



ACMA 4Q23 Pulse of the Industry Survey

Release: September 20, 2023

Compiled by Vault Consulting, LLC

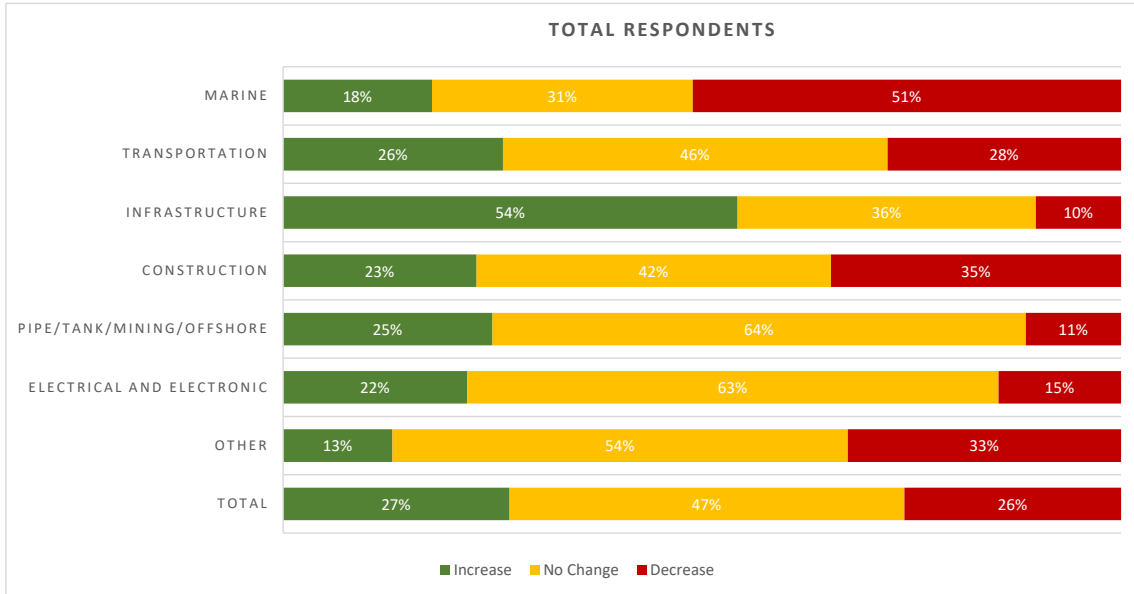


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SUMMARY OF KEY FINDINGS:

- Total respondents report a larger decrease 4Q23 vs. 3Q23 in customer demand for the Marine industry, down by 8 percentage points, 51% vs. 43%, respectively.
 - Fewer respondents also indicate customer demand for the Infrastructure market is increasing in 4Q23, 54%, relative to 3Q23, 65%.
- Year over year, two-thirds of total respondents report customer demand for the Infrastructure market increased, while 65% report the Marine market decreased.
- The majority of total respondents report that product lead times for all inputs tracked has not changed and that current inventory levels are at the right amount.
 - Inventory for thermoplastic is the one resource where total respondents are more likely to report a mixed view of levels, with 19% saying higher, 57% saying just right and 24% saying lower.
- 88% of respondents indicate hiring and training is a topic that is somewhat/very important to them, while 70% report hydrogen use is not very/not at all important to them at this time.
 - No "Other" topics surfaced as a hot issue this quarter

Customer Demand in Q4 2023 Compared with Q3 2023



Survey Question: What is the outlook for customer demand in North America in current quarter compared to the previous quarter for the following markets? Please only answer for markets for which you have

Overall Market			
Market	Increase	No Change	Decrease
Marine	18%	31%	51%
Transportation	26%	46%	28%
Infrastructure	54%	36%	10%
Construction	23%	42%	35%
Pipe/Tank/Mining/Offshore	25%	64%	11%
Electrical and Electronic	22%	63%	15%
Other	13%	54%	33%
Total	27%	47%	26%

Company Count	
	41
	55
	52
	47
	39
	37
	42
Total	76

Manufacturer			
Market	Increase	No Change	Decrease
Marine	22%	37%	41%
Transportation	31%	38%	31%
Infrastructure	53%	32%	15%
Construction	26%	42%	32%
Pipe/Tank/Mining/Offshore	33%	54%	13%
Electrical and Electronic	17%	70%	13%
Other	13%	63%	23%
Total	29%	47%	25%

