

February 24, 2020

Earnings Call Presentation

4th Quarter 2019

Inspiring Great Spaces®

Armstrong
WORLD INDUSTRIES

Our disclosures in this presentation, including without limitation, those relating to future financial results market conditions and guidance, and in our other public documents and comments contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act. Those statements provide our future expectations or forecasts and can be identified by our use of words such as “anticipate,” “estimate,” “expect,” “project,” “intend,” “plan,” “believe,” “outlook,” “target,” “predict,” “may,” “will,” “would,” “could,” “should,” “seek,” and other words or phrases of similar meaning in connection with any discussion of future operating or financial performance. Forward-looking statements, by their nature, address matters that are uncertain and involve risks because they relate to events and depend on circumstances that may or may not occur in the future. As a result, our actual results may differ materially from our expected results and from those expressed in our forward-looking statements. A more detailed discussion of the risks and uncertainties that may affect our ability to achieve the projected performance is included in the “Risk Factors” and “Management’s Discussion and Analysis” sections of our reports on Forms 10-K and 10-Q filed with the U.S. Securities and Exchange Commission (“SEC”). Forward-looking statements speak only as of the date they are made. We undertake no obligation to update any forward-looking statements beyond what is required under applicable securities law.

In addition, we will be referring to non-GAAP financial measures within the meaning of SEC Regulation G. A reconciliation of the differences between these measures with the most directly comparable financial measures calculated in accordance with GAAP are included within this presentation and available on the Investor Relations page of our website at www.armstrongceilings.com.

The guidance in this presentation is only effective as of the date given, February 24, 2020 and will not be updated or affirmed unless and until we publicly announce updated or affirmed guidance.

When reporting our financial results within this presentation, we make several adjustments. Management uses these non-GAAP measures in managing the business and believes the adjustments provide meaningful comparisons of operating performance between periods. As reported results will be footnoted throughout the presentation.

- Results throughout this presentation are presented on a normalized basis with the exception of cash flow.
- With the sale of our EMEA and Pacific Rim businesses, we no longer adjust our sales for movements in foreign exchange rates as we expect these to have minimal impact on revenue.
- We remove the impact of certain discrete expenses and income. Examples include plant closures, restructuring actions, separation costs, environmental site expenses and related insurance recoveries, and other large unusual items. We also adjust for our U.S. pension plan (credit) expense⁽¹⁾.
- We are using actual tax rates to report 2019⁽²⁾ and 2018 EPS results and guidance for 2020. Prior to 2019 we used a normalized book tax rate when reporting EPS.

All figures throughout the presentation are in \$ millions unless otherwise noted. Figures may not add due to rounding.

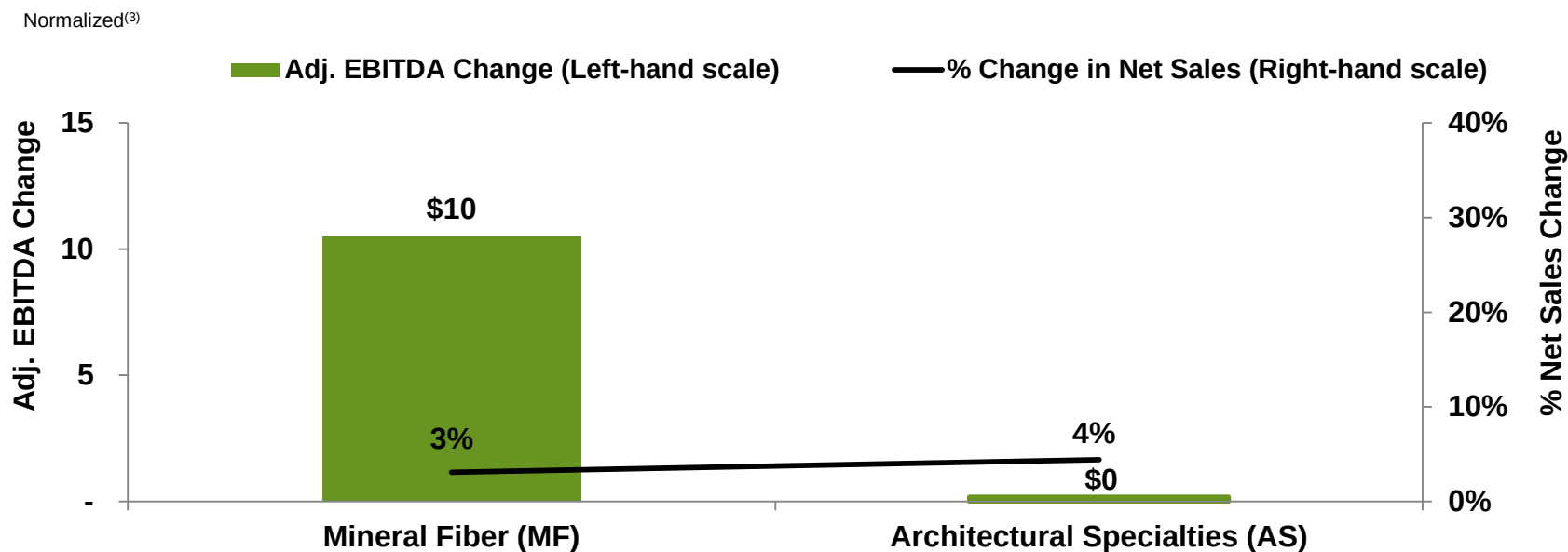
(1) U.S. pension (credit) expense represents the actuarial net periodic benefit cost expected to be recorded as a component of earnings from continuing operations. For all periods presented, we were not required and did not make cash contributions to our U.S. Retirement Income Plan based on guidelines established by the Pension Benefit Guaranty Corporation.

