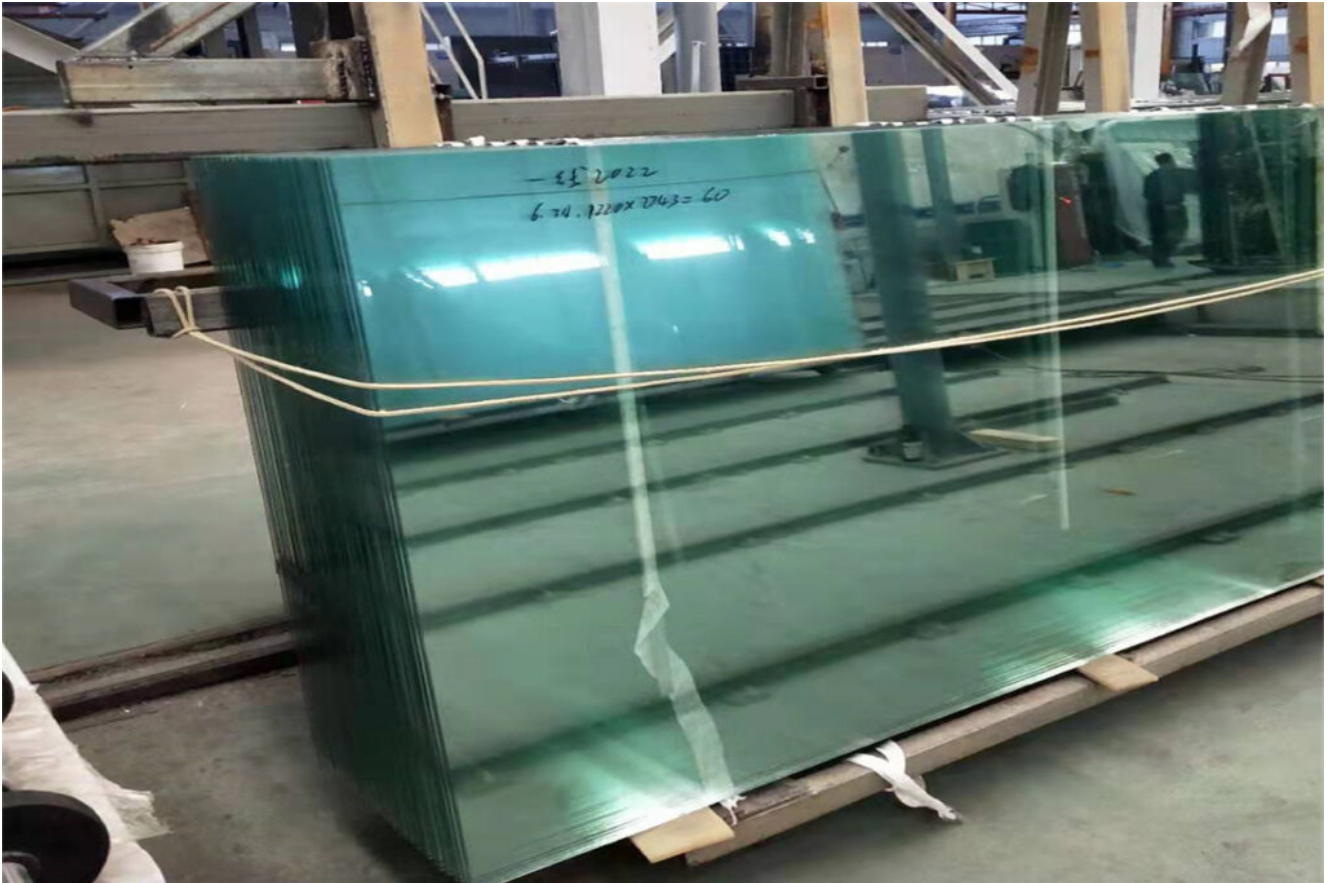


2024 Guidebook-Information for Annealed Laminated Glass Sheet Best Choices

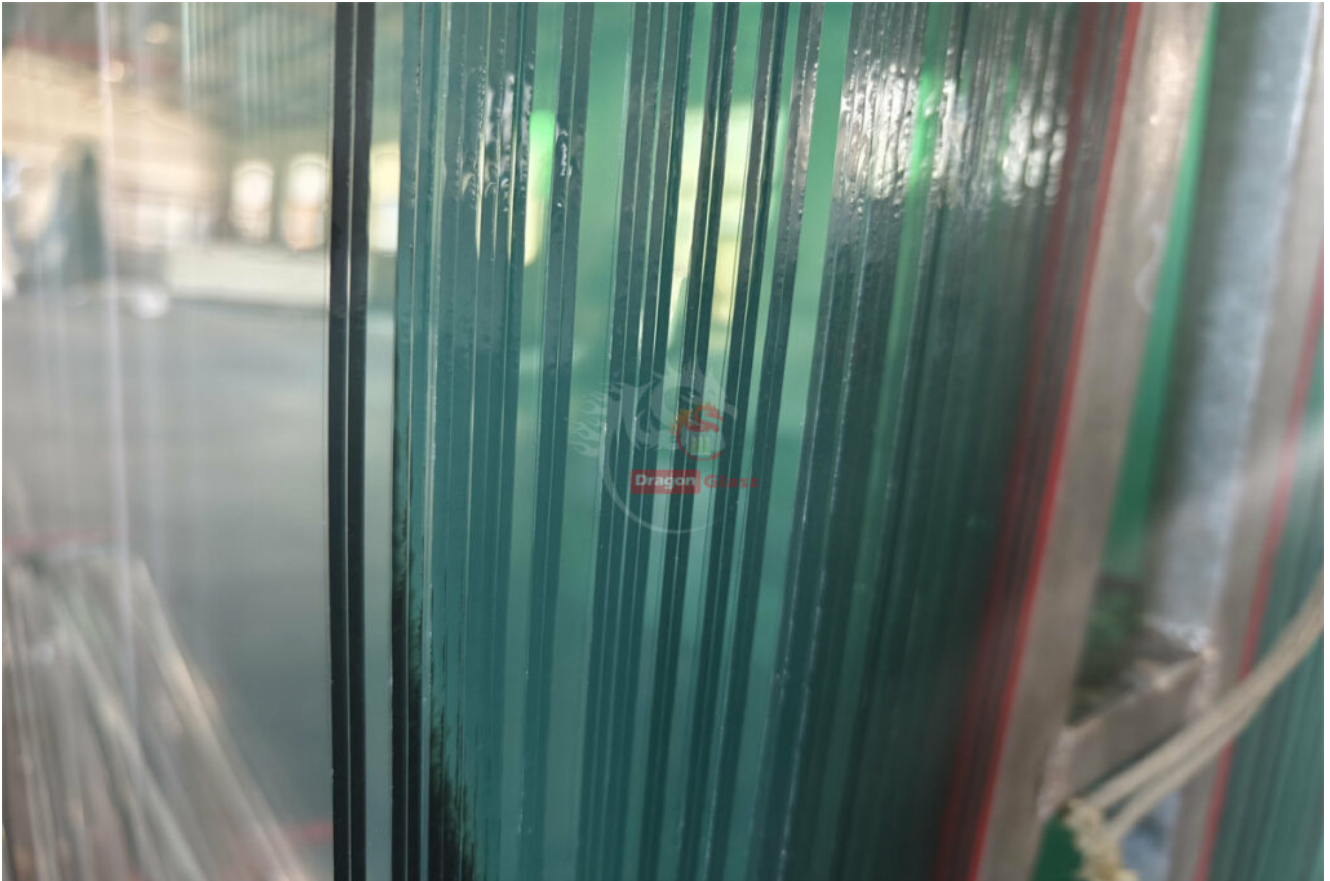


How laminated glass sheet is made?

Laminated glass sheet, also called [annealed laminated glass](#), which normally combined with two colorless glass, in Spanish called vidrio incoloro, and in French called verre incolore, or other glass uses [tinted glass](#), [reflective glass](#), frost glass, or [mirror](#), the interlayers use top brand PVB or EVA film to the glass, like Kuraray, SEKISUI, Vanceva and so on,

and also China brands like DECENT, KB, which ensure your laminated glass sheet in very good quality all the time, and 100% no delaminate.

[Dragon Glass](#) uses a very high-quality lamination machine to realize no bubbles, and 100% delaminate quality for all our clients, the lamination machine comes from top brands in China or internationally.

