



**ROLLWININDIA**

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# ROLLWININDIA

## Toughened Glass Brochure

### Properties and Process



### What is toughened glass

- HOW IT PRODUCED
- THICKNESS PRODUCED
- HANDLING AND SAFETY
- PROPERTIES

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## Toughened Glass



Toughened glass is as name suggests is tough and The raw material for making toughened glass is annealed soda lime silica glass [ plain glass] which is exposed to heat treatment process, due to heat treatment to surfaces of glass, compressive stress is induced and with controlled increase in temperature this compressive stress is increased and thereby increase in resistance to mechanical forces of surface of the glass

Due to such induction of stresses and thereby increase in resistance to wear and tear and better mechanical and physical properties the strength of toughened glass is almost 5 to 6 times tougher than the annealed glass, but the edges of the glass have same susceptibility that of the annealed glass as well as abrasion resistance does not change much hence care should be taken during handling and storage of toughened glass

## Strong And Durable

Processed Annealed glass cannot be worked on – cannot be cut, bent drilled or edge polished after it is heat processed or toughened hence all work on it should be done before toughening process.

Toughened glass is manufactured on horizontal roller furnaces where controlled heat is applied to induce the necessary compressive stresses and cooling is also done in controlled manner, it is utmost important to use controlled heating and cooling, We Rollwinindia make quality checks to make sure that the controlled heating and cooling has been done to every glass panel to produce quality toughened glass from 4mm to 19mm having desired strength for which it is produced.



The solar radiant heat and light transmission properties remain unchanged even after toughening process on annealed glass.

Apart From Toughened Glass We Have Laminated Glass As Well As Double & Triple Glazed Glass Units Which Can be Fitted To Doors & Windows



Asahi Glass



saintgobain



Asahi Glass

## Safety First.....

### Harmless Pieces

RollwinIndia cares a lot about loved ones as you do. Whenever our toughened glass is broken its broken in to harmless fragments and small pieces with less sharp edges reducing the risk of injury. Non toughened glass breaks in to too long and sharp pieces which may cause serious injury and hence Rollwinindia always recommends use of toughened glass for windows and doors along with glaze systems.



### Glass Visibility

When tinted or reflective glass [also in some amount clear glass] is toughened it develops wavy form can be seen in reflections due to surface characteristics changes and induction of compressive stress due to controlled heating and cooling as well as bow [deviation as consistent flat toughened glass production is not possible,

maximum bow is 2mm per metre – between tentative vertical line and concave surface of toughened glass].



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