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FOR IMMEDIATE RELEASE

Federal Signal Reports Strong Start to 2020 with First Quarter Operating Income up 25%

Oak Brook, Illinois, April 29, 2020 — Federal Signal Corporation (NYSE:FSS) (the "Company"), a leader in environmental and safety solutions, today reported results for the first quarter ended March 31, 2020.

- Net sales of \$286 million, up \$12 million, or 4%, from last year
- Operating income of \$32.3 million, up \$6.5 million, or 25%, from last year
- GAAP EPS of \$0.38, up \$0.09, or 31%, from last year
- Adjusted EPS of \$0.39, up \$0.09, or 30%, from last year
- Orders of \$304 million, up \$5 million, or 2%, from last year
- Record backlog of \$401 million, up \$37 million, or 10%, from last year
- Operating cash flow of \$5.2 million, up \$14.0 million from last year
- Cash and cash equivalents of \$69 million, and \$211 million of availability under revolving credit facility

Consolidated net sales for the first quarter were \$286.1 million, up \$12.3 million, or 4%, versus the same quarter a year ago. Net income for the first quarter was \$23.4 million, equal to \$0.38 per diluted share, compared to \$17.5 million, equal to \$0.29 per share, in the prior-year quarter.

The Company also reported adjusted net income for the first quarter of \$24.1 million, equal to \$0.39 per diluted share, up from \$18.1 million, or \$0.30 per diluted share, in the first quarter of last 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.

Q1 Represents Strong Start to 2020, with Year-over-Year Improvement in Sales, Income and Orders

"Our first-quarter results represent a strong start to the year, and our teams did a tremendous job in delivering year-over-year improvement in exceptionally difficult circumstances," commented Jennifer L. Sherman, President and Chief Executive Officer. "On a consolidated basis, our net sales were up 4% compared to last year, and our operating income improved by 25%. Our adjusted EBITDA margin for the first quarter was 15.3%, towards the high end of our target range and up 220 basis points from last year. We also reported a 2% improvement in orders, contributing to a record backlog at the end of the quarter."

In the Environmental Solutions Group, net sales for the first quarter were \$233.0 million, up \$13.5 million, or 6%, compared to the prior-year quarter, while in the Safety and Security Systems Group, net sales were \$53.1 million, down \$1.2 million, or 2%, compared to the prior-year quarter.

Consolidated operating income for the first quarter was \$32.3 million, up \$6.5 million, or 25%, compared to the prior-year quarter, primarily driven by a \$3.7 million increase within the Environmental Solutions Group and lower corporate expenses. Consolidated operating margin was 11.3%, up from 9.4% in the prior-year quarter.

Consolidated adjusted earnings before interest, tax, depreciation and amortization ("adjusted EBITDA") for the first quarter was \$43.9 million, up \$8.0 million, or 22%, compared to the prior-year quarter, and consolidated adjusted EBITDA margin was 15.3%, compared to 13.1% last year.

Adjusted EBITDA in the Environmental Solutions Group was \$40.0 million, up \$5.3 million, or 15%, from the prior-year quarter, and its adjusted EBITDA margin was 17.2%, up from 15.8%. Within the Safety and Security Systems Group, adjusted EBITDA was \$8.2 million, down \$1.4 million from the prior-year quarter, and its adjusted EBITDA margin was 15.4%, compared to 17.7%.

Consolidated orders for the first quarter were \$303.9 million, up \$4.9 million, or 2%, compared to the prior-year quarter, contributing to a consolidated backlog of \$401 million at March 31, 2020, which represented a new record for the Company, and an increase of \$37 million, or 10%, compared to the prior-year quarter.

Improvement in Operating Cash Flow Support Cash Returns to Stockholders; Financial Position Remains Strong

Net cash of \$5.2 million was provided by operating activities during the first quarter, compared to operating cash usage of \$8.8 million in the prior-year quarter. At March 31, 2020, consolidated debt was \$279 million, total cash and cash equivalents were \$69 million and the Company had \$211 million of availability for borrowings under its five-year revolving credit facility, which was executed in July 2019.