(2) In the third quarter of 2019 our results included a \$25 million gain on the sale of our half of the WAVE international businesses. This gain was not taxable to Armstrong so we have adjusted this gain from our adjusted EPS calculations.

Consolidated Company Key Metrics-Fourth Quarter 2019

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	2019	2018	Variance
Net Sales	\$247	\$239	3%
Adj. EBITDA	\$90	\$79	14%
% of Sales	36%	33%	330 bps
Adj. Earnings Per Share ⁽¹⁾	\$1.11	\$0.80	40%
Adj. Free Cash Flow ⁽²⁾	\$71	\$88	-19%
Net Debt	\$566	\$494	\$71



(1) As reported EPS up 41%: \$1.04 in 2019 and \$0.74 in 2018

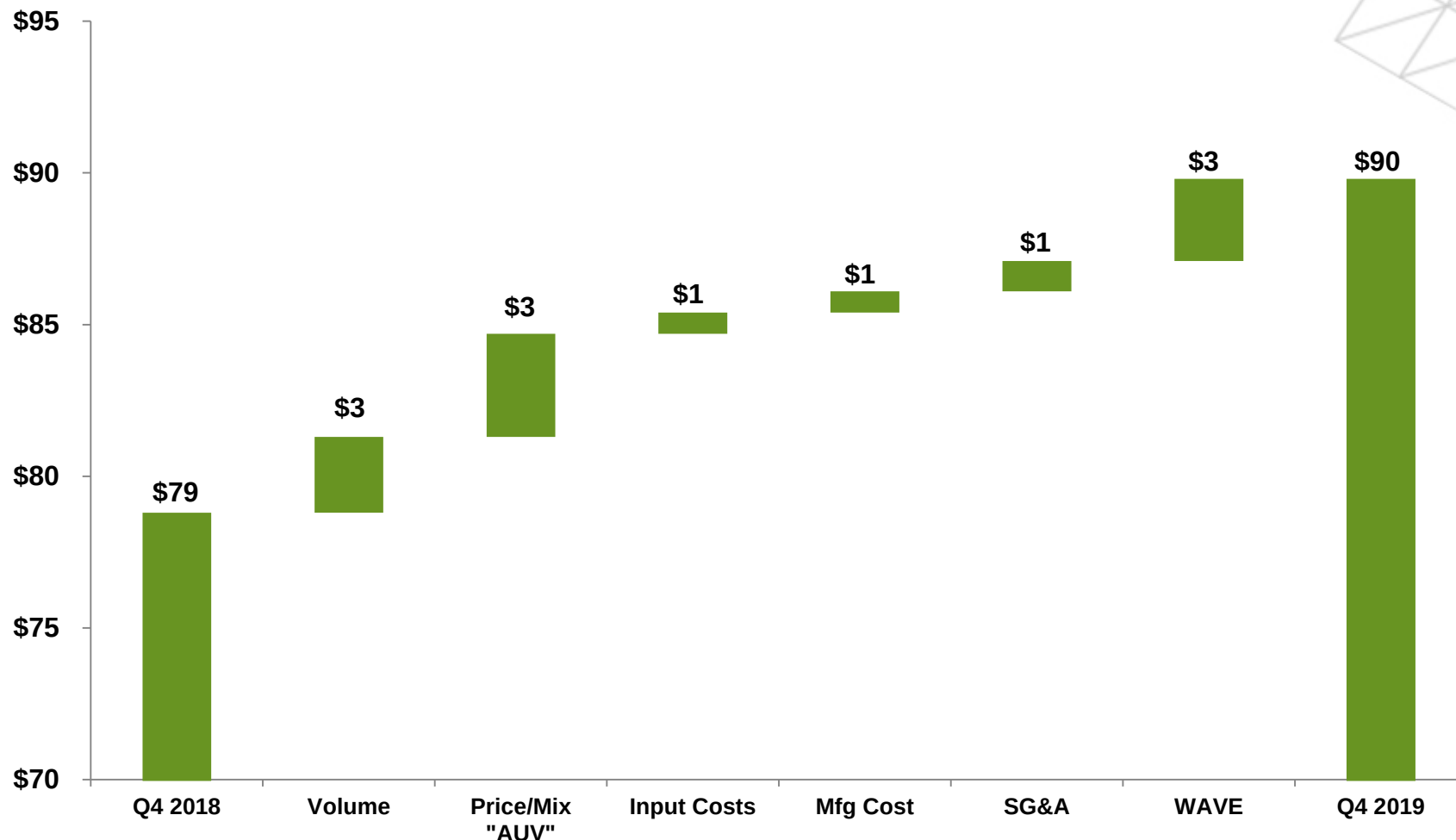
(2) 2018 includes \$25M WAVE special dividend. Adj. Free Cash Flow +13% excluding special dividend.

