

GROWING AND



Visit WorldofGlassMap.com for a downloadable database of glass fabrication locations, including those for float manufacturers that also fabricate.

Amid signs of growth slowdown, leading fabricators expand to meet the needs of an advancing market **By Norah Dick**

Leading fabricators in North America continued to invest and expand in 2020, opening new facilities and buying equipment to keep up with market demand and trends. While demand for glass remains high, fabricators face a continued labor shortage alongside signs of slowing sales growth. Now in its tenth year, the Top Glass Fabricators presents a market survey of leading glass fabricators in the industry. Companies included in this report

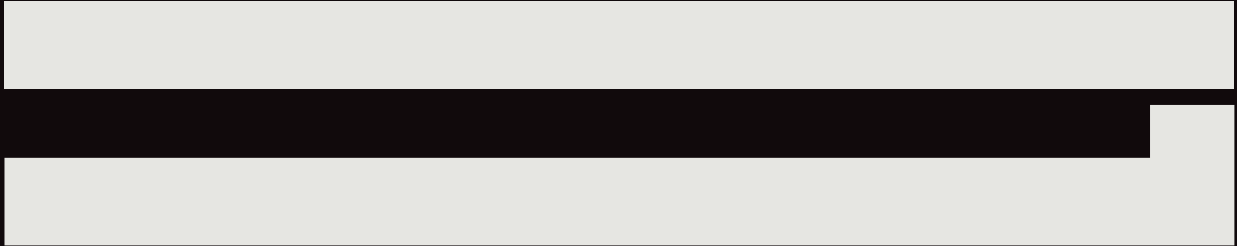
fabricate and supply tempered, insulating, laminated and/or decorative glass products, and may supply a variety of specialty fabrication, including fire-rated and security glasses. The following report includes a comprehensive industry ranking, organized by 2019 gross sales information, as well as market information, compiled from companies' survey responses regarding production capacity, market trends and existing challenges.

- 44. The List 2020:** *Top Glass Fabricators ranked by annual sales*
- 52. Sales & Capacity:** *Continued growth allows companies to invest and expand*
- 54. Trends:** *Jumbo and laminated glass lead design trends*
- 56. Challenges:** *Ongoing labor concerns continue to strain a changing industry*

CHANGING

Tecnoglass
Paramount Miami Worldcenter
Miami



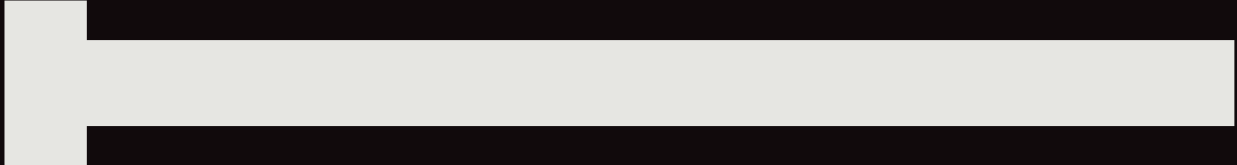
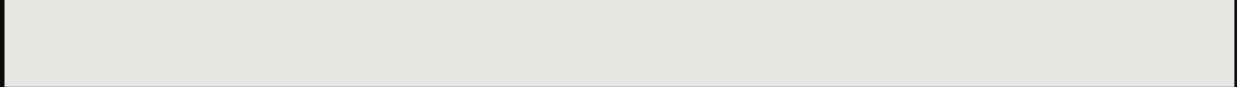
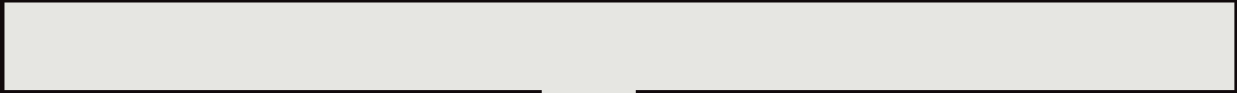


2020 Companies Ranked by Annual Sales

The Top Glass Fabricators industry ranking is compiled from survey responses, and companies are ranked based on reported annual sales. In the instance that companies decline to provide sales information, the editorial staff uses independent sources

to rank the company accurately. Companies are listed alphabetically within sales range categories. If your company belongs on the list, or you would like to update information, please contact Norah Dick, Associate Editor of Glass

Magazine, at ndick@glass.org. It is only with the cooperation of individual companies that Glass Magazine's Top Glass Fabricators report can be as accurate as possible. Requests to be included next year, can be sent to Norah Dick.



