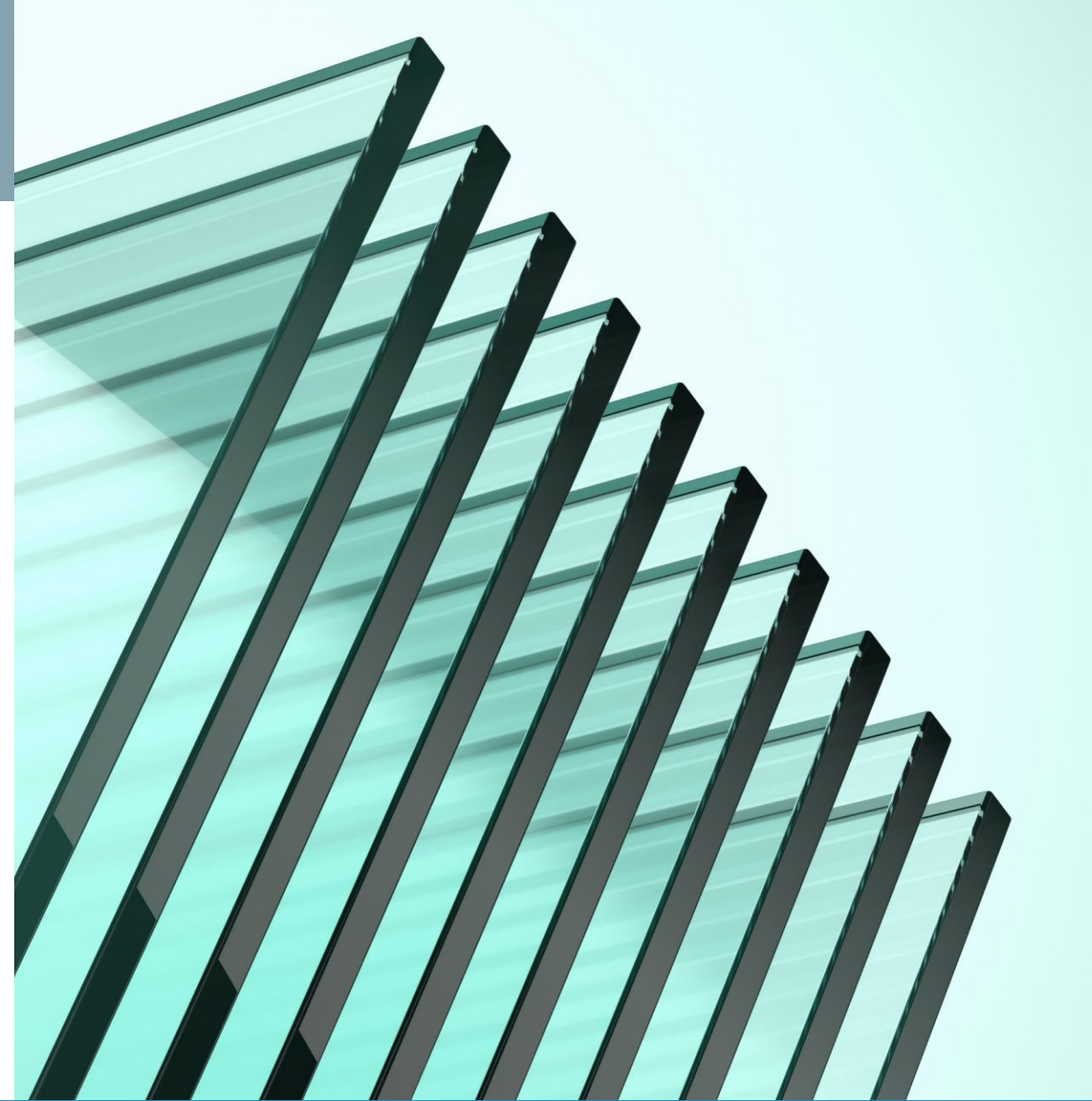


CLEAR FLOAT GLASS



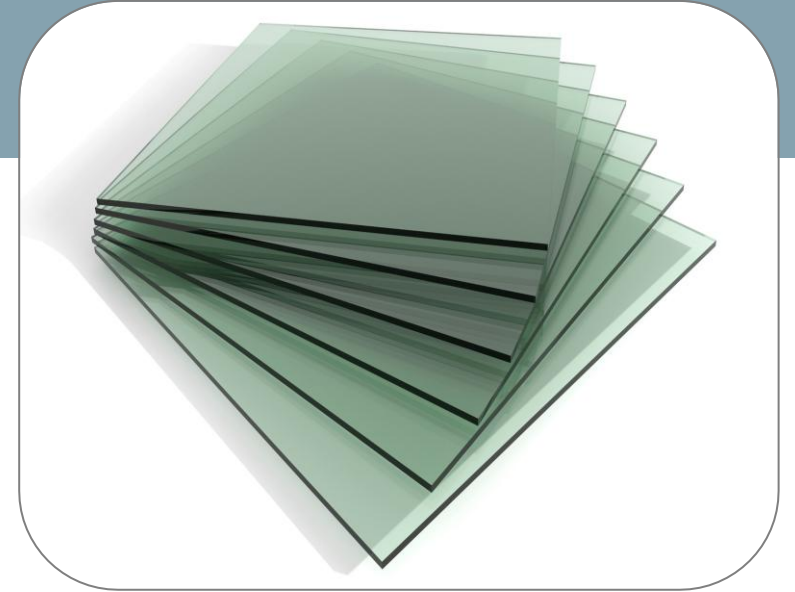
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Introduction

- Clear float glass gets its name from the process required to manufacture it. The most popular form of clear float glass is soda _lime glass which gets its name from its greenish tinge owing to the iron oxide content of the glass. This type of glass makes up about 90% of all manufactured glass.
- Raw materials such as silica sand, Soda ash (Na_2CO_3), Limestone (CaCO_3), dolomite ($\text{CaMg}(\text{CO}_3)_2$) and recycled glass(crushed scrap glass) are melted together in a furnace. The molten glass composition is poured into a chamber of molten tin. Since glass is lighter than tin, it floats to the top, forming an even layer on the surface. Then the glass undergoes a cooling process whereby it stabilizes and hardens. By lowering the iron content (approximately one quarter of that found in the regular clear float glass), the greenish tint in glass will be replaced by a neutral finish, higher clarity and greater light transmission, presenting the Ultra-Clear Float Glass which offers unique beauty and performance for shop windows, museum displays, atriums, staircases, glass doors, separators, mirrors, baths, glass elevators, solar panels etc.