(3) May not sum due to rounding

Adjusted EBITDA Bridge – Fourth Quarter 2019 vs. PY

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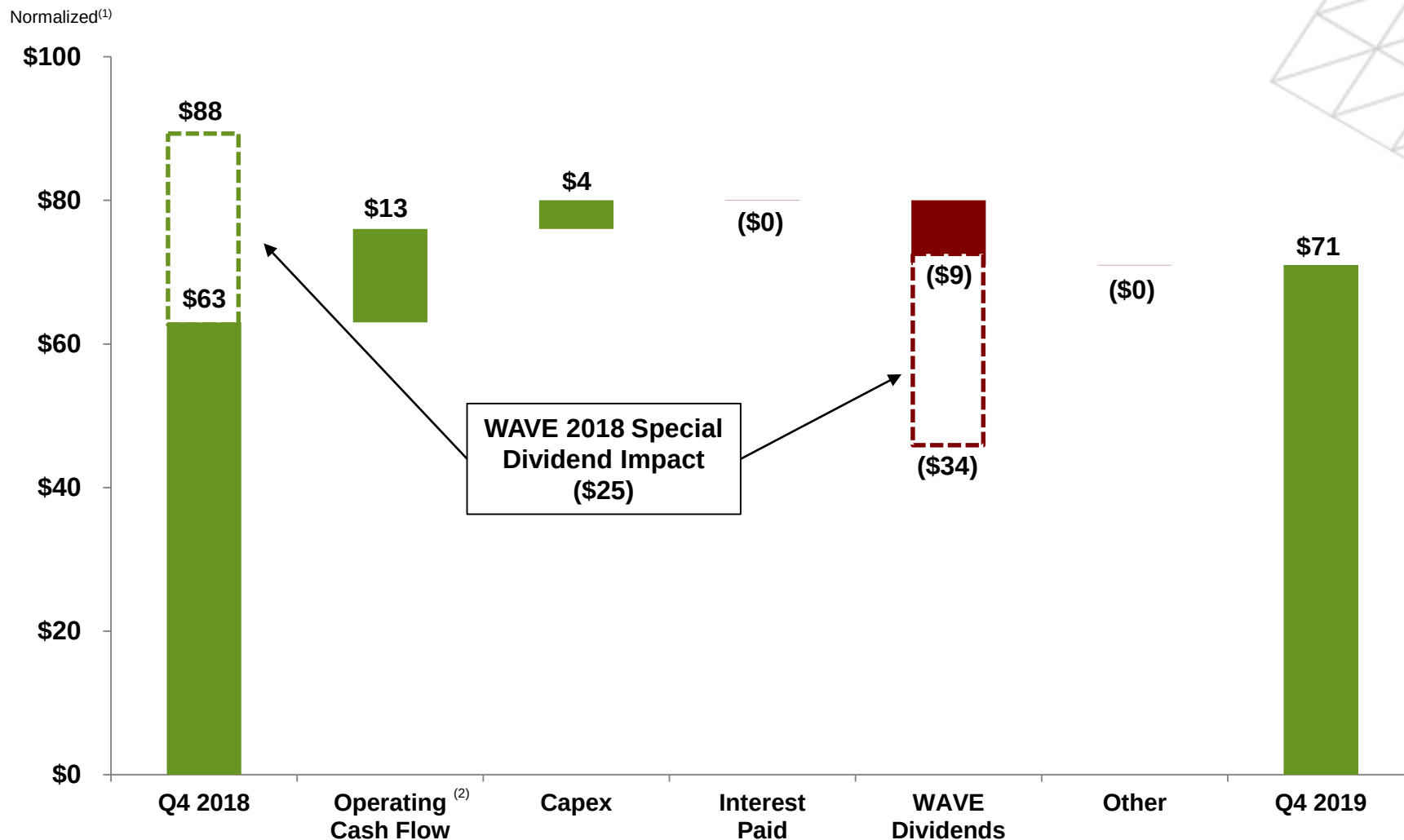
Normalized⁽¹⁾



AUV growth coupled with manufacturing productivity and strong WAVE performance drive adjusted EBITDA up 14%

Adjusted Free Cash Flow Bridge - Fourth Quarter 2019 vs. PY

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Strong cash earnings growth impacted by WAVE special dividend in Q4 2018

NOTE: Adjustments include cash used or proceeds received for acquisitions and divestures, legacy environmental matters and litigation

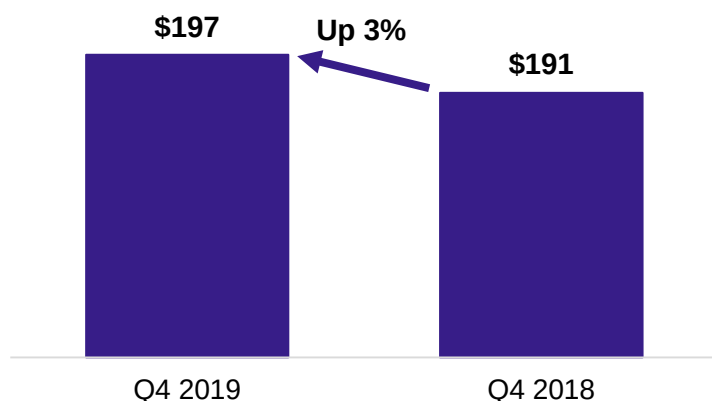
(1) May not sum due to rounding

(2) Includes cash earnings, working capital and other current assets and liabilities

Mineral Fiber Fourth Quarter Results

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Sales



Key Highlights

- Average Unit Value (AUV) expanded 5% versus the prior year quarter
- Manufacturing gains driven by productivity
- WAVE equity earnings increased 18% driven by positive volume and mix