		T Tempered I Insulating L Laminating D Decorating J Jumbo M Metal				
Company	Mfg. plants	Employees	Product types	Other products		
Over \$1 Billion						
Oldcastle BuildingEnvelope obe.com, Dallas	90	7,000+	T I L D M	CUSTOM-ENGINEERED CURTAIN WALL AND WINDOW WALL; ARCHITECTURAL WINDOWS; STOREFRONT AND ENTRANCE SYSTEMS; SKYLIGHTS; BLAST- AND HURRICANE-RESISTANT SYSTEMS; ARCHITECTURAL GLASS INCLUDING: TEMPERED, INSULATING, LAMINATED, STRUCTURAL, DECORATIVE; CUSTOM HARDWARE PRODUCTS AND SUPPLIES		
\$200-500 Million						
Tecnoglass tecnoglass.com, Barranquilla, Colombia	1	5,500+	T I L D J M	CURVED GLASS, CERAMIC FRIT, SILKSCREEN, SPANDREL GLASS, DIGITAL PRINTING, LOW-EMISSIVITY GLASS, INSULATING LAMINATED GLASS		
Trulite Glass & Aluminum Solutions trulite.com, Peachtree City, Ga.	29	2,500	T I L D J M	DECORATIVE INTERLAYERS, CABINET GLASS, FIRE-RATED GLASS		
Viracon viracon.com, Owatonna, Minn.	3	2,500	T I L D J	DIGITAL PRINTING, SCREEN-PRINTING, BIRD-FRIENDLY GLASS, FE/BR, RF SHIELDING, ACOUSTIC GLASS		
\$100-250 Million						
American Insulated Glass aiglass.com, Atlanta	7	600	T I L D J	BACK-PAINTED, PATTERNED, SATIN-ETCHED GLASS, LOW IRON GLASS, FIRE-PROTECTIVE CERAMICS, KERALITE SELECT FILMED AND KERALITE SELECT LAMINATED		
Glasswerks LA glasswerks.com, South Gate, Calif.	4	500+	T I L D J	BACK-PAINTED, ACID-ETCHED GLASS, CERAMIC FRIT, DIGITAL PRINTING, SCREEN-PRINTING, BENT GLASS, BIRD-FRIENDLY GLASS		
Hartung Glass Industries hartung-glass.com, Tukwila, Wa.	9	800+	T I L D J	SHOWER ENCLOSURES, TEXTURED GLASS, SCREEN-PRINTED FRIT, DIGITAL FRIT, GLASS MARKER BOARDS		
HMI Cardinal hmicardinal.com, Louisville, Ky.	2	700	T L D	KILN-FORMED CAST, PATTERNED GLASS, SANDBLAST, CHIPPED EDGE, DIGITAL CERAMIC IN-GLASS PRINTING, BACK-PAINTED GLASS, CUSTOM MIRRORS		
Prelco* prelco.ca, Rivière-du-Loup, Québec, Canada	3	600	T I L D	DIGITAL IN-GLASS PRINTING, KILN-FORMED CAST AND PATTERNED GLASS, CHIPPED EDGE, SANDBLAST, BACK-PAINTED GLASS		
PRL Glass prlglass.com, City of Industry, Calif.	5	450	T I L D J M	BULLET-RESISTANT GLASS, SANDBLAST		
Saand saand.ca, Toronto, Ontario	4	475	T I L D	SILKSCREEN, SPANDREL GLASS, OPACI-COAT, CERAMIC FRIT, AQUA PAINT AND MIRROR, BIRD-FRIENDLY GLASS		
Tvitec System Glass tvitec.com, Madrid, Spain	5	500	T I L D J	CURVED GLASS, DIGITAL PRINTING, SCREEN-PRINTING, BIRD-FRIENDLY GLASS		
\$50-100 Million						
Aldora Aluminum and Glass Products Inc. aldoraglass.com, Coral Springs, Fla.	6	425	T I L D J M	BACK-PAINTED GLASS, PATTERNED GLASS		
Basco bascoshowerdoor.com, Mason, Ohio	3	300	T L D			
Coral Industries* coralind.com, Tuscaloosa, Ala.	3	450	T M			
Cristacurva* cristacurva.com, Houston	3	600	T I L D J	DIGITAL PRINTING, LAMINATED SPECIAL INTERLAYERS, SILKSCREEN, BACK-PAINTED, ETCHED, SPANDREL		
Gardner Glass Products* gardnerglass.com, North Wilkesboro, N.C.	2	230	L D	BACK-PAINTED GLASS, MIRROR, ANTIQUE MIRROR		
GGI generalglass.com, Secaucus, N.J.	3	250	T I D J	DIGITAL PRINTING, BACK-PAINTED GLASS		

*Annual sales volume is an estimate, not confirmed by the company.



