed by a Participant pursuant to Section 2.02(a), including any election to terminate or modify an election, must be received by the Administrator on or before the last business day of the Plan Year prior to the Plan Year in which such election is to become effective. Notwithstanding the foregoing, a Participant may elect to cancel a deferral election (i) upon an Unforeseeable Emergency, or (ii) pursuant to the Participant's Disability, provided that such cancellation election is made by the later of December 31 of the Plan Year in which the Disability occurs or the 15th day of the third month following the date of Disability.

(c) Except as provided by Section 2.05, any election filed by a Participant pursuant to Section 2.02(a), including any election to terminate or modify an election, must be received by the Administrator on or before the last business day of the Plan Year prior to the Plan Year in which such election is to become effective. Notwithstanding the foregoing, a Participant may elect to cancel a deferral election (i) upon an Unforeseeable Emergency, or (ii) pursuant to the Participant's Disability, provided that such cancellation election is made by the later of December 31 of the Plan Year in which the

Disability occurs or the 15th day of the third month following the date of the Disability.

(d) In accordance with the provisions of this Section 2.02, the value of:

(1) that portion of the cash component of an Award which the Participant elects to defer and has designated in accordance with Section 3.01 to the PPG Stock Account; and/or

(2) the stock component of a deferred Award shall be credited to the PPG Stock Account in the Participant's Account on the day such deferral would otherwise have been paid to the Participant.

(e) (1) Share-based Awards credited to the PPG Stock Account shall be credited in the form of Stock Account Shares and cash Awards credited to the PPG Stock Account shall be credited in the form of whole and fractional Stock Account Shares, the number of which will be determined according to the Conversion Formula.

(2) Cash-based Awards credited to the Investment Account(s) shall be credited in the form of Investment Account Shares, the number of which will be determined according to the most recent closing market value of the appropriate Investment Account Shares as of the date credited to the Participant's Investment Account(s).

(f) Any amount designated by the Participant for in-service withdrawal in accordance with Section 5.01(b) hereof may not be credited to the PPG Stock Fund.

(g) Notwithstanding any other provision of this Section 2.02, at any time on or before March 15, 2005, a Participant may cancel any prior deferral election for Awards that were earned in 2004.

2.03 Deferral of Payment under the LTIP and the Executive Officers' LTIP and Deferral of Omnibus Plan Stock Award

(a) A participant who is entitled to receive a Payment under the terms of the LTIP or the Executive Officers' LTIP, or an Omnibus Plan Stock Award under the Omnibus Plan may elect to defer receipt of such Payment, or Omnibus Plan Stock Award in accordance with this Section 2.03.

(b) A Participant may elect to defer either 25%, 50%, 75% or 100% of his/her Payment or Omnibus Plan Stock Award. Any balance that is not deferred in accordance with this Section 2.03 shall be paid to the Participant as

provided in the LTIP, the Executive Officers' LTIP, or the Omnibus Plan, as applicable.

(c) Except as otherwise provided in Section 2.05, all elections with respect to a Payment or Omnibus Plan Stock Award pursuant to this Section 2.03 must be filed no later than (i) if such Payment or Omnibus Plan Stock Award meets the requirements for performance-based compensation with the meaning of Treasury Regulation Section 1.409A-1(e), the last day of the year prior to the last year of the period of service with respect to which the Payment or Omnibus Plan Stock Award is made, or (ii) if such Payment or Omnibus Plan Stock Award does not meet the requirements for performance-based compensation within the meaning of Treasury Regulation Section 1.409A-1(e), the last day of the year prior to the first year of the period of service with respect to which the Payment or Omnibus Plan Stock Award is made , and, in either case, such election shall become irrevocable as of the first day of the last year of such period or the first year of such period, as applicable. Notwithstanding the foregoing, in the case of an election with respect to a Payment or Omnibus Plan Stock Award that constitutes performance-based compensation with the meaning of Treasury Regulation Section 1.409A-1(e), no election to defer a Payment or Omnibus Plan Stock Award may be made after such Payment or Omnibus Plan Stock Award becomes readily ascertainable and the Participant must be continuously employed from the later of the beginning of the performance period with respect to which the Payment or Omnibus Plan Stock Award is made or the date the performance criteria applicable to such Payment or Omnibus Plan Stock Award are established, to the date of the election under this Section 2.03.

The Administrator may, in its discretion, adopt a procedure, pursuant to which an election made by a Participant with respect to a Payment or an Omnibus Plan Stock Award will continue in effect with respect subsequent Payments or Omnibus Plan Stock Awards unless and until modified by such Participant. In such event, any election filed by a Participant to terminate or modify an election with respect to a Payment or an Omnibus Plan Stock Award must be received by the Administrator on or before the election deadline set forth above with respect to such Payment or Omnibus Plan Stock Award.

(d) In accordance with the provisions of Sections 2.03(a), (b) and (c) above, the value of that portion of the cash component of a Payment or Omnibus Plan Stock Award which the Participant elects to defer under this Plan and has designated to one or more of the Investment Accounts in accordance with Section 3.01 shall be credited to such Investment Account(s) on the day such deferral would otherwise have been paid to the Participant.

(e) In accordance with the provisions of this Section 2.03, the value of:

(1) that portion of the cash component of a Payment or Omnibus Plan Stock Award which the Participant elects to defer and has designated in accordance with Section 3.01 to the PPG Stock Account; and/or

(2) the stock component of a deferred Payment or Omnibus Plan Stock Award

shall be credited to the PPG Stock Account in the Participant's Account on the day such deferral would otherwise have been paid to the Participant.

(f) (1) Share-based portions of Payments and Omnibus Plan Stock Awards credited to the PPG Stock Account shall be credited in the form of Stock Account Shares and cash-based portions of Payments and Omnibus Plan Stock Awards credited to the PPG Stock Account shall be credited in the form of whole and fractional Stock Account Shares, the number of which will be determined according to the Conversion Formula.

(2) Cash-based portions of Payments and Omnibus Plan Stock Awards credited to the Investment Account(s) shall be credited in the form of Investment Account Shares, the number of which will be determined according to the most recent closing market value of the appropriate Investment Account Shares as of the date credited to the Participant's Investment Account(s).

2.04 Dividend Equivalents under the LTIP, the Executive Officers' LTIP or the Omnibus Plan

(a) Dividend Equivalents credited to a Participant in accordance with the LTIP, the Executive Officers' LTIP or, with respect to Omnibus Plan Stock Awards, the Omnibus Plan, shall be credited to such Participant's PPG Stock Account in the form of Stock Account Shares or to such Participant's Other Investment Account(s), as designated by the Participant in accordance with Section 3.01.

(b) The number of Stock Account Shares, if any, credited to the PPG Stock Account pursuant to Section 2.04(a) above shall be determined on the basis of the closing price as reported on the New York Stock Exchange Composite Tape of PPG Stock for the day on which the corresponding dividend is paid on PPG Stock.