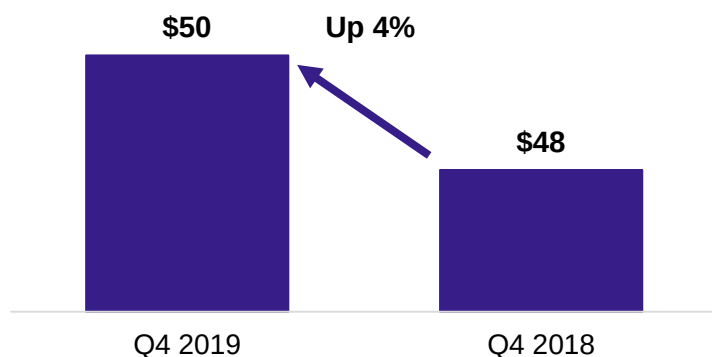
	Q1	Q2	Q3	Q4	
2018 Adjusted EBITDA	\$70	\$86	\$88	\$71	Current Quarter Comments
AUV	15	11	4	3	Fall through of mix and price
Volume	(8)	(3)	-	(2)	
Manufacturing	4	1	3	3	Productivity
Input costs	(3)	(1)	1	1	Lower energy, RM, and freight costs
SG&A	2	4	1	3	PY stock comp expense not repeated, TSA benefit
WAVE	2	(2)	3	3	Fall through of volume and mix
2019 Adjusted EBITDA	\$82	\$96	\$99	\$81	Margins expanded 430 bps
% Change	17%	11%	13%	15%	

EBITDA growth driven by Average Unit Value (AUV), productivity & WAVE

Architectural Specialties Fourth Quarter Results

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Sales



Key Highlights

- Sales up 4% driven by M&A, partially offset due to unfavorable project timing and extended lead times from a third party supplier
- Adjusted EBITDA up 2% as sales gains were partially offset by higher manufacturing and SG&A investments

	Q1	Q2	Q3	Q4	
2018 Adjusted EBITDA	\$9	\$9	\$12	\$8	Current Quarter Comments
Sales	5	7	7	4	Sales growth fall through to bottom line
Period Expense	(2)	(1)	(2)	(2)	Manufacturing expenses relating to acquisitions
SG&A	(2)	(3)	(3)	(2)	SG&A expenses relating to acquisitions
2019 Adjusted EBITDA	\$10	\$12	\$14	\$8	Margins contracted 40 bps, Base⁽¹⁾ margins expanded 90 bps
% Change	15%	39%	18%	2%	

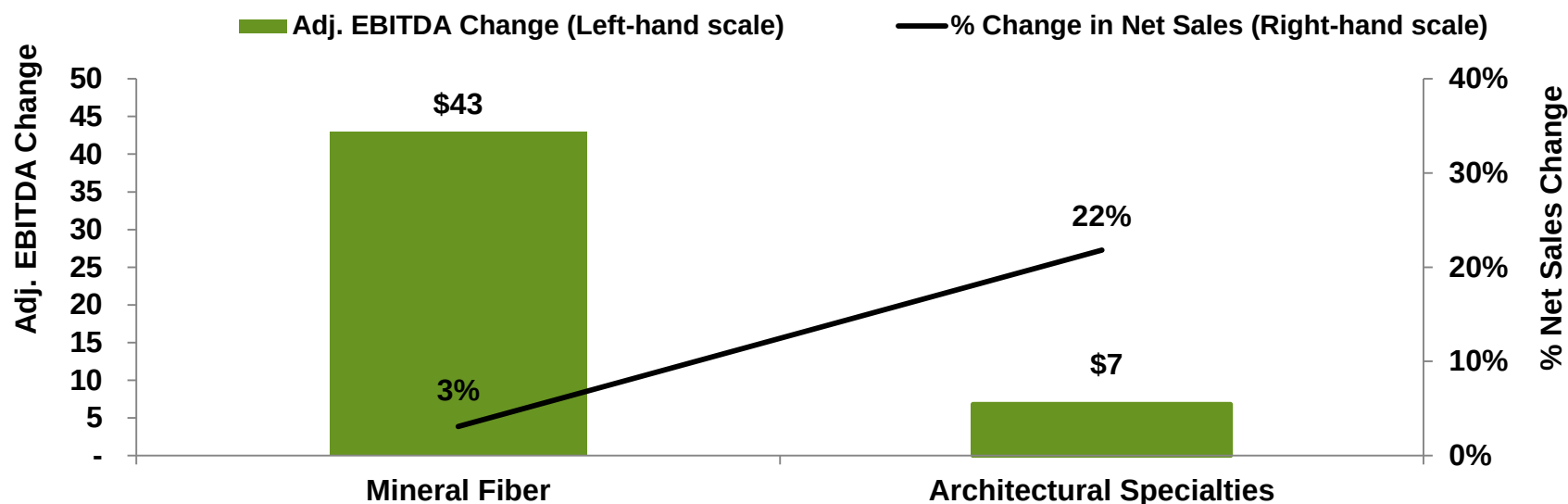
Softer Q4 due to base period projects and supplier issues

(1) Base includes 2018 acquisitions of Plasterform and Steel Ceilings

Consolidated Company Key Metrics – FY 2019

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	2019	2018	Variance
Net Sales	\$1,038	\$975	6%
Adj. EBITDA	\$403	\$353	14%
% of Sales	39%	36%	270 bps
Adj. Earnings Per Share ⁽¹⁾	\$4.78	\$3.66	31%
Adj. Free Cash Flow ⁽²⁾	\$244	\$236	3%



