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FOR IMMEDIATE RELEASE

Federal Signal Finishes Record Year with Double-Digit Increases in Orders, Sales, Pre-Tax Earnings and Cash Flow in Fourth Quarter; Projects Continued Momentum in 2020

Oak Brook, Illinois, February 27, 2020 — Federal Signal Corporation (NYSE:FSS), a leader in environmental and safety solutions, today reported results for the fourth quarter and year ended December 31, 2019.

- Q4 net sales of \$314 million, up \$35 million, or 13% compared to last year
- GAAP EPS of \$0.48 for the quarter, and \$1.76 for the year
- Adjusted EPS of \$0.48 for the quarter, up 26% from last year, and \$1.79 for the year, up 27%
- Record Q4 orders of \$333 million, up \$35 million, or 12%, from last year
- Q4 operating cash flow of \$45 million, up 113% from last year; full-year operating cash flow of \$103 million, up 11%
- Projecting another strong year in 2020, with adjusted EPS* outlook of \$1.84 to \$1.94

Consolidated net sales for the fourth quarter were \$314 million, up \$35 million, or 13%, versus the same quarter a year ago. Income from continuing operations for the fourth quarter was \$29.7 million, equal to \$0.48 per diluted share, compared to \$32.2 million, or \$0.53 per share, in the prior-year quarter. The Company also reported adjusted income from continuing operations for the fourth quarter of \$29.5 million, equal to \$0.48 per diluted share, up 26% compared to \$23.4 million, or \$0.38 per share, in the same quarter a year ago.

Consolidated net sales for the year ended December 31, 2019 were \$1.22 billion, up \$132 million, or 12%, compared to the prior year. Income from continuing operations for the year was \$108.4 million, equal to \$1.76 per diluted share, up 16% compared to \$93.7 million, or \$1.53 per share, in the prior year. Adjusted income from continuing operations for the year was \$110.1 million, equal to \$1.79 per diluted share, up 28% compared to \$86.0 million, or \$1.41 per diluted share, in the prior year. The Company is reporting adjusted results to facilitate comparisons of underlying performance on a year-over-year basis. A reconciliation of these and other non-GAAP measures is provided at the conclusion of this news release.

Fourth Quarter Financial Performance Contributes to Record Annual Results

“We had a strong finish to 2019, a year in which our businesses reported record annual revenues and earnings,” said Jennifer L. Sherman, President and Chief Executive Officer. “Our fourth-quarter results were driven by impressive performance from each of our groups, with our Safety and Security Systems Group matching the outstanding results delivered in the prior-year quarter, and our Environmental Solutions Group again reporting double-digit increases in sales and earnings. We also benefited from a lower-than-expected tax rate. At the same time, our fourth-quarter order intake set a new record, contributing to a backlog which was at an unprecedented level at the end of 2019.”

In the Environmental Solutions Group, net sales for the fourth quarter were \$252 million, up \$35 million, or 16%, compared to the prior-year quarter, while in the Safety and Security Systems Group, net sales of \$62 million were in line with prior-year levels.

Consolidated operating income for the fourth quarter was \$36.4 million, up \$3.0 million, or 9%, compared to the prior-year quarter.

Consolidated adjusted earnings before interest, tax, depreciation and amortization (“adjusted EBITDA”) for the fourth quarter was \$48.5 million, up \$5.9 million, or 14%, compared to the prior-year quarter, and consolidated adjusted EBITDA margin was 15.4%, compared to 15.2% last year.

Adjusted EBITDA in the Environmental Solutions Group was \$43.8 million, up \$8.5 million, or 24%, from the prior-year quarter, and its adjusted EBITDA margin was 17.4%, up from 16.2%. Within the Safety and Security Systems Group, adjusted EBITDA was \$12.6 million, translating to an adjusted EBITDA margin of 20.3%, up from 20.1% in the prior-year quarter.

Consolidated orders for the fourth quarter were \$333 million, the highest quarterly orders on record, representing an increase of \$35 million, or 12%, compared to the prior-year quarter. Consolidated backlog at December 31, 2019 was \$387 million, a new record for the Company, and up \$49 million, or 15%, from a year ago.