Company Count	
	27
	39
	34
	31
	24
	23
	30
Total	51

Supplier / Distributor			
Market	Increase	No Change	Decrease
Marine	7%	14%	79%
Transportation	13%	56%	31%
Infrastructure	44%	50%	6%
Construction	6%	44%	50%
Pipe/Tank/Mining/Offshore	7%	87%	7%
Electrical and Electronic	14%	64%	21%
Other	0%	42%	58%
Total	14%	51%	34%

Company Count	
	14
	16
	18
	16
	15
	14
	12
Total	18

Affiliate			
Market	Increase	No Change	Decrease
Marine	25%	50%	25%
Transportation	33%	67%	0%
Infrastructure	86%	14%	0%
Construction	60%	40%	0%
Pipe/Tank/Mining/Offshore	40%	40%	20%
Electrical and Electronic	75%	25%	0%
Other	50%	25%	25%
Total	54%	37%	9%

Company Count
4
6
7
5
5
4
4
7

Small: 1 - 10 Employees			
Market	Increase	No Change	Decrease
Marine	40%	40%	20%
Transportation	43%	57%	0%
Infrastructure	89%	11%	0%
Construction	60%	40%	0%
Pipe/Tank/Mining/Offshore	20%	60%	20%
Electrical and Electronic	67%	33%	0%
Other	25%	50%	25%
Total	54%	39%	7%

Company Count
5
7
9
5
5
6
4
9

Medium: 11 - 100 Employees			
Market	Increase	No Change	Decrease
Marine	22%	44%	33%
Transportation	44%	38%	19%
Infrastructure	58%	17%	25%
Construction	36%	36%	29%
Pipe/Tank/Mining/Offshore	55%	27%	18%
Electrical and Electronic	18%	55%	27%
Other	15%	46%	38%
Total	36%	37%	27%

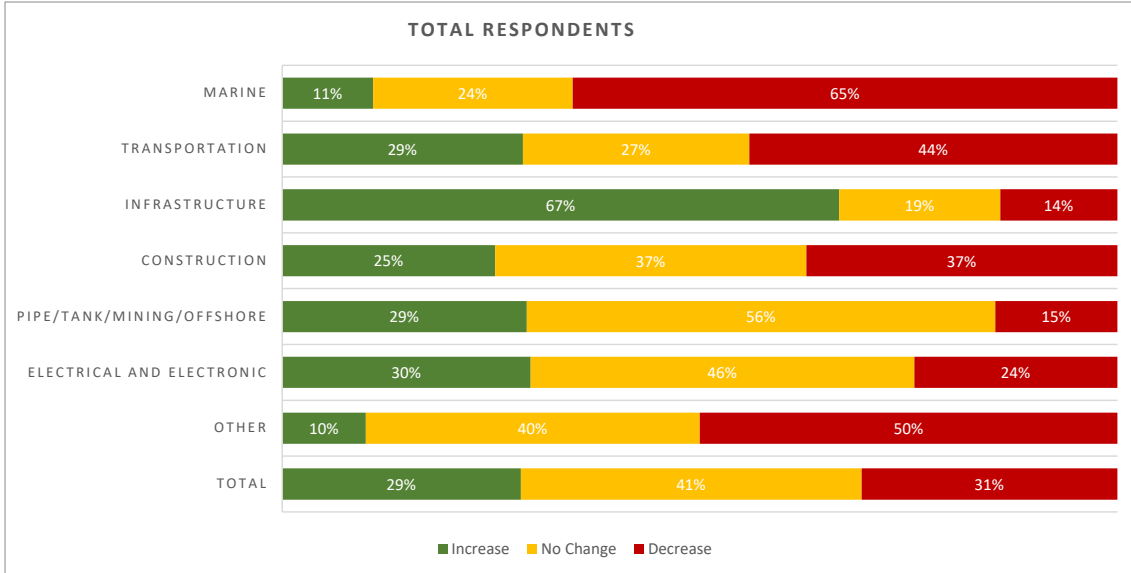
Company Count
9
16
12
14
11
11
13
20

Large: 101+ Employees			
Market	Increase	No Change	Decrease
Marine	13%	26%	61%
Transportation	16%	47%	37%
Infrastructure	45%	47%	8%
Construction	12%	45%	42%
Pipe/Tank/Mining/Offshore	14%	79%	7%
Electrical and Electronic	13%	75%	13%
Other	10%	59%	31%
Total	19%	52%	29%

Company Count
31
38
38
33
28
24
29
47

*Darker shading represents the higher responses by market segment. Shading does not represent statistical significance.