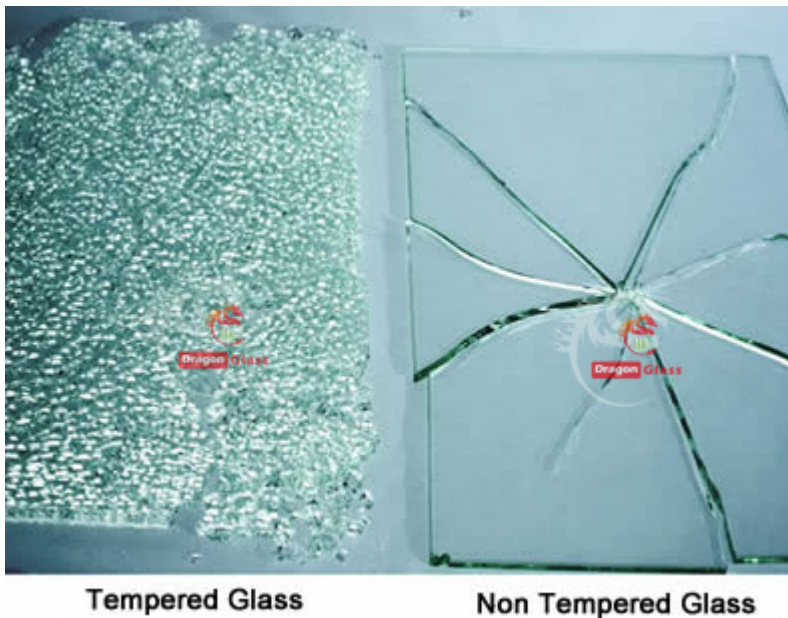


Laminated glass sheets in warehouse



Different color laminated glass samples

Can laminated glass be tempered?



It's an interesting question, and depends on different conditions, first, if the glass non laminated, we can do any processing on it, like tempering, cutting, edging, drilling holes, and so on, but if the glass is already laminated, we can not do any processing like tempering, edging, so if you have tempered requirement, need to inform us in advance, for avoid any inconvenience.

The diagram above shows schematic representations of [tempered glass](#) and non-tempered glass breakage. This does not indicate which glass is safer; it merely illustrates their respective advantages. The tempered laminated glass has a 5 times impact resistance but has a self-explosion rate, [non-tempered laminated glass](#) only has 1-2 times impact resistance, but non-self-explosion problems, so please check and use the right products in your projects.

Can float laminated glass be cut?



Yes, as the float laminated glass non tempered, you can cut to any size based on your local projects. When you have a detailed drawing of your project, send us, and our team will cut it according to your dimensions. See [about us](#)

The big size for float laminated glass we can reach is around 2700x4800mm, maximum size ([jumbo laminated glass](#)) needs to be negotiated, but the PVB thickness shall be thicker reaching 1.52mm or 1.9mm

How thick is laminated glass sheet?

You can find below some sizes and thicknesses of float laminated glass, this will be helpful to your choice.

Annealed laminated glass thickness chart

6.38mm laminated glass [33.1 VSG](#)

3mm clear float glass + 0.38PVB + 3mm clear float glass

- 1220x1830mm
- 1830x2440mm
- 2140x3300mm
- 2250x3300mm

20 days delivered

8.38mm laminated glass [44.1 VSG](#)

4mm clear float glass + 0.38PVB + 4mm clear float glass

- 1220x1830mm
- 1830x2440mm
- 2140x3300mm
- 2250x3300mm
- 2440x3300mm
- 2440x3660mm

15-20 days delivered

10.38mm laminated glass [55.1 VSG](#)

5mm clear float glass + 0.38PVB + 5mm clear float glass

- 1830x2440mm
- 2140x3300mm
- 2140x3660mm
- 2250x3300mm
- 2250x3660mm
- 2440x3300mm
- 2440x3660mm

15-20 days delivered

6.76mm laminated glass 33.2 VSG

3mm clear float glass + 0.76PVB + 3mm clear float glass

- 1220x1830mm
- 1830x2440mm
- 2140x3300mm
- 2250x3300mm

20 days delivered

8.76mm laminated glass 44.2 VSG

4mm clear float glass + 0.76PVB + 4mm clear float glass

- 1220x1830mm
- 1830x2440mm
- 2140x3300mm
- 2250x3300mm
- 2440x3300mm
- 2440x3660mm