Strong Q4 Cash Flow Supports Debt Pay Down, Organic Growth Investment and Cash Returns to Shareholders

Net cash of \$45 million was generated from operations in the fourth quarter, compared to \$21 million in the prior-year quarter. For the year ended December 31, 2019, operating cash flow totaled \$103 million, an increase of \$11 million, or 11%, compared to the prior year. At December 31, 2019, total debt was \$221 million, total cash and cash equivalents were \$32 million and the Company had \$269 million of availability for borrowings under its current credit facility, which was executed in July 2019.

“Our cash flow generation this quarter was outstanding, allowing us to pay down \$30 million of debt in the quarter, and fund ongoing investments in our facility expansion projects, while maintaining a financial position that provides us with significant financial flexibility to invest in organic growth initiatives, pursue strategic acquisitions, and fund cash returns to shareholders,” said Sherman.

The Company funded dividends of \$4.8 million during the fourth quarter, bringing the total for the year to \$19.3 million, and the Board of Directors also recently declared a \$0.08 per share dividend that will be payable in the first quarter of 2020.

Outlook

“Solid execution drove another record year for Federal Signal, with both groups reporting growth in sales and earnings, and adjusted EBITDA margins at or above the high end of our target ranges. On a consolidated basis, our adjusted EPS increased by 27% in comparison to the previous record established last year,” Sherman continued. “We entered 2020 with a record backlog that is 15% higher than a year ago. In addition, conditions in most of our end markets remain healthy and we continue to gain traction with our strategic initiatives. Although seasonal effects typically result in our first quarter earnings being lower than subsequent quarters, we are anticipating year-over-year growth, with earnings in the first quarter of 2020 expected to represent a similar percentage of our full-year outlook as in 2019. For the full-year, we are projecting top-line growth and double-digit improvement in pre-tax earnings over a record 2019. In addition, the normalization of our 2020 tax rate to a range of 25% to 26% will represent a year-over-year EPS headwind of up to \$0.09. With that, we expect adjusted EPS* for the year to be within a range of \$1.84 and \$1.94.”

CONFERENCE CALL

Federal Signal will host its fourth quarter earnings conference call on Thursday, February 27, 2020 at 10:00 a.m. Eastern Time. The call will last approximately one hour. The call may be accessed over the internet through Federal Signal’s website at <http://www.federsignal.com> or by dialing phone number 1-877-705-6003 and entering the pin number 13699182. An archived replay will be available on Federal Signal’s website shortly after the call.

About Federal Signal

Federal Signal Corporation (NYSE: FSS) builds and delivers equipment of unmatched quality that moves material, cleans infrastructure, and protects the communities where we work and live. Founded in 1901, Federal Signal is a leading global designer, manufacturer and supplier of products and total solutions that serve municipal, governmental, industrial and commercial customers. Headquartered in Oak Brook, Ill., with manufacturing facilities worldwide, the Company operates two groups: Environmental Solutions and Safety and Security Systems. For more information on Federal Signal, visit: <http://www.federsignal.com>.

“Safe Harbor” Statement under the Private Securities Litigation Reform Act of 1995

This release contains unaudited financial information and various forward-looking statements as of the date hereof and we undertake no obligation to update these forward-looking statements regardless of new developments or otherwise. Statements in this release that are not historical are forward-looking statements. Such statements are subject to various risks and uncertainties that could cause actual results to vary materially from those stated. Such risks and uncertainties include but are not limited to: economic conditions in various regions; product and price competition; supplier and raw material prices; foreign currency exchange rate changes; interest rate changes; increased legal expenses and litigation results; legal and regulatory developments and other risks and uncertainties described in filings with the Securities and Exchange Commission.

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* Adjusted earnings per share (“EPS”) is a non-GAAP measure, which includes certain adjustments to reported GAAP income from continuing operations and diluted EPS. In 2019, we made adjustments to exclude the impact of acquisition and integration-related expenses, purchase accounting effects and special tax items, where applicable. We have also previously made adjustments to GAAP income from continuing operations and diluted EPS for hearing loss settlement charges. Should any similar items occur in 2020, we would expect to exclude them from the determination of adjusted EPS. However, because of the underlying uncertainty in quantifying amounts which may not yet be known, a reconciliation of our Adjusted EPS outlook to the most applicable GAAP measure is excluded based on the unreasonable efforts exception in Item 10(e)(1)(i)(B).