"Our operating cash flow improved by \$14 million in comparison to the prior-year quarter," said Sherman. "However, like many other companies, we expect that the next few quarters may be challenging. We are responding accordingly, by taking actions to reduce our costs and preserve liquidity in the short-term. We are approaching the uncertainty and challenges with resolve and from a position of strength given our current financial position, and we remain steadfast in our commitment to add long-term value to our stockholders."

The Company funded dividends of \$4.8 million during the first quarter, reflecting a dividend of \$0.08 per share, and the Board of Directors recently declared a similar dividend that will be payable in the second quarter. In addition, during the first quarter the Company repurchased \$13.5 million of stock under its authorized repurchase programs.

COVID-19 Update and Outlook

"Our businesses are considered to be essential in supporting critical infrastructure needs and public safety. While certain of our operations have been affected by temporary facility closures, either due to government-issued mandates or other concerns related to COVID-19, our facilities have so far remained substantially operational during the pandemic. Given that, our primary focus has been on the safety and wellbeing of our employees," noted Sherman.

"We were proactive in implementing enhanced health and safety measures across the organization, establishing remote working arrangements, where possible, and increasing the frequency of communications to reinforce health and safety guidelines. We also modified our employee attendance policies and provided employees with additional paid time off in order to encourage those who were sick, had health concerns, or were otherwise adversely impacted by the pandemic, to remain at home.

As a result of the combination of these factors and the enactment of the Coronavirus Aid, Relief, and Economic Security Act, in recent weeks we have experienced a decrease in labor availability at several of our facilities. This has resulted in a variety of challenges in running our operations efficiently, which has adversely affected productivity levels. We are also seeing similar issues within our supply chain, with certain suppliers temporarily shut down. In addition, certain customers are unable to take delivery of equipment given the limited personnel that they currently have available. Although these factors had a limited impact on our first-quarter results, we are expecting a more significant impact in the second quarter as we adjust our production schedules accordingly.

The overall magnitude of the impact of the pandemic on our current-year results remains uncertain, and will largely depend on the duration of the pandemic and the measures implemented in response, as well as the effect on our customers. Given these factors, we are unable to reliably forecast the effect that the pandemic will have on our financial results. As a result, we are withdrawing our previously-issued adjusted EPS* outlook for 2020. Our intent is to provide a further update on our second-quarter earnings call."

CONFERENCE CALL

Federal Signal will host its first quarter conference call on Wednesday, April 29, 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 www.federalsignal.com or by dialing phone number 1-877-705-6003 and entering the pin number 13702373. A 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: www.federalsignal.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: direct and indirect impacts of the coronavirus pandemic and the associated government response, economic conditions in various regions, product and price competition, supply chain disruptions, work stoppages, availability and pricing of raw materials, risks associated with acquisitions such as integration of operations and achieving anticipated revenue and cost benefits, 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 net income and diluted EPS. When reporting adjusted EPS in 2020, we have made, and would expect to continue to make, certain adjustments to exclude the impact of acquisition and integration-related expenses, coronavirus-related expenses and purchase accounting effects, where applicable. In prior years, we have also made adjustments to GAAP net income and diluted EPS for hearing loss settlement charges and special tax items. Should any similar items occur in 2020, we would also expect to exclude them from the determination of adjusted EPS.

FEDERAL SIGNAL CORPORATION AND SUBSIDIARIES CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS (Unaudited)

		Three Months Ende March 31,		
(in millions, except per share data)	_	2020		2019
Net sales	\$	286.1	\$	273.8
Cost of sales		211.3		203.5
Gross profit	_	74.8		70.3
Selling, engineering, general and administrative expenses		42.2		43.9
Acquisition and integration-related expenses		0.3		0.6
Operating income		32.3		25.8
Interest expense		1.5		2.0
Other expense, net		0.2		0.4
Income before income taxes	_	30.6		23.4
Income tax expense		7.2		5.9
Net income	\$	23.4	\$	17.5
Earnings per share:				
Basic	\$	0.39	\$	0.29
Diluted	\$	0.38	\$	0.29
Weighted average common shares outstanding:				
Basic		60.5		60.1
Diluted		61.7		61.2
Cash dividends declared per common share	\$	0.08	\$	0.08
Operating data:				
Operating margin		11.3%		9.4%
Adjusted EBITDA	\$	43.9	\$	35.9
Adjusted EBITDA margin	Ψ	15.3%		13.1%
Total orders	\$	303.9	\$	299.0
Backlog	Ψ	400.8	Ψ	363.5
Depreciation and amortization		10.8		9.5
- providence and universalization		10.0		7.5

