

# 6 FAQ discusses what is Heat-Strengthened Glass and How Does it Work?



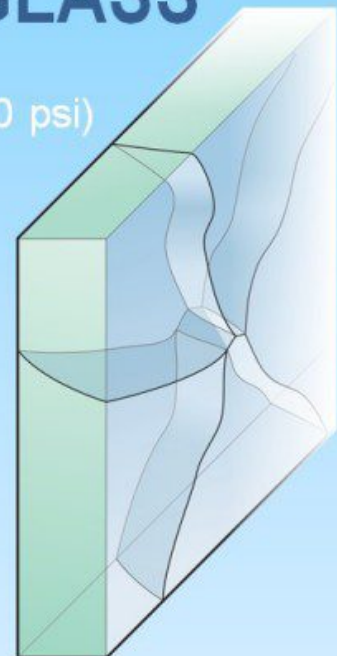
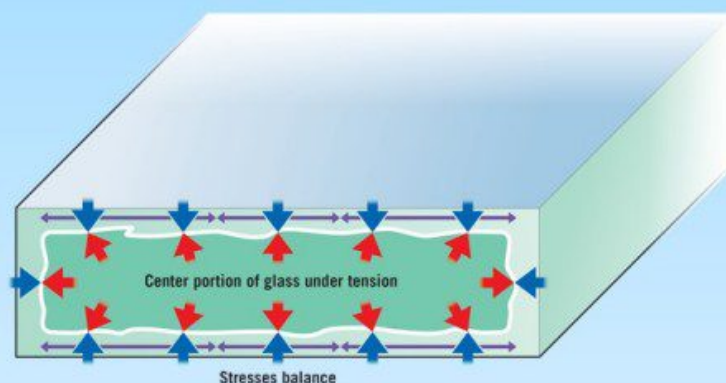
Heat Strengthened Glass has been gaining increasing traction as an innovative material for use in the construction industry. The process of heat strengthening is a specialized version of the more common tempering technique and can produce glass with superior strength and a higher level of break

resistance than normal float or annealed glass.

This article will dive into detail on what exactly Heat Strengthened Glass is, how it works, and why it's useful. Through exploring these topics, we hope you gain a greater understanding of heat-strengthened glass and see how its beneficial capabilities can be utilized in the modern world.

## HEAT-STRENGTHENED GLASS

Surface of glass in compression (3,500-7,500 psi)



## What is Heat Strengthened Glass?

Heat-strengthened glass is a type of glass that is stronger than regular annealed glass, but not as strong as tempered glass. It is made by heating annealed glass to a temperature between 600 and 700 degrees Celsius and then cooling it slowly

with air. This process creates glass that is two times stronger than annealed glass and is resistant to thermal stress. This process is carried out to improve the strength and durability of the glass, making it less prone to breakage.



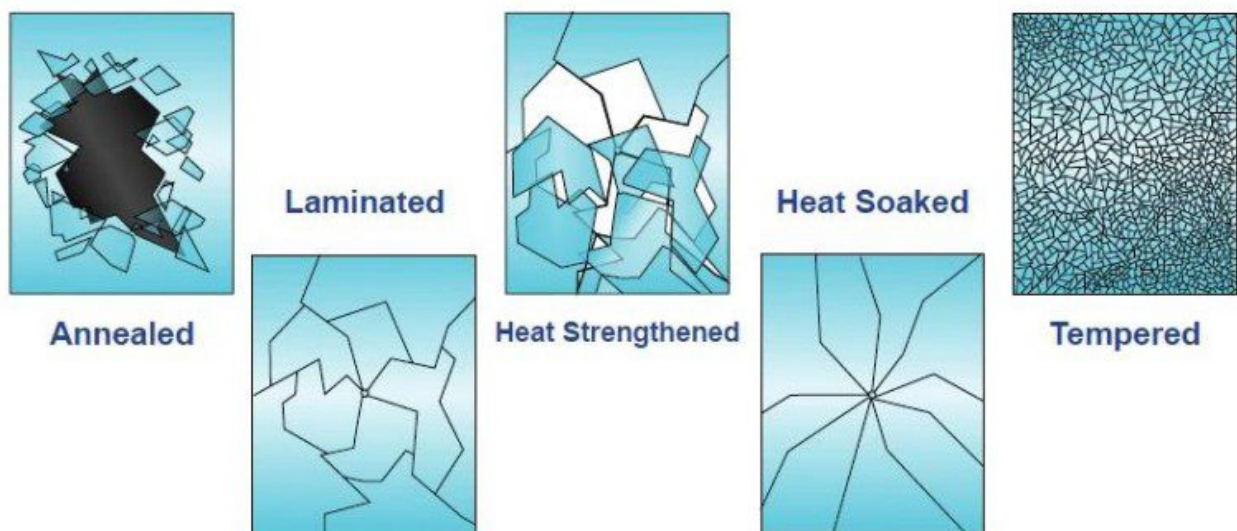
## The advantages of heat-strengthened glass.