(c) Dividend Equivalents credited to the Investment Account(s) shall be credited in the form of Investment Account Shares in the same manner as cash Awards are credited to Investment Account(s).

2.05 New Participants

(a) Notwithstanding any other provision of this Plan to the contrary, in the case of the first year a Participant becomes eligible to participate in the Plan, such Participant's election to defer Salary, may be made within thirty days after the date the Participant becomes eligible to participate in the Plan. Such election shall be effective the first day of the month following such thirty day period.

(b) If a Participant first becomes eligible to participate in the Plan prior to June 1 of a calendar year, such Participant may file an election to defer an Award or a Payment for such year no later than June 30 of such year provided that such Award or Payment constitutes performance-based compensation within the meaning of Treasury Regulation Section 1.409A-1(e) (or any successor regulation) and, otherwise, shall not be permitted to file an election to defer such an Award or Payment.

(c) If a Participant first becomes eligible to participate in the plan on or after June 1 of a calendar year, such Participant may not file an election to defer an Award or a Payment for such year. For purposes of this Section 2.05, the date on which a Participant first becomes eligible to participate in the Plan is the date on which such Participant is notified of his or her eligibility.

2.06 Vesting

(a) All amounts credited to a Participant's Account shall be 100% vested at all times, except to the extent provided in Section 5.03(c).

SECTION III - INVESTMENT OPTIONS

3.01 Investment Election

(a) Participants must file an election with the Administrator designating the investment election for any cash amounts or Dividend Equivalents from the LTIP, the Executive Officers' LTIP or the Omnibus Plan being credited to the Plan. If a Participant does not provide an investment election to the Administrator in accordance with this Section 3.01, such Participant shall be deemed to have filed an election to have elected all amounts to be deemed invested in such Investment Account as the Committee shall determine from time to time.

(b) Any election filed by a Participant under Section 3.01(a) above shall remain in effect unless and until the Participant files a new election with the Administrator.

(c) Elections filed in accordance with this Section 3.01 must be filed in accordance with the procedure established by the Administrator.

3.02 Investment Accounts

Amounts credited to the Investment Accounts shall be credited in the form of whole and fractional Investment Account Shares.

3.03 PPG Stock Account

(a) Amounts credited to the PPG Stock Account shall be credited in the form of whole and fractional Stock Account Shares.

(b) Participants shall not receive cash dividends or have voting or other shareholders' rights as to Stock Account Shares; however, Stock Account Shares shall accrue whole and fractional dividend equivalents, in the form of additional Stock Account Shares, on the basis of the closing price as reported on the New York Stock Exchange Composite Tape for PPG Stock for the day on which the dividend with respect to which such dividend equivalent is credited is paid, based on the number of whole and fractional Stock Account Shares in the PPG Stock Account on the record date.

3.04 Transfers

(a) Subject to paragraph (b) below, a Participant who has a balance in the Investment Accounts may elect to transfer any amounts between/among

the Investment Accounts or into the PPG Stock Account. Such transfers shall be subject to the following:

(1) Participants must file a transfer request with the Administrator in accordance with the procedure established by the Administrator.

(2) (A) For transfers into the PPG Stock Account, the number and value of whole and fractional Stock Account Shares shall be determined by the closing price as reported on the New York Stock Exchange Composite Tape of PPG Stock on the last business day of the month in which the election is received by the Administrator.

(B) For transfers into and out of any of the Investment Accounts, the number and value of whole and fractional Investment Account Shares shall be determined by the closing price of the appropriate Investment Account Share on the date of such transfer.

(3) No transfers may be made out of the PPG Stock Account at any time.

(4) A Participant may file no more than five (5) transfer requests per calendar quarter separately with respect to (i) amounts credited to Section 4.02, (ii) each amount subject to a scheduled in service withdrawal on a specified date pursuant to Section 3.05, (iii) all other amounts attributable to amounts deferred prior to January 1, 2005 and (iv) all other amounts attributable to deferrals on or after January 1, 2005.

(b) Insiders are prohibited from making any transfer which would constitute a Prohibited Discretionary Transaction.

3.05 Scheduled In-Service Withdrawals

(a) A Participant must file a separate investment election with respect to amounts that the Participant has elected to be paid as a Scheduled In-Service Withdrawal pursuant to Section 5.01. A single election shall be made for all amounts scheduled to be paid on the same date. No such election may designate the investment of any such amount in the PPG Stock Fund.

SECTION IV - RESTORATION CONTRIBUTIONS

4.01 Savings Plan Restoration Contributions

(a) Savings Plan Restoration Contributions will be credited to the accounts of Participants in the manner set forth in Section 4.01(b). The amount with respect to which Stock Account Shares are credited to a Participant's PPG Stock Account for a month pursuant to Section 4.01(b) shall be an amount equal to the difference between (1) and (2) below, but no greater than the amount of such Participant's deferred Salary under this Plan for such month:

(1) The amount of Company matching contributions that would have been credited to such Participant's account under the Savings Plan for such month (i) without regard to the limitations of Section 401(a)(17) of the Code, (ii) by including the Participant's Salary deferral amounts pursuant to Section 2.01 of this Plan in the determination of such Participant's eligible earnings for such month, and (iii) had the Participant made Savings and/or Elective Deferral contributions (as those terms are defined in the Savings Plan) to the Savings Plan in the amounts necessary to receive the maximum matching contributions under the Savings Plan for such month.

(2) The amount of Company matching contributions that would have been actually credited to such Participant's account under the Savings Plan for such month had such Participant made Savings and/or Elective Deferral contributions to the Savings Plan in the amounts necessary to receive the maximum matching contributions under the Savings Plan for such month.

(b) Savings Plan Restoration Contributions for a month shall be credited to the Participant's PPG Stock Account in the form of Stock Account Shares at the same time as the associated matching contributions for such month under the Savings Plan are contributed to the Savings Plan. The number of whole and fractional Stock Account Shares shall be determined by using the closing price as reported on the New York Stock Exchange Composite Tape for PPG Stock on the last business day of the month in which such Restoration Contributions are made, and shall be credited to the Participant's Account as of such day.

(c) Savings Plan Restoration Contributions may not be transferred from the PPG Stock Account.

(d) If a Participant's Eligible Monthly Salary (as that term is defined in the Savings Plan) for any month during 2020 was reduced by reason of the Corporation's temporary salary reduction program, the amount of Savings Plan Restoration Contributions for such Participant for such month shall be determined by treating such Participant as if his or her Eligible Monthly Salary for such month was the amount of the Participant's Eligible Monthly Salary for the month immediately prior to such reduction.

