Difference between PVB, EVA, SGP interlayer

Laminated glass is also known as safety glass. As the name suggests, laminated glass is composed of multiple layers of glass. Except for the glass, the interlayer in the middle of the glass. Usually there are three kinds of interlayers: EVA, PVB, SGP.

**PVB**

PVB is a widely used sandwich material for architectural glass and automotive glass.

The storage process and processing method of PVB interlayer is more complicated than EVA, and the requirements for temperature and humidity are high. When PVB is processed, the temperature is controlled between 18 °C and 23 °C, the relative humidity is controlled at 18-23%, and the PVB water content is maintained at 0.4%-0.6%. After preheating rolling or vacuuming, The autoclave was used for heat preservation and pressure keeping, the autoclave temperature was 120-130 °C, the pressure was 1.0-1.3 MPa, and the time was 30-60 min. PVB complete sets of production equipment requires about 1 million funds, which is difficult for small businesses. A few years ago, it was mainly produced by DuPont, Solutia, and Sekisui. The China PVB was mainly recycled materials for secondary processing, but the quality stability was not very good. In recent years, China PVB manufacturers are also having great development.

PVB has good safety, sound insulation, transparency and UV resistance, but PVB has poor water resistance, and it is easy to delaminated when it is in a humid environment for a long time.
EVA

EVA’s cost performance is higher. Compared with PVB and SGP, EVA has better fluidity, lower melting temperature and can be processed at temperatures up to 110 °C.

EVA has a good fluidity of the film layer, and can be subjected to a process such as wire drawing and engraving in the film layer to produce a beautiful decorative glass with a pattern and a pattern. EVA has good water resistance, but its UV resistance is weak. It is easy to yellow and black in long-term sun exposure, so it is mainly used for indoor partitions.

SGP

SGP is called the ionic interlayer film (SentryGlas Plus), which is a high-performance interlayer developed by DuPont. Its high performance is:

1. Excellent mechanical properties and high strength. At the same thickness, the SGP interlayer bearing capacity is twice that of PVB; under the same load and thickness, the bending deflection of SGP laminated glass is one quarter of PVB;

2. Tear strength. At the same thickness, the PVB interlayer film has a tear strength of 5 times that of PVB, and can be bonded to the glass in the case of tearing without causing the entire glass to fall.

3. Strong stability, moisture resistance. SGP laminated glass is colorless and transparent, anti-ultraviolet. After long-term sun and rain, it is not easy to turn yellow, and the yellowing coefficient is less than 1.5. However, the yellowing coefficient of PVB interlayer film is 6~12. Therefore, SGP is the darling of ultra-white laminated glass.
Although the production process of SGP is close to PVB, the terminal price is high.


Morn is your turnkey architectural China glass supplier, PVB laminated glass for glass curtain wall, and SGP laminated glass used for structural glazing are both available. Welcome contact us for more info.

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