Customer Demand in North American 2023 vs. 2022



Survey Question: What is the outlook for customer demand in North America in 2023 compared to 2022 in the following markets? Please only answer for markets for which you have knowledge.

Overall Market			
Market	Increase	No Change	Decrease
Marine	11%	24%	65%
Transportation	29%	27%	44%
Infrastructure	67%	19%	14%
Construction	25%	37%	37%
Pipe/Tank/Mining/Offshore	29%	56%	15%
Electrical and Electronic	30%	46%	24%
Other	10%	40%	50%
Total	29%	41%	31%

Company Count	
Marine	41
Transportation	53
Infrastructure	50
Construction	46
Pipe/Tank/Mining/Offshore	36
Electrical and Electronic	33
Other	36
Total	75

Manufacturer			
Market	Increase	No Change	Decrease
Marine	16%	28%	56%
Transportation	38%	24%	38%
Infrastructure	72%	13%	16%
Construction	24%	38%	38%
Pipe/Tank/Mining/Offshore	33%	57%	10%
Electrical and Electronic	26%	58%	16%
Other	4%	46%	50%
Total	33%	35%	33%

Company Count	
Marine	25
Transportation	37
Infrastructure	32
Construction	29
Pipe/Tank/Mining/Offshore	21
Electrical and Electronic	19
Other	24
Total	49

Supplier / Distributor			
Market	Increase	No Change	Decrease
Marine	0%	19%	81%
Transportation	6%	25%	69%
Infrastructure	44%	39%	17%
Construction	18%	35%	47%
Pipe/Tank/Mining/Offshore	13%	60%	27%
Electrical and Electronic	21%	36%	43%
Other	8%	33%	58%
Total	17%	35%	48%

Company Count	
Marine	16
Transportation	16
Infrastructure	18
Construction	17
Pipe/Tank/Mining/Offshore	15
Electrical and Electronic	14
Other	12
Total	19

Affiliate			
Market	Increase	No Change	Decrease
Marine	20%	20%	60%
Transportation	33%	50%	17%
Infrastructure	100%	0%	0%
Construction	60%	40%	0%
Pipe/Tank/Mining/Offshore	60%	40%	0%
Electrical and Electronic	75%	25%	0%
Other	50%	25%	25%
Total	58%	28%	14%

Company Count
5
6
7
5
5
4
4
7

Small: 1 - 10 Employees			
Market	Increase	No Change	Decrease
Marine	17%	17%	67%
Transportation	17%	67%	17%
Infrastructure	89%	11%	0%
Construction	40%	60%	0%
Pipe/Tank/Mining/Offshore	40%	60%	0%
Electrical and Electronic	67%	33%	0%
Other	25%	50%	25%
Total	46%	39%	15%

Company Count
6
6
9
5
5
6
4
9

Medium: 11 - 100 Employees			
Market	Increase	No Change	Decrease
Marine	0%	57%	43%
Transportation	36%	21%	43%
Infrastructure	55%	9%	36%
Construction	33%	17%	50%
Pipe/Tank/Mining/Offshore	13%	50%	38%
Electrical and Electronic	14%	43%	43%
Other	0%	44%	56%
Total	25%	31%	44%