Glass and Metal Craft

150 Ottawa Avenue
Grand Rapids, Michigan
Photo by Peter Michael Photography

		T TemperedI InsulatingL LaminatingD DecoratingJ JumboM Metal		
Company	Mfg. plants	Employees	Product types	Other products
Glassfab Tempering Services glassfabusa.com, Tracy, Calif.	4	252	TILDJ	CERAMIC FRIT, SILKSCREEN, DIGITAL PRINTING, BIRD-FRIENDLY GLASS
Safti First safti.com, Brisbane, Calif.	4	280	TI	FIRE-RATED GLASS, FIRE-RATED AND HURRICANE GLASS; BALLISTIC, BLAST AND SECURITY GLASS; LOW IRON GLASS, ENERGY EFFICIENT GLASS
Sigco* sigcoinc.com, Westbrook, Maine	2	235	TILDM	CERAMIC FRIT SPANDREL GLASS
Tecnovidrio grupotecnovidrio.com, Mexico City, Mexico	4	950	TILDJ	COLOR GLASS, SPANDREL GLASS, CURVED GLASS
Tristar Glass Inc. tristarglass.com, Catoosa, Okla.	4	250	TILDJ	SENTRY GUARD FORCED ENTRY LAMINATED GLASS, FIRE-RATED GLASS, HEAVY GLASS, SPANDREL GLASS, SILKSCREEN, SANDBLAST, PATTERNED GLASS
Vitrum Glass Group vitrum.ca, Langley, British Columbia, Canada	2	700	TILDJ	TEXTURED GLASS, DIGITAL PRINTING, CURVED GLASS, BIRD-FRIENDLY GLASS
\$35-50 Million				
Custom Glass Products customglassproductswi.com, Schofield, Wis.	2	200	TIL	
Garibaldi Glass Industries Inc. garibaldiglass.com, Burnaby, British Columbia, Canada	1	240	TILDJ	CERAMIC FRIT, FRAMELESS STRUCTURAL DOORS AND GLAZING
Glass and Metal Craft glassandmetalcraft.com, Wixom, Mich.	1	140	TILDJ	SCREEN-PRINTING, PAINTED GLASS, ETCHED GLASS, PATTERNED GLASS, SLUMPED GLASS
Glaz-Tech* glaztech.com, Tucson, Ariz.	8	300+	TILM	
J.E. Berkowitz jeberkowitz.com, Pedricktown, N.J.	1	200	TILD	DECORATIVE INTERLAYERS AND SILKSCREEN, BIRD-FRIENDLY GLASS, CHILDGARD PROTECTIVE GLAZING
Nashville Tempered Glass ntglass.com, Nashville, Tennessee	2	200	TILDJ	CURVED TEMPERED GLASS, BIRD-FRIENDLY GLASS, TURTLE-FRIENDLY GLASS, IMPACT AND BULLET-RESISTANT GLASS, BLAST RESISTANT GLASS, DIGITALLY-PAINTED JUMBO GLASS
Rochester Insulated Glass* rochesterinsulatedglass.com, Manchester, N.Y.	1	130	TILDJ	DIGITAL PRINTING, SILKSCREEN
Solar Seal solarseal.com, S. Easton, Mass.	1	150	TI	SPANDREL GLASS, SHOWER ENCLOSURES
United Plate Glass* unitedplateglass.com, Butler, Pa.	2	100	TIL	
Virginia Glass Products va-glass.com, Martinsville, Va.	2	170	TLJ	
\$20-35 Million				
Agnora agnora.com, Collingwood, Ontario, Canada	1	70	TILDJ	DIGITAL CERAMIC, FRIT AND OPACI-COAT, BIRD-FRIENDLY GLASS
Bendheim bendheim.com, Wayne, N.J.	1	100+	TLDJ	BACK-PAINTED GLASS, DECORATIVE LAMINATED GLASS, ETCHED GLASS, TEXTURED GLASS, DIGITAL PRINTING, BIRD-FRIENDLY GLASS, ART, HISTORIC REPRODUCTION, DRY-ERASE
CamGlass* camglass.com, Tulsa, Okla.	1	100	TL	
Dillmeier Glass dillmeierglass.com, Van Buren, Ark.	1	143	TL D	PAINTED GLASS, SILKSCREEN, DECORATIVE LAMINATED GLASS, SANDBLAST

*Annual sales volume is an estimate, not confirmed by the company.

