

## Ten types of glass categories you may not be familiar with

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Ranging from a glass that can be switched into being transparent, translucent and opaque to the glass that eliminates 99% of Sun's harmful ultra-violet rays, the glass industry has made some significant strides with time. We bring to you ten types of glass categories that are used extensively in office spaces, malls, hotels and luxury homes, which you may not be familiar with. We welcome you to the world of glass.



### Heat Strengthened Glass

Unlike the fully tempered glasses, HS is a process where the glasses are slowly heated and cooled. Here the glasses attain a strength that is twice as strong as normal annealed glasses. These glasses have a breakage pattern that is similar to annealed glasses and hence cannot be called as safety glasses.

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### Lacquered/Back painted Glass

The new generation interior glass, which are colourful and opaque in nature are produced by depositing and then baking a highly resistant lacquer to one of its faces. Once in service, this highly durable glass requires very low maintenance. Lacquered/Back painted Glass is suitable for all interior surfaces where colour contributes to enhancing an area, including damp or humid rooms such as bathrooms and kitchens.

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### Frosted Glass

Normally this glass is transparent and allows vision and light to pass through it. In certain cases like a bathroom window, it is important to allow light while eliminating vision. This glass has very neat, clean and glossy surface. One of the surfaces can be frosted or obscured by blasting sand under high pressure through a nozzle. A very thin layer of material is removed and the sand causes a pitting on the surface obscuring its see through property but not obstructing the passage of light. The final glass is known as frosted glass. Another type of frosted glass is made by acid treatment resulting in a milky smooth finish on glass and achieving the same objective of blocking vision but allowing light.

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### Tempered/Toughened Glass

Glass is strong to compressive forces and weak against tensile stresses. Toughening is a process which makes the glass invulnerable to tensile stresses, thereby imparting strength to the glass that makes it 4 to 5 times stronger than normal annealed glasses. In the event of breakage, tempered glass breaks into small, relatively blunt glass fragments causing no or minimal damage to the people. They are also known as safety glasses.

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### Laminated Glass

Laminated glass is safety glass that is manufactured by adhering two or more sheets of glass together with a flexible PVB interlayer. The bond between the glass and interlayer can absorb accidental human impact. Even if the glass breaks, the fragments adhere to the interlayer thus minimizing injury. Laminated glass offers greater protection for people and property by providing an effective barrier when under attack. Also, laminated glasses have excellent sound insulation properties. This is also an effective, low-cost method for reducing the transmission of noise through glass. The glass protect expensive curtains, furnishings and carpets from the damaging effects of short-wave ultra-violet radiation. The

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### Insulated Glasses

IGUs consists of two or more panels of glass separated by an air space and an aluminum or other type of spacer, around the edges, sealed to the perimeter in controlled conditions. The combination of two panels of glasses and the trapped air is what makes IGUs a superior energy efficient method of glazing. IGUs are not to be confused with double glass windows or secondary sashes / windows, where the two panes have not been hermetically sealed. This particular type of glass reduces heat build-up in summers and heat loss and condensation in winters. Other features include: Lower air conditioning and heating costs; lower noise penetration; lower UV transmission; increased wind load strength; increased

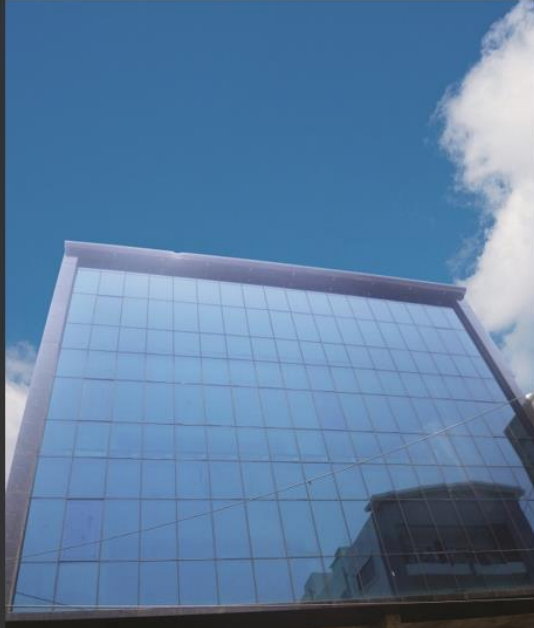
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### Tinted Glass

Tinted/Heat-absorbing Glass is a body tinted glass that absorbs energy from solar radiation. It, therefore, cuts down the sun's heat, enabling greater convenience and comfort inside the building, while enhancing the aesthetic appeal of the building from outside. Tinted Glass absorbs 30% to 45% of the solar heat incident on the glass surface – depending on tint and thickness – and thus reduces the quantity of heat flowing into the buildings, lessening cooling-load on air-conditioning and saving energy costs. It is highly flexible in terms of applications, so architects and designers can now try and incorporate new design trends in their building. Tinted Float protects against glare and allows less visible light transmittance, thus

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### Hard-coat Reflective Glass

The advantage of this product is its durability. It can be handled like a standard square of glass. These glasses can be heat treated and curved if required. The application process does, however, limit the range of colors when compared to off-line coatings.

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### Soft-coat Reflective Glass

It involves the deposition of metal particles on the glass surface by a chain reaction in a vacuum vessel. It is often called as 'soft coat' because the coating is more susceptible when compared to a hard coat glass when glazed in monolithic form. Subject to certain exceptions, vacuum coated glasses have better shading coefficients than pyrolytic coated glasses.

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### Smart glass/Switchable Glass

This glass can alter its light transmission properties. With suspended particle device technology, it can interchange instantly become transparent, translucent or opaque. Smart glass is used for windows, skylights, doors, and partitions and is available as laminated panels or insulated glass units. This glass eliminates the need for expensive window dressings. Image/content credit: AIS - Glasxperts