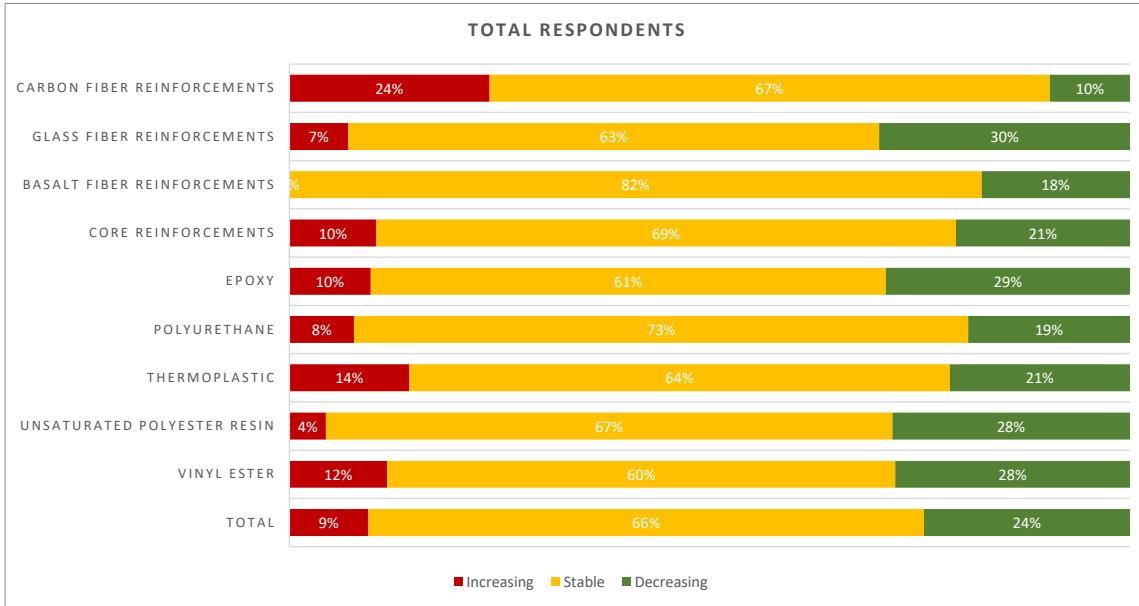
Company Count
7
14
11
12
8
7
9
19

Large: 101+ Employees			
Market	Increase	No Change	Decrease
Marine	12%	18%	70%
Transportation	28%	23%	49%
Infrastructure	65%	24%	11%
Construction	21%	41%	38%
Pipe/Tank/Mining/Offshore	32%	57%	11%
Electrical and Electronic	25%	50%	25%
Other	11%	37%	52%
Total	29%	34%	37%

Company Count
33
39
37
34
28
24
27
47

*Darker shading represents the higher responses by market segment. Shading does not represent statistical significance.

Current Product Lead Time



Survey Question: What is the current lead time for the following inputs? Please only answer for products for which you have knowledge.

Overall			
Product	Increasing	Stable	Decreasing
Carbon Fiber Reinforcements	24%	67%	10%
Glass Fiber Reinforcements	7%	63%	30%
Basalt Fiber Reinforcements	0%	82%	18%
Core Reinforcements	10%	69%	21%
Epoxy	10%	61%	29%
Polyurethane	8%	73%	19%
Thermoplastic	14%	64%	21%
Unsaturated Polyester Resin	4%	67%	28%
Vinyl Ester	12%	60%	28%
Total	9%	66%	24%

Company Count
19
55
15
27
29
24
26
43
40
65

Manufacturer			
Product	Increasing	Stable	Decreasing
Carbon Fiber Reinforcements	17%	67%	17%
Glass Fiber Reinforcements	5%	72%	23%
Basalt Fiber Reinforcements	0%	80%	20%
Core Reinforcements	17%	67%	17%
Epoxy	6%	71%	24%
Polyurethane	13%	73%	13%
Thermoplastic	22%	61%	17%
Unsaturated Polyester Resin	7%	72%	21%
Vinyl Ester	19%	62%	19%
Total	11%	69%	20%

Company Count
12
43
10
18
17
15
18
29
26
46

Supplier / Distributor			
Product	Increasing	Stable	Decreasing
Carbon Fiber Reinforcements	29%	71%	0%
Glass Fiber Reinforcements	8%	33%	58%
Basalt Fiber Reinforcements	0%	80%	20%
Core Reinforcements	0%	67%	33%
Epoxy	8%	50%	42%
Polyurethane	0%	67%	33%
Thermoplastic	0%	63%	38%
Unsaturated Polyester Resin	0%	50%	50%
Vinyl Ester	0%	50%	50%
Total	4%	56%	40%

Company Count
7
12
5
9
12
9
8
14
14
16

Affiliate			
Product	Increasing	Stable	Decreasing
Carbon Fiber Reinforcements	50%	50%	0%
Glass Fiber Reinforcements	50%	50%	0%
Basalt Fiber Reinforcements	0%	100%	0%
Core Reinforcements	0%	100%	0%
Epoxy	50%	50%	0%
Polyurethane	0%	100%	0%
Thermoplastic	0%	100%	0%
Unsaturated Polyester Resin	0%	100%	0%
Vinyl Ester	0%	100%	0%
Total	15%	85%	0%

