



Armstrong World Industries Investor Presentation

November 2023



Safe Harbor Statement

Disclosures in this presentation contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, including without limitation, those relating to future financial and operational results, expected savings from cost management initiatives, the performance of our WAVE¹ joint venture, market and broader economic conditions and guidance. 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. This includes annual guidance. 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 could cause our actual results to differ materially from those projected, anticipated or implied is included in the “Risk Factors” and “Management’s Discussion and Analysis” sections of our reports on Form 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-Generally Accepted Accounting Principles (“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, October 24, 2023, and will not be updated or affirmed unless and until we publicly announce updated or affirmed guidance.

1. Worthington Armstrong Joint Venture (“WAVE”).



Basis of Presentation Explanation

Results throughout this presentation are presented on a normalized basis.

We remove the impact of certain discrete expenses and income in certain measures including adjusted Earnings Before Interest, Taxes, Depreciation and Amortization (“EBITDA”), adjusted diluted earnings per share (“EPS”) and adjusted free cash flow. The Company excludes certain acquisition related expenses (i.e. – changes in the fair value of contingent consideration and deferred compensation accruals¹ for recent acquisitions). The Company excludes all acquisition-related amortization from adjusted earnings from continuing operations and in calculations of adjusted diluted EPS. Examples of other excluded items have included plant closures, restructuring charges and related costs, impairments, separation costs and other cost reduction initiatives, environmental site expenses and related insurance recoveries, endowment level charitable contributions, and certain other gains and losses. The Company also excludes income/expense from its U.S. Retirement Income Plan (“RIP”) in the non-GAAP results as it represents the actuarial net periodic benefit credit/cost recorded.

Our tax rate may be adjusted for certain discrete items which are identified in the footnotes.

Investors should not consider non-GAAP measures as a substitute for GAAP measures.

Excluding adjusted diluted EPS, non-GAAP figures are rounded to the nearest million and corresponding percentages are based on unrounded figures.

Operating Segments: “MF”: Mineral Fiber, “AS”: Architectural Specialties, “UC”: Unallocated Corporate

All dollar figures throughout the presentation are in \$ millions, except per share data, and all comparisons are versus prior year unless otherwise noted. Figures may not sum due to rounding.

1. The deferred compensation accruals are for cash and stock awards that will be recorded over each awards' respective vesting period, as such payments are subject to the sellers' and employees' continued employment with the Company.

GAAP and non-GAAP Financial Results

AWI Consolidated Results	Q3 2023	Q3 2022	YTD 2023	YTD 2022
Net sales	\$347.3	\$325.0	\$982.9	\$928.6
Earnings from continuing operations	\$69.5	\$54.5	\$177.0	\$151.1
Operating income	\$100.2	\$73.3	\$257.4	\$208.1
Adj. EBITDA*	\$125	\$105	\$332	\$294
Operating income margin (operating income % of net sales)	28.9%	22.6%	26.2%	22.4%
Adj. EBITDA margin* (Adj. EBITDA % of net sales)	36.0%	32.2%	33.8%	31.6%
Diluted earnings per share, continuing operations	\$1.56	\$1.18	\$3.93	\$3.23
Adj. diluted earnings per share from continuing operations*	\$1.60	\$1.36	\$4.10	\$3.65
Net cash provided by operating & investing activities	\$77.9	\$65.8	\$165.8	\$127.3
Adj. free cash flow*	\$92	\$66	\$195	\$130
Net cash provided by operating & investing activities % of net sales	22.4%	20.2%	16.9%	13.7%
Adj. free cash flow margin* (Adj. free cash flow % of net sales)	26.4%	20.2%	19.8%	14.0%
Net cash provided by operating & investing activities % of operating income	77.7%	89.8%	64.4%	61.2%
Adjusted free cash flow conversion* (Adj. free cash flow % of Adj. EBITDA)	73.4%	62.9%	58.7%	44.2%

Segment Results	Q3 2023			Q3 2022		
	MF	AS	UC	MF	AS	UC
Net sales	\$249.7	\$97.6	-	\$233.7	\$91.3	-
Operating income (loss)	\$85.5	\$15.5	(\$0.8)	\$70.8	\$3.4	(\$0.9)
Adj. EBITDA*	\$105	\$20	-	\$89	\$16	-
Operating income margin (Operating income % of net sales)	34.2%	15.9%	NM	30.3%	3.7%	NM
Adj. EBITDA margin* (Adj. EBITDA % of net sales)	41.9%	20.8%	NM	38.1%	17.1%	NM

*Non-GAAP reconciliations are available in the appendix of this presentation.

NM: Not meaningful.



GAAP and non-GAAP Financial Results

AWI Consolidated Results	Full Year						5-Year CAGR ('17 – '22)
	2017	2018	2019	2020	2021	2022	
Net sales	\$893.6	\$975.3	\$1,038.1	\$936.9	\$1,106.6	\$1,233.1	6.7%
Net earnings (loss)	\$119.6	\$185.9	\$214.5	(\$99.1)	\$183.2	\$202.9	11.2%
Operating income	\$243.8	\$249.4	\$317.4	\$254.8	\$260.0	\$278.7	2.7%
Adj. EBITDA*	\$319	\$353	\$403	\$330	\$372	\$385	3.8%
Operating income margin (Operating income % of net sales)	27.3%	25.6%	30.6%	27.2%	23.5%	22.6%	NM
Adj. EBITDA margin* (Adj. EBITDA % of net sales)	35.7%	36.1%	38.8%	35.2%	33.6%	31.2%	NM
Diluted earnings (loss) per share, continuing operations	\$4.08	\$3.63	\$4.88	(\$1.76)	\$3.86	\$4.30	1.1%
Adj. diluted earnings per share, continuing operations*	\$3.02	\$3.66	\$4.78	\$3.74	\$4.36	\$4.74	9.4%
Net cash provided by operating & investing activities	\$116.2	\$512.8	\$93.6	\$77.7	\$173.3	\$210.6	12.6%
Adj. free cash flow*	\$147	\$236	\$244	\$212	\$190	\$221	8.5%
Net cash provided by operating & investing activities % of net sales	13.0%	52.6%	9.0%	8.3%	15.7%	17.1%	NM
Adj. free cash flow margin* (Adj. free cash flow % of net sales)	16.4%	24.2%	23.5%	22.7%	17.2%	17.9%	NM
Net cash provided by operating & investing activities % of operating income	47.7%	205.6%	29.5%	30.5%	66.7%	75.6%	NM
Adjusted free cash flow conversion* (Adj. free cash flow % of Adj. EBITDA)	46.1%	66.9%	60.5%	64.4%	51.2%	57.4%	NM
Segment Results	Full Year 2021			Full Year 2022			
	MF	AS	UC	MF	AS	UC	
Net sales	\$818.5	\$288.1	-	\$887.4	\$345.7	-	
Operating income (loss)	\$261.2	\$4.2	(\$5.4)	\$260.9	\$21.7	(\$3.9)	
Adj. EBITDA*	\$331	\$40	-	\$330	\$55	-	
Operating income margin (Operating income % of net sales)	31.9%	1.5%	NM	29.4%	6.3%	NM	
Adj. EBITDA margin* (Adj. EBITDA % of net sales)	40.5%	14.0%	NM	37.2%	15.8%	NM	

*Non-GAAP reconciliations are available in the appendix of this presentation.

NM: Not meaningful.



Armstrong World Industries, Inc. (NYSE:AWI)



Leader in the design & manufacturing of innovative ceiling & wall solutions in the Americas.



For more than 160 years, we have built our business on trust and integrity.

FULL YEAR 2022 CONSOLIDATED RESULTS

NET
SALES

\$1,233M

ADJUSTED
EBITDA*

\$385M

ADJUSTED
DILUTED EPS*

\$4.74

ADJUSTED FREE
CASH FLOW*

\$221M

SEGMENT 1:

MINERAL FIBER

NET SALES

\$887M

ADJ. EBITDA*

\$330M

JOINT
VENTURE



SEGMENT 2:

ARCHITECTURAL SPECIALTIES

NET SALES

\$346M

ADJ. EBITDA*

\$55M

VERTICALS WE SERVE & % OF TOTAL AWI NET SALES**



EDUCATION

30%



OFFICE

30%



HEALTHCARE

20%



RETAIL

10%



TRANSPORTATION

10%



Armstrong
Headquarters



Manufacturing
Facilities



~3,100

EMPLOYEES

16

**OPERATING
FACILITIES¹**

*Non-GAAP measure. See slide 5 and appendix for reconciliation to nearest GAAP measure.

**Based on internal company estimates.

1. Excluding WAVE facilities.



OUR PURPOSE

Redefining the environments
where we:

LIVE

WORK

LEARN

HEAL

PLAY

Our Focus on Purpose-Driven Sustainability



“Through our ambitious sustainability agenda, we are cultivating thriving environments for employees and communities; more actively meeting demands for healthier, circular products; and doing more with less to preserve and protect our planet’s resources.