20 days delivered

10.76mm laminated glass 55.2 VSG

5mm clear float glass + 0.76PVB + 5mm clear float glass

- 1830x2440mm
- 2140x3300mm
- 2140x3660mm
- 2250x3300mm
- 2250x3660mm
- 2440x3300mm
- 2440x3660mm

20 days delivered

12.38mm laminated glass 66.1 VSG

6mm clear float glass + 0.38PVB + 6mm clear float glass

- 1830x2440mm
- 2140x3300mm
- 2140x3660mm
- 2250x3300mm
- 2250x3660mm
- 2440x3300mm
- 2440x3660mm

20 days delivered

12.76mm laminated glass 66.2 VSG

6mm clear float glass + 0.76PVB + 6mm clear float glass

- 1830x2440mm
- 2140x3300mm
- 2140x3660mm

- 2250x3300mm
- 2250x3660mm
- 2440x3300mm
- 2440x3660mm

20 days delivered

16.76mm laminated glass 88.2 VSG

8mm clear float glass + 0.76PVB + 8mm clear float glass

- 1830x2440mm
- 2140x3300mm
- 2140x3660mm
- 2250x3300mm
- 2250x3660mm
- 2440x3300mm
- 2440x3660mm

20 days delivered

Is Annealed laminated glass soundproof?

Yes, actually for normal PVB laminated glass, with STC values reaching 34-35, and if want to reach better sound reduction performance, using acoustic PVB will be a good choice, with STC values reaching 37-38 or more.

No matter how, laminated glass has a good performance on soundproof, used in the office, classroom, or hospital will be a good choice compared to monolithic tempered glass.

1. Laminated Safety Glass (LSG)

LSG			TEST RESULTS - EUROPEAN NORM		TEST RESULTS - US NORM	
Float glass [mm]	Interlayer [mm]	Float glass [mm]	R_w [dB]	C, C_{tr} [dB]	STC	OITC
4	SC+ 0.76	4	37	(0/-2)	37	33
4	SC 0.76	4	37	(-1/-3)	37	32
5	SC+ 0.76	5	38	(-1/-3)	38	33
5	SC 0.76	5	38	(0/-2)	38	34
6	SC+ 0.76	6	40	(-1/3)	39	36
6	SC 0.76	6	39	(0/-2)	39	35

The above diagram shows the sound insulation values of sheet glass with different thicknesses and types, like VSG, like IGU. Please choose different glass options based on the requirements of your project to achieve the best sound insulation values.

Reference from TROSIFOL

Can laminated glass sheet be tinted?

Yes, we can combine different tinted glass into laminated glass, such as bronze tinted glass, grey tinted glass, green tinted glass, or blue tinted glass, but if you already got a clear laminated glass products, which can not change again.

So when you have detailed requirements, please send this to our salesman, they will help you for this.