Company Count
2
2
2
2
2
2
2
3
3
3

Small: 1 - 10 Employees			
Product	Increasing	Stable	Decreasing
Carbon Fiber Reinforcements	33%	67%	0%
Glass Fiber Reinforcements	20%	60%	20%
Basalt Fiber Reinforcements	0%	100%	0%
Core Reinforcements	0%	100%	0%
Epoxy	33%	67%	0%
Polyurethane	0%	100%	0%
Thermoplastic	0%	100%	0%
Unsaturated Polyester Resin	0%	100%	0%
Vinyl Ester	0%	100%	0%
Total	9%	88%	3%

Company Count
3
5
3
3
3
3
3
5
4
6

Medium: 11-100 Employees			
Product	Increasing	Stable	Decreasing
Carbon Fiber Reinforcements	0%	75%	25%
Glass Fiber Reinforcements	0%	63%	38%
Basalt Fiber Reinforcements	0%	60%	40%
Core Reinforcements	11%	56%	33%
Epoxy	14%	29%	57%
Polyurethane	17%	50%	33%
Thermoplastic	33%	33%	33%
Unsaturated Polyester Resin	9%	36%	55%
Vinyl Ester	11%	33%	56%
Total	10%	48%	42%

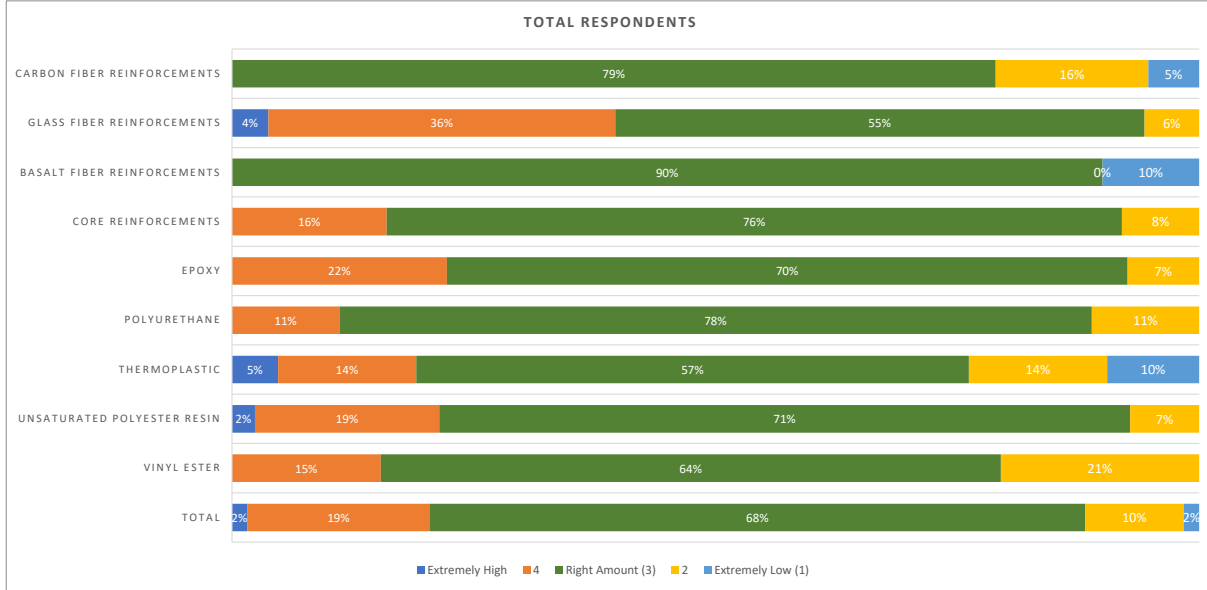
Company Count
4
16
5
9
7
6
6
11
9
16

Large: 101+ Employees			
Product	Increasing	Stable	Decreasing
Carbon Fiber Reinforcements	29%	64%	7%
Glass Fiber Reinforcements	8%	64%	28%
Basalt Fiber Reinforcements	0%	89%	11%
Core Reinforcements	12%	71%	18%
Epoxy	5%	71%	24%
Polyurethane	6%	76%	18%
Thermoplastic	11%	68%	21%
Unsaturated Polyester Resin	3%	73%	23%
Vinyl Ester	13%	63%	23%
Total	9%	69%	21%

Company Count
14
36
9
17
21
17
19
30
30
43

*Darker shading represents the higher responses by market segment. Shading does not represent statistical significance.