FEDERAL SIGNAL CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS

(in millions, except per share data)	Three Months Ended December 31,		Twelve Months Ended December 31,	
	2019	2018	2019	2018
Net sales	\$ 314.4	\$ 279.4	\$ 1,221.3	\$ 1,089.5
Cost of sales	232.9	207.4	898.5	807.4
Gross profit	81.5	72.0	322.8	282.1
Selling, engineering, general and administrative expenses	44.5	38.4	173.2	159.1
Acquisition and integration-related expenses	0.6	0.2	2.5	1.5
Operating income	36.4	33.4	147.1	121.5
Interest expense	1.8	2.1	7.9	9.3
Other expense, net	0.1	0.1	0.6	0.6
Income before income taxes	34.5	31.2	138.6	111.6
Income tax expense (benefit)	4.8	(1.0)	30.2	17.9
Income from continuing operations	29.7	32.2	108.4	93.7
Gain from discontinued operations and disposal, net of income tax expense of \$0.0, \$0.1, \$0.0 and \$0.1, respectively	0.1	0.3	0.1	0.3
Net income	<u>\$ 29.8</u>	<u>\$ 32.5</u>	<u>\$ 108.5</u>	<u>\$ 94.0</u>
Basic earnings per share:				
Earnings from continuing operations	\$ 0.49	\$ 0.53	\$ 1.80	\$ 1.56
Earnings from discontinued operations and disposal, net of tax	0.00	0.01	0.00	0.01
Net earnings per share	<u>\$ 0.49</u>	<u>\$ 0.54</u>	<u>\$ 1.80</u>	<u>\$ 1.57</u>
Diluted earnings per share:				
Earnings from continuing operations	\$ 0.48	\$ 0.53	\$ 1.76	\$ 1.53
Earnings from discontinued operations and disposal, net of tax	0.00	0.00	0.00	0.01
Net earnings per share	<u>\$ 0.48</u>	<u>\$ 0.53</u>	<u>\$ 1.76</u>	<u>\$ 1.54</u>
Weighted average shares outstanding:				
Basic	60.3	60.0	60.2	59.9
Diluted	61.8	61.3	61.6	61.2
Cash dividends declared per common share	\$ 0.08	\$ 0.08	\$ 0.32	\$ 0.31
Operating data:				
Operating margin	11.6%	12.0%	12.0%	11.2%
Adjusted EBITDA	\$ 48.5	\$ 42.6	\$ 191.3	\$ 158.6
Adjusted EBITDA margin	15.4%	15.2%	15.7%	14.6%
Total orders	\$ 333.2	\$ 297.8	\$ 1,269.0	\$ 1,173.2
Backlog	386.9	337.7	386.9	337.7
Depreciation and amortization	11.4	9.4	41.5	36.4

FEDERAL SIGNAL CORPORATION AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

(in millions, except per share data)	As of December 31,	
	2019	2018
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 31.6	\$ 37.4
Accounts receivable, net of allowances for doubtful accounts of \$2.4 and \$1.6, respectively	134.2	124.4
Inventories	182.9	157.3
Prepaid expenses and other current assets	12.0	9.4
Total current assets	<u>360.7</u>	<u>328.5</u>
Properties and equipment, net of accumulated depreciation of \$125.5 and \$116.0, respectively	91.9	62.0
Rental equipment, net of accumulated depreciation of \$33.6 and \$30.0, respectively	115.4	96.6
Operating lease right-of-use assets	27.6	—
Goodwill	388.8	375.1
Intangible assets, net of accumulated amortization of \$22.1 and \$13.4, respectively	162.9	143.1
Deferred tax assets	10.0	12.5
Deferred charges and other long-term assets	7.9	5.6
Long-term assets of discontinued operations	0.3	0.4
Total assets	<u>\$ 1,165.5</u>	<u>\$ 1,023.8</u>
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Current portion of long-term borrowings and finance lease obligations	0.2	0.2
Accounts payable	65.0	66.1
Customer deposits	11.5	10.1
Accrued liabilities:		
Compensation and withholding taxes	31.1	29.5
Other current liabilities	52.2	52.7
Current liabilities of discontinued operations	0.2	0.2
Total current liabilities	<u>160.2</u>	<u>158.8</u>
Long-term borrowings and finance lease obligations	220.3	209.9
Long-term operating lease liabilities	21.6	—
Long-term pension and other post-retirement benefit liabilities	50.9	54.6
Deferred gain	—	6.8
Deferred tax liabilities	52.7	46.3
Other long-term liabilities	17.3	15.9
Long-term liabilities of discontinued operations	0.9	1.4
Total liabilities	<u>523.9</u>	<u>493.7</u>
Stockholders' equity:		
Common stock, \$1 par value per share, 90.0 shares authorized, 66.9 and 66.4 shares issued, respectively	66.9	66.4
Capital in excess of par value	228.6	217.0
Retained earnings	528.2	432.5
Treasury stock, at cost, 6.4 and 6.2 shares, respectively	(93.0)	(88.5)
Accumulated other comprehensive loss	(89.1)	(97.3)
Total stockholders' equity	<u>641.6</u>	<u>530.1</u>
Total liabilities and stockholders' equity	<u>\$ 1,165.5</u>	<u>\$ 1,023.8</u>

