

Preventing Glazing Surprises: Appearance Properties

Presented by Steve Thomas, Guardian Glass, LLC

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Description

Risks of aesthetic issues on glazing applications can be appreciably reduced through familiarity with ideal practices. This presentation summarizes the processes of previewing glazing appearances (in terms of viewing hand samples and full-size mockups), navigating nonuniformity complications (such as distortion, condensation, and corrosion), and coordinating on perimeter conditions (managing expectations on low-e coating edge deletion within structural silicone glazing applications, and ensuring a complete review of material compatibility).

Learning Objectives

- Determine how to properly view architectural glass.
- Identify how heat treatment can affect glass aesthetics.
- Evaluate coating edge deletion in structural silicone glazing applications.
- Summarize the scope of prudent material compatibility verification.

Presenter

Steve Thomas, PE (California) is Guardian's technical advisor for the Western US and Canada. He entered the glass industry in 2004 and is active with ASTM and the NGA's Glazing Industry Code Committee (GICC).

Notes

Hand samples should be reviewed outdoors under representative sky conditions. A black background can emphasize the outward-reflected color of the glazing, which is often most prominent at daytime. A white background can emphasize the transmitted color, which is often most prominent when the glazing is illuminated by the lighting within the building at nighttime. Full-size mockups should ideally be configured to closely represent the actual project conditions, accounting for room depths, colors, and lighting conditions.

Roll wave can be restricted through peak-to-valley, and potentially lens power, limits. Moiré can be avoided by not reflecting a frit pattern onto itself. Secondary opacification should be used behind spandrel glazing to avoid the inherent possibilities of otherwise-observable pinholes and streaks. Condensation can be addressed by carefully reviewing climate conditions, adapting the glazing selection, and then managing the humidity level and air circulation within the building. Risks of corrosion can be reduced by properly sloping overhead glazing. Cleaning operations should be conducted in a manner that is gentle but thorough, and should be calibrated to environmental conditions.

Edge deletion refers to the process of removing a low-e coating from the perimeter of a glazing panel so that the IGU sealant adheres properly to the glass and maintains a hermetic seal through its useful life. In a glazing system without externally-exposed framing members, the difference in color between the coating where it comes in contact with the primary sealant and the rest of the glass may be apparent. This should be reviewed by the project design team and discussed with the glass fabricator to understand the associated tolerances.