Euro Bronze

Golden Bronze

Black

Euro Grey

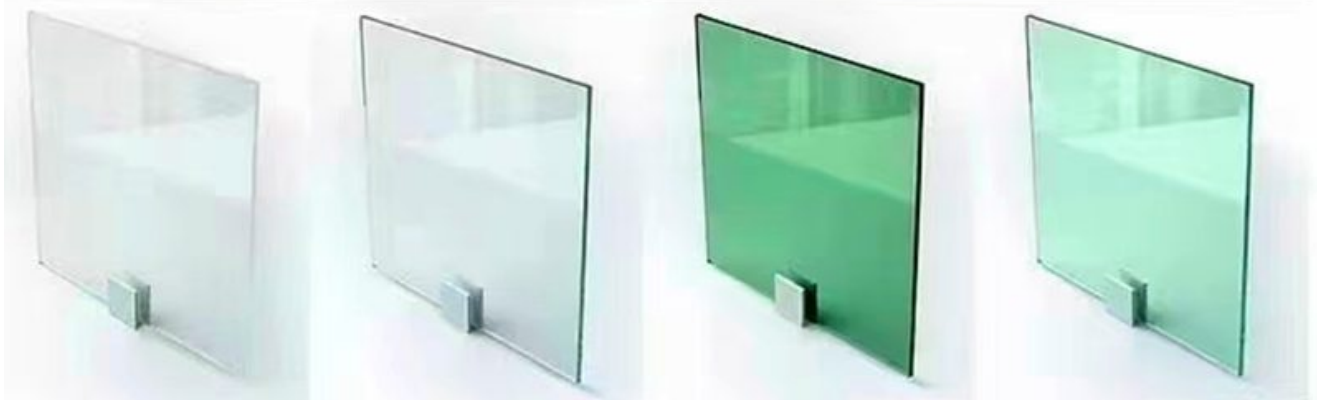


Dark Grey

Blue Grey

Ford Blue

Dark Blue



Ultra Clear

Clear

Dark Green

F-Green



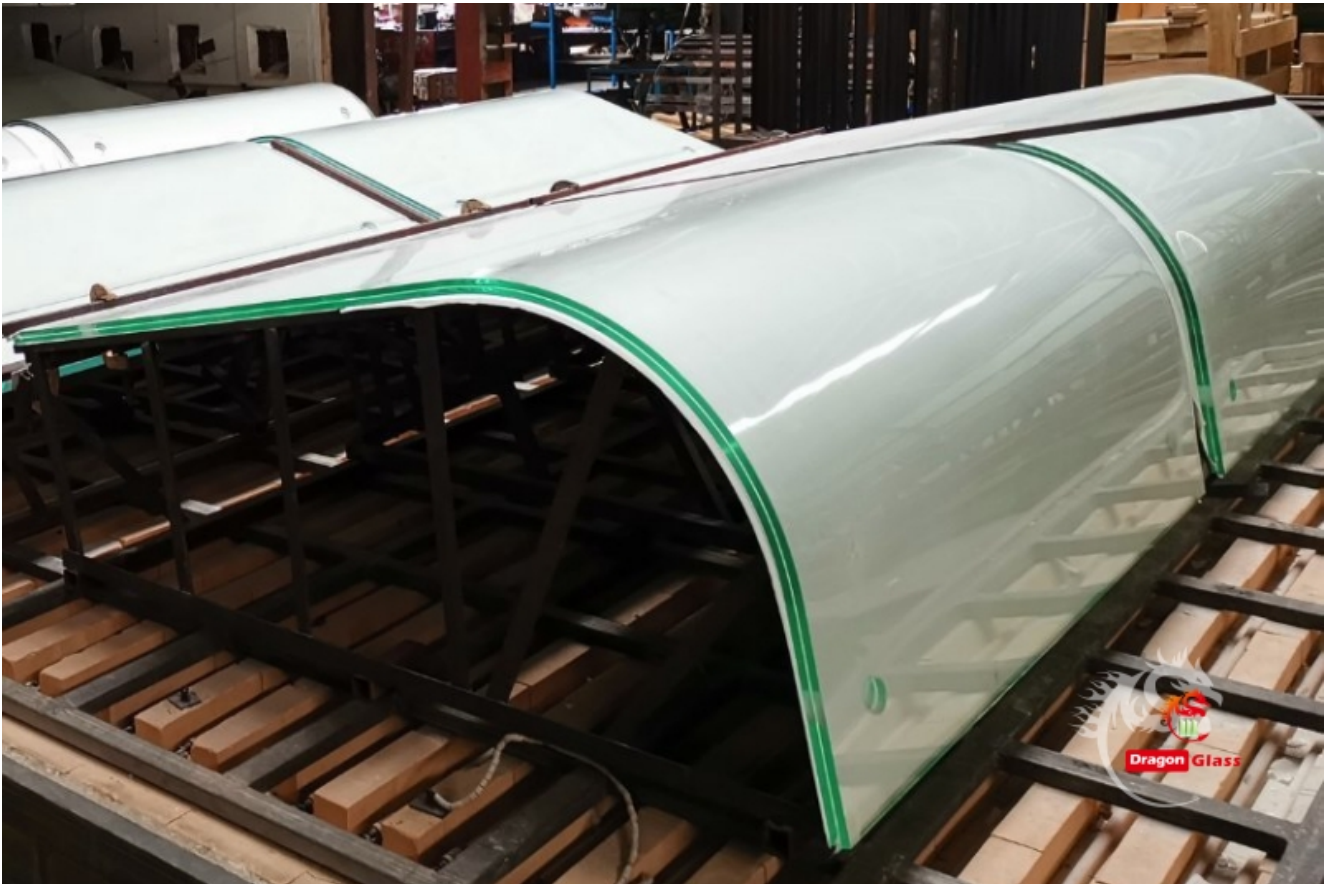
If want more colors, the tinted glass can not be used, or tinted glass is not stock or no production plan, we can use color PVB for a replacement, the cost will be cheaper than tinted glass.