FEDERAL SIGNAL CORPORATION AND SUBSIDIARIES CONDENSED CONSOLIDATED BALANCE SHEETS

	March 31, 2020		De	cember 31, 2019
(in millions, except per share data)	(U	naudited)		
ASSETS				
Current assets:				
Cash and cash equivalents	\$	69.4	\$	31.6
Accounts receivable, net of allowances for doubtful accounts of \$2.3 and \$2.4, respectively		141.4		134.2
Inventories		201.4		182.9
Prepaid expenses and other current assets		10.7		12.0
Total current assets		422.9		360.7
Properties and equipment, net of accumulated depreciation of \$127.5 and \$125.5, respectively		98.1		91.9
Rental equipment, net of accumulated depreciation of \$34.6 and \$33.6, respectively		115.9		115.4
Operating lease right-of-use assets		25.8		27.6
Goodwill		387.9		388.8
Intangible assets, net of accumulated amortization of \$24.5 and \$22.1, respectively		159.8		162.9
Deferred tax assets		9.2		10.0
Deferred charges and other long-term assets		7.2		7.9
Long-term assets of discontinued operations		0.3		0.3
Total assets	\$	1,227.1	\$	1,165.5
LIABILITIES AND STOCKHOLDERS' EQUITY				
Current liabilities:				
Current portion of long-term borrowings and finance lease obligations	\$	0.2	\$	0.2
Accounts payable		78.0		65.0
Customer deposits		15.6		11.5
Accrued liabilities:				
Compensation and withholding taxes		23.0		31.1
Other current liabilities		50.1		52.2
Current liabilities of discontinued operations		0.2		0.2
Total current liabilities		167.1		160.2
Long-term borrowings and finance lease obligations		278.7		220.3
Long-term operating lease liabilities		19.8		21.6
Long-term pension and other postretirement benefit liabilities		48.9		50.9
Deferred tax liabilities		54.3		52.7
Other long-term liabilities		21.2		17.3
Long-term liabilities of discontinued operations		0.9		0.9
Total liabilities		590.9		523.9
Stockholders' equity:				
Common stock, \$1 par value per share, 90.0 shares authorized, 67.2 and 66.9 shares issued, respectively		67.2		66.9
Capital in excess of par value		230.1		228.6
Retained earnings		546.8		528.2
Treasury stock, at cost, 7.0 and 6.4 shares, respectively		(111.4)		(93.0)
Accumulated other comprehensive loss		(96.5)		(89.1)
Total stockholders' equity		636.2	_	641.6
Total liabilities and stockholders' equity	\$	1,227.1	\$	1,165.5
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FEDERAL SIGNAL CORPORATION AND SUBSIDIARIES CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS (Unaudited)