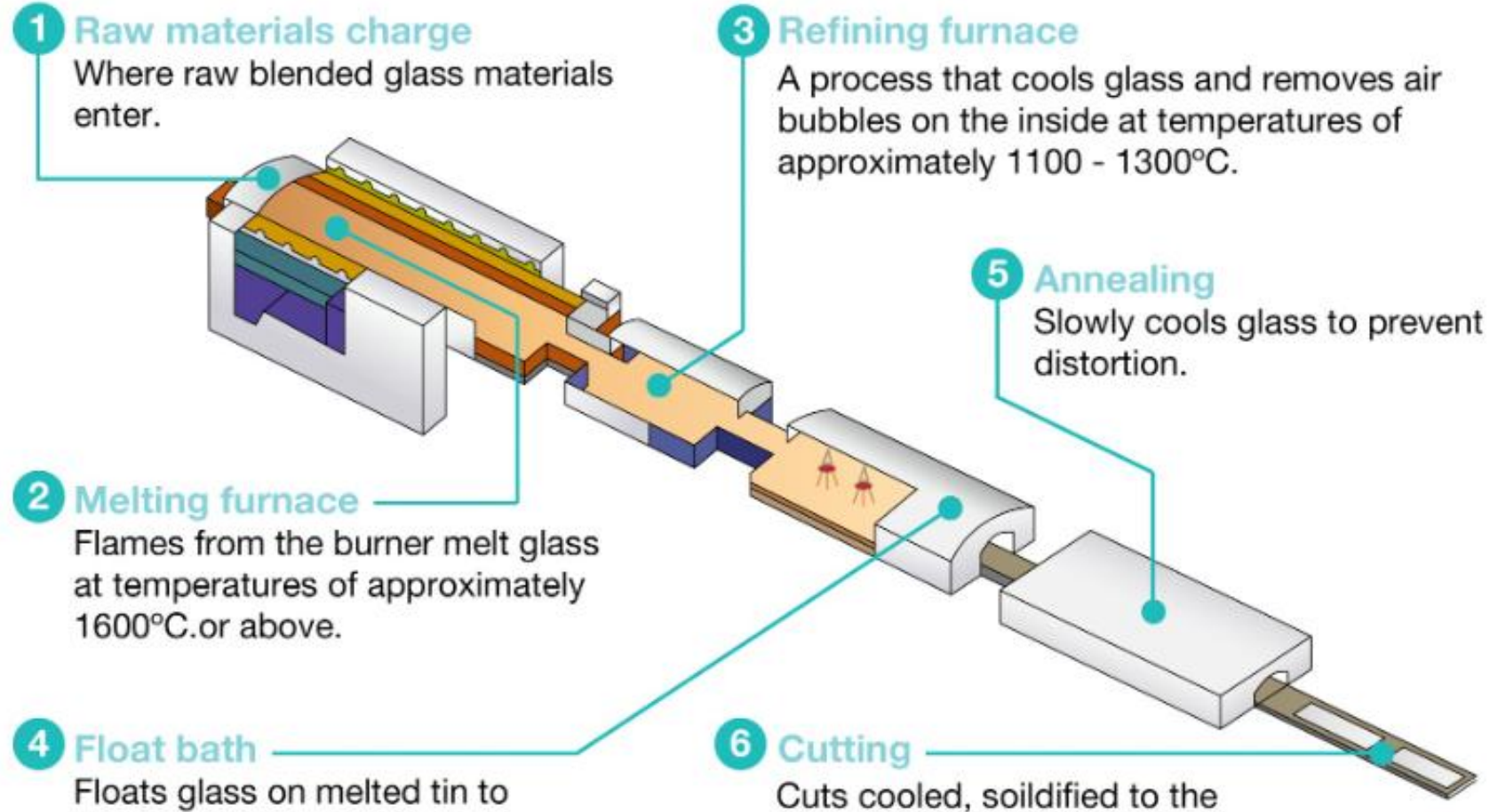
Process

The float glass process is a multi-step manufacturing process where liquid glass is formed by “floating “ it on molten metal (tin).