This is important work for us, because we believe sustainability is a commitment that fulfills our corporate purpose to make a positive difference in the spaces where we live, work, learn, heal and play. Further, it is a critical enabler for our strategy to achieve long-term profitable growth.”

Vic Grizzle

CEO, Armstrong World Industries



Additional ESG Resources:



[Sustainability Website](#)



[2023 ESG Report](#)

Uniquely Positioned to Win in an Attractive Category



Attractive Category

Ceiling & wall solutions is unique within the building products industry.

Consolidated industry structure with exposure to diverse end markets

Large installed base (est. at ~39 Billion ft²) generates stable and repeating repair and remodel demand*

Highly specified, high-value products with few cost-effective substitutes

Customers demonstrate brand loyalty; **reward performance, service and innovation**

Ceilings are an integral part of evolving solutions to meet increasing demand for **healthy indoor spaces**



Why We Win

AWI is advantageously positioned to win in this category.

Strongest and most trusted brand

Broadest, most innovative product portfolio

Specification leadership through deep and long-standing relationships with architects and designers

Large manufacturing **scale** with **strong exclusive distribution partners**

Operational excellence supporting **best-in-class** service and quality

A culture that fosters **empowerment, innovation, teamwork and execution** across functional areas



OUR MISSION

At Armstrong, we imagine and enable new possibilities every day. We are redefining how the environments in which we live, work, learn, heal and play can become smarter, healthier and more inspiring for all.

We transform experiences for customers and occupants and elevate the human experience by assuring that all of our products, processes, and policies support healthy communities and environmental sustainability.

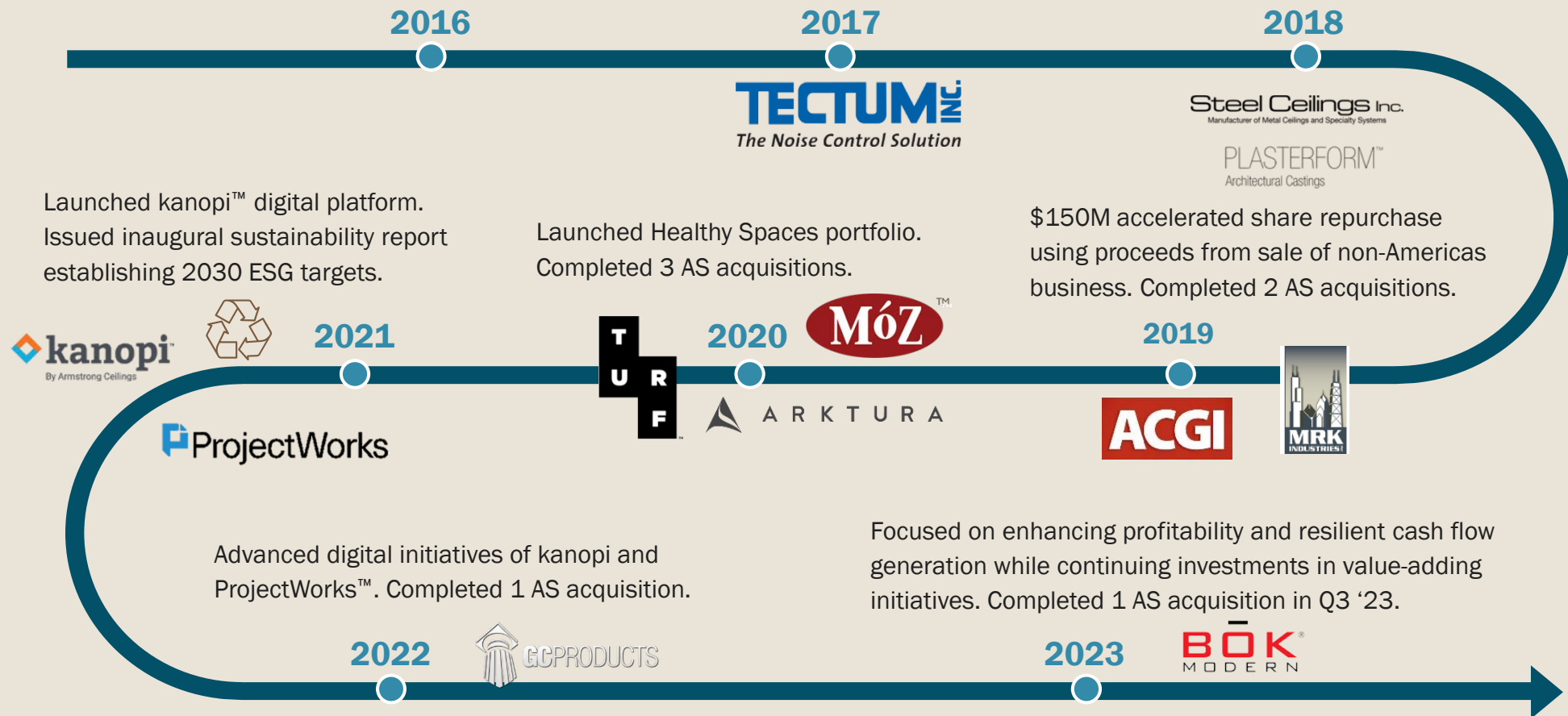
Creating a Differentiated, Focused Buildings Products Company



Separated from Armstrong Flooring to focus on ceiling and wall solutions.

Announced sale of non-Americas business. Completed 1 AS acquisition.

Initiated quarterly cash dividend. Completed 2 AS acquisitions.

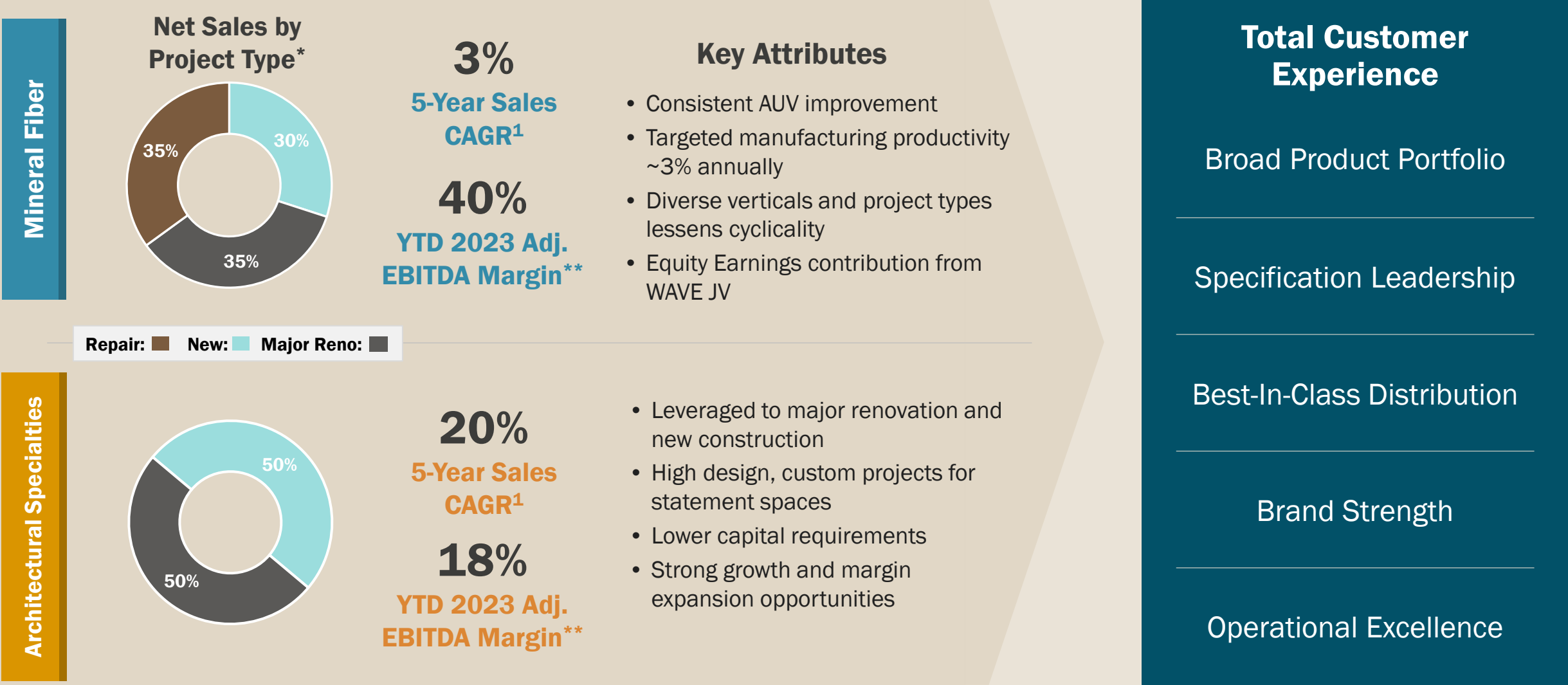


Experience, Above All™



Total Customer Experience Supported by Complementary Segments

A unique value proposition for our customers differentiates AWI in the industry



*Based on internal company estimates.
**Non-GAAP measure. See slide 4 and appendix for reconciliation to nearest GAAP measure.
1. CAGR represents 2017 to 2022 results.