4.02 Defined Contribution Retirement Plan Restoration Contributions

(a) Effective January 1, 2006, Defined Contribution Retirement Plan Restoration Contributions will be credited to the Accounts of Participants on an annual basis after the end of each Plan Year. The amount credited to a Participant's Account for a Plan Year shall be an amount equal to the difference between (1) and (2) below:

(1) The amount of employer contributions that would have been credited to such Participant's account under the PPG Industries, Inc. Defined Contribution Retirement Plan for such Plan Year determined (A) without regard to the limitations of Sections 401(a)(17) and 415 of the Code, and (B) by including bonus awards under the terms of the PPG Industries, Inc. Management Award Plan, Incentive Compensation Bonuses, Executive Officers Incentive Compensation and other compensation amounts to the extent otherwise excluded from the definition of "Eligible Compensation" under the PPG Industries, Inc. Defined Contribution Retirement Plan for purposes of determining allocations thereunder for such Plan Year.

(2) The amount of employer contributions actually credited to such Participant's account under the PPG Industries, Inc. Defined Contribution Retirement Plan for such Plan Year.

(b) Defined Contribution Plan Restoration Contributions shall be credited to the Investment Accounts in the same manner as cash amounts invested pursuant to Section 3.

(c) If a Participant's Eligible Compensation (as that term is defined in the Savings Plan) for any month during 2020 was reduced by reason of the Corporation's temporary salary reduction program, the amount of Defined Contribution Plan Restoration Contributions for such Participant for the 2020 calendar year shall be determined by treating such Participant as if his or Eligible Compensation for each such month was the amount of the Participant's Eligible Compensation for the month immediately prior to such reduction.

SECTION V - WITHDRAWAL PROVISIONS

5.01 Scheduled In-Service Withdrawals

(a) Except as otherwise provided in this Section V, payment of any amount designated by a Participant for in-service withdrawal, in accordance with the provisions of Section 5.01(b) below, shall be made to the Participant in a lump sum as of the first day of the quarter/year specified by the Participant.

(b) A Participant may designate for in-service withdrawal any portion of an Award that the Participant has elected to defer pursuant to Section 2.02 as follows:

(1) At the time an election is made to defer all or a portion of the cash component of an Award pursuant to Section 2.02, a Participant may designate all or a portion of the cash component of such deferred amount, including any earnings thereon, to be paid on the first day of a specified quarter/year.

(2) Withdrawal elections made pursuant to this Section 5.01 may not specify a year which is any sooner than the fourth Plan Year after the Plan Year in which the deferred amount is credited to the Participant's Account.

(3) Any amount subject to withdrawal pursuant to this Section 5.01 must be invested in the Investment Account.

(4) Any election made in accordance with this subsection 5.01(b) shall be irrevocable.

(c) An election under this Section 5.01 shall become null and void upon the payment or commencement of payment of benefits under Section 5.02, 5.03, 5.04 or 5.05.

5.02 Withdrawals at/after a Participant's Retirement Date

(a) In the event of a Participant's termination of employment on or after the date of such Participant's Retirement Age, such Participant's Account shall be paid in accordance with this Section 5.02.

(b) A Participant may elect a payment schedule applicable to his/her Account provided such election is filed with the Administrator at the time the Participant files his or her initial deferral election pursuant to Section 2.01, 2.02 or 2.03 of the Plan. Notwithstanding the foregoing, each Participant

in the Plan who was an active Participant in the Plan on January 1, 2005, must file such election no later than June 30, 2005.

(c) Participants may elect:

(1) One lump-sum payment; or

(2) Quarterly or annual installments - to be made over a period of years, up to a maximum period of 15 years.

(d) Subject to the provisions of this paragraph (d), a Participant may delay the first payment for a period up to five years following his/her Retirement Date; provided, however, that, in all cases, payments must begin no later than the year in which the Participant's 75th birthday occurs for Participants who retire prior to their 75th birthday; or no later than the Participant's Retirement Date for Participants who retire on or after their 75th birthday. Any election pursuant to this Section 5.02(d) shall be filed with and at the time of the election described in Section 5.02(b).

(e) The payment schedule elected by the Participant shall apply to his/her entire Account, except as provided in subsection (j) below. Participants may designate the first day of the quarter for the commencement of the payment schedule on an annual or quarterly basis.

Each installment payment shall be calculated by dividing the Participant's then current Account balance by the remaining number of installments (e.g.: Ten annual installments shall be paid: 1st installment = 1/10 of Account balance at time of payment; 2nd installment = 1/9 of Account balance at time of payment; 3rd installment = 1/8 of Account balance at time of payment, etc.). If the installment payment is to be in the form of PPG Stock, such distribution shall be made in whole shares and cash equal to any fractional share.

(f) In the event a Participant fails to file a payment schedule election with the Administrator at the time described in Section 5.02(b), his/her Account shall be paid in one lump sum on the later of (i) the first day of the first quarter of a Plan Year that is six months and ten days following such Retirement Date or (ii) January 1 of the year following such Retirement Date.

(g) A Participant who has filed a payment election in accordance with this Section 5.02 may, at any time thereafter, file a subsequent election that specifies another form or time of payout, provided that:

(1) Any subsequent election filed less than 12 months prior to the

date on which payment of the Participant's Account would otherwise have commenced or been made shall be disregarded, null and void;

(2) The date on which payment of the Participant's Account will be made or commence under such subsequent election must be (i) at least five years later than the date on which such payment would otherwise have been made under such Participant's original election, and (ii) no later than ten years following his/her Retirement Date; provided, however, that in all cases, payments must begin no later than the year in which the Participant's 75th birthday occurs for Participants who retire prior to their 75th birthday, or no later than the Participant's Retirement Date for Participant's who retire on or after their 75th birthday;

(3) The form and time of payment elected under such subsequent election may not cause any payment to be paid sooner than such payment would otherwise have been paid under such Participant's original election; and

(4) The form of payment must be one permitted under 5.02(c).

For purposes of this Section 5.02(g), an installment form of payment shall be treated as one payment. Accordingly, a Participant may elect to change his or her payment election from an installment form to a lump sum provided that such election is filed at least 12 months prior to the date on which such installment payments are scheduled to commence and provided that the lump sum is paid no earlier than the fifth anniversary of the date on which such installments were scheduled to commence.

(h) Notwithstanding any other provision of this Section 5.02, no amount shall be payable under this Section 5.02 earlier than (i) in the case of a Participant who is a Key Employee, the first day of the seventh month following the date of such Key Employee's Separation from Service with the Corporation (as that term is defined in Section 409A of the Code and the regulations thereunder), and (ii) in the case of a Participant who is a non-Key Employee, the date of such non-Key Employee's Separation from Service with the Corporation. In the event the provisions of this Section 5.02 would otherwise require that a payment be made to a Participant prior to the date specified in clause (i) or (ii) above, as applicable, such payment shall be postponed and made on the date specified in clause (i) or (ii), as applicable.

(i) Notwithstanding any other provision of this Section 5.02 (other than subsection (j) below), all amounts credited to the Account of a Participant

that are attributable to Defined Contribution Retirement Plan Restoration Contributions credited pursuant to Section 4.02(a) and investments credits thereon pursuant to Section 4.02(b) shall be paid in a lump sum on the date that is the later of (i) the first day of the first quarter of a Plan Year that is six months and 10 days following such Participant's Retirement Date or (ii) January 1 of the year following such Retirement Date.