<div><div>T</div> Tempered</div> <div><div>I</div> Insulating</div> <div><div>L</div> Laminating</div> <div><div>D</div> Decorating</div> <div><div>J</div> Jumbo</div> <div><div>M</div> Metal</div>					
Company	Mfg. plants	Employees	Product types	Other products	
Glassopolis glassopolis.com, Toronto, Ontario	1	50	<div><div>I</div><div>L</div><div>D</div><div>J</div></div>	DIGITAL CERAMIC FRIT, OPACI-COAT, BIRD-FRIENDLY GLASS	
Glassource glassource.net, Grand Haven, Mich.	1	105	<div><div>T</div><div>D</div></div>	DIGITAL PRINTING, ROLLED PATTERN GLASS, MIRROR	
Global Security Glazing security-glazing.com, Selma, Ala.	1	88	<div><div>T</div><div>I</div><div>L</div></div>	CHILDGARD SECURITY GLASS; BOMB, BLAST AND ATTACK GLASS; BULLET-RESISTANT GLASS	
Insulite Glass Co. insuliteglass.com, Olathe, Kan.	2	175	<div><div>T</div><div>I</div><div>L</div><div>D</div><div>J</div></div>	DIGITAL PRINTING	
Midwest Glass Fabricators Inc. mwgf.com, Highland Charter Township, Mich.	1	130	<div><div>T</div><div>L</div><div>J</div></div>	COATED SOFT/HARD LOW-EMISSIVITY GLASS, SPANDREL GLASS, BULLET-RESISTANT GLASS	
Multiver* multiver.ca, Québec City, Québec, Canada	5	400	<div><div>T</div><div>I</div><div>L</div><div>D</div></div>	ACID-ETCHED GLASS, CERAMIC FRIT SPANDREL GLASS, SILKSCREEN, FIRE-RATED GLASS	
Paragon Tempered Glass paragontemperedglass.com, Antwerp, Ohio	2	185	<div><div>T</div><div>I</div><div>D</div><div>J</div></div>	SILKSCREEN, DIGITAL PRINTING, BENT TEMPERED GLASS	
Skyline Design skydesign.com, Chicago	1	100	<div><div>T</div><div>L</div><div>D</div></div>	ECO-ETCHED GLASS, AST DIRECT DIGITAL PRINTING, CERAMIC FRIT, DIGITAL PRINTING, PRINTED INTERLAYER, TEXTURED GLASS, BIRD-FRIENDLY GLASS	
Standard Bent Glass* standardbent.com, East Butler, Pa.	1	120	<div><div>T</div><div>I</div><div>L</div><div>D</div></div>	DIRECT-TO-GLASS PRINTING, SENTRYGLAS EXPRESSIONS, BENT GLASS, BULLET-RESISTANT GLASS	
Syracuse Glass Co. syracuseglass.com, Syracuse, N.Y.	1	106	<div><div>T</div><div>I</div><div>L</div></div>		
Thompson IG thompsonig.com, Fenton, Mich.	1	160	<div><div>T</div><div>I</div><div>L</div><div>D</div></div>	DIGITAL PRINTING, LAMINATED INTERLAYERS, BULLET-RESISTANT GLASS, SCHOOL SECURITY GLASS	
W.A. Wilson Glass Plus wawilsonglass.com, Wheeling, WV.	2	100	<div><div>T</div><div>I</div></div>	SPANDREL GLASS	
\$10-20 Million					
Clarity Glass Wholesalers clarityhouston.com, Houston	1	60	<div><div>T</div><div>L</div><div>D</div><div>J</div></div>	BACK-PAINTED GLASS, CUSTOM LAMINATED GLASS	
Columbia Commercial Building Products ccbpwin.com, Rockwall, Texas	1	55	<div><div>T</div><div>I</div></div>		
Consolidated Glass Corp. cgcglass.com, New Castle, Pa.	1	70	<div><div>T</div><div>D</div></div>	PATTERNED GLASS, LOW IRON GLASS, SANDBLAST, HEAT-SOAKED GLASS	
Dlubak Specialty Glass dlubakglass.com, Blairsville, Pa.	1	80	<div><div>T</div><div>I</div><div>L</div><div>D</div></div>	LAMINATED INTERLAYERS, CURVED AND BENT GLASS, BOMB AND BULLET-RESISTANT GLASS, CHILDGARD SECURITY GLASS	
FGD Glass Solutions fgdglass.com, Suwanee, Ga.	1	35	<div><div>L</div><div>D</div></div>	BACK-PAINTED GLASS, PRINTED GLASS, ETCHED GLASS, ANTIQUE MIRRORS, EDGE LIT, LAMINATED INTERLAYERS, BIRD-FRIENDLY GLASS, BIOPHILIC GLASS	
Glenny Glass Co. glennyglass.com, Milford, Ohio	2	96	<div><div>T</div><div>I</div><div>L</div><div>D</div><div>J</div></div>	BACK-PAINTED GLASS, SANDBLAST, CUSTOM FILMED LAMINATED INTERLAYERS, BENT LAMINATED GLASS, SPANDREL GLASS	
Goldray Glass goldrayglass.com, Calgary, Alberta, Canada	1	100	<div><div>T</div><div>L</div><div>D</div></div>	SILKSCREEN, DIGITAL PRINTING, BACK-PAINTED GLASS, DICHROIC, BIRD-FRIENDLY GLASS, SWITCHABLE PRIVACY GLASS, SPANDREL GLASS, WALL CLADDING SYSTEMS	
M3 Glass Technologies m3glass.com, Irving, Texas	1	120	<div><div>T</div><div>L</div><div>D</div></div>	MPRINT DIGITAL PRINT, SCREEN-PRINTING, COLORBAK BACK-PAINTED GLASS, DECORATIVE LAMINATED GLASS, SWITCHABLE PRIVACY GLASS, BIRD-FRIENDLY GLASS	
Maryland Glass & Mirror Co. mdglass.net, Baltimore	1	45	<div><div>T</div><div>I</div><div>L</div></div>	FIRE-RATED GLASS, MIRROR	

*Annual sales volume is an estimate, not confirmed by the company.

