

5 reliable reasons you should use SGP interlayer over PVB interlayer, click and know why



Laminated glass is known as safety glass which is essentially a sandwich of two pieces of glass. It is composed of two or more plies of glass separated by an SGP interlayer/ PVB interlayer/ EVA interlayer.

As a complex composite material, its properties can be changed considerably by different interlayer materials. The interlayer is laid between the plies of a glass of the required thickness, with multiple sheets of interlayer being used to achieve the required thickness when required. The ductility and toughness of the interlayer will also play a vital part in delivering the acceptable post-fracture performance of the laminate.

What is SGP interlayer?

SGP interlayer is a high-performance laminated material developed by DuPont Co. It is stronger and more rigid than conventional laminating materials, creating safety glass that protects against storms, impacts, and blasts. The interlayers become an engineered component within the glass, holding more weight. SGP interlayer is less susceptible to moisture, weathering, and edge defects than other interlayers.



SGP interlayer laminated glass

SGP interlayer data sheet

- **SGP Interlayer Thickness** □ 0.76 mm, 0.89 mm, 1.52 mm, 2.28

mm, etc.

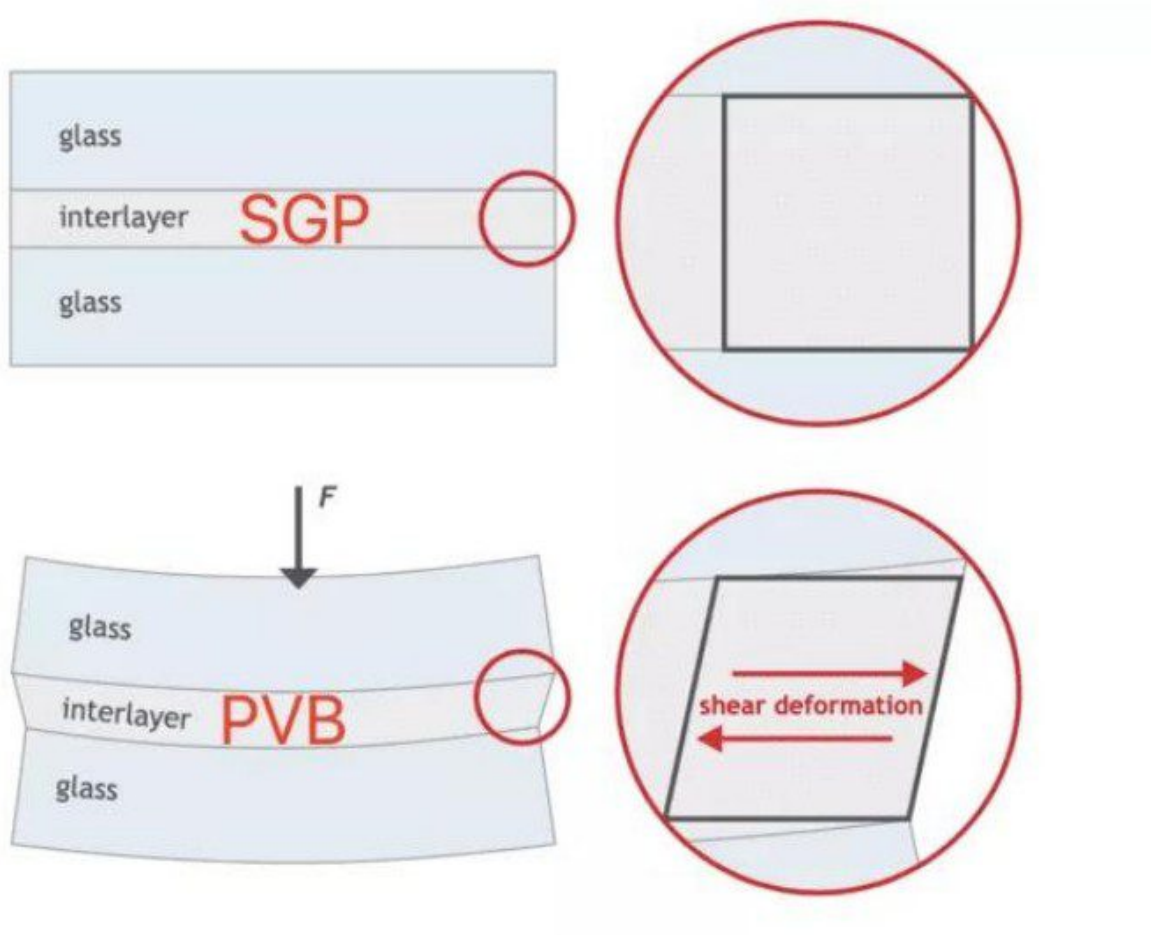
- **SGP Interlayer Color:** Clear, translucent.
- **SGP Glass Shape:** flat laminated glass, curved laminated glass.
- **SGP Glass type:** float, tempered, fluted, patterned, reflective, Low-e, mirror Glass, etc.



