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Edge Deletion

Standard Insulating Glass Unit Construction

The removal of the coating for standard Insulating glass units, often referred to as edge-deletion or edge-stripping, is sometimes required for “magnetron sputtered” otherwise known as “soft coated” glasses, to enable a reliable edge seal to be made in an insulating glass unit. The thermal performance of the coating is reliant on layers of silver metal within the coating. In order to ensure the optimum performance of an insulating glass unit, it is important to meet requirements for long-term stability. Therefore, the stripping has to be done efficiently following the recommendations of the glass supplier. Grinding has proven to be the most productive and economical method of removing the coating from the perimeter of the glass.The selection of the correct edge-deletion width is very important; it is normally recommended that the coating be completely deleted around the periphery of the glass. The coating should be deleted to a width that is halfway across the primary sealant depth. The standard sight line for insulating glass units is around12mm +2, -2, for most unit manufacturers, which generally consists of an average 4-6mm polyisobutylene primary seal and the remainder of polysulphide, polyurethane or silicone secondary seal. 10mm edge deletion is the standard width. If the coating is stripped beyond the primary seal, a clear band may be visible around the perimeter sightline when viewed from the inside of the building.

Applications where the perimeter seal area is visible

In certain glazing situations the edge seal may be visible, when viewed from outside the building, these include structurally bonded glazing, flying corners or butt jointed glazing in ribbon windows, etc. If the glazing is required to be part of a structurally glazed system, where silicone sealant is being used, the secondary seal depth may vary from 6mm upward, which determines the coating width to be removed. In some cases this may be up to 50mm or more, depending on the application, i.e. structural vents with stepped edges bonded to the sub-frame. The choice of deletion width is usually limited to the width of abrasive wheels available, 10mm is a common width in the industry. This can result in one of two situations with regard to the aesthetic appearance of the insulating glass when in installed. Where the edges are not included within the glazing rebate and the coating overlaps slightly onto the primary isobutylene seal, a thin silver, red, blue or gold band may be apparent below the sightline of the unit when viewed from outside the building. The whole of the edge stripped area of standard insulating glass units may be included within the rebate of captive systems, However, where edges are structurally bonded back to the glazing frame, on one, two, three or all four edges, and there are no external cover-plates, the edge seal detail will also be visible. In some instances the coating may be difficult to remove to provide a clear uniform finish, and perimeter band may be visible in silver or gold of inconsistent appearance when viewed in reflection from outside the building. Samples, with representative edge deletion, should always be submitted for approval as part of the contract agreement where the edge deletion may affect the aesthetic appearance of the installed glazing.

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