Can float laminated glass be curved?

Yes, our curved machine can bend any shape you need, but we shall get to know the radius, arc length, and height of the glass you need, then we can see whether can help you.

Curved laminated glass also called [bent laminated glass](#), is differently shaped to meet owners' requirements, it's very hot

in modern buildings.



Our minimum radius of bent laminated glass can reach 100mm, and if needs to be tempered, it can reach 350-400mm, depending on different size or thickness of the glass.

Is float laminated glass bulletproof?

	Threat Stopped	Glass Laminate			
Protection Level	(example)	Thickness		Weight	
		in.	mm	lb/sq. ft.	kg/m ²
UL 752 Level 1	9 mm 3 shots	1.185	30.09	15.25	74.46
UL 752 Level 2	.357 Magnum 3 shots	1.4	35.56	17.94	87.6
UL 752 Level 3 (approximately NIJ IIIA ^[10])	.44 Magnum 3 shots (5 shots for NIJ IIIa)	1.59	40.38	20.94	102.24

It depends on the thickness, considering the high safety, actually, the bulletproof is non-tempered, according to U.L. 752 USA standard for bulletproof glass, the float laminated glass shall reach below thickness will be good.

So please select according your project requirements, then it's be good for your budgets.

Where is float laminated glass required?

Annealed laminated glass is a type of laminated glass where

the individual glass layers are in an annealed state (i.e., they have not undergone additional heat treatment for increased strength)

- **Safety Glazing:** Like tempered laminated glass, annealed laminated glass provides safety benefits by remaining intact when shattered. This reduces the risk of injury from broken glass. It is used in doors, windows, and glass partitions where safety is a primary concern.
- **Architectural Applications:** Annealed laminated glass is used in various architectural applications, including glass walls, roofs. It enhances safety and is often chosen for its optical clarity and ease of handling during installation.
- **Interior Partitions:** Annealed laminated glass is suitable for interior partitions, where safety is important but the glass may not be subjected to extreme impact forces.
- **UV Control:** Annealed laminated glass can be designed to block UV radiation, offering protection for interior spaces and materials against the damaging effects of sunlight. This is particularly important in applications such as museums and galleries.
- **Sound Control:** Annealed laminated glass has some sound-dampening properties, making it suitable for applications where moderate noise reduction is desired.
- **Security Windows:** In residential or commercial buildings where security is a concern but the glass may not be subject to severe impact, annealed laminated glass may be used in windows to deter break-ins.
- **Custom Decorative Glass:** Annealed laminated glass can be used in decorative applications where safety is a consideration. It allows for the incorporation of custom designs, patterns, or interlayers for aesthetic

purposes.

- **Automotive Applications:** While tempered glass is more commonly used in automotive windshields, annealed laminated glass may be used in other automotive applications such as side windows.



Partitions use laminated glass sheet



Annealed laminated glass for windows and doors

What is annealed laminated glass windows?

Combining annealed glass and laminating glass results in windows that have the enhanced safety features of laminated glass while using the annealed glass as the base material. This type of glass is commonly used in windows where safety is a priority, such as in homes, offices, and public buildings. It provides protection against injuries caused by shattered glass while maintaining the clarity and transparency of the glass.



1/4 laminated glass windows



1/4 laminated glass sliding doors/windows

Is laminated glass sheets expensive?