FEDERAL SIGNAL CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS

(in millions)	For the Years Ended December 31,	
	2019	2018
Operating activities:		
Net income	\$ 108.5	\$ 94.0
Adjustments to reconcile net income to net cash provided by operating activities:		
Net gain on discontinued operations and disposal	(0.1)	(0.3)
Depreciation and amortization	41.5	36.4
Deferred financing costs	0.3	0.4
Deferred gain	—	(1.9)
Stock-based compensation expense	8.8	7.6
Pension expense, net of funding	(0.1)	(7.8)
Changes in fair value of contingent consideration and deferred payment	1.0	1.1
Payments for acquisition-related activity	(3.1)	—
Deferred income taxes, including change in valuation allowance	3.3	(5.6)
Changes in operating assets and liabilities:		
Accounts receivable	(4.7)	(7.9)
Inventories	(10.4)	(22.6)
Rental equipment	(35.5)	(30.6)
Prepaid expenses and other current assets	(2.2)	(1.0)
Accounts payable	(6.6)	15.6
Customer deposits	(5.1)	3.7
Accrued liabilities	2.8	8.2
Income taxes	1.3	2.2
Other	3.7	1.3
Net cash provided by continuing operating activities	103.4	92.8
Net cash used for discontinued operating activities	(0.3)	—
Net cash provided by operating activities	103.1	92.8
Investing activities:		
Purchases of properties and equipment	(35.4)	(14.1)
(Payments for) proceeds from acquisitions, net of cash acquired	(49.6)	3.0
Other, net	0.6	0.1
Net cash used for investing activities	(84.4)	(11.0)
Financing activities:		
Increase (decrease) in revolving lines of credit, net	7.4	(62.1)
Payments of debt financing fees	(1.0)	—
Purchases of treasury stock	(1.0)	(1.2)
Redemptions of common stock to satisfy withholding taxes related to stock-based compensation	(2.1)	(0.5)
Payments for acquisition-related activity	(10.3)	—
Cash dividends paid to stockholders	(19.3)	(18.7)
Proceeds from stock compensation activity	1.7	1.3
Net cash (used for) provided by financing activities	(24.6)	(81.2)
Effects of foreign exchange rate changes on cash and cash equivalents	0.1	(0.7)
Decrease in cash and cash equivalents	(5.8)	(0.1)
Cash and cash equivalents at beginning of year	37.4	37.5
Cash and cash equivalents at end of year	<u>\$ 31.6</u>	<u>\$ 37.4</u>

FEDERAL SIGNAL CORPORATION AND SUBSIDIARIES

GROUP RESULTS

The following tables summarize group operating results as of and for the three and twelve months ended December 31, 2019 and 2018:

Environmental Solutions Group

(\$ in millions)	Three Months Ended December 31,			Twelve Months Ended December 31,		
	2019	2018	Change	2019	2018	Change
Net sales	\$ 252.2	\$ 217.3	\$ 34.9	\$ 992.9	\$ 863.5	\$ 129.4
Operating income	33.0	26.9	6.1	139.4	113.0	26.4
Adjusted EBITDA	43.8	35.3	8.5	178.9	146.2	32.7
Operating data:						
Operating margin	13.1%	12.4%	0.7%	14.0%	13.1%	0.9%
Adjusted EBITDA margin	17.4%	16.2%	1.2%	18.0%	16.9%	1.1%
Total orders	\$ 270.9	\$ 239.6	\$ 31.3	\$ 1,038.0	\$ 945.8	\$ 92.2
Backlog	357.6	310.3	47.3	357.6	310.3	47.3
Depreciation and amortization	10.6	8.5	2.1	38.1	32.6	5.5