Successful Joint Venture Provides Important Competitive Advantage



Armstrong®

World Industries

Go to market expertise



WORTHINGTON
INDUSTRIES

Steel procurement and supply
chain management expertise



- Established in 1992...50/50 joint venture leveraging expertise of both partners
- North American market leader in ceiling suspension system (grid) & integrated solutions
- Innovation mindset
- \$458 million in sales in 2022
- Over \$600 million of cash dividends to AWI since 2017
- 7 U.S. plants
- ~500 employees

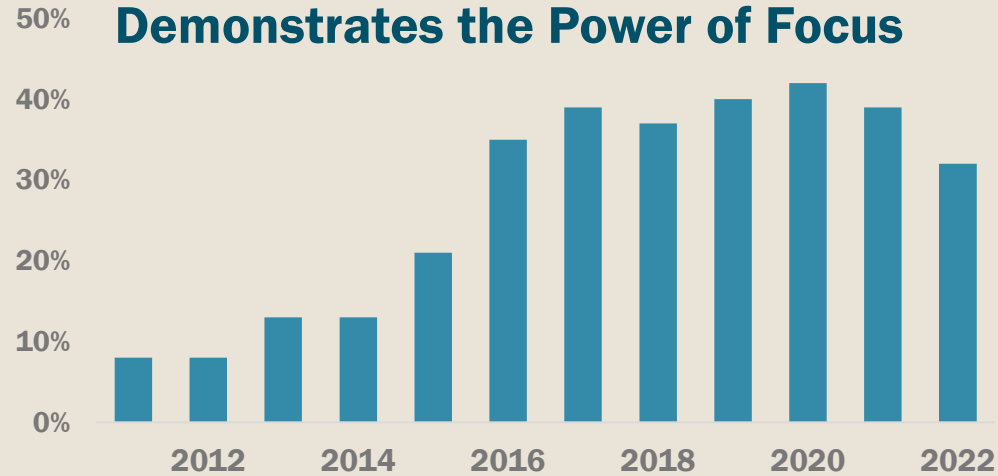




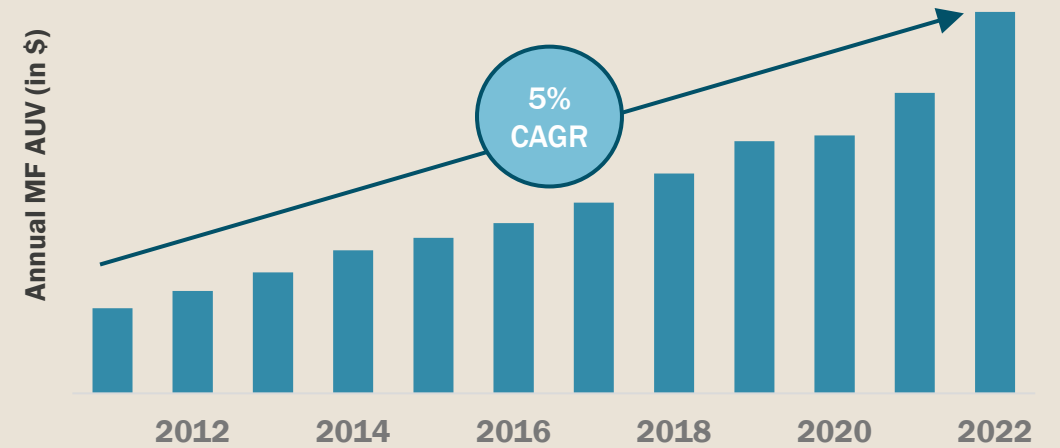
Innovation Supports Consistent Mineral Fiber AUV Growth

New products and features rewarded in the market

Product Vitality Index⁽¹⁾ of >30% Demonstrates the Power of Focus



Robust & Consistent AUV⁽²⁾ Performance



INNOVATION AT THE CORE OF AWI

Provide new products to address emerging,
market-driven needs through **efficient process**
and **collaborations**



Robust processes with
agile mindset



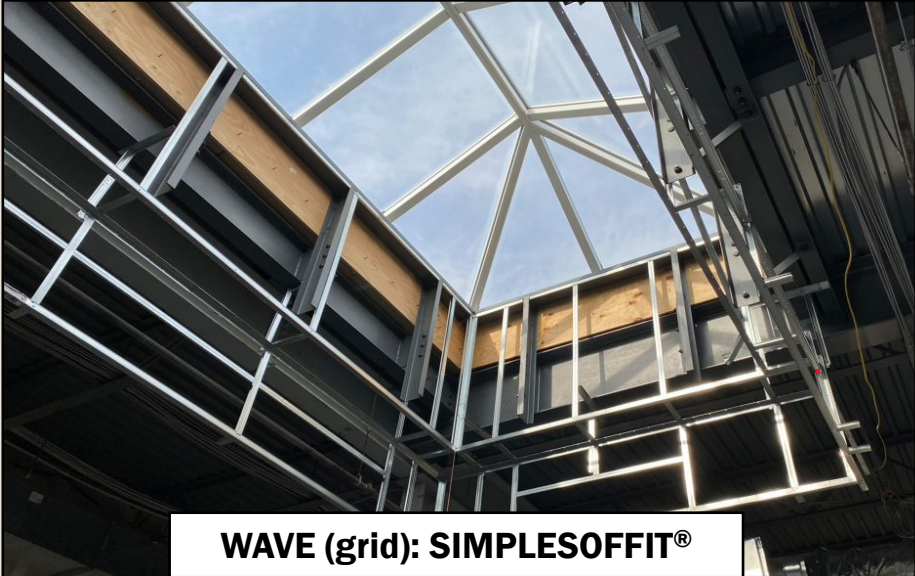
Creating highly specified
high-value products

1. Product Vitality Index represents the percent of total sales from products introduced in the last 5 years.
2. US and Canada Mineral Fiber Commercial only.



Comprehensive Range of Innovation Further Differentiates AWI

Unrivalled product development to meet customer needs with higher value products



WAVE (grid): SIMPLESOFFIT®



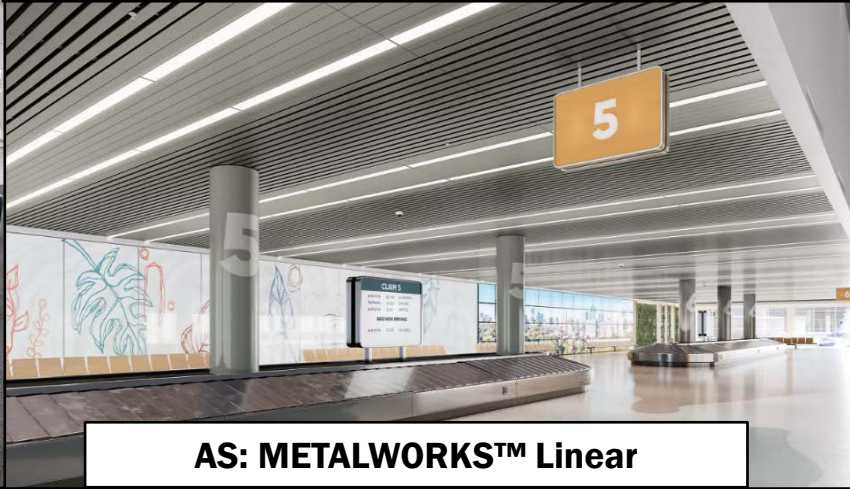
AS: FELTWORKS® Blades



MF: ACOUSTIBUILT® Seamless Acoustical Ceiling System



MF: CALLA® HEALTH ZONE



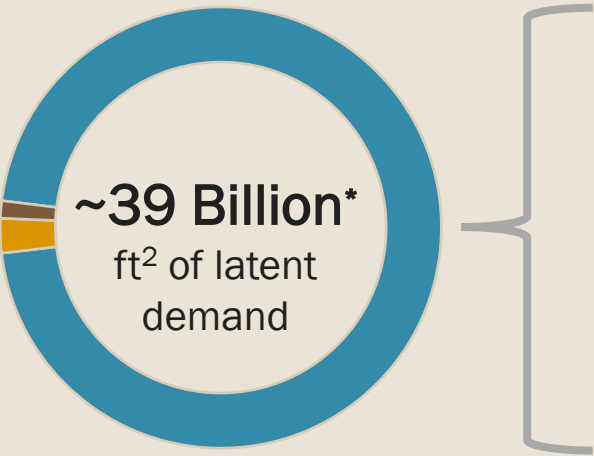
AS: METALWORKS™ Linear



Growth Initiatives Support Volume and AUV Performance

Initiatives strengthen both Mineral Fiber and Architectural Specialties segments

Large Installed Base Provides Sizable Opportunity to Influence



- Installed Base
- Annual Market Major Reno and Repair Volume
- Annual Market New Construction

	Overview	Growth Impact		Key stakeholders
		Volume	AUV	
 By Armstrong Ceilings	Digital platform to deliver end-to-end ceiling solutions, accessing untouched demand	Repair and Remodel	Medium	Facility managers, small business owners, DIY
	Automated design service to deepen customer relationships, strengthen specifications and lower construction costs	New and Major Reno	High	Designers, architects, contractors, owners
Healthy Spaces	Lead in developing sustainable solutions for healthier indoor environmental quality...a secular tailwind for renovation	New and Major Reno	High	Building occupants, designers, architects, owners

*Based on internal company estimates.