GGI

Community DNA, public art project
St. Petersburg, Florida
Photo by Catherine Woods



										T Tempered I Insulating L Laminating D Decorating J Jumbo M Metal				
Company	Mfg. plants	Employees	Product types	Other products	Company	Mfg. plants	Employees	Product types	Other products					
Precision Glass Bending e-bentglass.com, Greenwood, Ark.	1	75	T I L	BENT GLASS	Dundy Glass & Mirror Corp. dundyglass.com, Springfield Gardens, N.Y.	2	25	T I L J	FIRE-RATED GLASS					
Splendor Glass Products splendorshowerdoor.com, Holland, Ohio	1	70	T		High Performance Glazing Inc. hpglazing.com, Concord, Ontario, Canada	1	40	T I L D						
Suntuitive Dynamic Glass suntuitiveglass.com, Jenison, Mich.	1	40	I L	THERMOCHROMIC DYNAMIC GLASS, SECURITY GLASS	Moag Glass moagglass.com, Georgetown, Ind.	1	30	T L D	CAST AND PAINTED GLASS					
Under \$10 Million					Moon Shadow Etchers moonshadowglass.com, Sandy, Oregon	1	10	L D	ETCHED GLASS, BACK-PAINTED GLASS					
ArtVue Glass ArtVueGlass.com, Sarasota, Fla.	1	7	L D	BACK-PAINTED GLASS, DECORATIVE LAMINATED GLASS, MIRROR	Tempco Glass Fabrication tempcoglass.com, Flushing, N.Y.	1	61	T I						
Clearlight Glass & Mirror clearlightglass.com, Kernersville, N.C.	1	20	T I D	V-GROOVING DESIGNS, ETCHED GLASS, PATTERNED GLASS, LOW IRON GLASS	Woon-Tech (an HMI Cardinal Company) woon-tech.com, Whitinsville, Maine	2	102	T L D	DIGITAL IN-GLASS PRINTING, BACK-PAINTED GLASS, CAST GLASS					



Trulite Glass & Aluminum Solutions

Manufacturing facility floor,
Dallas/Fort Worth, Texas

SALES

Continued growth allows companies to invest and expand

Leading fabricators continued expanding and innovating in 2019. A majority of reporting companies added production capacity; 14 percent of these companies added or expanded new locations, while 77 percent invested in new equipment.

“In November 2019 we were proud to announce the opening of our newest 175,000-square-foot plant,” says Thomas Martini, president, Vitrum Glass Group. “With the expansion into our newest facility, we are excited to see our production, staff, equipment and capabilities continue to grow.”

A plurality of companies say they bought equipment for decorative and specialty glass, including bent glass, security glass and specialty edging. Many companies also report they increased capacity across several types of fabrication. “We added capacity to all in-house fabrication

processes, including tempering, lamination and back-painting, among others, to position ourselves for growth in the coming year,” says Donald Jayson, co-owner and executive vice president, Bendheim.

While fabricators expanded in many directions, actual sales growth was muted in 2019. Reported sales increases slowed, with 64 percent of surveyed companies reporting growth in 2019, down from 71 percent the previous year. The dip is part of a slowing growth trend. The measure of increased sales last peaked in 2017 with 89 percent of companies reporting increased year-over-year sales.

Production capacity increases also diminished slightly. Seventy-six percent of reporting fabricators registered added production capacity this year, down from last year’s posting of 81 percent. ■