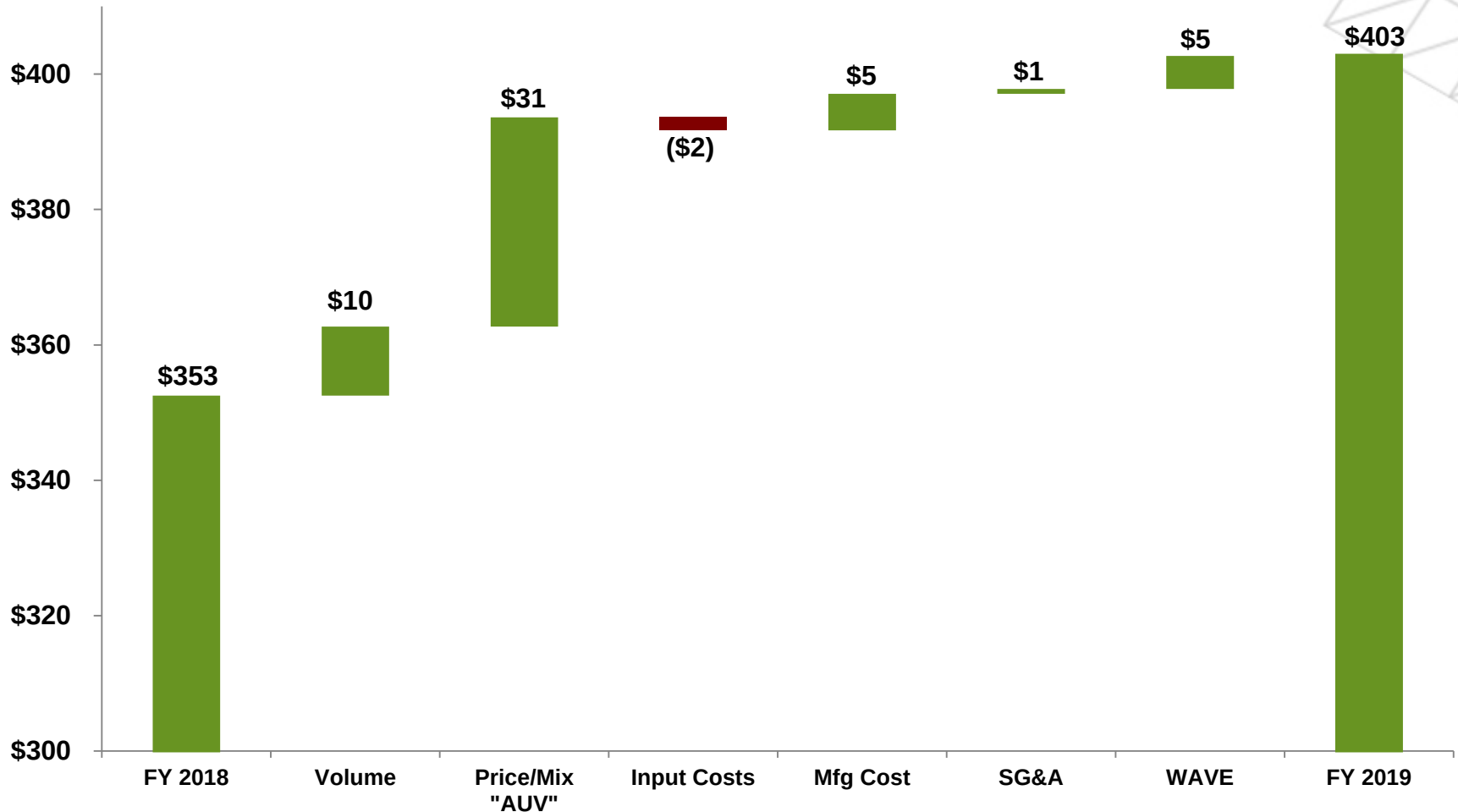
(1) As reported EPS up 34%: \$4.88 in 2019 and \$3.63 in 2018

(2) 2018 includes \$25M WAVE special dividend. Adj. Free Cash Flow +16% excluding special dividend

Adjusted EBITDA Bridge – FY 2019 vs. PY

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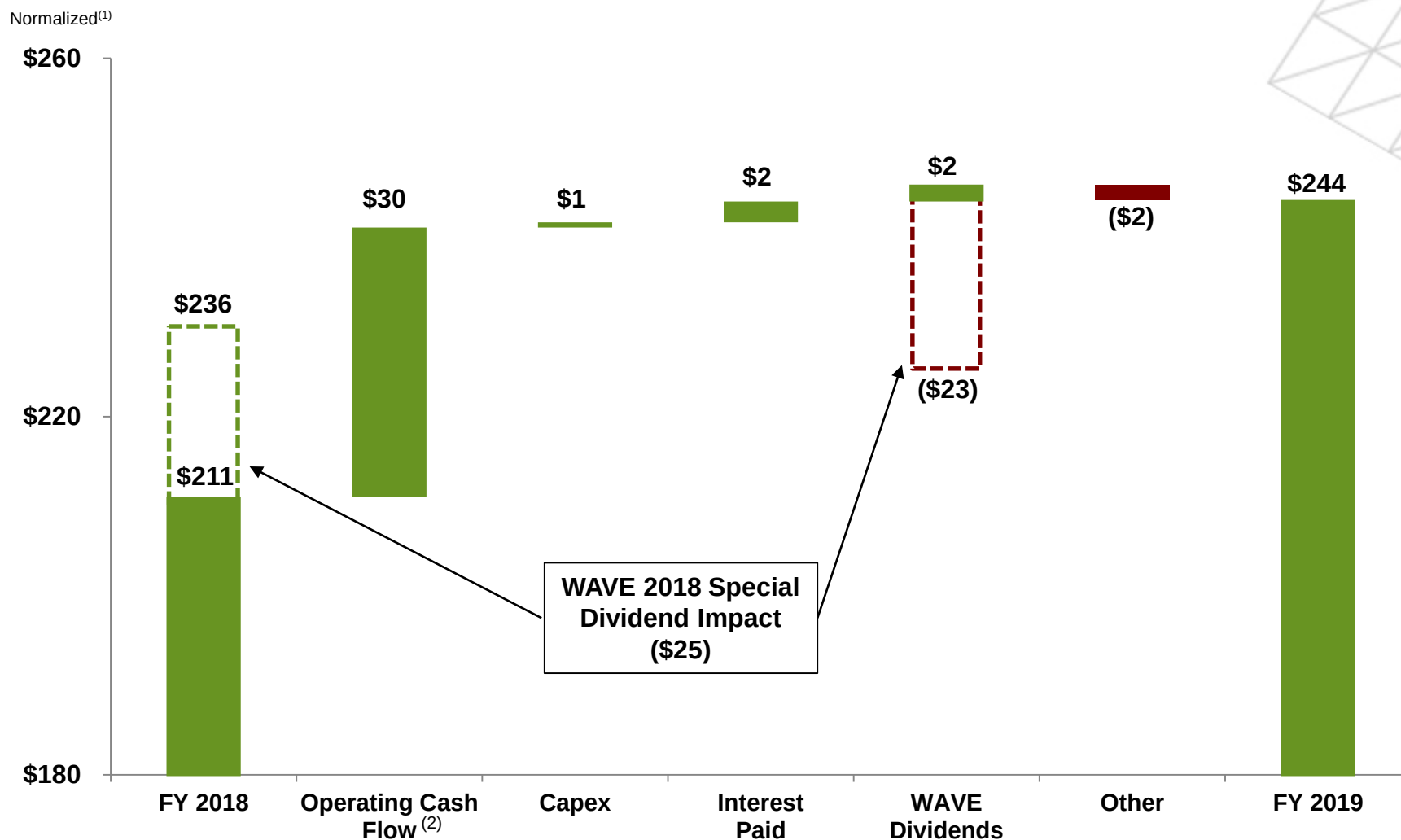
Normalized⁽¹⁾