Why AWI and Why Now?

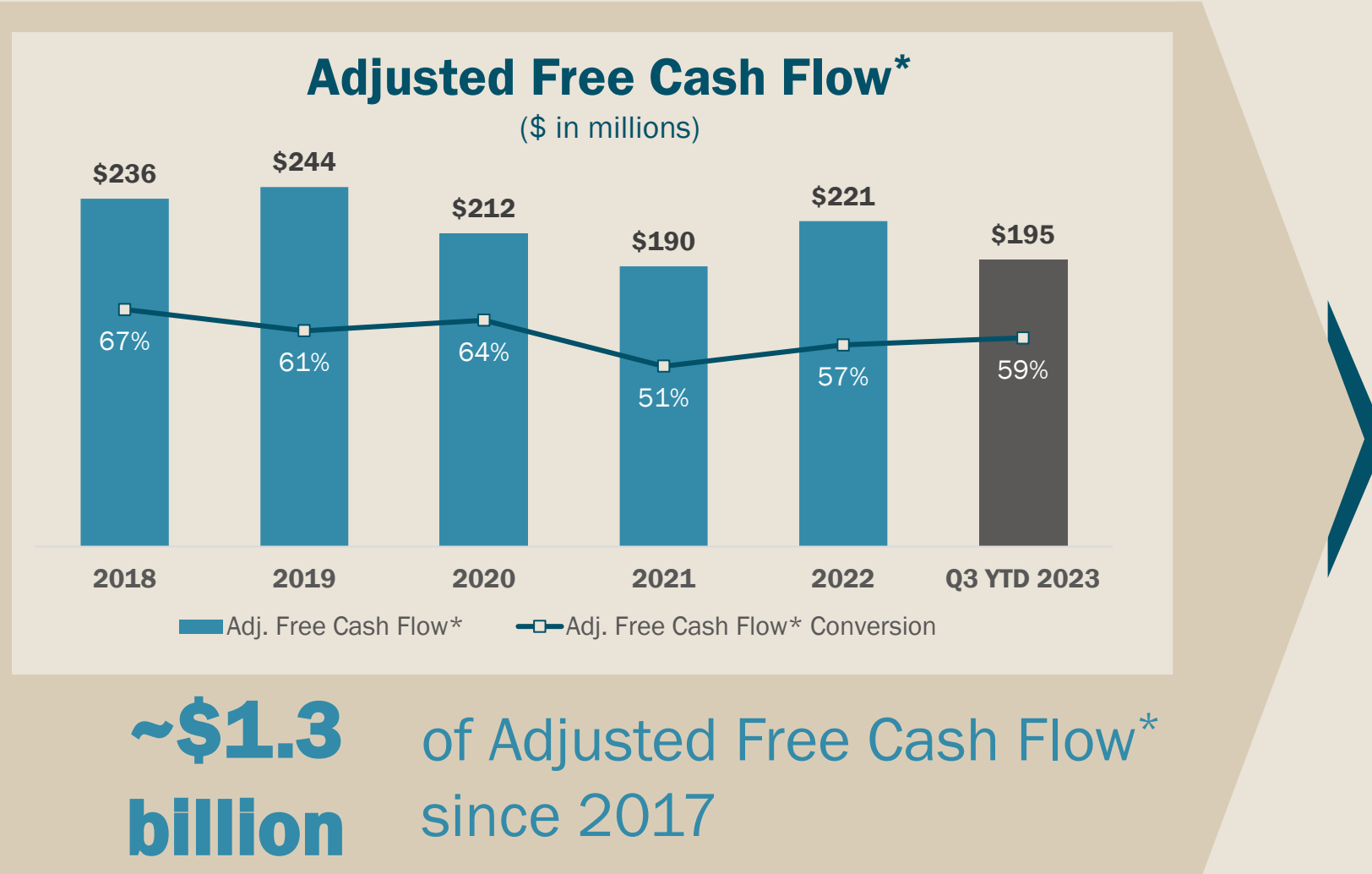
Peer-leading profitability and resilient cash flow differentiate AWI in the building products space



- 1 Unique industry-leading position with ability to **grow Mineral Fiber sales** despite market headwinds, supported by strong AUV
- 2 Strong AS segment **organic growth** along with **strategic acquisitions** to expand capabilities and **solidify leadership** in ceiling and wall solutions
- 3 Resilient cash flow generation and **disciplined capital allocation** to drive shareholder value



Consistent, Strong Adjusted Free Cash Flow* Generation Driven by Attractive Business Fundamentals



Capital Allocation Priorities

1 Reinvesting into the business

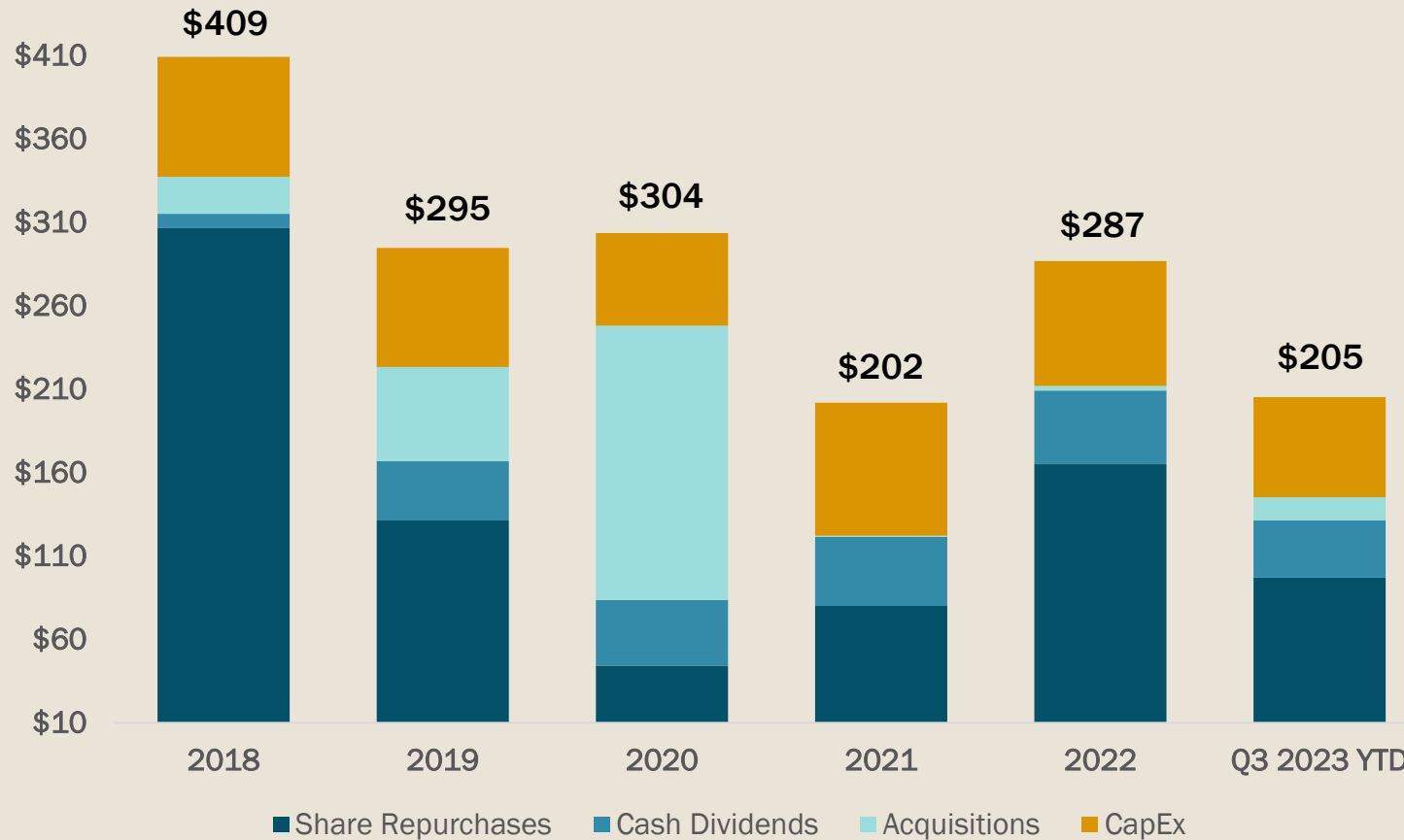
2 Strategic acquisitions & partnerships

3 Returning cash to shareholders



Balanced Approach to Capital Deployment Funds All Priorities

Capital Deployment by Use (\$ in millions)



