

5 Important Questions to Ask Your Glass Manufacturer



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Fabricated glass comes in all shapes and sizes, and it's important to make sure your glass component meets all the requirements for your project. Perhaps the most important factor in the glass manufacturing process is material: each glass material has unique physical properties and performance capabilities that come into play for the final product's application.

Borofloat®, for example, is often chosen for lighting and optical applications for its extremely high transparency, mechanical strength, and resistance to high temperatures. Display industries tend to rely on silica float glass for its ability to be produced in a wide range of colors and opacities.

Another important factor in the glass selection process is the manufacturer's turnaround time. Manufacturers like Swift Glass have raw material availability along with products in stock that are ready to be shipped, cutting down the product's turnaround time significantly.

After being in the glass business for nearly 100 years, Swift Glass has seen its fair share of questions. To help ease the glass selection process, we've compiled five questions — with answers — that we commonly receive from companies looking for glass products:

1. What are the temperature and pressure ranges that your materials can handle?

The wider the range of materials that a glass manufacturer has in stock, the more likely they will have a glass that can meet the temperature and pressure ranges required for your application.

We carry many different materials such as Float, Pyrex®, Borofloat®, Quartz, and Vycor®, for nearly any high temperature and pressure applications. The Table below shows the safe temperature and pressure ranges for a selection of materials that we carry:

¼" Thick Materials	°F Normal Service	°F Extreme Service	°F Max, Thermal Shock	°F Max, Thermal Gradient	In/In/°F Coefficient of Thermal Expansion
VYCOR 96% Silica Code 7913	1652	2192	1800	396	4.2×10^{-7}
Tempered PYREX Borosilicate Code 7740	500	554	500	194	18×10^{-7}
PYREX Borosilicate Code 7740	446	914	270	97	18×10^{-7}
Soda-Lime Tempered Code 0080	428	482	400	88	52×10^{-7}
Soda-Lime Code 0080	230	860	90	29	52×10^{-7}

* Please note that thicknesses other than standard with much closer tolerances can be supplied through Swift's Optical Department. Float glass is available from 1/32" to 1" thick.

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2. What is the difference between tempered and non-tempered glass?

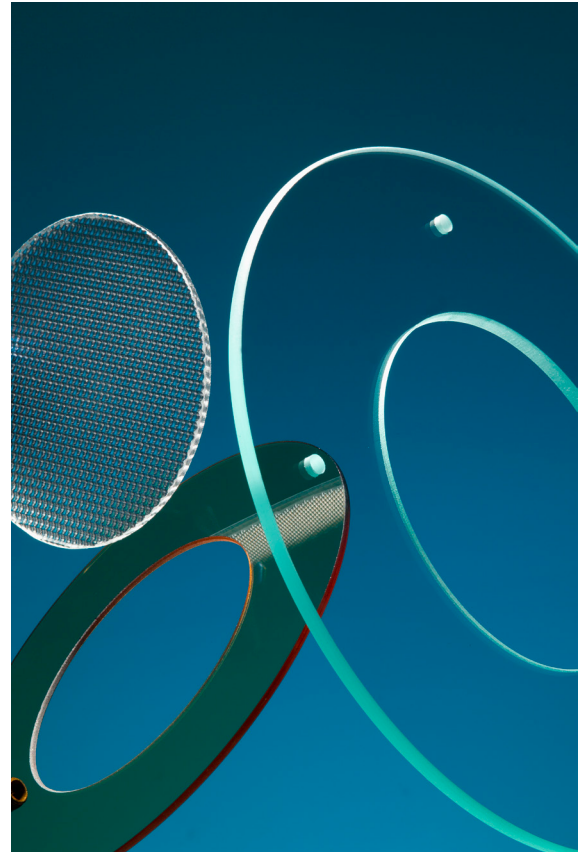
Once glass is formed, it is subjected to an annealing process to reheat the glass and let it cool – this prevents the glass from shattering. The annealing process determines whether glass is tempered or non-tempered: to make tempered glass, the heated glass is forced to cool very quickly, while standard glass is allowed to cool slowly. The quick cooling strengthens the glass so that it can withstand four-times the pressure of standard glass.

Tempered and standard glass also behave differently when shattered. When standard glass breaks, it results in large, irregularly shaped pieces of glass that are sharp to the touch and could be dangerous to handle. When tempered glass shatters, it breaks into numerous small, regularly shaped pieces that pose very little risk of injury when handling them.

Another key difference is that standard glass will break in a discrete area of impact, with cracks forming from any holes left by an impact. Tempered glass is more resistant to heat, scratches, and impact than standard glass, but when a tempered glass pane does break it shatters completely, no matter where the impact occurs.

Regarding workability, standard glass can be easily cut or pressed into shapes after it has been processed. It can also accommodate edge polishing and holes drilled into it. Tempered glass, on the other hand, cannot be worked at all after it is tempered: any cutting or drilling would shatter a tempered glass pane completely. For this reason, tempered glass is typically used when safety is important.

Standard glass is typically less expensive than tempered glass. The reason for this is simply because tempered glass goes through more processing, which takes more time.



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3. How quickly can my project be completed?

Swift Glass has raw materials available onsite to start projects immediately, and can expedite orders on request. To get a more detailed estimate for your project, [contact us](#) or [request a quote](#).

4. How can we reduce our project's costs?

Swift Glass has robust quality control protocols in place. We also use sophisticated equipment to accurately measure quality. For any type of product – from prototypes to specialty products, to large volume production – each part goes through many levels of quality control, including first-piece inspection, random sampling, and final checks before shipment. This quality control process ensures that projects stay within a defined budget.

5. What is the vendor's production volume?

Swift Glass handles both low and high production volumes and prototyping requirements. No job is too large, too complex, or too small for our team.

If you still have unanswered questions, please reach out to us and we would be happy to assist you. Know what you need and are ready to move ahead with your project? Contact us today to [request a quote](#).

About Swift Glass

Swift Glass, an ISO 9001:2008 certified and ITAR registered company, is a privately owned worldwide leader in the manufacturing of quality fabricated glass parts. Swift Glass Company has provided solutions for Biomedical, Appliance, Industrial and Commercial, Optical and Aerospace applications. If you are interested in a process other than those highlighted, please contact us and we will be glad to assist you.

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