AND

CAPACITY

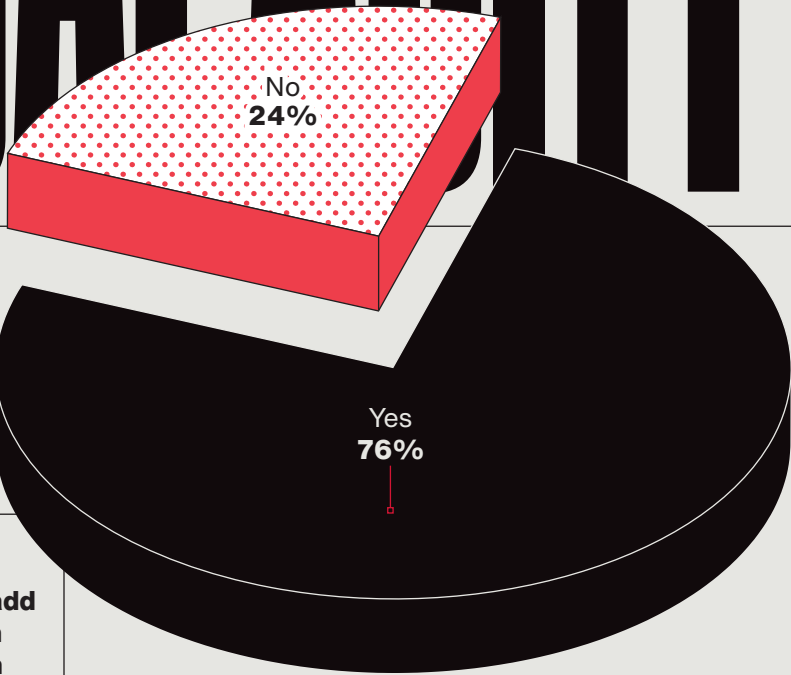
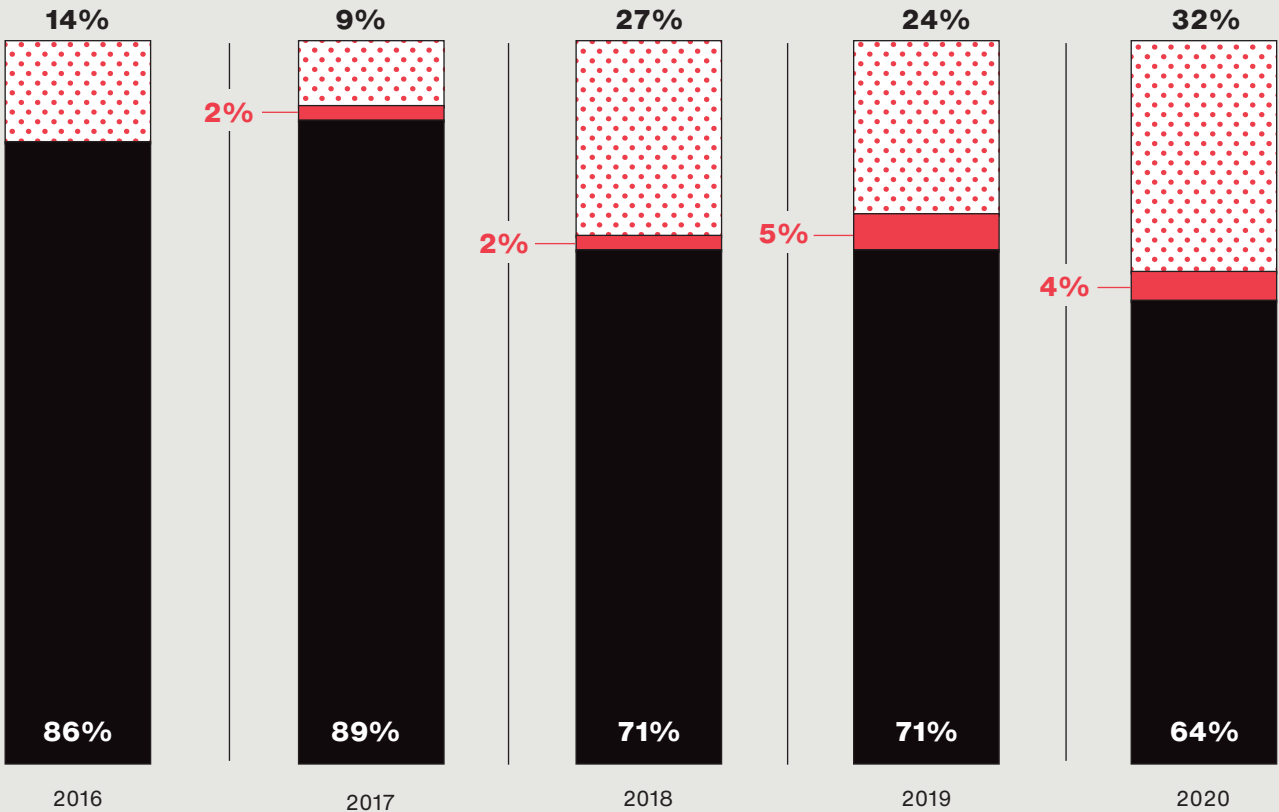


SEVENTY-SIX PERCENT OF REPORTING FABRICATORS REGISTERED ADDED PRODUCTION CAPACITY THIS YEAR, DOWN FROM LAST YEAR’S POSTING OF 81 PERCENT.