Track Record (2018 - Q3 2023 YTD)



\$413M in capital expenditures



9 AS acquisitions totaling **\$261M**



+\$1 B of share repurchases and dividends



End Market Vertical Outlook*

Diverse end market exposure provides portfolio effect on sales performance

Percent of AWI Sales by Vertical**		Outlook*	Market Insights
10%	Retail	Slightly Negative	Continued headwinds from online shopping balanced by population shifts to suburbs and multi-use in urban areas.
10%			
20%	Transportation	Positive	Funding infusion from Infrastructure Investment and Jobs Act totaling \$15 billion ¹ for airports between 2022 – 2026.
30%	Healthcare	Slightly Positive	Continued growth in hospitals and urgent care centers driven by residential developments and need for more flexible surge capacity.
30%	Office	Slightly Negative	Vacancy rates in certain large metros and economic uncertainty limiting discretionary spend; data center growth providing partial offset.
30%	Education	Positive	Demand supported by ESSER ² funds and robust state government budgets, offset by demographic trends. R&D laboratory growth continues.

*12- to 18-month outlook based on internal company estimates and Dodge data and analytics.

**Based on internal company estimates.

1. [According to the Federal Aviation Administration.](#)
2. [Elementary and Secondary School Emergency Relief.](#)



Full Year 2023 Guidance¹

Driving growth in a challenging macroeconomic environment



Net Sales

\$1,280M to \$1,295M

4% to 5% YoY

Prior: 3% to 6% YoY



Adjusted EBITDA*

\$418M to \$426M

9% to 11% YoY

Prior: 4% to 9% YoY



Adjusted Diluted EPS*

\$5.05 to \$5.15

7% to 9% YoY

Prior: 2% to 7%



Adjusted Free Cash Flow*

\$245M to \$255M

11% to 15% YoY

Prior: 9% to 13%

*Non-GAAP measure. See appendix for reconciliation to nearest GAAP measure.

1. As issued on October 24, 2023.

2. Additional assumptions available in the appendix of this presentation.

Commentary²

Challenging environment remains, but better-than-expected market supports improved outlook

Expect lower market demand, partially offset by initiatives, to result in **low single** digit MF volume decline

Expect above average MF AUV growth with historical fall-through rates

Managing investments and working capital to offset weaker macroeconomic conditions

Expect positive WAVE equity earnings versus prior year, rebounding from 2022 results

Reflects guidance update from
prior quarter



Appendix

Full Year 2023 Assumptions¹



Segment	Net Sales	Adjusted EBITDA Margin*
Mineral Fiber	4% to 5% growth YoY (prior: 1% to 5%)	~39% (prior: >37.5%)
Architectural Specialties ²	4% to 5% growth YoY (prior: >6%)	17% to 18% (prior: >18%)

Consolidated Metrics	Full Year 2023	Shipping Days vs Prior Year	2022	2023	2024 ³
Capital expenditures	\$80M to \$85M	Q1	(1)	+1	-
Depreciation and amortization	\$88M to \$91M	Q2	+1	-	-
Interest expense	\$36M to \$37M	Q3	-	(1)	+1
Book / cash tax rate	~25% / ~25%	Q4	(1)	-	+1
Shares outstanding	~45 million	Full Year	(1)	-	+2
Return of investment from joint venture	\$90M to \$95M				

*Non-GAAP Measure. See following pages for reconciliation to nearest GAAP measure.

1. As issued on October 24, 2023.

2. Includes acquisition of BOK Modern. Assumes no contribution from future acquisitions.

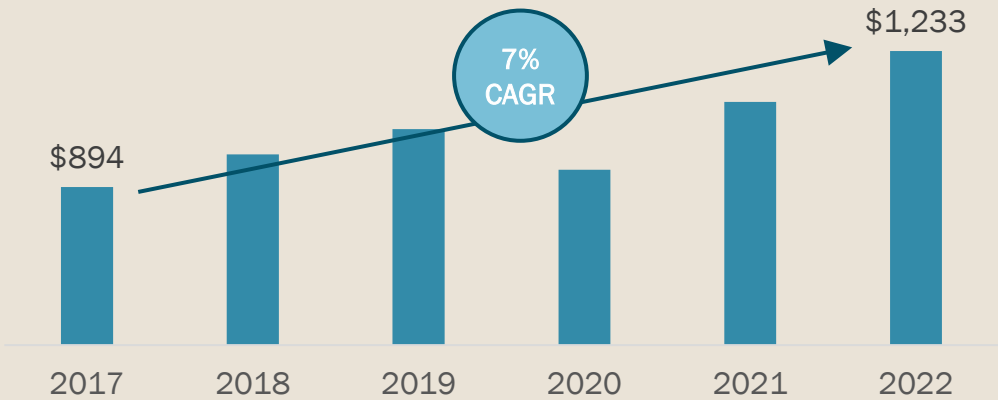
3. Based on preliminary expectations. Subject to change.



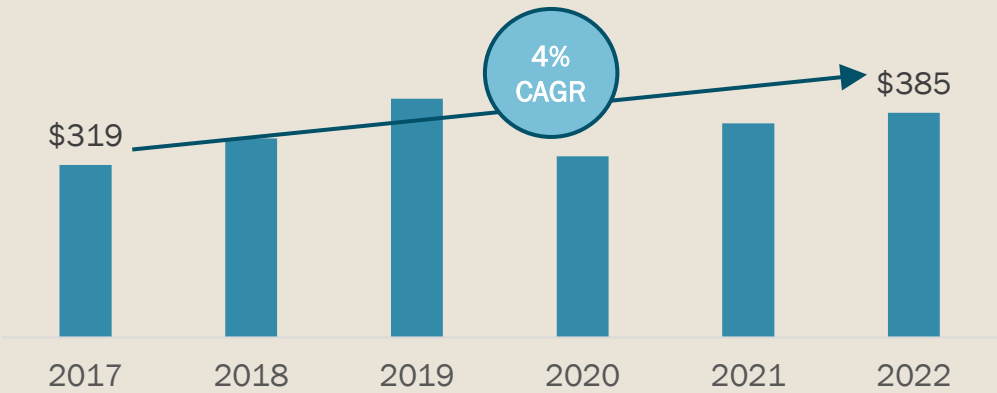
Top and Bottom-Line Growth Creates Value for Shareholders