(j) Notwithstanding any other provision of this Section 5.02, if, at the time the Participant's payments commence under this Section 5.02, the Participant's Account balance is $2,000 or less, such Participant's Account shall be paid in a lump sum on such date and the Participant's form of payment election shall be disregarded, null and void.

5.03 Withdrawals Following Termination

(a) In the event of a Participant's termination of employment prior to the Participant's Retirement Age, such Participant's Account shall be paid in a lump sum on the date that is the later of (i) the first day of the first quarter of a Plan Year that is six months and 10 days following such termination of employment or (ii) January 1 of the year following such termination of employment.

(b) Notwithstanding any other provision of this Section 5.03, no amount shall be payable under this Section 5.03 earlier than (i) in the case of a Participant who is a Key Employee, the first day of the seventh month following the date of such Key Employee's Separation from Service with the Corporation (as that term is defined in Section 409A of the Code), and (ii) in the case of a Participant who is a non-Key Employee, the date of such non-Key Employee's Separation from Service with the Corporation. In the event the provisions of this Section 5.03 would otherwise require that a payment be made to a Participant prior to the date specified in clause (i) or (ii) above, as applicable, such payment shall be postponed and made on the date specified in clause (i) or (ii), as applicable.

(c) Notwithstanding any other provision of the Plan, the portion of a Participant's Account that is attributable to Defined Contribution Retirement Plan Restoration Contributions (including any earnings and losses thereon) shall be paid to a Participant pursuant to this Section 5.03 only if, at the time of such Participant's termination of employment, such Participant is a Vested Participant as that term is defined under the PPG Industries, Inc. Defined Contribution Retirement Plan. The Account of a Participant who is not a Vested Participant shall be forfeited at the same time as such Participant's account under the PPG Industries, Inc. Defined Contribution Retirement Plan is forfeited. If such Participant is later rehired, such Participant's Account shall be restored to the same extent

that such Participant's account under the PPG Industries, Inc. Defined Contribution Retirement Plan is restored.

5.04 Withdrawals in the event of Disability

(a) In the event a Participant's Disability, such Participant's Account shall be paid in a lump sum on the date that is the later of (i) the first day of the first quarter of a Plan Year that is six months and 10 days following the date on which such Participant is determined to be Disabled, or (ii) January 1 of the year following the year in which such Participant is determined to be Disabled.

5.05 Withdrawals Following a Participant's Death

(a) In the event of a Participant's death, the Participant's entire Account shall be paid to the Participant's Beneficiary in a lump sum as soon as practicable following the Participant's death

5.06 Withdrawals upon finding of Unforeseeable Emergency

(a) Upon a finding that the Participant has suffered an Unforeseeable Emergency, the Administrator may, in his sole discretion, permit the acceleration of a withdrawal under the Plan in an amount reasonably necessary to alleviate the financial hardship giving rise to such Unforeseeable Emergency.

(b) The amount paid to a participant pursuant to this Section 5.06 shall not exceed the amount necessary to satisfy such emergency plus amounts reasonably necessary to pay any federal, state, local or foreign taxes reasonably anticipated as a result of such payment.

(c) Notwithstanding the foregoing, no amount attributable to a Participant's Defined Contribution Retirement Plan Restoration Contributions (including investment credits pursuant to Section 4.02(b)) shall be available for withdrawal pursuant to this Section 5.06.

5.07 Methods of Payment

(a) PPG Stock Account

Any payment from the PPG Stock Account shall be paid in the form of PPG Stock.

At the time of the final scheduled payment, payments from the PPG Stock Account with respect to remaining fractional shares of PPG Stock shall be converted to and paid in cash.

(b) Investment Accounts

Payments from the Investment Accounts shall be made in cash. The value shall be determined using the value of the closing price of the appropriate Investment Account Shares on the last business day of the month preceding the month in which the distribution is made.

(c) All payments to Participants, or their Beneficiaries, shall be made on the first business day of a calendar quarter or as soon as reasonably practicable thereafter.

5.09 Termination of Employment in 2005

Notwithstanding any other provision of this Plan, if a Participant terminates employment in 2005, all amounts credited to the Account of such Participant shall be paid in a single lump sum cash payment as soon as practicable on or after such termination of employment but no later than December 31, 2005, provided that a Participant who has filed an election under Section 5.02(c) may, in the event of such Participant's termination of employment on or before December 31, 2005, and on or after such Participant's Retirement Age, elect to receive payment in accordance with such election in lieu of the payment described in this Section 5.09.

5.10 Payment Delays

Notwithstanding any other provision of this Plan, any payment to a Participant hereunder may, in the discretion of the Administrator, be delayed where (i) the Company reasonably anticipates that the Company's deduction with respect to such payment would not be permitted due to the application of Section 162(m) of the Code, provided that the payment is made either during the Participant's first taxable year in which the Company reasonably anticipates, or should reasonably anticipate, that if the payment is made during such year, the deduction of such payment will not be barred by application of Section 162(m) of the Code or during the period beginning with the date of the Participant's Separation from Service (within the meaning of Section 409A of the Code and the regulations thereunder) and ending on the later of the last day of the taxable year of the Company in which the Participant Separates from Service or the 15th day of the third month following the Participant's Separation from Service and provided, further, that all such payments that could be delayed in accordance with this clause (i) are also so delayed, or (ii) the Company reasonably anticipates that the making of the payment will violate federal securities laws or other applicable law (in which case, such payment shall be made at the earliest date at which the Company reasonably anticipates that the making of the payment will not cause such violation), or (iii) the making of the payment on the date otherwise provided would jeopardize the ability of the Company to continue as a going concern, provided that payment is made during the first taxable year of the Participant in which the making of the payment would not have such effect.

SECTION VI - SPECIFIC PROVISIONS RELATED TO BENEFITS

6.01 Nonassignability

(a) Except as provided in paragraph (b) below and in Section 6.02, no person shall have any power to encumber, sell, alienate, or otherwise dispose of his/her interest under the Plan prior to actual payment to and receipt thereof by such person; nor shall the Administrator recognize any assignment in derogation of the foregoing. No interest hereunder of any person shall be subject to attachment, execution, garnishment or any other legal, equitable, or other process.

(b) Section 6.01(a) above shall not apply to the extent that a Participant's interest under the Plan is alienated pursuant to a "Qualified Domestic Relations Order" ("QDRO"), as defined in §414(p) of the Code, received by the Administrator prior to January 1, 2011.

(1) The Administrator is authorized to adopt such procedural and substantive rules and to take such procedural and substantive actions as the Administrator may deem necessary or advisable to provide for the payment of amounts from the Plan to an Alternate Payee as provided in a QDRO. Such rules and actions shall be consistent with the principal purposes of the Plan.

(2) Under no circumstances may the Administrator accept an order as a QDRO following a Participant's death.