Strong price and mix drive adjusted EBITDA up 14%

Adjusted Free Cash Flow Bridge – FY 2019 vs. PY

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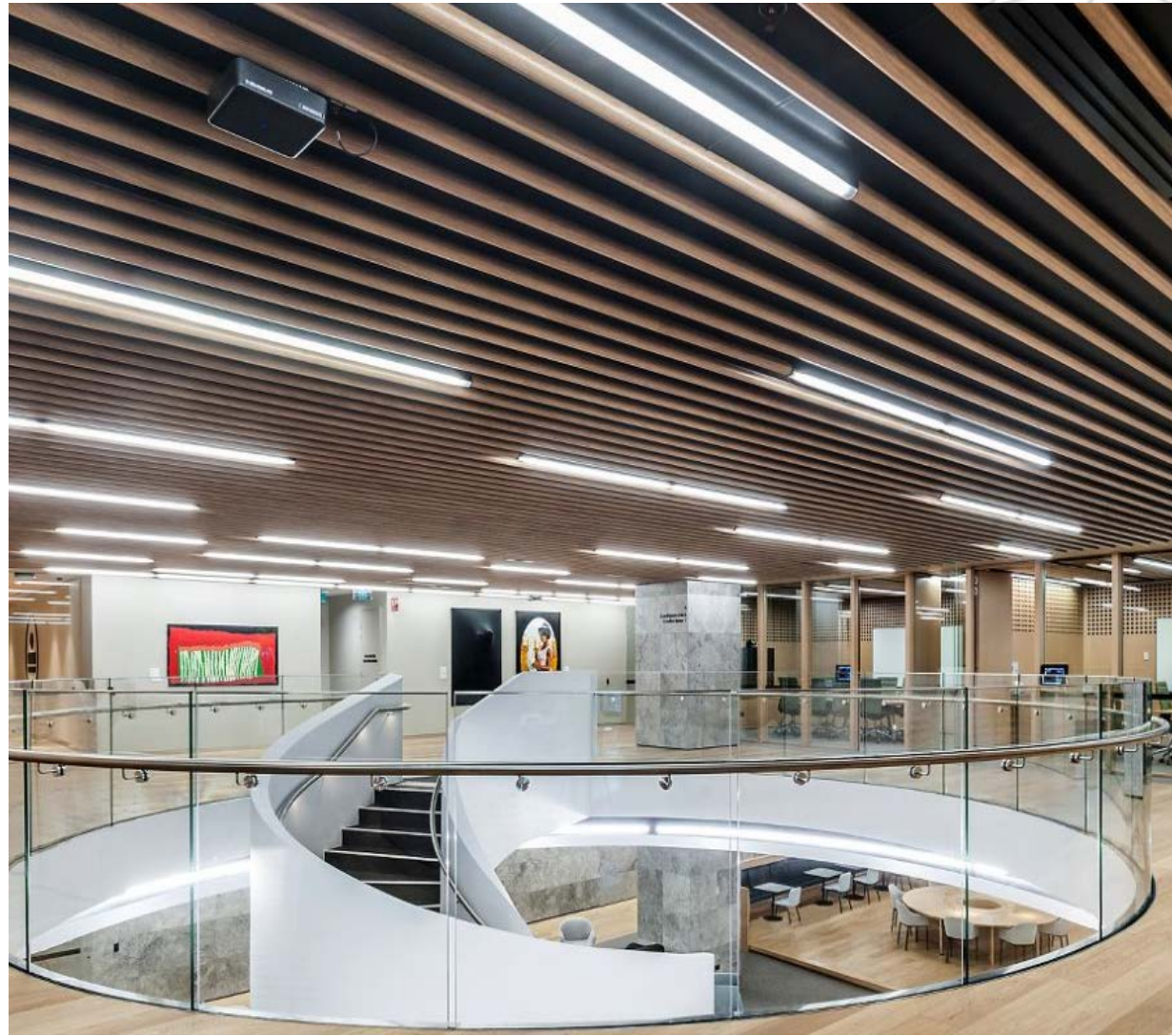
Strong cash earnings impacted by WAVE special dividend received in Q4 2018