Safety and Security Systems Group

(\$ in millions)	Three Months Ended December 31,			Twelve Months Ended December 31,		
	2019	2018	Change	2019	2018	Change
Net sales	\$ 62.2	\$ 62.1	\$ 0.1	\$ 228.4	\$ 226.0	\$ 2.4
Operating income	11.8	11.8	—	38.6	34.1	4.5
Adjusted EBITDA	12.6	12.5	0.1	41.9	37.0	4.9
Operating data:						
Operating margin	19.0%	19.0%	—%	16.9%	15.1%	1.8%
Adjusted EBITDA margin	20.3%	20.1%	0.2%	18.3%	16.4%	1.9%
Total orders	\$ 62.3	\$ 58.2	\$ 4.1	\$ 231.0	\$ 227.4	\$ 3.6
Backlog	29.3	27.4	1.9	29.3	27.4	1.9
Depreciation and amortization	0.8	0.9	(0.1)	3.3	3.7	(0.4)

Corporate Expenses

Corporate operating expenses were \$8.4 million and \$5.3 million for the three months ended December 31, 2019 and 2018, respectively.

Corporate operating expenses were \$30.9 million and \$25.6 million for the years ended December 31, 2019 and 2018, respectively.

SEC REGULATION G NON-GAAP RECONCILIATION

The financial measures presented below are unaudited and are not in accordance with U.S. generally accepted accounting principles (“GAAP”). The non-GAAP financial information presented herein should be considered supplemental to, and not a substitute for, or superior to, financial measures calculated in accordance with GAAP. The Company has provided this supplemental information to investors, analysts, and other interested parties to enable them to perform additional analyses of operating results, to illustrate the results of operations giving effect to the non-GAAP adjustments shown in the reconciliations below, and to provide an additional measure of performance which management considers in operating the business.

Impact of New Lease Accounting Standard on Non-GAAP Measures:

Effective January 1, 2019, the Company adopted the new lease accounting standard, which resulted in a change to the Company’s recognition of the deferred gain associated with historical sale lease-back transactions. Prior to 2019, the deferred gain, which initially totaled \$29.0 million, was being recognized through the Consolidated Statement of Operations on a straight-line basis over the 15-year lease term. As a result, approximately \$1.9 million of the deferred gain had been recognized each year since 2008, of which approximately \$1.1 million and \$0.8 million had been recognized within the Environmental Solutions Group and Safety and Security Systems Group, respectively. Effective in 2019, the Company no longer recognizes any portion of the gain through the Consolidated Statement of Operations, and recognized the remaining deferred gain balance, net of the related deferred tax asset, as a cumulative effect adjustment to opening retained earnings. To facilitate comparisons with prior periods, we have revised our previously-issued non-GAAP results for the year ended December 31, 2018 to exclude the recognition of this deferred gain.

Adjusted income from continuing operations and adjusted earnings per share from continuing operations (“Adjusted EPS”):

The Company believes that modifying its 2019 and 2018 income from continuing operations and diluted earnings per share from continuing operations (“EPS”) provides additional measures which are representative of the Company’s underlying performance and improve the comparability of results between reporting periods. Adjusted income from continuing operations and adjusted EPS are both non-GAAP measures. During the three and twelve months ended December 31, 2019 and 2018, adjustments were made to reported GAAP income from continuing operations and diluted EPS to exclude the impact of acquisition and integration-related expenses, purchase accounting effects and hearing loss settlement charges, where applicable. In addition, during the three and twelve months ended December 31, 2019 and 2018, adjustments were made to reported GAAP income tax expense (benefit) to exclude certain special tax items.