Operating activities: \$ 23.4 \$ 17.5 Adjustments to reconcile net income to net cash provided by (used for) operating activities: \$ 23.4 \$ 17.5 Net gain on sales of properties and equipment (0.2) — Depreciation and amortization 10.8 \$ 9.5 9.5 Deferred financing costs 0.1 0.1 0.1 Stock-based compensation expense 1.0 1.4 1.4 Pension (benefit) expense, net of funding (0.4) (0.1 0.1 Changes in fair value of contingent consideration and deferred payment — 0.3 Deferred income taxes 2.8 1.2 1.2 Changes in operating assets and liabilities (32.3) (38.7 (38.8 Net cash provided by (used for) operating activities 5.2 (8.8 (8.8 Investing activities: 9 (9.5) (4.5 (4.5 Proceeds from acquisition-related activity 0.8 — — Net cash used for investing activities (8.4) (4.5 (4.5 Financing activities: (8.4) (4.5 (4.5 Purchases of treasury stock (1.0 (1.0 (4.0) (1.1 (4.0) (1.1 (4.0) (1.1 (4.0) (1.1 (4		Three Months End March 31,			nded
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Financing activities: Increase in revolving lines of credit, net Purchases of treasury stock Redemptions of common stock to satisfy withholding taxes related to stock-based compensation Cash dividends paid to stockholders Other, net Net cash provided by (used for) financing activities Heffects of foreign exchange rate changes on cash and cash equivalents Cash and cash equivalents at beginning of year 63.6 5.5 (1.0 (4.0) (1.1 (4.8) (4.8) (4.8) (4.8) (1.4)	Proceeds from acquisition-related activity		0.8		_
Increase in revolving lines of credit, net Purchases of treasury stock Redemptions of common stock to satisfy withholding taxes related to stock-based compensation Cash dividends paid to stockholders Other, net Net cash provided by (used for) financing activities Effects of foreign exchange rate changes on cash and cash equivalents Cash and cash equivalents at beginning of year 63.6 5.5 (4.0) (1.1) (4.0) (1.1) (4.8) (4.8) (4.8) (4.8) (4.8) (1.4) (Net cash used for investing activities		(8.4)		(4.5)
Purchases of treasury stock Redemptions of common stock to satisfy withholding taxes related to stock-based compensation Cash dividends paid to stockholders Other, net Net cash provided by (used for) financing activities Effects of foreign exchange rate changes on cash and cash equivalents Cash and cash equivalents at beginning of year (13.5) (1.0) (4.0) (4.1) (4.8) (4.8) (4.8) (4.8) (4.8) (4.8) (4.8) (4.8) (4.8) (4.8) (4.9) (4.1) (4.9) (4.1) (4.8) (Financing activities:				
Redemptions of common stock to satisfy withholding taxes related to stock-based compensation (4.0) (1.1) Cash dividends paid to stockholders Other, net Net cash provided by (used for) financing activities 41.4 (1.4) Effects of foreign exchange rate changes on cash and cash equivalents (0.4) — Increase (decrease) in cash and cash equivalents Cash and cash equivalents at beginning of year 31.6 37.4	Increase in revolving lines of credit, net		63.6		5.5
compensation(4.0)(1.1)Cash dividends paid to stockholders(4.8)(4.8)Other, net0.1—Net cash provided by (used for) financing activities41.4(1.4)Effects of foreign exchange rate changes on cash and cash equivalents(0.4)—Increase (decrease) in cash and cash equivalents37.8(14.7)Cash and cash equivalents at beginning of year31.637.4	Purchases of treasury stock		(13.5)		(1.0)
compensation(4.0)(1.1)Cash dividends paid to stockholders(4.8)(4.8)Other, net0.1—Net cash provided by (used for) financing activities41.4(1.4)Effects of foreign exchange rate changes on cash and cash equivalents(0.4)—Increase (decrease) in cash and cash equivalents37.8(14.7)Cash and cash equivalents at beginning of year31.637.4	Redemptions of common stock to satisfy withholding taxes related to stock-based		` /		` ′
Other, net Net cash provided by (used for) financing activities 41.4 Effects of foreign exchange rate changes on cash and cash equivalents Increase (decrease) in cash and cash equivalents Cash and cash equivalents at beginning of year 0.1 41.4 (1.4) 6.5 6.7 6.7 6.8 6.9 6.9 6.9 6.9 6.9 6.9 6.9			(4.0)		(1.1)
Net cash provided by (used for) financing activities 41.4 Effects of foreign exchange rate changes on cash and cash equivalents Increase (decrease) in cash and cash equivalents Cash and cash equivalents at beginning of year 31.6 37.4	Cash dividends paid to stockholders		(4.8)		(4.8)
Net cash provided by (used for) financing activities 41.4 Effects of foreign exchange rate changes on cash and cash equivalents Increase (decrease) in cash and cash equivalents Cash and cash equivalents at beginning of year 31.6 37.4	Other, net				
Effects of foreign exchange rate changes on cash and cash equivalents(0.4)—Increase (decrease) in cash and cash equivalents37.8(14.7)Cash and cash equivalents at beginning of year31.637.4			41.4		(1.4)
Increase (decrease) in cash and cash equivalents37.8(14.7Cash and cash equivalents at beginning of year31.637.4	• • • • • •		(0.4)		
Cash and cash equivalents at beginning of year 31.6 37.4	Increase (decrease) in cash and cash equivalents		_ `		(14.7)
<u> </u>	` /				37.4
		\$		\$	22.7

