

Use of Internal Grilles

When internal dividers are used in an insulating glass unit, such as grilles, muntin bars or simulated divided lites, there is the potential that these dividers will contact the airspace glass surfaces (surfaces #2 and #3) of the insulating glass unit. This can occur under the following conditions:

1. When the insulating glass unit airspace pressure is below the atmospheric pressure (IG unit is concave). This is caused by:
 - Cold temperature conditions
 - High barometric pressure conditions
 - The IG units or windows are being shipped to an altitude below the insulating glass fabrication altitude
 - Fabrication of insulating glass units where the IG airspace thickness tolerance is at the lower limit
 - Buffeting wind conditions
2. Fabrication of tempered insulating glass units where the tempered glass has a bow in the glass.

When the metal dividers contact the airspace glass surfaces, there is the potential for having condensation on the room side (#4 glass surface) immediately behind the metal divider. This is because the insulating glass unit has lost its insulating value where the divider contacts

the glass surfaces, causing the indoor glass surface to be colder. Therefore, there is more opportunity to have room side condensation with internal grilles than with standard insulating glass products that do not contain these grilles.

In addition, with large glass units utilizing long spans of the internal metal grilles, there is a chance for brief glass-to internal grille contact. Swinging or sliding patio doors that are rapidly swung open or shut could result in the grille contacting the glass resulting in a brief rattling noise. This brief rattling noise is not a product defect and does not warrant replacement of the glass.

The National Fenestration Rating Council's Procedure for Determining Fenestration Product U-factors (NFRC 100: 2001) states:

“Products with glazing dividers between lites of insulating glass may be assumed to have the same U-factors as identical products without such dividers, providing there is at least 3.00 mm (0.118 in.) air/gas space between the divider and both glass surfaces”.

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