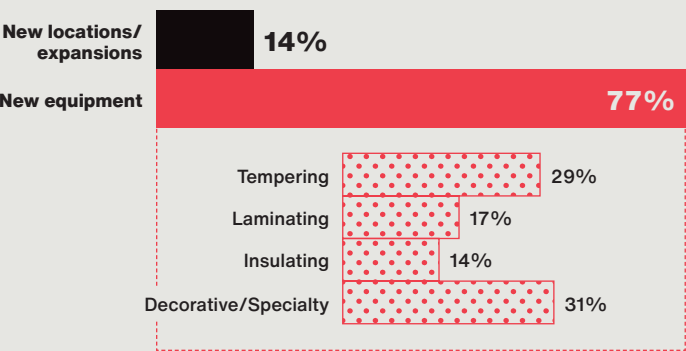
Year-over-year Change in Sales

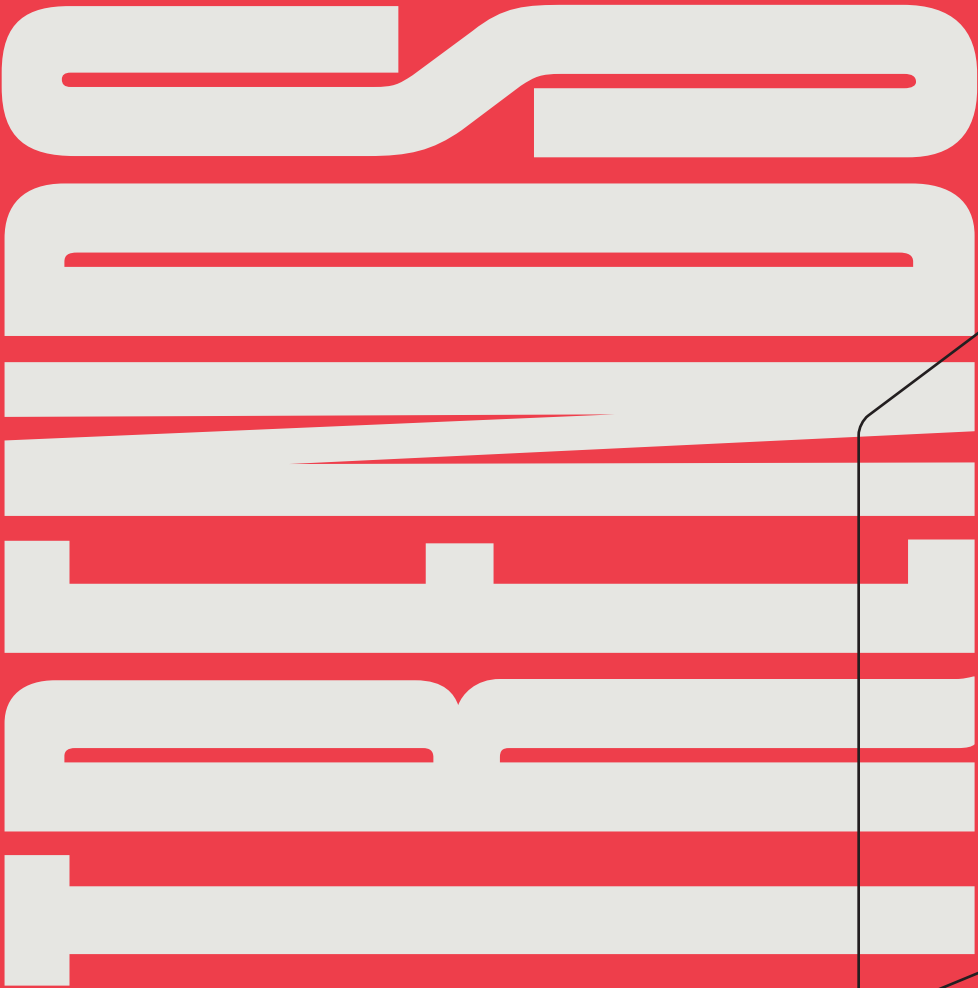
■ Higher ■ Lower ■ Same



Did your company add production capacity in 2019?

How did your company expand capacity?

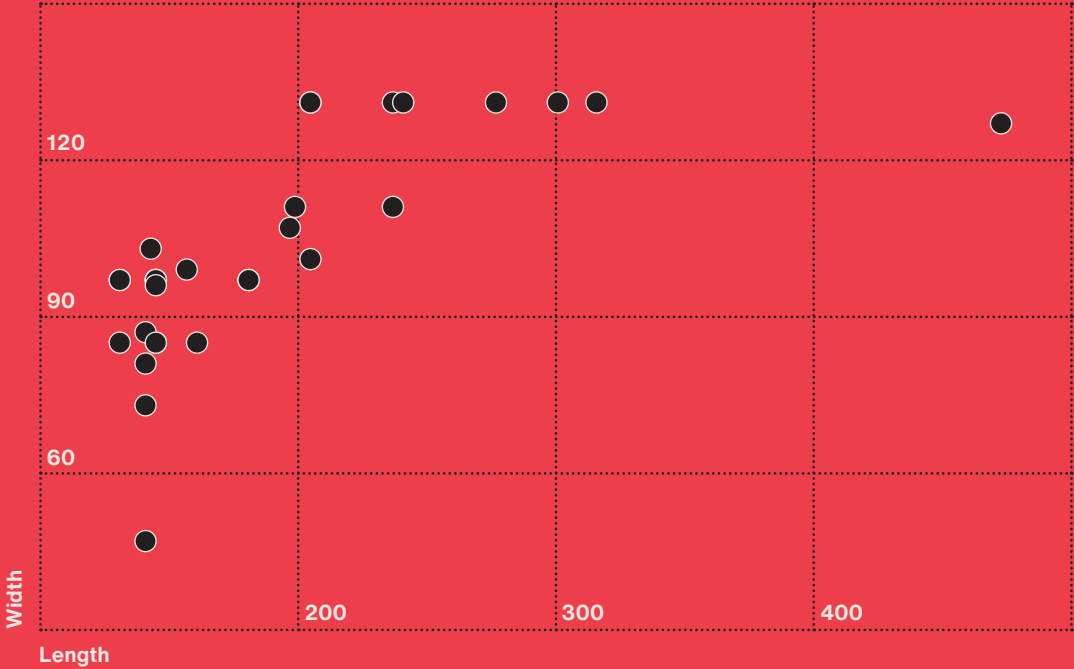




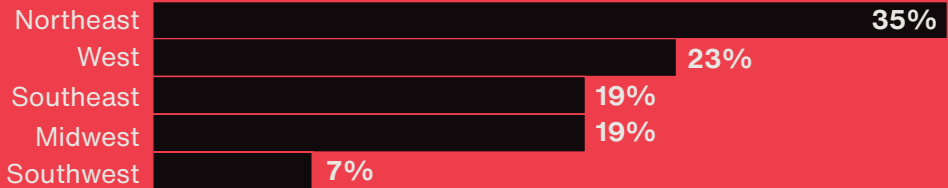
2020
Design
Trends

Larger glass **44%**
Laminated glass **22%**
Safety/impact glass **14%**
Other† **20%**