(in millions)	Three Months Ended December 31,		Twelve Months Ended December 31,	
	2019	2018	2019	2018
Income from continuing operations	\$ 29.7	\$ 32.2	\$ 108.4	\$ 93.7
Add:				
Income tax expense (benefit)	4.8	(1.0)	30.2	17.9
Income before income taxes	34.5	31.2	138.6	111.6
Add:				
Acquisition and integration-related expenses	0.6	0.2	2.5	1.5
Purchase accounting effects ^(a)	0.3	0.1	0.8	1.2
Hearing loss settlement charges	—	—	—	0.4
Adjusted income before income taxes	\$ 35.4	\$ 31.5	\$ 141.9	\$ 114.7
Adjusted income tax expense ^{(b) (c)}	(5.9)	(7.7)	(31.8)	(27.2)
Adjusted income from continuing operations	\$ 29.5	\$ 23.8	\$ 110.1	\$ 87.5
Less:				
Deferred gain recognition, net of income tax expense	—	(0.4)	—	(1.5)
Adjusted income from continuing operations, as revised	\$ 29.5	\$ 23.4	\$ 110.1	\$ 86.0
(dollars per diluted share)	Three Months Ended December 31,		Twelve Months Ended December 31,	
	2019	2018	2019	2018
EPS, as reported	\$ 0.48	\$ 0.53	\$ 1.76	\$ 1.53
Add:				
Income tax expense (benefit)	0.08	(0.02)	0.49	0.29
Income before income taxes	0.56	0.51	2.25	1.82
Add:				
Acquisition and integration-related expenses	0.01	0.00	0.04	0.02
Purchase accounting effects ^(a)	0.01	0.00	0.01	0.02
Hearing loss settlement charges	—	—	—	0.01
Adjusted income before income taxes	\$ 0.58	\$ 0.51	\$ 2.30	\$ 1.87
Adjusted income tax expense ^{(b) (c)}	(0.10)	(0.12)	(0.51)	(0.44)
Adjusted EPS	\$ 0.48	\$ 0.39	\$ 1.79	\$ 1.43
Less:				
Deferred gain recognition, net of income tax expense	—	(0.01)	—	(0.02)
Adjusted EPS, as revised	\$ 0.48	\$ 0.38	\$ 1.79	\$ 1.41

- (a) Purchase accounting effects relate to adjustments to exclude the step-up in the valuation of equipment acquired in connection with recent acquisitions that was sold subsequent to the acquisition dates in the three and twelve months ended December 31, 2019 and 2018, as well as to exclude the depreciation of the step-up in the valuation of the rental fleet acquired in the JJE transaction.
- (b) Adjusted income tax expense for the three and twelve months ended December 31, 2019 excludes an \$0.8 million benefit from changes in state deferred tax valuation allowances. Adjusted income tax expense for the three and twelve months ended December 31, 2019 also excludes the tax effects of acquisition and integration-related expenses and purchase accounting effects, where applicable.
- (c) Adjusted income tax expense for the three and twelve months ended December 31, 2018 excludes an \$8.6 million net tax benefit associated with tax planning strategies. Adjusted income tax expense for the three and twelve months ended December 31, 2018 also excludes the tax effects of acquisition and integration-related expenses, purchase accounting effects and hearing loss settlement charges, where applicable.

Adjusted EBITDA:

The Company uses adjusted EBITDA and the ratio of adjusted EBITDA to net sales (“adjusted EBITDA margin”), at both the consolidated and segment level, as additional measures which are representative of its underlying performance and to improve the comparability of results across reporting periods. We believe that investors use versions of these metrics in a similar manner. For these reasons, the Company believes that adjusted EBITDA and adjusted EBITDA margin, at both the consolidated and segment level, are meaningful metrics to investors in evaluating the Company’s underlying financial performance.

Consolidated adjusted EBITDA is a non-GAAP measure that represents the total of income from continuing operations, interest expense, hearing loss settlement charges, acquisition and integration-related expenses, purchase accounting effects, other expense/income, income tax expense (benefit), and depreciation and amortization expense, as applicable. Consolidated adjusted EBITDA margin is a non-GAAP measure that represents the total of income from continuing operations, interest expense, hearing loss settlement charges, acquisition and integration-related expenses, purchase accounting effects, other expense/income, income tax expense (benefit), and depreciation and amortization expense, as applicable, divided by net sales for the applicable period(s).

Segment adjusted EBITDA is a non-GAAP measure that represents the total of segment operating income, acquisition and integration-related expenses, purchase accounting effects and depreciation and amortization expense, as applicable. Segment adjusted EBITDA margin is a non-GAAP measure that represents the total of segment operating income, acquisition and integration-related expenses, purchase accounting effects and depreciation and amortization expense, as applicable, divided by net sales for the applicable period(s). Segment operating income includes all revenues, costs and expenses directly related to the segment involved. In determining segment income, neither corporate nor interest expenses are included. Segment depreciation and amortization expense relates to those assets, both tangible and intangible, that are utilized by the respective segment.

Other companies may use different methods to calculate adjusted EBITDA and adjusted EBITDA margin.