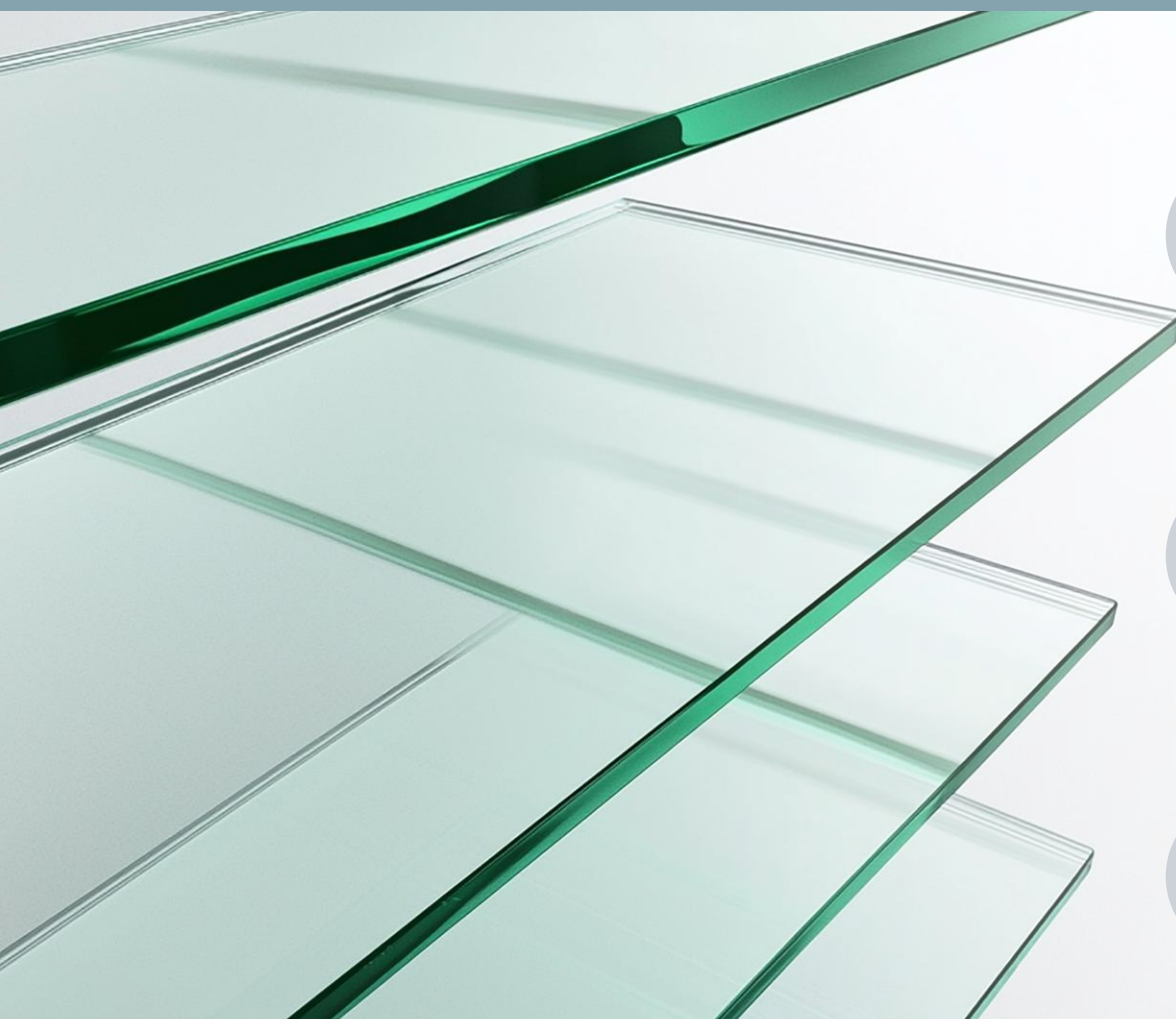
- **Batching:** Raw materials are weighed , mixed and moved by conveyer from the initial batch house into the furnace, water is added to help mix the batch and minimize air born dust.
- **Melting:** Inside the furnace , the raw material become molten at temperatures reaching 2900 Fahrenheit degrees.
- **Fining:** The molten glass is refined by homogenizing the material and removing bubbles.
- **Forming:** To reach the acceptable viscosity for the following float bath in tin, the glass is cooled to approximately 2000 Fahrenheit degrees.
- **Annealing:** After the molten tin bath, the rigid glass ribbon goes through the cooling tunnel or lehr. This process lowers the glass temperature from around 1000 Fahrenheit degrees to room temperature.
- **Inspection and cutting:** Now on the main conveyor line , the continuous glass ribbon is electronically inspected and cut to the appropriate size.
- **Packing:** Finally, the glass is packed and loaded for off-line coating, heat-treating or shipment.



Process



Properties



Transparency and clarity: The most notable advantage of float glass is its smooth clear surface and being free of streaks or bubbles. Its light transmission rate is usually around 85-90% .



Recyclability: Clear float glass can be recycled many times, so it is environmentally friendly.



Affordability: Clear float glass is relatively inexpensive compared to other types of glass, making it a popular choice for many applications.



Chemical inertness: Clear float glass is chemically nonreactive and impermeable, so it is well suited for applications involving contact with other substances like food and drinks or in labs.



Durability: It can be chemically tempered to achieve greater hardness and scratch resistance.



Easy to fabricate: It is easy to fabricate and can be cut , drilled and shaped into a wide range of shapes and sizes.

Thickness & Sizes

Clear Float Glass

	3mm	4mm	5mm	6mm	8mm	10mm	12mm
3210x2000	✓	✓	✓	✓	—	—	—
3210x2100	✓	✓	✓	✓	—	—	—
3210x2250	✓	✓	✓	✓	✓	✓	✓
3210x2400	✓	✓	✓	✓	—	—	—
3210x2500	✓	✓	✓	✓	—	—	—
3210x2550	—	—	—	—	✓	✓	✓
3210x6000	✓	✓	—	✓	✓	✓	✓
3210x2140	✓	✓	✓	✓	✓	✓	✓

Ultra Clear Float Glass

	4mm	5mm	6mm	8mm	10mm	12mm
3210x2250	✓	✓	✓	✓	✓	✓
3210x2500	✓	✓	—	—	—	—
3210x2550	—	—	✓	✓	✓	✓
3210x5100	—	—	—	—	—	✓
3210x6000	✓	✓	✓	✓	✓	—
3210x2140	✓	✓	✓	✓	✓	✓