Current Inventory



Survey Question: Using a scale of 1 to 5 where "1" means extremely low inventory, "3" means the right amount, and "5" means extremely high inventory, how do you view inventory for the following inputs? Please only answer on products for which you have knowledge.

Overall					
Product	Extremely High	4	Right Amount (3)	2	Extremely Low (1)
Carbon Fiber Reinforcements	0%	0%	79%	16%	5%
Glass Fiber Reinforcements	4%	36%	55%	6%	0%
Basalt Fiber Reinforcements	0%	0%	90%	0%	10%
Core Reinforcements	0%	16%	76%	8%	0%
Epoxy	0%	22%	70%	7%	0%
Polyurethane	0%	11%	78%	11%	0%
Thermoplastic	5%	14%	57%	14%	10%
Unsaturated Polyester Resin	2%	19%	71%	7%	0%
Vinyl Ester	0%	15%	64%	21%	0%
Total	2%	19%	68%	10%	2%

Company Count
19
53
10
25
27
18
21
42
39
60

*Total based on Manufacturer and Supplier / Distributor responses only.

Manufacturer					
Product	Extremely High	4	Right Amount (3)	2	Extremely Low (1)
Carbon Fiber Reinforcements	0%	0%	75%	17%	8%
Glass Fiber Reinforcements	0%	27%	66%	7%	0%
Basalt Fiber Reinforcements	0%	0%	100%	0%	0%
Core Reinforcements	0%	0%	88%	13%	0%
Epoxy	0%	6%	81%	13%	0%
Polyurethane	0%	0%	91%	9%	0%
Thermoplastic	0%	6%	69%	13%	13%
Unsaturated Polyester Resin	0%	7%	83%	10%	0%
Vinyl Ester	0%	0%	69%	31%	0%
Total	0%	9%	76%	13%	2%

Company Count
12
41
6
16
16
11
16
29
26
45

Supplier / Distributor					
Product	Extremely High	4	Right Amount (3)	2	Extremely Low (1)
Carbon Fiber Reinforcements	0%	0%	86%	14%	0%
Glass Fiber Reinforcements	17%	67%	17%	0%	0%
Basalt Fiber Reinforcements	0%	0%	75%	0%	25%
Core Reinforcements	0%	44%	56%	0%	0%
Epoxy	0%	45%	55%	0%	0%
Polyurethane	0%	29%	57%	14%	0%
Thermoplastic	20%	40%	20%	20%	0%
Unsaturated Polyester Resin	8%	46%	46%	0%	0%
Vinyl Ester	0%	46%	54%	0%	0%
Total	5%	41%	49%	4%	1%

Company Count
7
12
4
9
11
7
5
13
13
15

Affiliate					
Product	Extremely High	4	Right Amount (3)	2	Extremely Low (1)
Carbon Fiber Reinforcements	0%	0%	33%	67%	0%
Glass Fiber Reinforcements	0%	33%	33%	33%	0%
Basalt Fiber Reinforcements	0%	0%	50%	50%	0%
Core Reinforcements	0%	0%	50%	50%	0%
Epoxy	0%	50%	50%	0%	0%
Polyurethane	0%	0%	100%	0%	0%
Thermoplastic	0%	0%	100%	0%	0%
Unsaturated Polyester Resin	0%	0%	67%	33%	0%
Vinyl Ester	0%	33%	67%	0%	0%
Total	0%	14%	59%	27%	0%

Company Count
3
3
2
2
2
2
2
3
3
4

Small: 1 - 10 Employees					
Product	Extremely High	4	Right Amount (3)	2	Extremely Low (1)
Carbon Fiber Reinforcements	0%	0%	33%	67%	0%
Glass Fiber Reinforcements	20%	20%	20%	40%	0%
Basalt Fiber Reinforcements	0%	0%	50%	50%	0%
Core Reinforcements	0%	0%	50%	50%	0%
Epoxy	0%	50%	50%	0%	0%
Polyurethane	0%	0%	100%	0%	0%
Thermoplastic	0%	0%	100%	0%	0%
Unsaturated Polyester Resin	0%	0%	50%	50%	0%
Vinyl Ester	0%	33%	67%	0%	0%
Total	4%	12%	52%	32%	0%

