

Tempered Glass

Toughened or tempered glass is the glass that has been processed by controlled thermal or chemical treatments to increase its strength compared with normal glass. Tempered glass is made from normal annealed glass via thermal tempering process in which the glass is subjected to heat till its softening point and then rapidly cooled.

A fully tempered glass is 4 to 5 times stronger than an annealed glass of similar thickness. It will usually shatter into small fragments instead of sharp shards when broken, making it less likely to cause severe injury and deep lacerations.

Fully tempered glass is used traditionally in place of other glass products in applications requiring increased strength and reduced likelihood of injury in the event of breakage. As a result of its safety and strength, tempered glass is used in a variety of demanding applications, including passenger vehicle windows, doors and tables, as a component of bulletproof glass, for diving masks, and various types of plates & cookware.

Benefits

1) Strength :

A fully tempered glass as required in ASTM C 1048 is generally 4 to 5 times stronger than annealed glass and twice as strong as heat strengthened glass of similar thickness, size and type.

2) Safety :

In case of breakage, the glass disintegrates in to relatively small pieces thereby greatly reducing the likelihood of serious cutting or piercing injuries

in comparison with ordinary annealed glass.

3) Edge Strength:

The fully tempered glass has high edge strength as compared to normal annealed glass. This gives freedom to designers to use the tempered glass in spider glazing and point fixed glazing.

4) Thermal Breakage:

When direct sunlight falls on a pane of glass then the glass surface tends to heat up. This heating is not uniform in nature and hence there is a chance of breakage. A fully tempered glass has significantly higher edge strength to withstand chances of thermal breakage.

Bullet-Resistant, Zero Spall, Glazing