Technical Specification

Clear Float Glass

Thickness (mm)	3	4	5	6	8	10	12	15
LT	90	89	89	88	87	86	85	83
LR(ext)	8	8	8	8	8	8	8	8
SF	86	85	83	82	80	78	75	72
U value	5.8	5.7	5.7	5.7	5.6	5.6	5.5	5.4

Ultra Clear Float Glass

Thickness (mm)	4	5	6	8	10	12
LT	91	91	91	90	90	90
LR(ext)	8	8	8	8	8	8
SF	90	90	90	89	88	87



Application

Clear float glass is a versatile material. It can accommodate a myriad of thickness, sizes and colors in various applications which include:

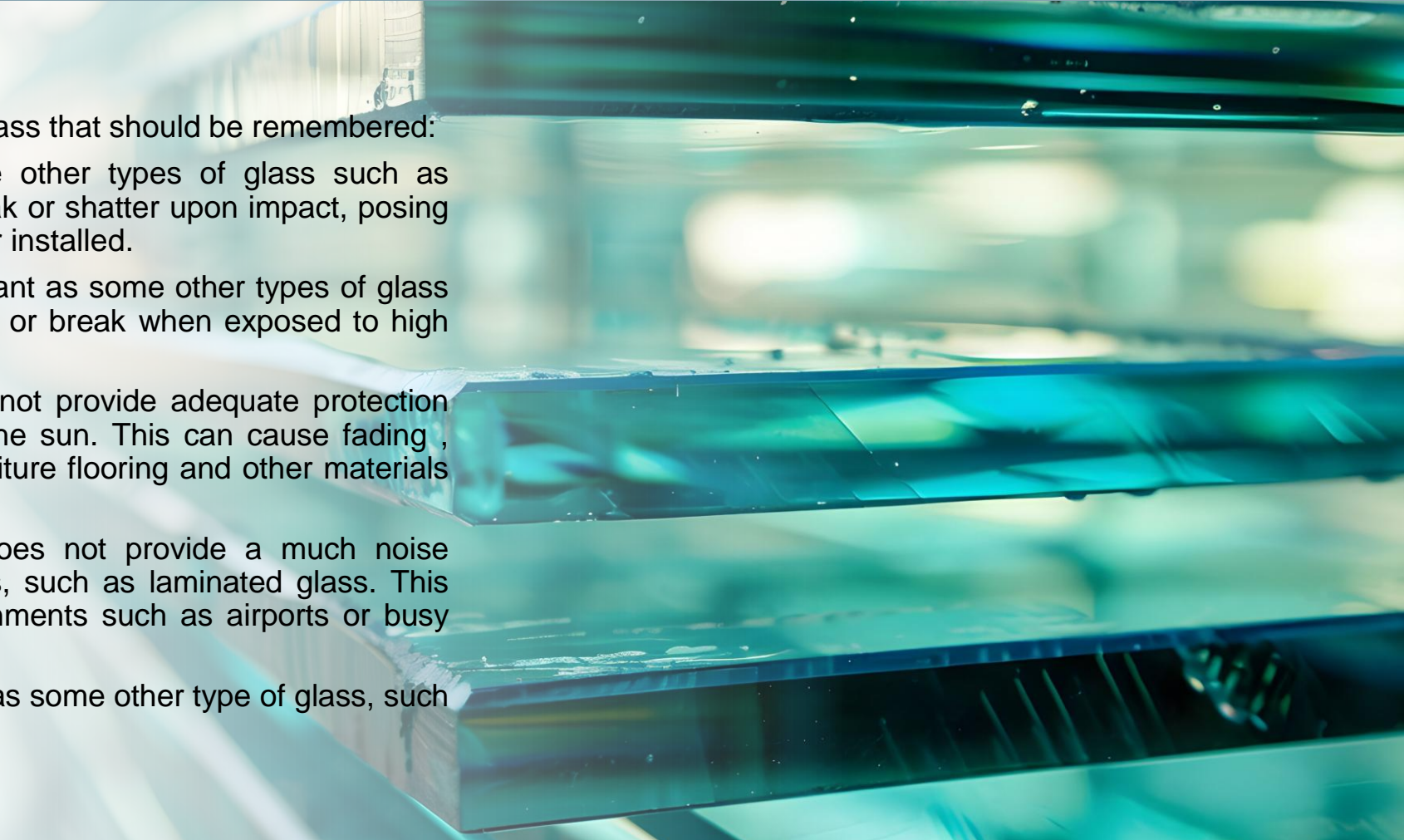
- ☐ Windows
- ☐ Doors
- ☐ Glass walls and panels
- ☐ Solar applications
- ☐ Greenhouses
- ☐ Mirrors
- ☐ Shelving
- ☐ Tabletops
- ☐ Display cases