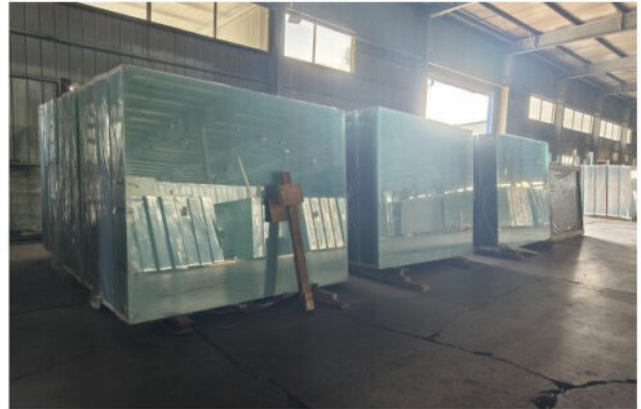
The cost of laminated glass sheets can vary based on several factors, including the type of glass used, the thickness of the glass layers, the interlayer material (such as PVB), and the size of the glass sheets. Here are some factors that can influence the cost:

- **Type of Glass:** The type of glass used in the laminated sheets can affect the cost. For example, using low iron glass, tinted glass, reflective glass or specialty glass types may increase the overall price.
- **Thickness:** Thicker glass sheets generally cost more than thinner ones. The thickness of the individual glass layers in the laminated glass will contribute to the overall cost.
- **Size and Shape:** The size and shape of the glass sheets can influence the cost. Flat shape will be cheaper than curved shape, and regular shape vs irregular shape is the same, custom sizes or shapes may incur additional expenses.
- **Additional Features:** Laminated glass can be manufactured with additional features, such as tinting, coatings for UV protection, or soundproofing capabilities. These features can contribute to higher costs.
- **Manufacturer and Brands:** Different manufacturers and brands may offer laminated glass at varying prices.

Well-known brands are more expensive, like AGC, Guardian, Pilkington, Saint-Gobain and so on.



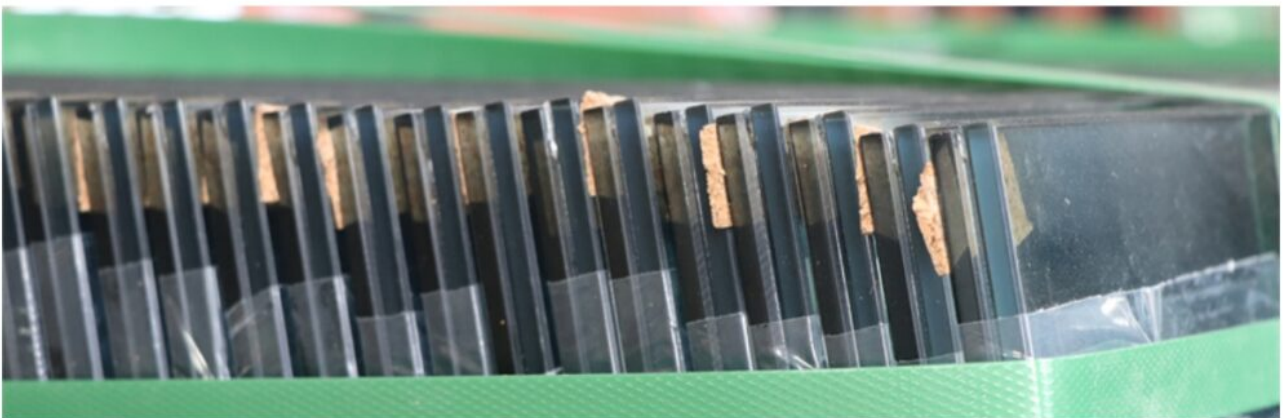
Our laminated glass packing



Warehouse and production line

[Dragon Glass](#) as a professional laminated glass sheet producer, not as well-known like other brands, but economic price and stable quality already won over 350 customers all over the world, we sent over 10 containers per two weeks average, so if you have any requirements on laminated glass sheets, kindly contact us anytime.

How to know if annealed glass is laminated?



Method one

Check the sides of the glass, it's you can see obviously, the two layers of glass combination, this is a laminated glass sheet

Method two

When you break the glass if possible, the glass will break into big chips and fall to the floor, this is annealed glass

only, also called monolithic glass, if the piece can still keep on the PVB film, this is laminated glass. This is very good choice, but the cost will be high when you break a glass.