FEDERAL SIGNAL CORPORATION AND SUBSIDIARIES GROUP RESULTS (Unaudited)

The following tables summarize group operating results as of and for the three months ended March 31, 2020 and 2019:

Environmental Solutions Group

	Three Months Ended March 31,				31,	
(\$ in millions)	2020			2019		Change
Net sales	\$	233.0	\$	219.5	\$	13.5
Operating income		29.4		25.7		3.7
Adjusted EBITDA		40.0		34.7		5.3
Operating data:						
Operating margin		12.6%		11.7%		0.9%
Adjusted EBITDA margin		17.2%		15.8%		1.4%
Total orders	\$	237.5	\$	243.7	\$	(6.2)
Backlog		358.4		335.4		23.0
Depreciation and amortization		10.0		8.6		1.4

Safety and Security Systems Group

	Three Months Ended March 31,				31,	
(\$ in millions)		2020		2019	(Change
Net sales	\$	53.1	\$	54.3	\$	(1.2)
Operating income		7.4		8.7		(1.3)
Adjusted EBITDA		8.2		9.6		(1.4)
Operating data:						
Operating margin		13.9%		16.0%		(2.1)%
Adjusted EBITDA margin		15.4%		17.7%		(2.3)%
Total orders	\$	66.4	\$	55.3	\$	11.1
Backlog		42.4		28.1		14.3
Depreciation and amortization		0.8		0.9		(0.1)

Corporate Expenses

Corporate operating expenses were \$4.5 million and \$8.6 million for the three months ended March 31, 2020 and 2019, 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.

Adjusted Net Income and Earnings Per Share ("EPS"):

The Company believes that modifying its 2020 and 2019 net income and diluted EPS provides additional measures which are representative of the Company's underlying performance and improves the comparability of results across reporting periods. During the three months ended March 31, 2020 and 2019 adjustments were made to reported GAAP net income and diluted EPS to exclude the impact of acquisition and integration-related expenses, coronavirus-related expenses and purchase accounting effects, where applicable.

	Three Months Er 31,			
(in millions)	2020	2019		
Net income	\$ 23.4 \$	17.5		
Add:				
Income tax expense	7.2	5.9		
Income before income taxes	30.6	23.4		
Add:				
Acquisition and integration-related expenses	0.3	0.6		
Coronavirus-related expenses (a)	0.4	_		
Purchase accounting effects (b)	0.2	0.1		
Adjusted income before income taxes	31.5	24.1		
Adjusted income tax expense (c)	(7.4)	(6.0)		
Adjusted net income	\$ 24.1 \$	18.1		
	Three Months En			
(dollars per diluted share)	2020	2019		
EPS, as reported	31,	2019		
EPS, as reported Add:	\$ 0.38 \$	2019		
EPS, as reported Add: Income tax expense	\$ 0.38 \$ 0.12	2019 0.29 0.10		
EPS, as reported Add: Income tax expense Income before income taxes	\$ 0.38 \$	2019		
EPS, as reported Add: Income tax expense Income before income taxes Add:	31, 2020 \$ 0.38 \$ 0.12 0.50	0.29 0.10 0.39		
EPS, as reported Add: Income tax expense Income before income taxes Add: Acquisition and integration-related expenses	31, 2020 \$ 0.38 \$ 0.12 0.50	2019 0.29 0.10		
EPS, as reported Add: Income tax expense Income before income taxes Add: Acquisition and integration-related expenses Coronavirus-related expenses (a)	31, 2020 \$ 0.38 \$ 0.12 0.50 0.00 0.01	0.29 0.10 0.39 0.01		
EPS, as reported Add: Income tax expense Income before income taxes Add: Acquisition and integration-related expenses Coronavirus-related expenses (a) Purchase accounting effects (b)	31, 2020 \$ 0.38 \$ 0.12 0.50 0.00 0.01 0.00	0.29 0.10 0.39 0.01 — 0.00		
EPS, as reported Add: Income tax expense Income before income taxes Add: Acquisition and integration-related expenses Coronavirus-related expenses (a) Purchase accounting effects (b) Adjusted income before income taxes	31, 2020 \$ 0.38 \$ 0.12 0.50 0.00 0.01 0.00 0.01 0.00 0.51	0.10 0.39 0.01 0.00 0.40		
EPS, as reported Add: Income tax expense Income before income taxes Add: Acquisition and integration-related expenses Coronavirus-related expenses (a) Purchase accounting effects (b)	31, 2020 \$ 0.38 \$ 0.12 0.50 0.00 0.01 0.00	0.19 0.29 0.10 0.39 0.01 0.00 0.40 (0.10)		