Why SGP laminated glass? What is the difference between PVB and SGP interlayers?

1. Excellent mechanical properties: high strength and strong carrying capacity.

At the same thickness, the SGP interlayer bearing capacity is twice that of PVB; under the same load and thickness, the bending deflection of the SGP interlayer glass is one-quarter of PVB. The SGP interlayer ensures the glass is strong, tough, and durable yet still light and thin making it extremely suited to today's architectural needs.

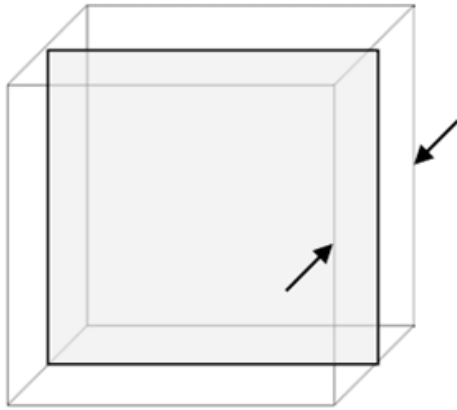


SGP laminated glass achieving equivalent loads using thinner glass can lower the structural weight and material cost

Traditional Interlayer:

Smaller spans

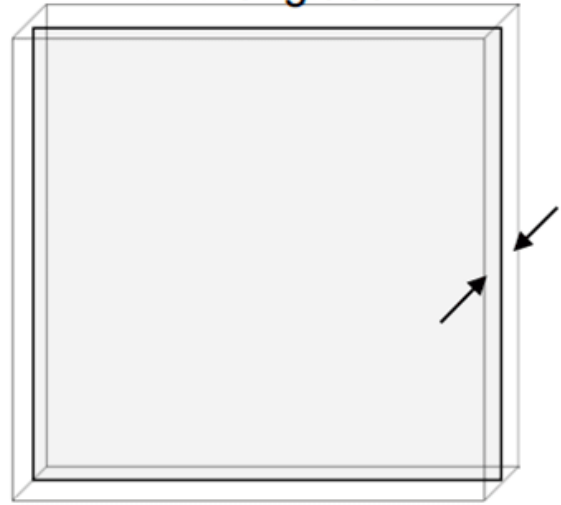
Thick glass



SentryGlas® interlayer:

Larger spans

Thinner glass



thinner glass can translate to an overall lower cost

Common Applications:

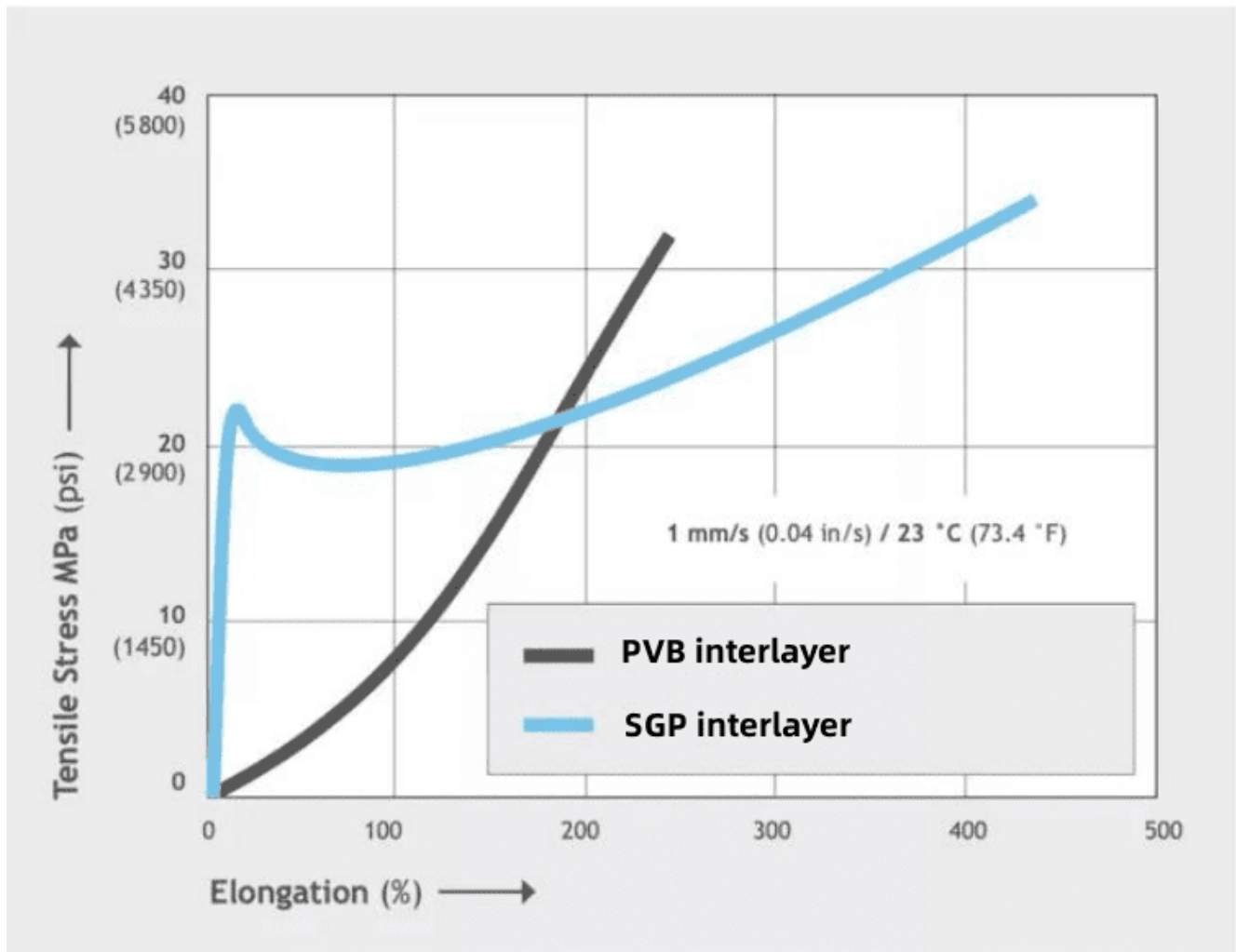
- [Glass Floors](#)
- Glass Stairs
- Landing Panels
- Glass bridge



Glass bridge

2. Excellent tear strength:

The tear resistance of SGP laminated film is 5 times that of PVB, and it can form a temporary safety structure even if it is broken. That means the SGP interlayer has good glass adhesion when it is hit by heavy objects, and even if the glass is completely broken, the glass will not fall off under a certain load. It has a natural resistance to natural disasters such as strong winds and earthquakes and man-made damage such as knocking and smashing.



SGP is 100 times stiffer and five times more tear-resistant than PVB

As a high-performance sandwich material developed by DuPont Co., SGP laminated interlayer was originally developed for the security and hurricane glazing markets, SGP interlayer is stronger and more rigid than conventional laminating materials, creating safety glass that protects against storms, impacts, and blasts. The interlayers become an engineered component within the glass, holding more weight.



the broken SentryGlas laminated glass stays vertical instead of falling down off the PVB laminated glass

Common Applications:

- Hurricane glazing
- [Bullet-proof glass](#)
- Security glass
- Explosion-proof glass
- High-speed train windshield
- [Aquariums glass](#)