Company Count
3
5
2
2
2
2
2
4
3
6

Medium: 11 - 100 Employees					
Product	Extremely High	4	Right Amount (3)	2	Extremely Low (1)
Carbon Fiber Reinforcements	0%	0%	50%	25%	25%
Glass Fiber Reinforcements	0%	33%	60%	7%	0%
Basalt Fiber Reinforcements	0%	0%	100%	0%	0%
Core Reinforcements	0%	11%	67%	22%	0%
Epoxy	0%	14%	71%	14%	0%
Polyurethane	0%	0%	75%	25%	0%
Thermoplastic	0%	0%	40%	20%	40%
Unsaturated Polyester Resin	0%	18%	73%	9%	0%
Vinyl Ester	0%	0%	60%	40%	0%
Total	0%	13%	65%	18%	4%

Company Count
4
15
3
9
7
4
5
11
10
16

Large: 101+ Employees					
Product	Extremely High	4	Right Amount (3)	2	Extremely Low (1)
Carbon Fiber Reinforcements	0%	0%	87%	13%	0%
Glass Fiber Reinforcements	3%	39%	56%	3%	0%
Basalt Fiber Reinforcements	0%	0%	86%	0%	14%
Core Reinforcements	0%	19%	81%	0%	0%
Epoxy	0%	25%	70%	5%	0%
Polyurethane	0%	14%	79%	7%	0%
Thermoplastic	6%	19%	63%	13%	0%
Unsaturated Polyester Resin	3%	20%	73%	3%	0%
Vinyl Ester	0%	21%	66%	14%	0%
Total	2%	21%	70%	7%	1%

Company Count
15
36
7
16
16
20
14
16
30
29
42

*Darker shading represents the higher responses by market segment. Shading does not represent statistical significance.

Medium: 11 - 100 Employees					
Topic	Extremely important	Very important	Somewhat important	Not very important	Not at all important
Sustainability and Recycling	10%	10%	55%	20%	5%
Supply Chain Disruptions	35%	45%	15%	5%	0%
Hydrogen Use	0%	7%	7%	57%	29%
Tax	27%	33%	27%	13%	0%
Regulation of Styrene	28%	39%	11%	0%	22%
Hiring and Training	26%	63%	11%	0%	0%
Inflation	33%	56%	11%	0%	0%

Company Count
20
20
14
15
18
19
18

Large: 101+ Employees					
Topic	Extremely important	Very important	Somewhat important	Not very important	Not at all important
Sustainability and Recycling	21%	44%	29%	4%	2%
Supply Chain Disruptions	45%	38%	15%	2%	0%
Hydrogen Use	5%	5%	22%	35%	32%
Tax	19%	30%	40%	9%	2%
Regulation of Styrene	16%	40%	27%	16%	2%
Hiring and Training	51%	40%	6%	2%	0%
Inflation	38%	38%	19%	4%	0%

Company Count
48
47
37
43
45
47
47

*Darker shading represents the higher responses by market segment. Shading does not represent statistical significance.

BACKGROUND:

Purpose:

The purpose of the survey is to gauge perceptions about how the composites industry is performing over time. Published data from the survey will allow members to assess how their company's markets and inputs are trending relative to the overall composites industry; and enable ACMA to identify hot topics in the composites industry for which the association should be engaged on behalf of its members.

ACMA will also use the survey to gauge the perceived value of association membership and identify any strengths and areas for improvement.

Survey Objectives:

To assess perceptions of end market segments over the next quarter and next 9 months

To determine the size of composites inputs inventory

To identify issues that members perceive to be important in the composites industry

Survey Methodology:

The survey is conducted on a **quarterly** basis among members of ACMA.

The survey takes approximately **5 minutes** to complete and remain in the field for roughly two weeks.

Vault Consulting will distribute the survey each quarter and will be responsible for collecting, aggregating, and reporting results each quarter. Reports will be published roughly two weeks after fieldwork closes.

Sample sizes for 4Q23 were as follows:

Total Respondents 78

Manufacturers 52

Supplier/Distributor 19

Affiliates 7

Data collection was conducted between 9/1 - 9/15/23

For more information on this survey or how to participate please contact Paige Patterson at ppatterson@acmanet.org