(3) An Alternate Payee may not establish an account in the Plan. All amounts taken from a Participant's Account, as provided in a QDRO, must be distributed as soon as possible following the acceptance of an order as a QDRO.

6.02 Beneficiary Designation

(a) The Participant shall have the right, at any time and from time to time, to designate any person(s) as Beneficiary. The designation of a Beneficiary shall be effective on the date it is received by the Administrator, provided the Participant is alive on such date.

(b) Each time a Participant submits a new Beneficiary designation form to the Administrator, such designation shall cancel all prior designations.

(c) In the case of a Participant who does not have a valid Beneficiary designation on file at the time of his/her death, or in the case the designated Beneficiary predeceases the Participant, the entire balance in the Participant's Account shall be paid as soon as possible to the Participant's estate.

(d) Any Beneficiary designation with respect to a Participant in effect under the Prior Plan, shall remain in effect under this Plan, until a new Beneficiary designation form is filed in accordance with this Section 6.02.

6.03 Limited Right to Assets of the Company

The Benefits paid under the Plan shall be paid from the general funds of the Company, and the Participants and any Beneficiary shall be no more than unsecured general creditors of the Company with no special or prior right to any assets of the Company for payment of any obligations hereunder.

6.04 Protective Provisions

The Participant or Beneficiary shall cooperate with the Administrator by furnishing any and all information requested by the Administrator in order to facilitate the payment of benefits hereunder. If a Participant refuses to cooperate, he/she may be deemed ineligible to receive a distribution and/or ineligible to continue to actively participate in the Plan.

6.05 Withholding

The Participant or Beneficiary shall make appropriate arrangements with the Administrator for satisfaction of any federal, state or local income tax withholding requirements and Social Security or other employee tax requirements applicable to the payment of benefits under the Plan. If no other arrangements are made, the Administrator may provide for such withholding and tax payments by any means he deems appropriate, in his sole discretion.

6.06 Forfeiture Provision

(a) In the event the Company becomes aware that a Participant is engaged or employed as a business owner, employee, or consultant in any activity which is in competition with any line of business of the Corporation, or has engaged in any activity otherwise determined to be detrimental to the Company, the Administrative Subcommittee may apply any diminution or forfeiture of benefits, which is specifically approved by the Administrative Subcommittee.

For purposes of this Section 6.06, the Administrative Subcommittee shall consist of the senior human resources officer of the Company, PPG's Director of Payroll and Benefits, and a representative of the Law Department, as appointed by the PPG's General Counsel, or, if not so appointed, PPG's General Counsel. The Administrative Subcommittee shall report all of its activities to the Committee.

(b) LTIP and Executive Officers' LTIP

A Participant may forfeit any or all deferrals of Payments to which the Participant is entitled under the terms of the LTIP or Executive Officers' LTIP held in his/her Account if the Committee determines that such forfeiture shall occur in accordance with Section 4.04 of the LTIP or Executive Officers' LTIP, as applicable.

SECTION VII - ADMINISTRATION AND CLAIMS

7.01 Administration

(a) The Administrator shall administer the Plan and interpret, construe and apply its provisions in accordance with its terms. The Administrator shall have the complete authority to:

(1) Determine eligibility for benefits;

(2) Construe the terms of the Plan; and

(3) Control and manage the operation of the Plan.

(b) The Administrator shall have the authority to establish rules for the administration and interpretation of the Plan and the transaction of its business. The determination of the Administrator as to any disputed question shall be conclusive.

(c) The Administrator may employ counsel and other agents and may procure such clerical, accounting and other services as the Administrator may require in carrying out the provisions of the Plan.

(d) The Administrator shall not receive any compensation from the Plan for his services.

(e) The Company shall indemnify and save harmless the Administrator against all expenses and liabilities arising out of the Administrator's service as such, excepting only expenses and liabilities arising from the Administrator's own gross negligence or willful misconduct, as determined by the Committee.

7.02 Claims

(a) General

Every person receiving or claiming benefits under the Plan shall be conclusively presumed to be mentally and physically competent and of age. If the Administrator determines that such person is mentally or physically incompetent or is a minor, payment shall be made to the legally appointed guardian, conservator, or other person who has been appointed by a court of competent jurisdiction to care for the estate of such person, provided that proper proof of such appointment is furnished in a form and manner suitable to the Administrator. Any payment made under the provisions of this Section 7.02(a) shall be a complete discharge of any

liability therefore under the Plan. The Administrator shall not be required to see to the proper application of any such payment.

(b) Non-Disability Claims

Except as provided in Section 7.02(c) below, all claims for benefits under the Plan shall be submitted to, and within 90 days thereafter decided by, in writing, the person designated by the Company (the "Claims Reviewer") acting directly or through such employees of the Company as the Claims Reviewer shall designate. If the Claims Reviewer determines that an extension of time for processing the claim is required, the Claims Reviewer may extend the date by which a decision is required to 180 days after the claim is submitted provided that the Claims Reviewer provides written notice of the extension to the claimant prior to the termination of the initial 90-day period, including the special circumstances requiring an extension of time and the date by which the Claims Reviewer expects to render a decision.

(c) Disability Claims

All claims for benefits under the Plan that are based upon the Participant's Disability (each a "Disability Claim") shall be submitted to, and within 45 days thereafter decided in writing by, the Claims Reviewer acting directly or through such employees of the Company as the Claims Reviewer shall designate. If the Claims Reviewer determines that an extension of time for processing the Disability Claim is required, the Claims Reviewer may extend the date by which a decision is required to 75 days after the Disability Claim is submitted, provided that the Claims Reviewer provides written notice of the extension to the claimant prior to the termination of the initial 45-day period, including the special circumstances requiring an extension of time and the date by which the Claims Reviewer expects to render a decision. If the Claims Reviewer determines that, due to matters beyond the control of the Plan, a decision on a Disability Claim cannot be rendered within 75 days after the Disability Claim is submitted, the Claims Reviewer may extend the date by which a decision is required to 105 days after the Disability Claim is filed, provided that the Claims Reviewer notifies the claimant, prior to expiration of the 75-day period, of the circumstances requiring the extension and the date as of which the Plan expects to render a decision. In the case of any extension of the 45-day or 75-day review period, the notice of extension shall specifically explain the standards on which entitlement to a benefit is based, the unresolved issues that prevent a decision on the Disability Claim, and the additional information needed to resolve those issues, and the claimant shall be afforded at least 45 days within which to provide the specified information.

(d) Information Provided Upon Denial of Claim (Including Disability Claims)

Written notice of the decision on each claim (including any Disability Claim) shall be furnished reasonably promptly to the claimant. If the claim is wholly or partially denied, such written notice shall set forth (i) the specific reason or reasons for the denial, (ii) reference to the specific Plan provisions on which the denial is based, (iii) a description of any additional material or information necessary for the claimant to perfect the claim and an explanation of why such material or information is necessary, (iv) a description of the Plan's review procedures and the time limits applicable to such procedures, including a statement of the claimant's right to bring a civil action under Section 502(a) of ERISA, as amended, following the denial of a claim on review, (v) in the case of a denial of a Disability Claim, if an internal rule, guideline, protocol, or other criterion was relied upon in making the adverse determination, either the specific rule, guideline, protocol, or other similar criterion or a statement that such a rule, guideline, protocol, or other similar criterion was relied upon in denying the claim and that a copy of such rule, guideline, protocol, or other criterion will be provided free of charge to the claimant upon request.