	2019 Actual	2020 Guidance	
Revenue	\$1,038	\$1,100 - \$1,125 6% – 8% YoY Growth	- Mineral Fiber up 5% - 7% - Architectural Specialties** >15% 1-3 Acquisitions – incremental to guidance
Adjusted EBITDA	\$403	\$435 - \$445 YoY Margin Expansion	- Earnings contribution from AUV - Architectural Specialties volume contribution - Manufacturing productivity - Contributions from WAVE
Adjusted EPS*	\$4.78	\$5.20 – \$5.40 9% – 13% YoY Growth	\$30 of interest expense 25% book tax rate 48 million average diluted shares outstanding
Adjusted Free Cash Flow	\$244	\$270 - \$290 11% - 19% YoY Growth	\$70 - \$80 of total capital expenditures - Cash tax rate 20% - 25% \$25 - \$30 of cash interest expense - Adjusted FCF 25% of revenue

*As reported EPS: \$4.88 in 2019

**Architectural Specialties includes 2019 acquisitions of ACGI and MRK

Appendix



Adjusted EBITDA Reconciliation

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	For the Three Months Ended December 31,			For the Year Ended December 31,		
	2019	2018	V	2019	2018	V
Earnings from continuing operations, Reported	\$51	\$37	\$15	\$242	\$190	\$53
Add: Income tax expense, as reported	\$8	\$11	-	\$57	\$53	\$4
Earnings before tax, Reported	\$60	\$47	\$12	\$299	\$243	\$57
Add: Interest/other income and expense, net	\$2	\$5	(\$3)	\$18	\$7	\$11
Operating Income, Reported	\$62	\$53	\$10	\$317	\$249	\$68
Add: U.S. Pension Cost (1)	\$1	\$1	-	\$5	\$6	(\$1)
Add: WAVE Pension Settlement (2)	-	-	-	\$1	-	\$1
Add: Litigation Expense	-	\$4	(\$4)	\$20	\$7	\$13
Add: Cost Reduction Initiatives	-	-	-	-	\$8	(\$8)
Add: Net Proforma International Allocations, Other	-	\$1	-	-	\$6	(\$6)
Add/(Less): Net Environmental Expenses (Recoveries)	-	\$2	(\$2)	\$1	(\$1)	\$2
Add: WAVE FSA (3)	-	-	-	\$4	-	\$4
(Less): AWI Portion of WAVE's Gain on Sale to Knauf	\$5	-	\$5	(\$21)	-	(\$21)
Add: D&A	\$21	\$18	\$4	\$75	\$78	(\$3)
Adjusted EBITDA	\$90	\$79	\$11	\$403	\$353	\$50
	14%			14%		

(1) U.S. pension expense represents only the service cost related to the U.S. pension plan that is recorded within Operating Income. For all periods presented, we were not required and did not make cash contributions to our U.S. Retirement Income Plan.

(2) WAVE settled a portion of their pension plan that resulted in a non-cash accounting charge.

(3) WAVE Fresh Start Accounting asset impairment charge due to sale of international.

Adjusted Diluted Earnings Per Share Reconciliation

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	CONSOLIDATED									
	For the Three Months Ended December 31,					For the Year Ended December 31,				
	2019	Per Diluted Share	2018	Per Diluted Share	V	2019	Per Diluted Share	2018	Per Diluted Share	V
Earnings from continuing operations, As Reported	\$51	\$1.04	\$37	\$0.74	\$15	\$242	\$4.88	\$190	\$3.63	\$53
Add: Income tax expense, as reported	\$8		\$11		-	\$57		\$53		\$4
Earnings from continuing operations before income taxes, As Reported	\$60		\$47		\$12	\$299		\$243		\$57
(Less): U.S. Pension (Credit) (1)	(\$2)		(\$6)		\$5	(\$8)		(\$26)		\$19
Add: Non-cash Hedge Expense	-		\$5		(\$5)	-		\$5		(\$5)
Add: WAVE Pension Settlement (2)	-		-		-	\$1		-		\$1
Add: Litigation Expense	-		\$4		(\$4)	\$20		\$7		\$13
Add: Cost Reduction Initiatives	-		-		-	-		\$22		(\$22)
Add: Net Proforma International Allocations, Other	-		\$1		-	-		\$6		(\$6)
Add/(Less): Net Environmental Expenses (Recoveries)	-		\$2		(\$2)	\$1		(\$1)		\$2
Add: WAVE FSA (3)	-		-		-	\$4		-		\$4
Add/(Less): AWI Portion of WAVE's loss/(gain) on Sale to Knauf	\$5		-		\$5	(\$21)		-		(\$21)
Adjusted earnings from continuing operations before income taxes	\$63		\$53		\$10	\$297		\$255		\$43
(Less): Adjusted Income tax expense (4)	(\$8)		(\$13)		\$5	(\$61)		(\$64)		\$3
Adjusted net income	\$55	\$1.11	\$40	\$0.80	\$15	\$237	\$4.78	\$191	\$3.66	\$46
Adjusted EPS Change versus Prior Year	40%					31%				

Diluted Shares Outstanding	49.2	50.29	49.5	52.1
Tax Rate (5)	13%	23%	20%	22%

(1) U.S. pension (credit) represents the entire actuarial net periodic pension (credit) cost recorded as a component of earnings from continuing operations. For all periods presented, we were not required and did not make cash contributions to our U.S. Retirement Income Plan.

(2) WAVE settled a portion of their pension plan that resulted in a non-cash accounting charge.

(3) WAVE Fresh Start Accounting asset impairment charge due to sale of international.

