

Laminated Glass in Typical Insulating Glass Processing

Laminated glass with Saflex® and Vanceva® PVB interlayers are suited to undergo the typical heat and pressure preparation and processes necessary to create laminated insulating glass units (IGU). Laminated glass can be sent through a vertical or horizontal wash after lamination as well as most heat or press processing that may be required without visual or performance defects occurring.

Proper drying after washing of the laminated glass is required to eliminate the potential of visible streaking, and to ensure all water contacting the interlayer at any edge has been dried. The temperature and slow cooling of some IGU processes as well as edge pressure normally will not degrade the clarity or other performance characteristics of the laminated glass with Saflex or Vanceva interlayers provided the temperature is kept below 100°C and exposure time and pressure is minimized.

Properly laminated glass with standard Saflex and Vanceva interlayers are capable of withstanding at least 16 hours of heat soak at 100°C (212°F), where the glass temperature equilibrates at 100°C (212°F), without the formation of bubbles in the typical viewing area. It is important to note that some bubbles on the extreme edge of the laminate may be noticed at this temperature and this is typically dependent upon edge processing or autoclave pressure release during lamination.

This data is routinely verified through a quality inspection procedure known as a bake test. It involves a 600 mm x 600 mm (12 inch x 12 inch) laminate being placed in a freestanding manner in an air-circulating oven for 16 hours at 100°C (212°F). The formation of bubbles at the initial stage anywhere inside the laminate (excluding a 12 mm edge perimeter) is cause for a failure.

It is important to note that a point source of heat will yield different performance characteristics and that this information is valid only for laminated glass with Saflex and Vanceva interlayers by Eastman.

Based on the above mentioned data, and correlating it with some typical temperatures profiles provided by IGU manufacturers, the temperatures the glass will obtain are significantly below what would be expected to cause a failure in a properly laminated unit. The typical IGU processing conditions are described below.

Oven temperature: 100°C– 130°C (212°F – 266°F)
Glass surface temperature: 55°C – 80°C (131°F – 176°F)
Residence time: 60 – 90 seconds

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