(e) Review of Denial of Non-Disability Claim

Except as provided in Section 7.02(f) below, a claimant may request a review by the Claims Reviewer of a decision denying a claim in writing within 60 days following receipt of the denial. All such reviews shall be decided in writing by the Claims Reviewer within 60 days after receipt of the request for review. If the Claims Reviewer determines that an extension of time for processing the review is required, the Claims Reviewer may extend the date by which a decision is required to 120 days after the request for review is submitted provided that the Claims Reviewer provides written notice of the extension to the claimant prior to the termination of the initial 60-day period, including the special circumstances requiring an extension of time and the date by which the Claims Reviewer expects to render a decision.

(f) Review of Denial of Disability Claim

A claimant may request a review by the person designated by the Company as responsible for reviews of denied Disability Claims, which such person shall be neither the Claims Reviewer nor a person subordinate to the Claims Reviewer (the "Disability Appeals Reviewer") of a decision denying a Disability Claim in writing within 180 days following receipt of the denial. All such reviews shall be decided in writing by the Disability Appeals Reviewer within 45 days after receipt of the request for review. If the Disability Appeals Reviewer determines that an extension of time for processing the review is required, the Disability Appeals Reviewer

may extend the date by which a decision is required to 90 days after the request for review is submitted provided that the Disability Appeals Reviewer provides written notice of the extension to the claimant prior to the termination of the initial 45-day period, including the special circumstances requiring an extension of time and the date by which the Disability Appeals Reviewer expects to render a decision. If the Disability Appeals Reviewer cannot reach a decision about a claimant's request for review because the claimant has not submitted information requested by the Disability Appeals Reviewer, the 45-day period (or 45-day extension if applicable) shall be tolled until the date on which the claimant responds to the request for additional information. The Disability Appeals Reviewer may delegate its duty to review denied Disability Claims hereunder provided that the person or entity to whom such duty is delegated shall not be the Claims Reviewer or a subordinate of the Claims Reviewer. Any review of a denied Disability Claim hereunder shall be without deference to the Claims Reviewer's denial of the Disability Claim.

(g) Review Procedures for All Claims

In connection with a review of a denied claim for benefits (including a Disability Claim), a claimant shall (i) have the opportunity to submit written comments, documents, records, and other information relating to the claim for benefits, and (ii) be provided, upon request and free of charge, reasonable access to, and copies of all documents, records, and other information relevant to the claimant's claim for benefits. The review of a denied claim shall take into account all comments, documents, records, and other information submitted by the claimant related to the claim, without regard to whether such information was submitted or considered in the initial review of the claim. If a claim is denied upon review, the written notice of the denial shall specify (i) the specific reason or reasons for the denial, (ii) reference to the specific Plan provisions upon which the denial is based, and (iii) a statement that the claimant is entitled to receive, upon request and free of charge, reasonable access to, and copies of, all documents, records and other information relevant to the claimant's claim for benefits.

(h) Additional Review Procedures for Disability Claims

If the denial of a Disability Claim upon review is based in whole or in part on a medical judgment the Disability Appeals Reviewer or its delegate shall consult with a health care professional who has appropriate training and experience in the field of medicine involved in the medical judgment. Such professional shall be an individual who is neither an individual who was consulted in connection with the initial denial of the Disability Claim nor the subordinate of any such individual. The Disability Appeals Reviewer or its delegate shall provide for the identification of medical or vocational experts whose advice was obtained on behalf of the Plan in

connection with a denied Disability Claim without regard as to whether the advice was relied upon in making the benefit determination. If an internal rule, guideline or protocol, or other similar criterion was relied upon in denying a Disability Claim upon review, the notice denying such claim upon review shall set forth either the specific rule, guideline, protocol, or other similar criterion, or a statement that such rule, guideline, protocol, or other criterion was relied upon in denying the claim and that a copy of the rule, guideline, protocol, or other similar criterion will be provided free of charge to the claimant upon request. Any notice denying a Disability Claim upon review shall contain the following statement: "You and your plan may have other voluntary alternative dispute resolution options, such as mediation. One way to find out what may be available is to contact your local U.S. Department of Labor Office and your State insurance regulatory agency."

(i) Authorized Representative

The claimant may have an authorized representative to act on the claimant's behalf in pursuing a benefit claim or appeal of the denial of the benefit. In order for a representative to be recognized as acting on behalf of the claimant, the claimant must provide in writing to the Administrator the name, address and phone number of his authorized representative and a statement that the representative is authorized to act in his behalf concerning his claim for benefit, and if applicable, an appeal of the denial of the benefit

SECTION VIII - AMENDMENT AND TERMINATION

8.01 Amendment of the Plan

Except as provided in Section X, the Board or the Committee may amend the Plan, in whole or in part, at any time; however, no such amendment may decrease the amount of benefit currently accrued in Participants' Accounts.

Except as provided in Section X, the Administrator shall have the authority to adopt amendments to the Plan, in whole or in part, at any time, necessary for the implementation and/or administration of the Plan, which will not result in a material change to the Plan. Moreover, no such amendment by the Administrator may increase or decrease the amount of benefit currently accrued in Participants' Accounts.

8.02 Plan Freeze

The Committee may freeze the Plan at any time. Upon a Plan freeze pursuant to this Section 8.02, no further deferrals of Salary, Awards, Payments under the LTIP or the Executive Officers' LTIP or Omnibus Plan Stock Awards under the Omnibus Plan shall be permitted.

8.03 Premature Income Inclusion

In the event the Administrator determines that amounts deferred under the Plan are includable in income pursuant to Section 409A of the Code, distributions shall be made to Participants, as determined by the Administrator up to an amount not to exceed the amount included in the Participant's income under Section 409A of the Code. The determination of the Administrator under this Section 8.03 shall be binding and conclusive.

8.04 Termination

Except as provided in Section X, the Committee may, in its discretion, terminate the Plan under any one of the following circumstances:

(a) At any time, provided that all nonqualified deferred compensation arrangements sponsored by the Company and any company required to be aggregated with the Company under Section 414(b) and (c) of the Code that are treated, together with the Plan, as one arrangement under Section 409A of the Code, provided that (i) the termination does not occur proximate to a downturn in the financial health of the Company, (ii) no payments other than payments that would be payable under the terms of the Plan and such other arrangements if the termination had not occurred are made within 12 months of the termination of the Plan and such other

arrangements, (ii) all such payments are made within 24 months of the termination of the Plan and such other arrangements, (iii) neither the Company nor any company required to be aggregated with the Company under Section 414(b) or (c) of the Code adopts a new arrangement that would, with the Plan or any such other terminated arrangement, be treated as a single arrangement under Section 409A of the Code, at any time within three years following the date of termination of the Plan and such other arrangements.