- (a) Coronavirus-related expenses in the three months ended March 31, 2020 relate to direct expenses incurred in connection with the Company's response to the coronavirus pandemic, that are incremental to, and separable from, normal operations.
- (b) Purchase accounting effects relate to adjustments to exclude the step-up in the valuation of acquired JJE equipment that was sold subsequent to the acquisition in the three months ended March 31, 2020 and 2019, as well as to exclude the depreciation of the step-up in the valuation of the rental fleet acquired.
- (c) Adjusted income tax expense for the three months ended March 31, 2020 and 2019 was recomputed after excluding the impact of acquisition and integration-related expenses, coronavirus-related expenses and purchase accounting effects, where applicable.

Adjusted EBITDA and Adjusted EBITDA Margin:

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 net income, interest expense, acquisition and integration-related expenses, coronavirus-related expenses, purchase accounting effects, other income/expense, income tax expense, and depreciation and amortization expense. Consolidated adjusted EBITDA margin is a non-GAAP measure that represents the total of net income, interest expense, acquisition and integration-related expenses, coronavirus-related expenses, purchase accounting effects, other income/expense, income tax expense, and depreciation and amortization expense 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, coronavirus-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, coronavirus-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 net income to consolidated adjusted EBITDA for the three months ended March 31, 2020 and 2019:

	Th	ed March		
(\$ in millions)	2020			2019
Net income	\$	23.4	\$	17.5
Add:				
Interest expense		1.5		2.0
Acquisition and integration-related expenses		0.3		0.6
Coronavirus-related expenses		0.4		
Purchase accounting effects*		0.1		_
Other expense, net		0.2		0.4
Income tax expense		7.2		5.9
Depreciation and amortization		10.8		9.5
Consolidated adjusted EBITDA	\$	43.9	\$	35.9
Net sales	\$	286.1	\$	273.8
Consolidated adjusted EBITDA margin		15.3%		13.1%

^{*} Excludes purchase accounting expenses reflected in depreciation and amortization of \$0.1 million and \$0.1 million for the three months ended March 31, 2020 and 2019, 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 months ended March 31, 2020 and 2019:

	Ti	Three Months Ended Ma 31,				
(\$ in millions)		2020		2020		2019
Operating income	\$	29.4	\$	25.7		
Add:						
Acquisition and integration-related expenses		0.1		0.4		
Coronavirus-related expenses		0.4		_		
Purchase accounting effects*		0.1		_		
Depreciation and amortization		10.0		8.6		
Adjusted EBITDA	\$	40.0	\$	34.7		
Net sales	\$	233.0	\$	219.5		
Adjusted EBITDA margin	_	17.2%		15.8%		

^{*} Excludes purchase accounting expenses reflected in depreciation and amortization of \$0.1 million and \$0.1 million for the three months ended March 31, 2020 and 2019, 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 months ended March 31, 2020 and 2019:

		Three Months Ended Ma 31,			
(\$ in millions)	-		2020		2019
Operating income	•	\$	7.4	\$	8.7
Add:					
Coronavirus-related expenses			0.0		_
Depreciation and amortization			0.8		0.9
Adjusted EBITDA		\$	8.2	\$	9.6
Net sales	-	\$	53.1	\$	54.3
Adjusted EBITDA margin			15.4%		17.7%