Consolidated

The following table summarizes the Company’s consolidated adjusted EBITDA and adjusted EBITDA margin and reconciles income from continuing operations to consolidated adjusted EBITDA for the three and twelve months ended December 31, 2019 and 2018:

(\$ in millions)	Three Months Ended December 31,		Twelve Months Ended December 31,	
	2019	2018	2019	2018
Income from continuing operations	29.7	32.2	108.4	93.7
Add:				
Interest expense	1.8	2.1	7.9	9.3
Hearing loss settlement charges	—	—	—	0.4
Acquisition and integration-related expenses	0.6	0.2	2.5	1.5
Purchase accounting effects *	0.1	—	0.2	0.7
Other expense, net	0.1	0.1	0.6	0.6
Income tax expense (benefit)	4.8	(1.0)	30.2	17.9
Depreciation and amortization	11.4	9.4	41.5	36.4
Consolidated adjusted EBITDA	\$ 48.5	\$ 43.0	\$ 191.3	\$ 160.5
Less:				
Deferred gain recognition	—	(0.4)	\$ —	\$ (1.9)
Consolidated adjusted EBITDA, as revised	\$ 48.5	\$ 42.6	\$ 191.3	\$ 158.6
Net sales	\$ 314.4	\$ 279.4	\$ 1,221.3	\$ 1,089.5
Consolidated adjusted EBITDA margin	15.4%	15.4%	15.7%	14.7%
Consolidated adjusted EBITDA margin, as revised	15.4%	15.2%	15.7%	14.6%

* Excludes purchase accounting expense effects included within depreciation and amortization of \$0.2 million and \$0.1 million for the three months ended December 31, 2019 and 2018, and \$0.6 million and \$0.5 million for the twelve months ended December 31, 2019 and 2018, respectively

Environmental Solutions Group

The following table summarizes the Environmental Solutions Group's adjusted EBITDA and adjusted EBITDA margin and reconciles operating income to adjusted EBITDA for the three and twelve months ended December 31, 2019 and 2018:

(\$ in millions)	Three Months Ended December 31,		Twelve Months Ended December 31,	
	2019	2018	2019	2018
Operating income	\$ 33.0	\$ 26.9	\$ 139.4	\$ 113.0
Add:				
Acquisition and integration-related expenses	0.1	0.1	1.2	1.0
Purchase accounting effects *	0.1	—	0.2	0.7
Depreciation and amortization	10.6	8.5	38.1	32.6
Adjusted EBITDA	\$ 43.8	\$ 35.5	\$ 178.9	\$ 147.3
Less:				
Deferred gain recognition	—	(0.2)	\$ —	\$ (1.1)
Adjusted EBITDA, as revised	\$ 43.8	\$ 35.3	\$ 178.9	\$ 146.2
Net sales	\$ 252.2	\$ 217.3	\$ 992.9	\$ 863.5
Adjusted EBITDA margin	17.4%	16.3%	18.0%	17.1%
Adjusted EBITDA margin, as revised	17.4%	16.2%	18.0%	16.9%

* Excludes purchase accounting expense effects included within depreciation and amortization of \$0.2 million and \$0.1 million for the three months ended December 31, 2019 and 2018, and \$0.6 million and \$0.5 million for the twelve months ended December 31, 2019 and 2018, respectively.

Safety and Security Systems Group

The following table summarizes the Safety and Security Systems Group's adjusted EBITDA and adjusted EBITDA margin and reconciles operating income to adjusted EBITDA for the three and twelve months ended December 31, 2019 and 2018:

(\$ in millions)	Three Months Ended December 31,		Twelve Months Ended December 31,	
	2019	2018	2019	2018
Operating income	\$ 11.8	\$ 11.8	\$ 38.6	\$ 34.1
Add:				
Depreciation and amortization	0.8	0.9	3.3	3.7
Adjusted EBITDA	\$ 12.6	\$ 12.7	\$ 41.9	\$ 37.8
Less:				
Deferred gain recognition	—	(0.2)	\$ —	\$ (0.8)
Adjusted EBITDA, as revised	\$ 12.6	\$ 12.5	\$ 41.9	\$ 37.0
Net sales	\$ 62.2	\$ 62.1	\$ 228.4	\$ 226.0
Adjusted EBITDA margin	20.3%	20.5%	18.3%	16.7%
Adjusted EBITDA margin, as revised	20.3%	20.1%	18.3%	16.4%