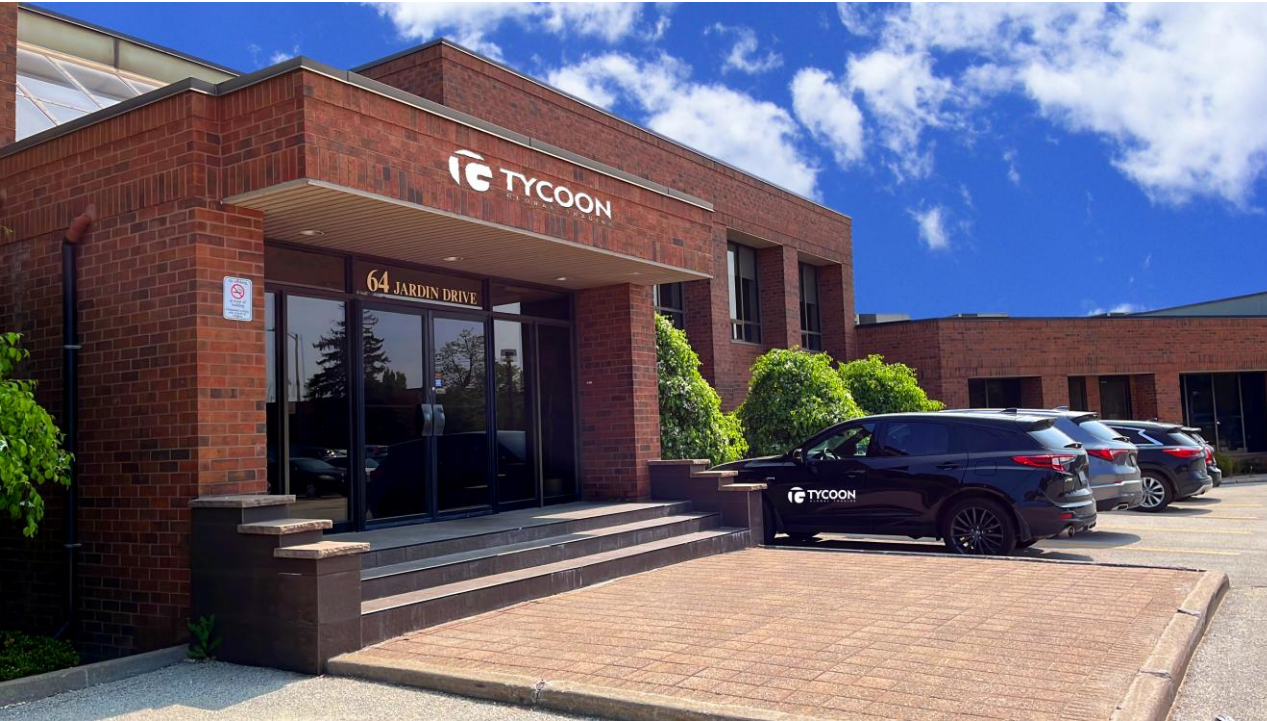


Things to remember

There are some points about the clear float glass that should be remembered:

- ❑ **Fragility:** It is not as strong as some other types of glass such as tempered or laminated glass. It can break or shatter upon impact, posing a safety hazard if not properly handled or installed.
- ❑ **Heat resistance:** It is not as heat resistant as some other types of glass such as borosilicate glass. It may crack or break when exposed to high temperatures.
- ❑ **UV protection:** Clear float glass does not provide adequate protection against ultraviolet (UV) radiation from the sun. This can cause fading, discoloration and other damages to furniture flooring and other materials inside building.
- ❑ **Noise insulation:** Clear float glass does not provide a much noise insulation as some other types of glass, such as laminated glass. This can be a disadvantage in noisy environments such as airports or busy streets.
- ❑ **Energy efficiency:** It is not as effective as some other type of glass, such as insulated or triple pane glass.





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