A history of consistent growth, with accelerators in place for future growth

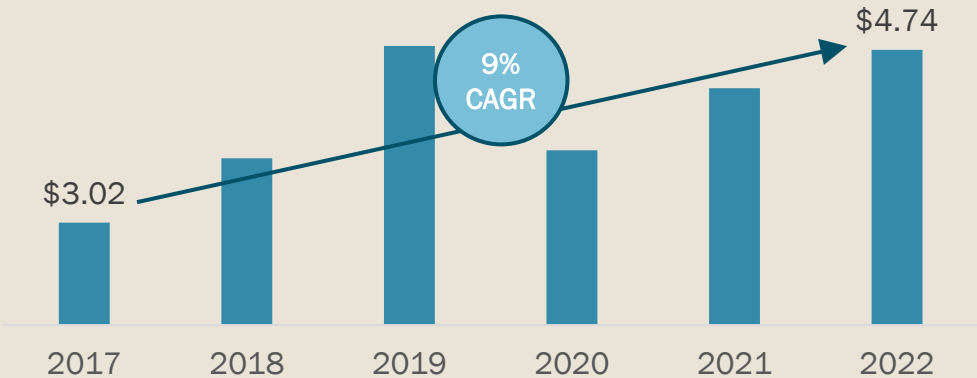
Net Sales



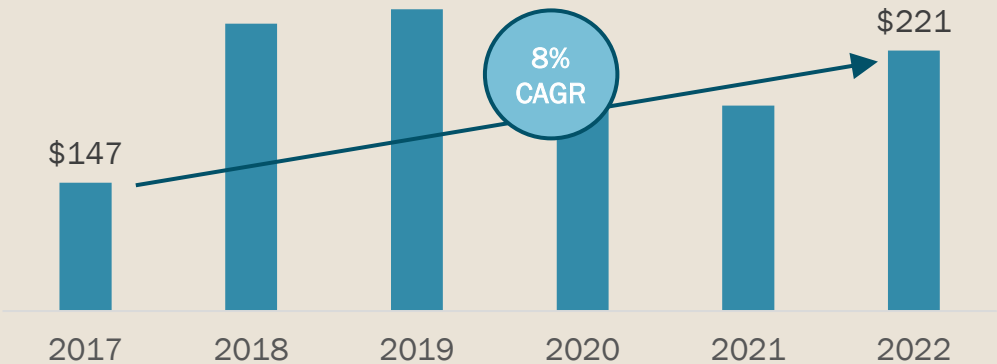
Adjusted EBITDA*



Adjusted Diluted EPS*



Adjusted Free Cash Flow*

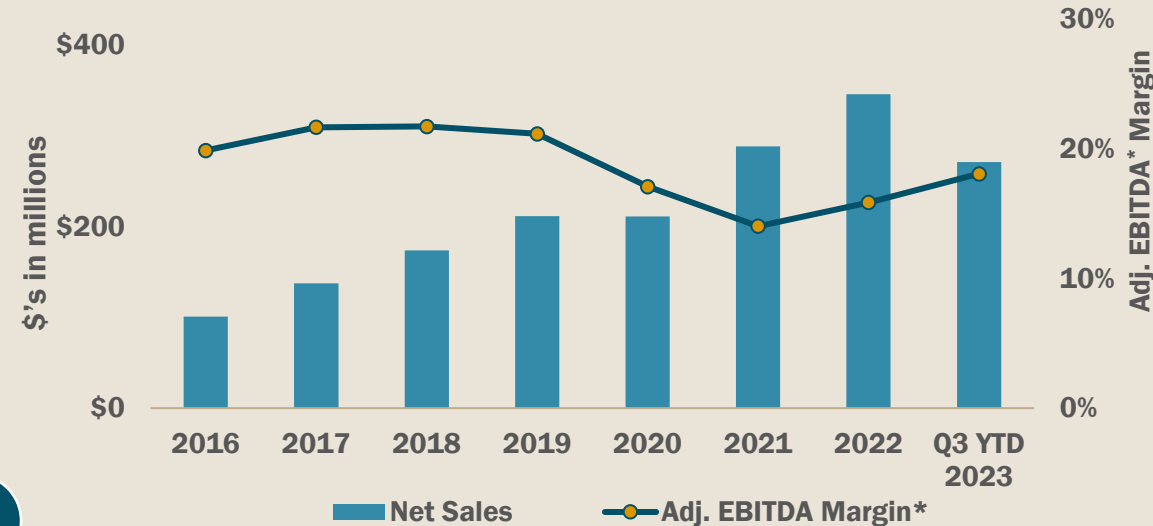
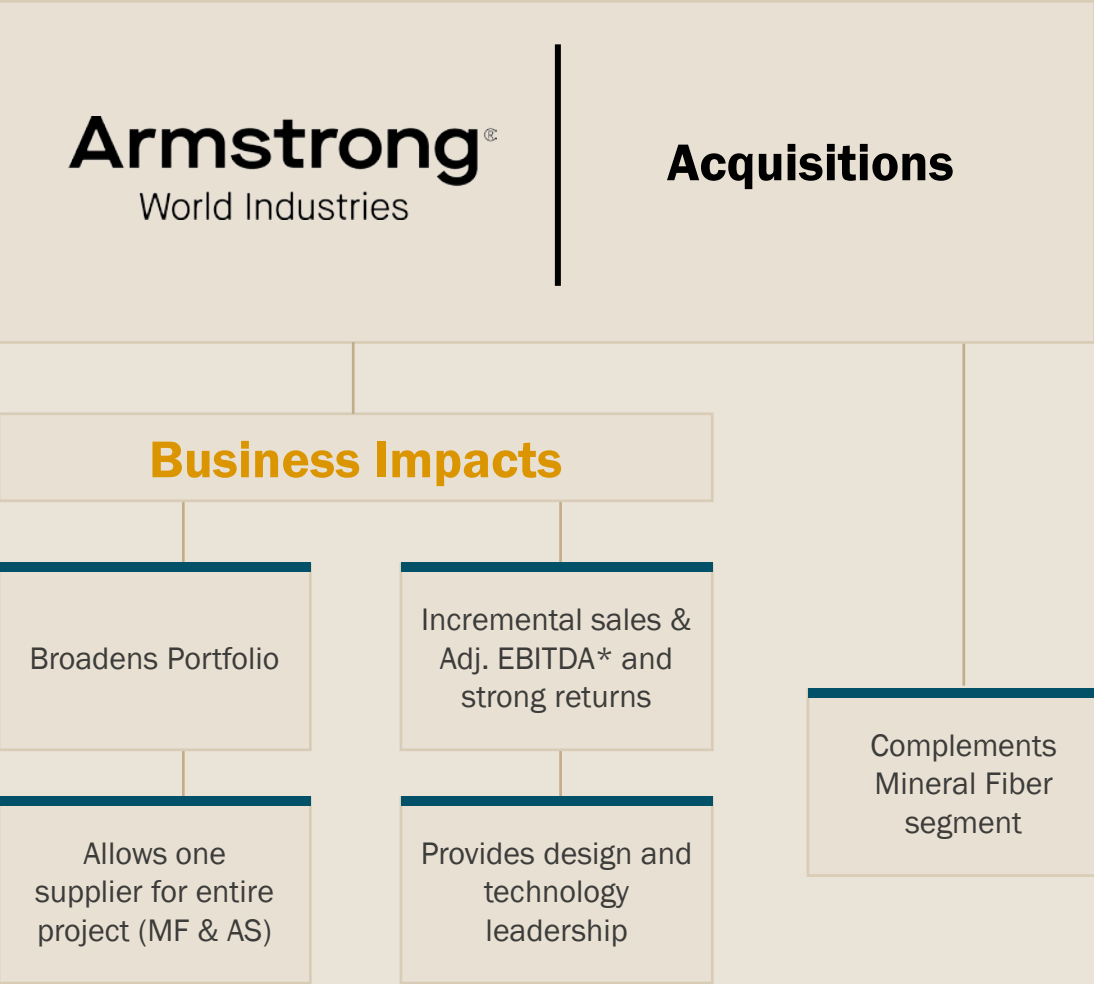


*Non-GAAP measure. See slide 5 and following pages for reconciliation to nearest GAAP measure.



Architectural Specialties - Growing Through Acquisitions

Targeting companies with unique capabilities or competitive advantages



Expanding leadership in specialty ceilings and walls

Acquisition History	
2017	Tectum
2018	Plasterform, Steel Ceilings
2019	ACGI, MRK Industries
2020	Turf, Moz, Arktura
2021	-
2022	GC Products
2023	BŌK Modern

*Non-GAAP measure. See slide 5 and following pages for reconciliation to nearest GAAP measure.



2017 – 2022 Adjusted EBITDA Reconciliation

	For the Twelve Months Ended December 31,					
	2017	2018	2019	2020	2021	2022
Net earnings (loss)	\$120	\$186	\$215	(\$99)	\$183	\$203
Less: Net (loss) earnings from discontinued operations	(101)	(4)	(28)	(15)	(2)	3
Earnings (loss) from continuing operations, Reported	\$221	\$190	\$242	(\$84)	\$185	\$200
Add: Income tax expense (benefit), as reported	1	53	57	(43)	57	58
Earnings (loss) from continuing operations before tax, Reported	\$222	\$243	\$299	(\$127)	\$243	\$258
Add: Interest/other income and expense, net	22	7	18	382	17	21
Operating Income, Reported	\$244	\$249	\$317	\$255	\$260	\$279
Add: RIP expense ¹	8	6	5	6	5	4
Add: Cost reduction initiatives	7	8	-	-	-	-
Add: Net proforma international allocations ²	8	6	-	-	-	-
(Less)/Add: Net environmental (recoveries) expenses	(15)	(1)	1	(6)	-	-
Add: Litigation expense ³	-	7	20	-	-	-
Add: WAVE pension settlement	-	-	1	-	-	-
Add: WAVE FSA ⁴	-	-	4	-	-	-
(Less): AWI portion of WAVE's (gain) on sale of international	-	-	(21)	-	-	-
Add: Charitable contribution – AWI Foundation ⁵	-	-	-	10	-	-
(Less): (Gain) on sale of idled China facility	-	-	-	(21)	-	-
Add: Acquisition-related impacts ⁶	-	-	-	3	10	19
Adjusted Operating Income	\$252	\$275	\$328	\$246	\$275	\$301
Add: Depreciation and amortization	67	78	75	84	97	84
Adjusted EBITDA	\$319	\$353	\$403	\$330	\$372	\$385

1. RIP expense represents only the plan service cost that is recorded within Operating Income. For all periods presented, we were not required to and did not make cash contributions to our RIP.
2. Includes adjustments to corporate costs and geographic allocations of corporate support functions due to the sale of our non-Americas International businesses.
3. Represents Rockfon litigation costs and settlement.
4. WAVE Fresh Start Accounting asset impairment charge due to sale of our non-Americas international businesses.
5. Donation to the AWI Foundation.
6. Represents the impact of acquisition-related adjustments for the fair value of acquired inventory and deferred revenue, changes in fair value of contingent consideration and deferred compensation & restricted stock expenses.