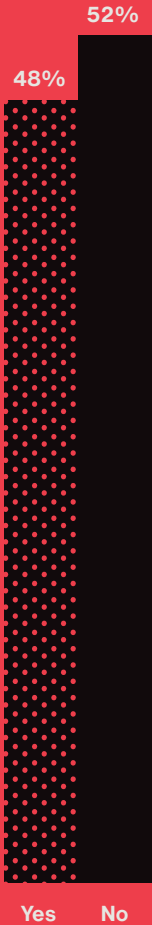
What is the maximum size glass you are able to fabricate? (in inches)



Which geographic market offers the most potential for growth in 2020?



Does
your
company
fabricate
jumbo
glass?



Jumbo and laminated glass lead design trends

Larger glass sizes remain a major and growing design trend in the industry, say reporting fabricators. Nearly half of reporting companies say they fabricated jumbo glass in 2019, up from 42 percent the previous year. Forty-four percent of companies named jumbo glass as a notable design trend in 2019. Fabricators also identified an increased trend toward laminated and safety glass, both driven by recent code

changes, according to respondents. Jim Iaquinto, president and owner, Midwest Glass Fabricators Inc. “The largest market drivers for the additional equipment [are] the increased need for laminated glass per code and Midwest Glass’ interest in supplying bullet resistant glass to the market.” “The IBC code requiring handrail glass to be laminated along with elevated concerns for security has

boosted demand [for these products],” says Braxton Smith, president, Glenny Glass Co. Looking at regional demand trends, fabricators again predicted that the Northeast market would experience the most growth in 2020. This year, the West supplanted the Southeast as the second region most likely to see growth in the coming year, according to fabricators’ responses. ■

†Including curved glass, bent glass, complex decorative glass, and low-emissivity coatings

*Data is based on survey responses received on or before Jan. 24.

THE CHALLENGES

What were your company's biggest challenges in 2019?

Labor

55%

Capacity

21%

Expansion,
new equipment

13%

Customer expectation

5%

Lead times

5%

Project timing

5%

Ongoing labor concerns continue to strain a changing industry

Leading fabricators continued to report a lack of skilled labor, and the inability to maintain quality labor, as a major concern in 2019. More than half, 55 percent, of reporting companies listed the labor shortage as a primary concern. However, for the first time in the past four years, more than half of reporting companies said the difficulty finding workers was about the same as the previous year, and only 33 percent reported it was more difficult to find labor. Combined, these findings suggest that the shortage is the status quo.

Beyond labor, companies were also challenged by the need to expand without disrupting production. Many companies reported difficulties in trying to open new facilities, and purchase new equipment, without being able to diminish or pause production flow. “We doubled the size of our shop and added multiple new machines in 2019,” says Kenny Hurley,

production manager, Clearlight Glass & Mirror. “We continued production throughout the construction project which was very challenging.”

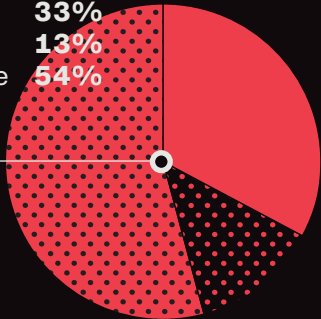
Even for those companies that didn’t open new facilities, any kind of disruption affected lead times. “We experienced project timing delays,” says Andy Russo, vice president, Glass and Metal Craft. “Several projects slipped and created peaks and valleys in our production capacity planning. Combined with the ever-present difficulty in finding labor resources, the challenge of managing to meet project deadlines is monumental!” ■

Did you have more difficulty finding workers this year compared to the previous year?

Yes No Same

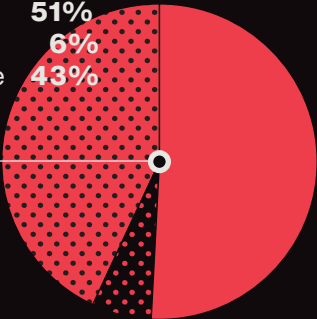
2019

Yes 33%
No 13%
Same 54%



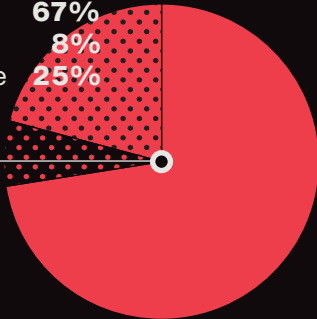
2018

Yes 51%
No 6%
Same 43%



2017

Yes 67%
No 8%
Same 25%



2016

Yes 61%
No 0%
Same 39%