(b) At any time during the period beginning 30 days preceding and ending 12 months following a change in control event (as that term is defined in Treasury Regulation Section 1.409A-3(i)(5) (or any successor regulation)), provided that (i) all substantially similar arrangements sponsored by the Company and any company required to be aggregated with the Company under Sections 414(b) or (c) of the Code are terminated and (ii) all participants under the Plan and such other arrangements are required to receive all amounts of compensation deferred under the Plan and such other arrangements within 12 months of the date of termination of the Plan and such other arrangements.

(c) At any time within 12 months of a dissolution of the Company taxed under Section 331 of the Code, or with the approval of a bankruptcy court pursuant to 11 U.S.C. Section 503(b)(1)(A), provided that the amounts deferred under the Plan are included in Participants' gross incomes in the latest of (i) the calendar year in which the termination occurs, (ii) the first calendar year in which the payment is administratively practicable, or (iii) the first calendar year in which such amounts are vested, or, if earlier, the calendar year in which the amounts are constructively received.

SECTION IX - MISCELLANEOUS

9.01 Successors of the Company

The rights and obligations of the Company under the Plan shall inure to the benefit of, and shall be binding upon, the successors and assigns of the Company.

9.02 ERISA Plan

The Plan is intended to be an unfunded plan maintained primarily to provide deferred compensation benefits for "a select group of management or highly compensated employees" within the meaning of Sections 201, 301 and 401 of ERISA and therefore to be exempt from Parts 2, 3 and 4 of Title I of ERISA.

9.03 Trust

The Company shall be responsible for the payment of all benefits under the Plan. Except as otherwise required by Section X, the Company, at its discretion, may establish one or more grantor trusts for the purpose of providing for payment of benefits under the Plan. Such trust(s) may be irrevocable, but the assets thereof shall be subject to the claims of the Company's creditors. Benefits paid to the Participant from any such trust shall be considered paid by the Company for purposes of meeting the obligations of the Company under the Plan.

9.04 Employment Not Guaranteed

Nothing contained in the Plan nor any action taken hereunder shall be construed as a contract of employment or as giving any Participant any right to continued employment with the Corporation.

9.05 Gender, Singular and Plural

All pronouns and variations thereof shall be deemed to refer to the masculine, feminine, or neuter, as the identity of the person(s) requires. As the context may require, the singular may be read as the plural and the plural as the singular.

9.06 Headings

The headings of the Sections, subsections and paragraphs of the Plan are for convenience only and shall not control or affect the meaning or construction of any of its provisions.

9.07 Validity

If any provision of the Plan is held invalid, void or unenforceable, the same shall not affect, in any respect, the validity of any other provision(s) of the Plan.

9.08 Waiver of Breach

The waiver by the Company of any breach of any provision of the Plan by a Participant or Beneficiary shall not operate or be construed as a waiver of any subsequent breach.

9.09 Applicable Law

Where applicable, the Plan is intended to conform and be governed by ERISA. In any case where ERISA does not apply, the Plan shall be governed and construed in accordance with the laws of the Commonwealth of Pennsylvania.

9.10 Notice

Any notice required or permitted to be given to the Administrator under the Plan shall be sufficient if in writing and either hand-delivered, or sent by first class mail to the principal office of the Company at One PPG Place, Pittsburgh, PA 15272, directed to the attention of the Administrator. Such notice shall be deemed given as of the date of delivery.

9.11 409A Compliance

The plan is intended to comply with the requirements applicable to nonqualified deferred compensation plans under Section 409A of the Code. Notwithstanding any other provision of this plan, the Plan shall be interpreted and administered in accordance with the requirements of Section 409A of the Code.

9.12 Adjustments Upon Changes in Capitalization

In the event of any change in the number of outstanding shares of the Company's voting common stock by reason of any stock dividend, stock split or similar change, a corresponding change shall be made in the number Stock Account Shares held in each Participant's Account. In the event of any change in the outstanding shares of the Company's voting common stock, or in the number thereof, by reason of any merger, consolidation, combination, sale of assets, exchange of shares, recapitalization, reorganization, spin-off or similar change, the Board of Directors or the Committee may make such changes in the Stock Account Shares held in each Participant's Account as the Board or the Committee may deem to be equitable. No such change, without the consent of a Participant, may adversely affect the rights of such Participant with respect to Stock Account Shares held immediately prior to any such change, and any such change shall be final, conclusive and binding on all persons, including the Company and the Participants.

SECTION X - CHANGE IN CONTROL

10.01 Payments to a Trustee

Upon, or in reasonable anticipation of, a Change in Control, as defined in Section 10.02 below, the senior human resources officer and the senior finance officer, or either of them or their successor, shall cause an amount, as they deem appropriate, to be paid to a rabbi trust on such terms as they shall deem appropriate. Such amount shall be paid in cash and shall be sufficient, at a minimum, to equal to all deferred amounts credited to the Investment Accounts, and the PPG Stock Account. Amounts in the PPG Stock Account shall be converted to cash on the basis of the fair market value of PPG Stock on the date of the occurrence of the Change in Control, or, if higher, within 30 days of such date. Amounts in the Investment Accounts shall be converted to cash on the basis of the fair market value of the appropriate Investment Account on the date of the occurrence of the Change in Control, or, if higher, within 30 days of such date.

10.02 Definition: Change in Control

For purposes of this Section X, "Change in Control" means, and shall be deemed to have occurred upon the occurrence of, any one of the following events:

(a) The acquisition by any individual, entity or group (within the meaning of Section 13(d)(3) or 14(d)(2) of the Securities Exchange Act of 1934, as amended (the "Exchange Act")) (a "Person") of beneficial ownership (within the meaning of Rule 13d-3 promulgated under the Exchange Act) of 20% or more of either (i) the then issued and outstanding shares of the Company's voting common stock ("Outstanding Common Stock") or (ii) the combined voting power of all outstanding voting securities of the Company entitled to vote generally in the election of directors to the Board of Directors of the Company ("Outstanding Voting Securities"); provided that, for purposes of this subsection (a), the following acquisitions shall not constitute a Change in Control: (i) any acquisition directly from the Company; (ii) any acquisition by the Company; (iii) any acquisition by any employee benefit plan (or related trust) sponsored or maintained by the Company or any corporation controlled by the Company; or (iv) any acquisition by any corporation pursuant to a transaction which complies with clauses (i), (ii) and (iii) of paragraph (c) of this Section 10.02.