2017 – 2022 Adjusted Diluted Earnings per Share Reconciliation



	For the Twelve Months Ended December 31,					
	2017	2018	2019	2020	2021	2022
Earnings (loss) from continuing operations, Reported	\$221	\$190	\$242	(\$84)	\$185	\$200
Add/(less): Income tax expense (benefit), reported	1	53	57	(43)	57	58
Earnings (loss) from continuing operations before income taxes, Reported	\$222	\$243	\$299	(\$127)	\$243	\$258
(Less)/Add: RIP (credit) expense ¹	(5)	(26)	(8)	368	-	(1)
(Less)/Add: environmental (recoveries) expenses	(15)	(1)	1	(6)	-	-
Add: Cost reduction initiatives	7	22	-	-	-	-
Add: Net proforma international allocations ²	8	6	-	-	-	-
Add: Litigation expense	-	7	20	-	-	-
Add: Non-cash hedge expense	-	5	-	-	-	-
Add: WAVE pension settlement	-	-	1	-	-	-
Add: WAVE FSA ³	-	-	4	-	-	-
(Less): AWI portion of WAVE's (gain) loss on sale of international	-	-	(21)	-	-	-
(Less): Gain on sale of China facility	-	-	-	(21)	-	-
Add: Accelerated depreciation from St. Helen's facility	-	-	-	3	-	-
Add: Charitable contribution – AWI Foundation ⁴	-	-	-	10	-	-
Add: Acquisition-related impacts ⁵	-	-	-	3	10	19
Add: Acquisition-related amortization ⁶	-	-	-	7	21	8
Adjusted earnings from continuing operations before income taxes	\$217	\$255	\$297	\$236	\$274	\$283
(Less): Adjusted income tax expense ⁷	(54)	(64)	(61)	(56)	(65)	(63)
Adjusted net income from continuing operations	\$163	\$191	\$237	\$180	\$209	\$220
Diluted Shares Outstanding, as reported ⁸	53.9	52.1	49.5	48.2	47.9	46.4
Tax Rate ⁹	25%	25%	20%	24%	24%	22%
Diluted earnings (loss) per share, continuing operations, Reported	\$4.08	\$3.63	\$4.88	(\$1.76)	\$3.86	\$4.30
Adjusted Diluted Earnings per share, continuing operations	\$3.02	\$3.66	\$4.78	\$3.74	\$4.36	\$4.74

1. RIP (credit) expense represents the entire actuarial net periodic pension (credit) recorded as a component of earnings from continuing operations. For all periods presented, we were not required to and did not make cash contributions to our RIP.
2. Includes adjustments to corporate costs and geographic allocations of corporate support functions due to the sale of our non-Americas International businesses.
3. WAVE Fresh Start Accounting asset impairment charge due to sale of our non-Americas international businesses.
4. Donation to the AWI Foundation.
5. Represents the impact of acquisition-related adjustments for the fair value of acquired inventory and deferred revenue, changes in fair value of contingent consideration and deferred compensation & restricted stock expenses.
6. Represents the intangible amortization related to acquired entities, including customer relationships, developed technology, software, trademarks and brand names, non-compete agreements and other intangibles.
7. Adjusted income tax expense is calculated using the tax rate multiplied by the adjusted earnings from continuing operations before income taxes.
8. 2020 Dilutive shares outstanding include anti-dilutive common stock equivalents which are excluded from U.S. GAAP Accounting.
9. 2017 and 2018 reflect an adjusted tax rate of 25%. All other years presented reflect the effective tax rate as reported.



2017 – 2022 Adjusted Free Cash Flow Reconciliation

	For the Twelve Months Ended December 31,					
	2017	2018	2019	2020	2021	2022
Net cash provided by operating activities	\$170	\$203	\$183	\$219	\$187	\$182
Net cash (used for) provided by investing activities	(\$54)	\$310	(\$89)	(\$141)	(\$14)	\$28
Net cash provided by operating and investing activities	\$116	\$513	\$94	\$78	\$173	\$211
Add: Acquisitions, net	31	22	56	165	1	3
(Less)/Add: (Proceeds) Payments related to the sale of international, net ¹	-	(272)	66	(20)	12	-
(Less)/Add: Net environmental (recoveries) expenses	-	(27)	5	(12)	(1)	1
Add: Litigation, net	-	-	23	-	-	-
Add: Net payments to WAVE for portion of proceeds from sale of international business	-	-	-	13		
(Less): Proceeds from sale of idled China plant facility	-	-	-	(22)	-	-
Add: Charitable contribution – AWI Foundation ²	-	-	-	10	-	-
Add: Arktura deferred compensation ³	-	-	-	-	5	5
Add: Contingent consideration in excess of acquisition-date fair value ⁴	-	-	-	-	-	2
Adjusted Free Cash Flow	\$147	\$236	\$244	\$212	\$190	\$221
Adjusted Free Cash Flow as a % of Net Sales	16.4%	24.2%	23.5%	22.7%	17.2%	17.9%

1. Includes related income tax payments.

2. Donation to the AWI Foundation.

3. Contingent compensation payments related to the acquisition.

4. Contingent compensation payments related to 2020 acquisitions recorded as a component of net cash provided by operating activities.

2016 – 2022 AS Adjusted EBITDA Reconciliation



Architectural Specialties Segment	For the Twelve Months Ended December 31,						
	2016	2017	2018	2019	2020	2021	2022
Net Sales	\$101	\$137	\$174	\$212	\$211	\$288	\$346
Operating Income, Reported	\$19	\$28	\$34	\$36	\$22	\$4	\$22
Add: Acquisition-related impacts ¹	-	-	-	-	3	10	19
Add: Depreciation and amortization	1	2	4	9	11	27	14
Adjusted EBITDA	\$20	\$30	\$38	\$45	\$36	\$40	\$55
Operating Income as a % of Net Sales	19.1%	20.2%	19.7%	17.0%	10.6%	1.5%	6.3%
Adj. EBITDA as a % of Net Sales	20.0%	21.6%	21.7%	21.1%	17.1%	14.0%	15.8%

1. Represents the impact of acquisition-related adjustments for the fair value of acquired inventory and deferred revenue, changes in fair value of contingent consideration and deferred compensation & restricted stock expenses.



2021 and 2022 Segment Adjusted EBITDA Reconciliation

	For the Twelve Months Ended December 31,					
	MF		AS		UC	
	2022	2021	2022	2021	2022	2021
Net Sales	\$887	\$818	\$346	\$288	\$ —	\$ —
Operating income (loss)	\$261	\$261	\$22	\$4	(\$4)	(\$5)
Add: RIP expense ¹	-	-	-	-	4	5
Add: Acquisition-related impacts ²	-	-	19	10	-	-
Adjusted Operating Income	\$261	\$261	\$41	\$14	\$ —	(\$1)
Add: Depreciation and Amortization	69	70	14	27	-	1
Adjusted EBITDA	\$330	\$331	\$55	\$40	\$ —	\$ —
Operating Income Margin (Operating Income % of Net Sales)	29.4%	31.9%	6.3%	1.5%	NM	NM
Adjusted EBITDA Margin (Adjusted EBITDA % of Net Sales)	37.2%	40.5%	15.8%	14.0%	NM	NM

1. RIP expense represents only the plan service cost related to the RIP that is recorded within Operating Income. For all periods presented, we were not required to and did not make cash contributions to our RIP.
2. Represents the impact of acquisition-related adjustments for the fair value of acquired inventory and deferred revenue, changes in fair value of contingent consideration, deferred compensation and restricted stock expenses.