Heat-strengthened glass is a type of safety glass that has been specially designed to offer increased strength, durability, and resistance to breakage. Heat-strengthened glass offers several benefits over the regular glass.

- 1) Stronger and more resistant to impact, making it a popular choice for safety glass in buildings and vehicles.
- 2) More resistant to thermal stress, which means it can withstand sudden changes in temperature without cracking or breaking.
- 3) Safety: full tempered glass has a potential risk of self-explosion because of NiS in the glass raw material. Heat-strengthened glass has no such worry.
- 4) Flat surface, compared to full tempered glass, heat-strengthened glass has less distortion.

Overall, heat-strengthened glass is a reliable and durable option for a wide range of applications.

### How different glass breaks:



## Heat-strengthened glass vs tempered glass

## Similarities

- 1) Production using the same processing equipment
- 2) Heating the glass to approximately 600~700 ° degrees, then force-cooling it to create surface and edge compression

## Differences

With tempered glass, the cooling process is accelerated to create higher surface compression and/or edge compression in the glass. It is the air-quench temperature, volume, and other variables that create a surface compression of at least 10,000 pounds per square inch (psi). This is the process that makes the glass four to five times stronger and safer than annealed or untreated glass. As a result, tempered glass is less likely to experience a thermal break.

With heat-strengthened glass, the cooling process is slower, which means the compression strength is lower. In the end, heat-strengthened glass is approximately twice as strong as annealed, or untreated, glass.

Both types of glass have their benefits, but it's important to consider your specific needs before deciding which one to use.





## Annealed vs heat-strengthened glass

Annealed glass is heated and then allowed to cool slowly, while heat-strengthening involves reheating annealed glass and then cooling it rapidly.

The main difference between the two is their strength. Heat-strengthened glass is more resistant to breakage and wind pressure than annealed glass, making it a good choice for

areas prone to harsh weather conditions. However, the annealed glass may be a better option for certain applications, such as decorative or interior use, where strength is not a primary concern.

Ultimately, the choice between annealed and heat-strengthened glass depends on the specific needs of your project.



## Laminated heat-strengthened glass

In today's world, safety is a top priority when it comes to construction and design. That is where laminated heat-strengthened glass comes into play. This specialized glass is made by sandwiching a layer of polyvinyl butyral (PVB) fill to

increase its strength. The result is a strong and durable material that can withstand greater forces than traditional glass.

The benefits of laminated heat-strengthened glass are clear: it provides enhanced safety, security, and for high strength, structural, or wind load requirements.

In the event of breakage, the glass will remain in the opening and intact (depending on severity). The panels can also be made more energy efficient when incorporated into an insulated glass unit.

This type of glass is commonly used in high-rise buildings, museums, and even automobiles.





## **Presenting heat-strengthened glass uses.**

Heat-strengthened glass is an impressive material that serves various purposes.

Generally speaking, using heat-strengthened glass is a very economical way to save budget and no risk of tempered glass self-explosion with a less distorted surface. Heat-strengthened glass is usually used for windows or for some façade projects where glass size is smaller and less wind load is required. For further enhancement, heat-strengthened glass can be processed as heat-strengthened laminated glass. So that

it can be used as a canopy or skylight, etc.

For heat-strengthened glass product price inquiries, you can [check here.](#)

The uses for heat-strengthened glass are endless, and as technology advances, so do its capabilities.





In conclusion, heat-strengthened glass is a great solution for those looking for a simple way to strengthen the existing glass structure.

Not only does it come with all the advantages of tempered

glass, such as improved strength, extended life expectancy, and improved safety, but it also offers increased impact resistance and allows for higher temperatures when exposed to a fire. Furthermore, the manufacturing process is relatively short and simple, allowing for easy implementation.

However, it should be noted that heat-strengthened glass still has some limitations and isn't suitable in situations where extreme temperatures are expected or impacts are expected to occur.

All in all, when correctly applied to the right applications, heat-strengthened glass can provide numerous benefits without sacrificing any quality standards.

[Shenzhen Dragon Glass](#) are expert in heat-strengthened and can provide you with the best advice and products for your needs. If you're looking for heat-strengthened glass, look no further – we have everything you need right here!