(b) Individuals who, as of February 16, 2006 (the "Reference Date"), constitute the Board of Directors of the Company (the "Incumbent Board") cease for any reason to constitute at least a majority of the Board; provided, however, that any individual becoming a director subsequent to the Reference Date whose election, or nomination for election by the

Company's shareholders, was approved by a vote of at least a majority of the directors then comprising the Incumbent Board shall be considered as though such individual were a member of the Incumbent Board, but excluding, for this purpose, any such individual whose initial assumption of office occurs as a result of an actual or threatened election contest with respect to the election or removal of directors or other actual or threatened solicitation of proxies or consents by or on behalf of a Person other than the Incumbent Board; or

(c) Approval by the shareholders of the Company of a reorganization, merger or consolidation or sale or other disposition of all or substantially all of the assets of the Company (a "Business Combination"), in each case, unless, following such Business Combination:

(i) All or substantially all of the individuals and entities who were the beneficial owners, respectively, of the Outstanding Common Stock and Outstanding Voting Securities immediately prior to such Business Combination beneficially own, directly or indirectly, more than 60% of, respectively, the then outstanding shares of common stock and the combined voting power of the then outstanding voting securities entitled to vote generally in the election of directors, as the case may be, of the corporation resulting from such Business Combination (including, without limitation, a corporation which as a result of such transaction owns the Company or all or substantially all of the Company's assets either directly or through one or more subsidiaries) in substantially the same proportions as their ownership, immediately prior to such Business Combination of the Outstanding Common Stock and Outstanding Voting Securities, as the case may be;

(ii) No Person (excluding any employee benefit plan (or related trust) of the Company or such corporation resulting from such Business Combination) beneficially owns, directly or indirectly, 20% or more of, respectively, the then outstanding shares of common stock of the corporation resulting from such Business Combination or the combined voting power of the then outstanding voting securities of such corporation except to the extent that such ownership existed prior to the Business Combination; and

(iii) At least a majority of the members of the board of directors of the corporation resulting from such Business Combination were members of the Incumbent Board at the time of the execution of the initial agreement, or of the action taken by the Incumbent Board approving such Business Combination; or

(d) Approval by the shareholders of the Company of a complete liquidation or dissolution of the Company; or

(e) A majority of the Incumbent Board otherwise determines that a Change in Control shall have occurred.

10.03 Plan Provisions

Following a Change in Control, the Plan may not be amended and may not be terminated. Upon a Change in Control, in accordance with Section 10.01, the Plan Document then in existence ("Controlling Plan") shall be provided to the Trustee. The Controlling Plan shall govern all amounts transferred and remain in effect until the Trustee has paid all such amounts to Participants and/or Beneficiaries.

SECTION XI – TREATMENT OF FORMER AUTOMOTIVE GLASS & SERVICES BUSINESS PARTICIPANTS

11.01 Sale of AG&S Business

Upon the closing date (the "Closing Date") of the Company's sale (the "Sale") of its Automotive Glass & Services business (the "AG&S Business"), each Participant who is employed in the AG&S Business and who is hired by the purchaser (the "Purchaser") of the AG&S Business (each, an "Affected AG&S Business Participant") will terminate employment with the Company. The purpose of this Section XI is to set forth the impact of the Sale and such termination of employment upon such Affected AG&S Business Participants under the Plan.

11.02 Eligibility

On and after the Closing Date, each Affected AG&S Business Participant shall cease to be eligible to make deferrals under the Plan or to receive Savings Plan Restoration Contributions or Defined Contribution Retirement Plan Restoration Contributions (except to the extent of any Savings Plan Restoration Contributions or Defined Contribution Retirement Plan Restoration Contributions made after the Closing Date with respect to compensation earned prior to the Closing Date).

11.03 Pre-January 1, 2005 Deferrals and Restoration Contributions

Notwithstanding the provisions of the Preamble, this Plan shall apply to all deferrals by or for Affected AG&S Business Participants, including all deferrals by or for Affected AG&S Business Participants before January 1, 2005. Accordingly, this Plan shall apply to the entire Account of each Affected AG&S Business Participant.

11.04 Separation from Service

Notwithstanding the termination of employment of each Affected AG&S Business Participant with the Company pursuant to the Sale, and pursuant to Treasury Regulation Section 1.409A-1(h)(4), an Affected AG&S Business Participant shall not be treated as having incurred a Separation from Service under the terms of this Plan until such Affected AG&S Business Participant shall terminate employment with the Purchaser and each entity that is required to be aggregated with the Purchaser under Sections 414(b), (c), (m) or (o) and 409A of the Code.

11.05 New Payment Elections

On or before such date as the Administrator may determine (which such date shall be no later than December 31, 2008), an Affected AG&S Business Participant

may, in accordance with Section 3.01(B)(1)(.02) of Internal Revenue Service Notice 2007-86 and procedures established by the Administrator for such purpose:

(a) make an election to receive payment of his or her entire Account on January 1, 2009; or

(b) make new retirement payment elections with respect to such Affected AG&S Business Participant's entire Account pursuant to Section 5.02.

Exhibit 31.1

PRINCIPAL EXECUTIVE OFFICER CERTIFICATION

I, Michael H. McGarry, certify that:

1. I have reviewed this quarterly report on Form 10-Q of PPG Industries, Inc.;

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 an 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.

Date: October 20, 2020

/s/ Michael H. McGarry

Michael H. McGarry
Chairman and Chief Executive Officer

Exhibit 31.2

PRINCIPAL FINANCIAL OFFICER CERTIFICATION

I, Vincent J. Morales, certify that:

1. I have reviewed this quarterly report on Form 10-Q of PPG Industries, Inc.;

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 an 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.

Date: October 20, 2020

/s/ Vincent J. Morales

Vincent J. Morales
Senior Vice President and Chief Financial Officer
(Principal Financial Officer)

Exhibit 32.1

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

In connection with the Quarterly Report on Form 10-Q of PPG Industries, Inc. for the period ended September 30, 2020 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Michael H. McGarry, Chairman and Chief Executive Officer of PPG Industries, Inc., certify to the best of my knowledge, pursuant to 18 U.S.C. §1350, as adopted pursuant to §906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of PPG Industries, Inc.

/s/ Michael H. McGarry

Michael H. McGarry
Chairman and Chief Executive Officer
October 20, 2020

A signed original of this written statement required by Section 906 has been provided to PPG Industries, Inc. and will be retained by PPG Industries, Inc. and furnished to the Securities and Exchange Commission or its staff upon request.

Exhibit 32.2

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

In connection with the Quarterly Report on Form 10-Q of PPG Industries, Inc. for the period ended September 30, 2020 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Vincent J. Morales, Senior Vice President and Chief Financial Officer of PPG Industries, Inc., certify to the best of my knowledge, pursuant to 18 U.S.C. §1350, as adopted pursuant to §906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of PPG Industries, Inc.

/s/ Vincent J. Morales

Vincent J. Morales
Senior Vice President and Chief Financial Officer
(Principal Financial Officer)

October 20, 2020

A signed original of this written statement required by Section 906 has been provided to PPG Industries, Inc. and will be retained by PPG Industries, Inc. and furnished to the Securities and Exchange Commission or its staff upon request.