(4) Adjusted tax expense is calculated using the tax rate multiplied by the adjusted earnings from continuing operations before income taxes.

(5) Tax rate for 2019 is actual tax rate excluding WAVE's loss/gain on sale to Knauf.

Adjusted Free Cash Flow Reconciliation

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	For the Three Months Ended December 31,			For the Year Ended December 31,		
	2019	2018	V	2019	2018	V
As Reported Net cash provided by operating activities	\$62	\$44	\$18	\$183	\$203	(\$21)
As Reported Net cash (used for) provided by investing activities	(\$18)	\$24	(\$42)	(\$89)	\$310	(\$399)
Subtotal	\$44	\$68	(\$24)	\$94	\$513	(\$419)
Add/(Less): Acquisitions, net	\$13	(\$2)	\$15	\$56	\$22	\$34
Add: Litigation, net	\$3	-	\$3	\$23	-	\$23
Add/(Less): Environmental Payments (Recoveries), net (1)	\$1	(\$1)	\$2	\$5	(\$27)	\$32
Add/(Less): Proceeds from sale of international, net (2)	\$11	\$23	(\$12)	\$66	(\$272)	\$338
(Less): Other	-	-	-	-	-	-
Adjusted Free Cash Flow (3)	\$71	\$88	(\$17)	\$244	\$236	\$8
	-19%			3%		

(1) Prior year Adjusted Free Cash Flow did not adjust for Environmental Recoveries in the first quarter.

(2) Includes related income tax payments.

(3) Adjusted free cash flow is defined as cash from operations and dividends received from the WAVE joint venture, less expenditures for property and equipment, and is adjusted to remove the impact of cash used or proceeds received for acquisitions and divestitures, legacy environmental matters and litigation. The Company believes adjusted free cash flow is useful because it provides insight into the amount of cash that the Company has available for discretionary uses, after expenditures for capital commitments and adjustments for acquisitions and divestitures. Free cash flow includes discontinued international operations.

Segment Reported Operating Income (Loss) to Adjusted EBITDA

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	MINERAL FIBER			ARCHITECTURAL SPECIALTIES			UNALLOCATED CORPORATE		
	For the Three Months Ended December 31,								
	2019	2018	V	2019	2018	V	2019	2018	V
Operating Income (Loss) – As Reported	\$59	\$49	\$10	\$6	\$6	-	(\$3)	(\$2)	(\$1)
Add: U.S. Pension Cost (1)	-	-	-	-	-	-	\$1	\$1	-
Add: Litigation Expense	-	\$4	(\$4)	-	-	-	-	-	-
Add: Cost Reduction Initiatives	-	-	-	-	-	-	-	-	-
Add: Net Proforma International Allocations, Other	-	-	-	-	-	-	-	\$1	(\$1)
Add/(Less): Net Environmental Expenses (Recoveries)	-	\$2	(\$2)	-	-	-	-	-	-
Add: WAVE FSA (3)	-	-	-	-	-	-	-	-	-
Add: AWI Portion of WAVE's Loss on Sale to Knauf	\$5	-	\$5	-	-	-	-	-	-
Less: Depreciation and Amortization	\$17	\$16	\$1	\$3	\$2	\$1	\$1	-	\$1
EBITDA – Adjusted	\$81	\$71	\$10	\$8	\$8	-	-	-	-
	14%			2%					

(1) U.S. pension expense represents only the service cost related to the U.S. pension plan that is recorded within Operating Income. For all periods presented, we were not required and did not make cash contributions to our U.S. Retirement Income Plan.

(2) Wave settled a portion of their pension plan that resulted in a non-cash accounting charge.

(3) WAVE Fresh Start Accounting asset impairment charge due to sale of international.

Net Sales

	For the Year Ending December 31, 2020		
	Low	to	High
Reported Net Sales	\$1,100	to	\$1,125

Adjusted EBITDA

	For the Year Ending December 31, 2020		
	Low	to	High
Net income	\$268	to	\$275
Add: Interest expense	30		30
Add: Income tax expense	83		85
(Less): U.S. pension (credit)	(15)		(15)
Add: D&A	70		70
Adjusted EBITDA	\$435	to	\$445

Adjusted Diluted Earnings Per Share

	For the Year Ending December 31, 2020				
	Low	Per Diluted Share ⁽¹⁾	to	High	Per Diluted Share ⁽¹⁾
Net Income	\$268	\$5.57	to	\$275	\$5.73
Add: Interest expense	30			30	
(Less): U.S. Pension credit (2)	(20)			(20)	
Add: Income tax expense	83			85	
Operating Income	360			370	
Add: U.S. Pension expense (3)	5			5	
(Less): Interest expense	(30)			(30)	
(Less): Income tax expense	(84)			(86)	
Adjusted Net Income	\$251	\$5.20	to	\$259	\$5.40

Adjusted Free Cash Flow

	For the Year Ending December 31, 2020		
	Low	to	High
Net cash provided by operating activities	\$260	to	\$280
Add: Return of investment from joint venture (\$80-90M)	85		85
Adjusted net cash provided by operating activities	\$345	to	\$365
(Less): Capital Expenditures (\$70-\$80M)	(75)		(75)
Adjusted Free Cash Flow	\$270	to	\$290

(1) Adjusted EPS guidance for 2020 is calculated based on an estimated effective tax rate of 25% and on 48 million of diluted shares outstanding.

(2) U.S. pension (credit) represents only the actuarial net periodic benefit expected to be recorded as a component of other non-operating income.

(3) U.S. pension expense represents only the service cost related to the U.S. pension plan and is recorded as a component of operating income.