Q3 2023 Adj. EBITDA Reconciliation

	For the Three Months Ended Sept. 30,		For the Nine Months Ended Sept. 30,	
	2023	2022	2023	2022
Net sales	\$347	\$325	\$983	\$929
Net earnings	\$70	\$58	\$177	\$154
Less: Net earnings from discontinued operations	-	3	-	3
Earnings from continuing operations	\$70	\$55	\$177	\$151
Add: Income tax expense	24	13	61	43
Earnings from continuing operations before income taxes	\$94	\$68	\$238	\$194
Add: Interest/other income and expense, net	7	6	20	14
Operating income	\$100	\$73	\$257	\$208
Add: RIP expense ¹	1	1	2	3
Add: Acquisition-related impacts ²	1	9	4	19
Add: Cost reduction initiatives	-	-	3	-
Adjusted operating income	\$102	\$83	\$266	\$230
Add: Depreciation and amortization	23	22	66	64
Adjusted EBITDA	\$125	\$105	\$332	\$294
Operating income margin	28.9%	22.6%	26.2%	22.4%
Adjusted EBITDA margin	36.0%	32.2%	33.8%	31.6%

1. RIP expense represents only the plan service cost that is recorded within Operating income. For all periods presented, we were not required to and did not make cash contributions to our RIP.
2. Represents the impact of acquisition-related adjustments for changes in fair value of contingent consideration, deferred compensation and restricted stock expenses.
3. RIP (credit) represents the entire actuarial net periodic pension (credit) recorded as a component of earnings from continuing operations. For all periods presented, we were not required to and did not make cash contributions to our RIP.
4. Represents acquisition-related intangible amortization, including customer relationships, developed technology, software, trademarks and brand names, non-compete agreements and other intangibles.
5. Adjusted income tax expense is calculated using the effective tax rate multiplied by the adjusted earnings from continuing operations before income taxes.

Q3 2023 Adj. Diluted EPS Reconciliation

	For the Three Months Ended Sept. 30,		For the Nine Months Ended Sept. 30,	
	2023	2022	2023	2022
Net earnings	\$70	\$58	\$177	\$154
Less: Net earnings from discontinued operations	-	3	-	3
Earnings from continuing operations	\$70	\$55	\$177	\$151
Add: Income tax expense	24	13	61	43
Earnings from continuing operations before income taxes	\$94	\$68	\$238	\$194
(Less): RIP (credit) ³	-	-	(1)	(1)
Add: Acquisition-related impacts ²	1	9	4	19
Add: Acquisition-related amortization ⁴	2	2	4	6
Add: Cost reduction initiatives	-	-	3	-
Adjusted earnings from continuing operations before income taxes	\$96	\$78	\$248	\$219
Less: Adjusted income tax expense ⁵	(25)	(15)	(63)	(49)
Adjusted net earnings from continuing operations	\$71	\$63	\$184	\$171
Diluted shares outstanding	44.6	46.1	45.0	46.7
Effective tax rate	26%	20%	26%	22%
Diluted earnings per share from continuing operations	\$1.56	\$1.18	\$3.93	\$3.23
Adjusted diluted earnings per share	\$1.60	\$1.36	\$4.10	\$3.65



Q3 2023 Adjusted Free Cash Flow Reconciliation

	For the Three Months Ended Sept. 30,		For the Nine Months Ended Sept. 30,	
	2023	2022	2023	2022
Net cash provided by operating activities	\$83	\$56	\$176	\$119
Net cash (used for) provided by investing activities	(\$5)	\$10	(\$11)	\$8
Net cash provided by operating and investing activities	\$78	\$66	\$166	\$127
Add: Acquisition of co-ownership interest in software-related intellectual property	-	-	10	-
Add: Acquisition of BOK Modern	14	-	14	-
Add: Net environmental expenses	-	-	-	1
Add: Contingent consideration in excess of acquisition-date fair value ¹	-	-	5	2
Adjusted free cash flow	\$92	\$66	\$195	\$130

Q3 2023 Segment Adj. EBITDA Reconciliation

	For the Three Months Ended Sept. 30,						For the Nine Months Ended Sept. 30,					
	MF		AS		UC		MF		AS		UC	
	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022
Net sales	\$250	\$234	\$98	\$91	-	-	\$712	\$671	\$271	\$257	-	-
Operating income (loss)	\$86	\$71	\$16	\$3	(\$1)	(\$1)	\$225	\$200	\$35	\$11	(\$2)	(\$3)
Add: RIP expense ²	-	-	-	-	1	1	-	-	-	-	2	3
Add: Acquisition-related impacts ³	-	-	1	9	-	-	-	-	4	19	-	-
Add: Cost reduction initiatives	-	-	-	-	-	-	3	-	-	-	-	-
Adjusted operating income (loss)	\$86	\$71	\$17	\$12	-	-	\$227	\$200	\$39	\$30	-	-
Add: Depreciation and amortization	19	18	3	3	-	-	56	52	10	11	-	-
Adjusted EBITDA	\$105	\$89	\$20	\$16	-	-	\$283	\$252	\$49	\$41	-	-
Operating income margin (Operating income % of net sales)	34.2%	30.3%	15.9%	3.7%	NM	NM	31.6%	29.8%	12.9%	4.3%	NM	NM
Adjusted EBITDA margin (Adjusted EBITDA % of net sales)	41.9%	38.1%	20.8%	17.1%	NM	NM	39.8%	37.5%	18.0%	16.1%	NM	NM

1. Contingent compensation payments related to 2020 acquisitions recorded as a component of net cash provided by operating activities.

2. RIP expense represents only the plan service cost related to the RIP that is recorded within Operating Income. For all periods presented, we were not required to and did not make cash contributions to our RIP.

3. Represents the impact of acquisition-related adjustments for changes in fair value of contingent consideration, deferred compensation and restricted stock expenses.

4. "NM": Not meaningful.



2023 Adj. EBITDA Guidance Reconciliation

	Full Year 2023	
	Low	High
Net earnings	\$218	\$220
Add: Income tax expense	73	75
Earnings before income taxes	\$291	\$295
Add: Interest expense	36	37
Add: Other non-operating (income), net	(8)	(9)
Operating income	\$319	\$323
Add: RIP expense ¹	3	3
Add: Acquisition-related impacts ²	5	6
Add: Cost reduction initiatives	3	3
Adjusted operating income	\$330	\$335
Add: Depreciation and amortization	\$88	\$91
Adjusted EBITDA	\$418	\$426

2023 Segment Adj. EBITDA Margin Guidance Reconciliation

	Full Year 2023 ³ (Supports low-end Adj. EBITDA Margin % assumption)		
	MF	AS	UC
Net sales	\$921	\$359	\$ -
Operating income (loss)	\$278	\$45	(\$3)
Add: RIP expense ¹	-	-	3
Add: Acquisition-related impacts ²	-	5	-
Add: Cost reduction initiatives	3	-	-
Adjusted operating income	\$280	\$50	-
Add: Depreciation and amortization	77	11	-
Adjusted EBITDA	\$357	\$61	\$ -
Operating income margin (Operating income % of net sales)	30%	14%	NM
Adjusted EBITDA margin (Adjusted EBITDA % of net sales)	39%	17%	NM

1. RIP expense represents only the plan service cost related to the RIP that is recorded within Operating income. For all periods presented, we were not required to and did not make cash contributions to our RIP.

2. Represents the impact of acquisition-related adjustments for deferred compensation and restricted stock expenses.

3. Assumes rounding to sum segments to consolidated company figures.

"NM": Not meaningful.



2023 Adj. Diluted EPS Guidance Reconciliation

	Full Year 2023	
	Low	High
Net earnings	\$218	\$220
Add: Income tax expense	73	75
Earnings before income taxes	\$291	\$295
Add: RIP (credit) ¹	(1)	(1)
Add: Acquisition-related impacts ²	5	6
Add: Acquisition-related amortization ³	6	6
Add: Cost reduction initiatives	3	3
Adjusted earnings before income taxes	\$304	\$308
Less: Adjusted income tax expense ⁴	(76)	(77)
Adjusted net earnings	\$228	\$231
Diluted shares outstanding	~45M	~45M
Effective tax rate	~25%	~25%
Diluted net earnings per share	\$4.84	\$4.89
Adjusted diluted net earnings per share	\$5.05	\$5.15

2023 Adj. Free Cash Flow Guidance Reconciliation

	Full Year 2023	
	Low	High
Net cash provided by operating activities	\$235	\$245
Add: Return of investment from joint venture	90	95
Adjusted net cash provided by operating activities	\$325	\$340
Less: Capital expenditures	(80)	(85)
Adjusted Free Cash Flow	\$245	\$255

1. RIP (credit) represents the entire actuarial net periodic pension (credit) recorded as a component of Net earnings. We do not expect to make cash contributions to our RIP.

2. Represents the impact of acquisition-related adjustments for deferred compensation and restricted stock expenses.

3. Represents acquisition-related intangible amortization, including customer relationships, developed technology, software, trademarks and brand names, non-compete agreements and other intangibles.

4. Adjusted income tax expense is based on an adjusted effective tax rate of ~25%, multiplied by adjusted earnings before income tax.