security glass door



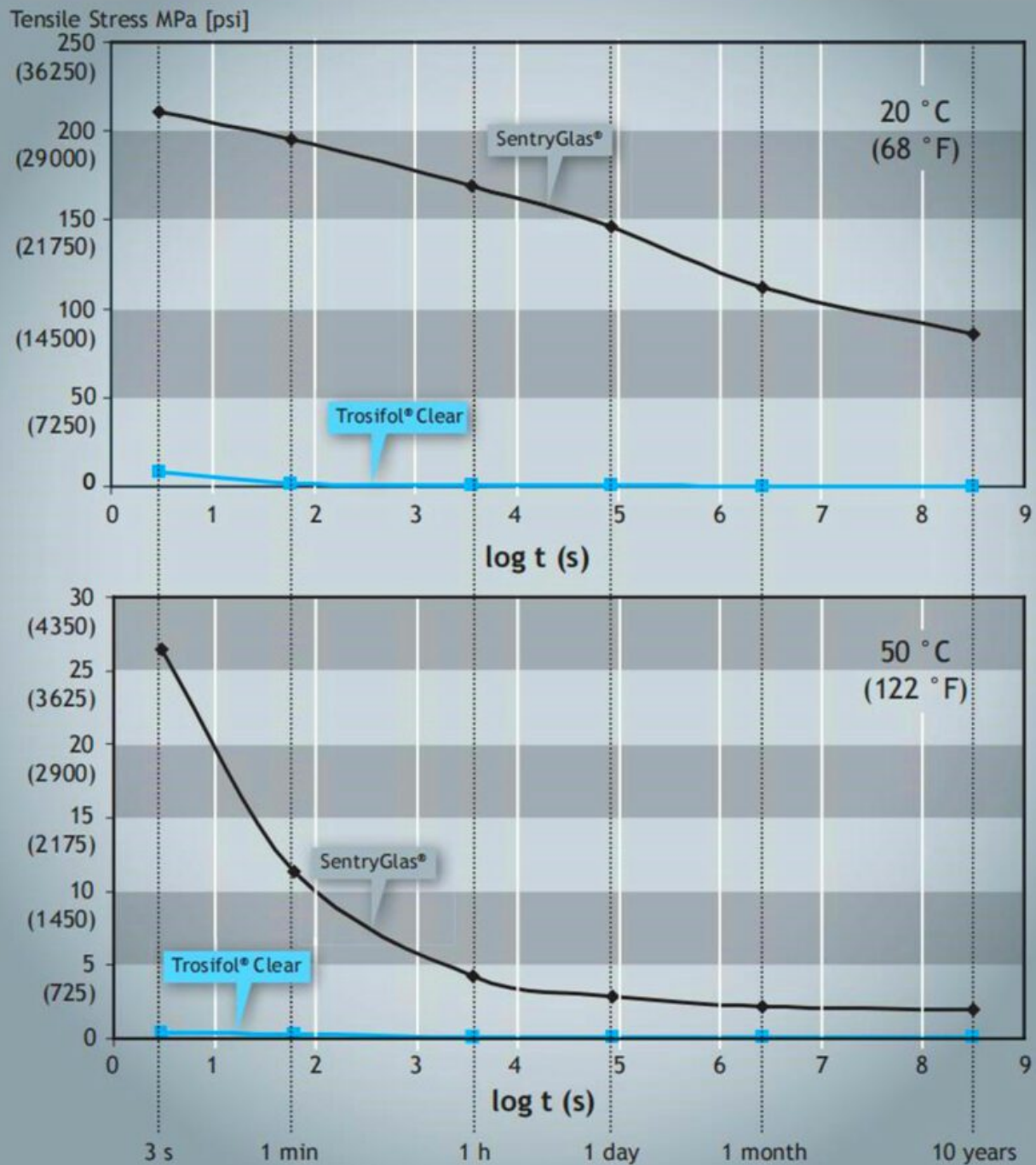
bullet-proof glass

3. Good edge stability and moisture resistance.

Edge stability is defined as a laminate's resistance over time to form defects along its edge. These defects can arise in the form of small 'bubbles' in the laminate or as discoloration of the laminate itself. For designers and architects, edge stability is therefore critical. Ideally, laminated glass should show no signs of delamination over the complete life of the building.

Ordinary PVB film is prone to degumming, yellowing, bubbles, and other phenomena during long-term use, while SGP film has good resistance to moisture, and can expose to high moisture or wet areas. As it tends to absorb significantly less moisture, meaning less chance of de-lamination over time. This greatly decreases the risk of the glass de-laminating and discoloring over a period of time than using PVB.

Stiffness (shear modulus) of Trosifol® Clear PVB and SentryGlas® Interlayers at room and elevated temperatures



The stiffness behavior of SentryGlas® at increased temperatures also shows improvements compared to PVB.

the test results show that SGP laminated glass was insensitive up to around 50 °C (122 °F). However, the structural performance of PVB laminate is temperature-sensitive, for short-duration loads, PVB laminates show reduced strength above 20 °C (68 °F)

Common Applications:

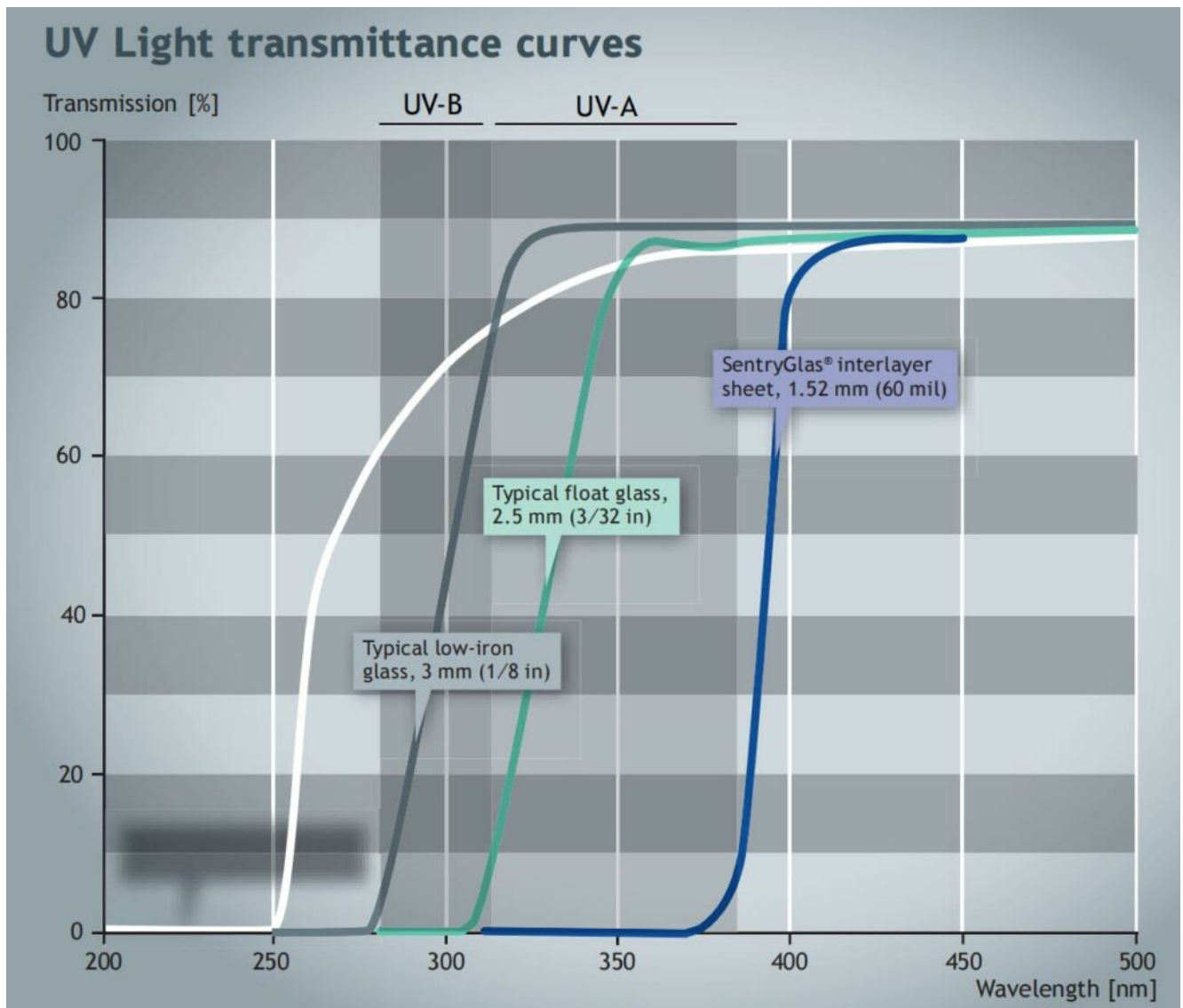
- [Internal & External Balustrades](#)
- Ceiling
- Skylight
- [Canopy](#)
- Overhead Glazing



SGP interlayer glass canopy

4. Anti-ultraviolet radiation.

SGP interlayer can block over 99% of UV lights and protect indoor assets from shading. Good weather resistance is not sensitive to external climate changes, and will not turn yellow after long-term use. SentryGlas has a yellowness index of 1.5 or lower, while PVB has a yellowness index of between 6 to 12. Therefore, SGP is the darling of ultra-clear laminated glass.



SGP interlayer can block out much of the UV-A and UV-B energy

Common Applications:

- Internal & External Balustrades
- [Commercial & Residential Windows](#)
- Skylight
- [Facades](#)
- Greenhouse



SGP interlayer glass facade

5. Decorative Function:

SGP interlayer itself is colorless and translucent and has excellent physical properties. It can achieve better aesthetics and functionality when used in conjunction with ultra-clear glass.

SGP laminated glass can be combined with fabric, wire, mesh, and even metal, while PVB laminated glass does not have so many compatibilities.



PVB interlayer VS SGP

Common Applications:

- Decorated wall
- Facades
- Glass bridge
- Zoo Enclosures
- Aquariums glass
- [Glass walkway](#)



laminated glass facades

Conclusion

Both SGP laminated glass and PVB laminated glass can act as a part of the building component. With the increasing safety standards around the globe, we need to choose suitable laminated glass compositions based on wind load design, costs, applications, structural requirements, etc.

Welcome to contact [Shenzhen Dragon Glass](#). If you have any glass projects, we will be happy to provide you with high-quality glass solutions to meet your individual requirements.