Laminated glass sheet production

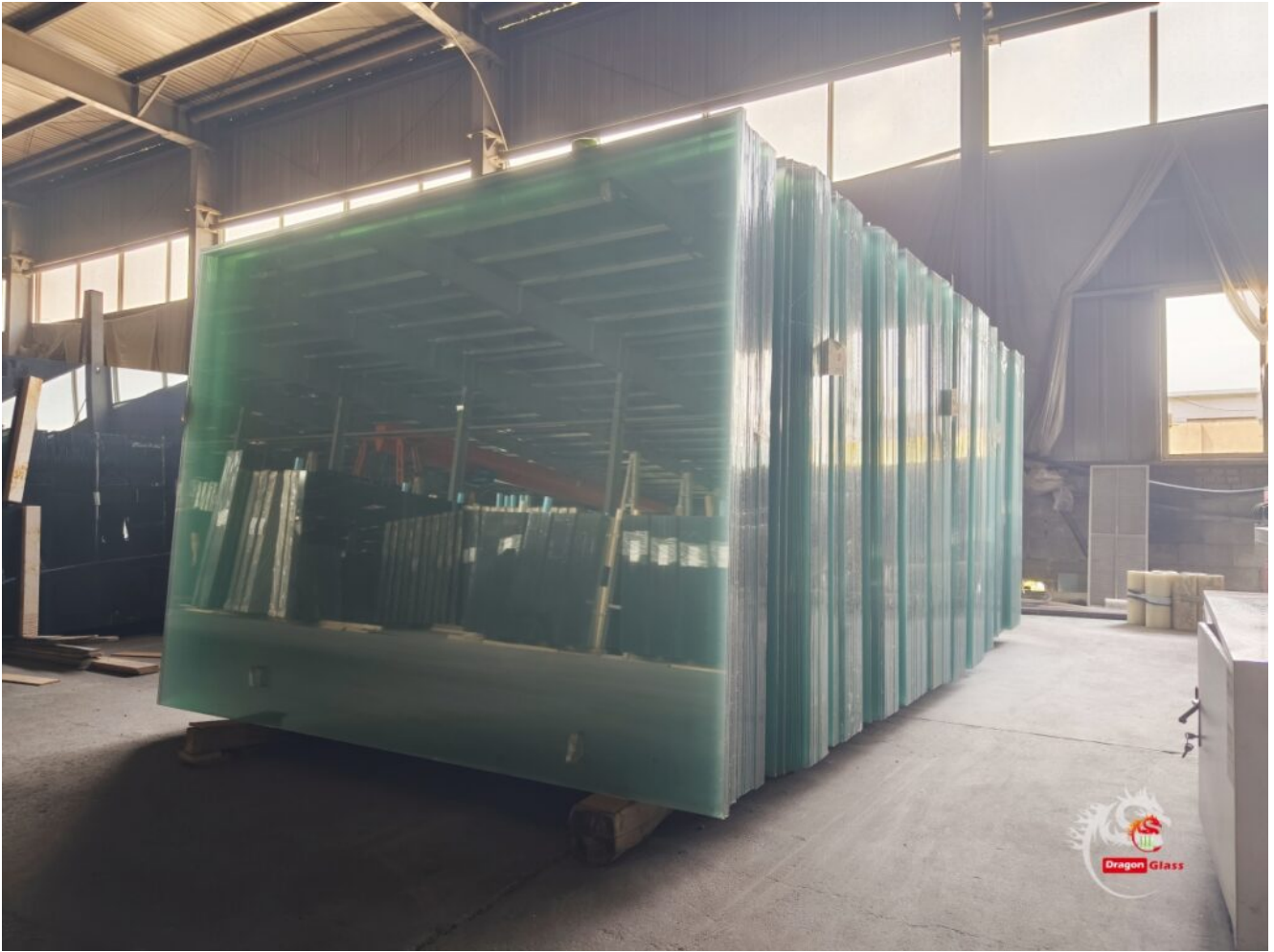
line



Dust-free low-temperature laminated glass studio, ensuring the production of laminated glass is free from contamination, maintaining high quality.

After the lamination of all glass layers, they are placed into a high-pressure autoclave for a secondary process of high temperature and high pressure. This step ensures the resolution of issues such as air bubbles within the glass. The resulting glass meets the criteria of being bubble-free, scratch-free, and 100% delamination-free.





After completion, the glass is neatly arranged in our warehouse. Once the container loading time is confirmed, we will use high-quality wooden crates for packaging to ensure its safe transportation during the sea shipping process.