WINCORE® WINDOWS & DOORS
The way it should be.®

At WINCORE Windows and Doors, we strive to bring the highest-quality products to our customers. We follow industry guidelines on glass that are set by ASTM (American Society for Testing and Materials) FGIA (Fenestration & Glazing Industry Alliance). There are characteristics of glass that arise during the manufacture of the flat glass and in the process of making insulated glass units. These may appear as small blemishes or marks. The purpose of this document is to outline WINCORE's criteria to determine if a product exhibiting these characteristics is acceptable or whether it merits consideration for replacement. WINCORE Windows has developed specifications that are, in many cases, more demanding than those set by ASTM for our industry.

Window insulated glass quality is governed by:

ASTM C1036: Standard Specification for Flat Glass, ASTM C1048: Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass, ASTM C1172: Standard Specification for Laminated Architectural Flat Glass, ASTM C1376: Standard Specification for Pyrolytic and Vacuum Deposition Coatings on Flat Glass, ASTM E2190: Standard Specification for Insulating Glass Unit Performance and Evaluation, IGMA TM-3100: Voluntary Guidelines for the Identification of Visual Obstructions in the Airspace of Insulating Glass Units

WINCORE WINDOWS AND DOORS **INSPECTION CRITERIA**

GLASS	
SCRATCHES	Are allowed up to ½" in the center area and ¾" within the 6" perimeter. Only one is allowed in each area of the glass, and they must be separated by at least 12".
DIGS	A dig is a deep, short scratch. Only one is allowed with a maximum length of ¾" within the 6" perimeter.
RUBS	A rub is a shallow abrasion that is cloudy. None are allowed.
FISHEYE & DIRT/STONES	May not exceed 1/16" in diameter. Two are allowed if they are within the 6" perimeter and they are separated by at least 24".
EDGE QUALITY	Should be perpendicular to the face of the glass and smooth in appearance, with nothing more than light serrations.
DISTORTION	Distortion is defined as localized deviation in flatness that can take on the appearance of ripples across the glass or pockets of indentations. Distortion is allowed and is typically found in tempered glass. It is not measurable in the field.
INSULATED GLASS UNIT (IGU)	
LINT, THREAD, FUZZ	No more than one hair-like fiber, which is not to exceed ¼" in length.
FINGERPRINTS & SMUDGES	May not exceed ¼" in diameter. Two are allowed if they're within the 1" perimeter.
WATER SPOTS	One is allowed up to 1/16" in diameter within the 6" perimeter.
CHIPS, DIRT, SCUFFS ON GRIDS	None are allowed on the side facing the interior. One is allowed on the exterior side as long as it does not exceed 1/16" in diameter.
SPLIT SEAMS ON GRIDS	May not exceed 1/32" in width and may not extend past 1" from either end.
GRID ALIGNMENT	May be 1/16" off in vertical or horizontal alignment, but not both. If two units in the same window have misalignment in the opposite direction, total misalignment shall not exceed ⅛".
GRID INTERSECTIONS	Shall be flush-fit, with the appearance of nothing more than a thin black line not to exceed 1/32".
GRID CLIP ATTACHMENT	The clip-insert shall not be exposed more than 1/16" from the end of the grid bar.
SPACER VISIBILITY	The spacer shall maintain straight vertical and horizontal lines, with no more than 3/32" exposure on either side of a corner once the unit is installed in a sash or frame.
GRID ORIENTATION	The horizontal flat grid bar shall be continuous when viewing from the interior.

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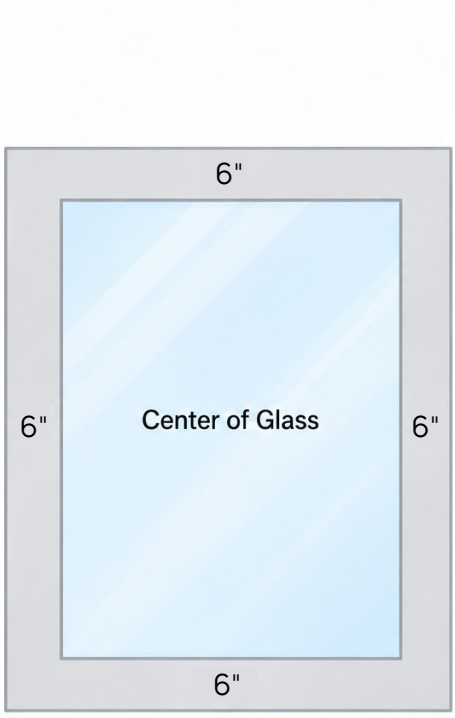
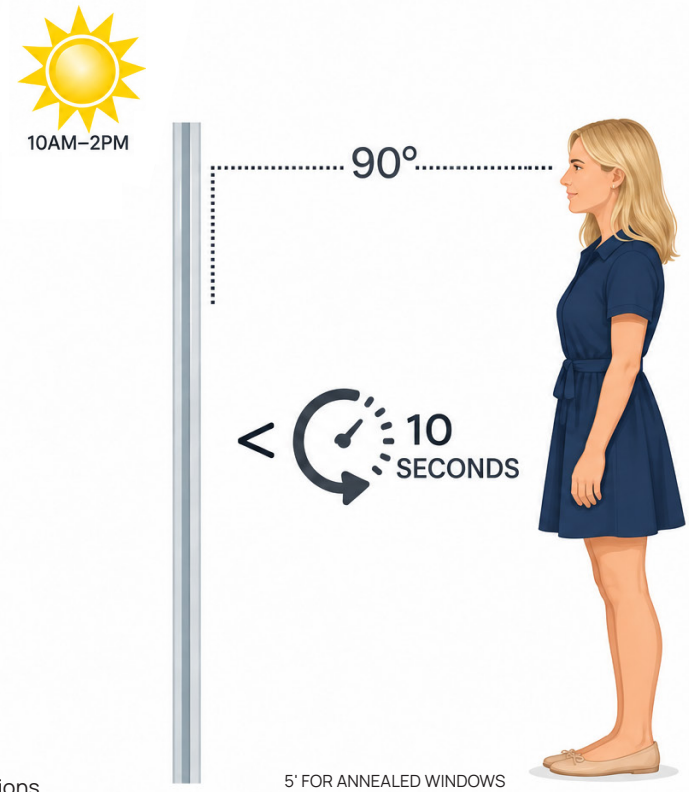
INSPECTION METHODS

- Begin the inspection by cleaning the glass using a WINCORE-approved cleaning product.
- Always perform inspection in natural light — but not direct light.
- Stand five feet away if examining annealed or coated glass and ten feet away for laminated or tempered glass.
- Look for a stamp in one of the four corners of your glass to determine if it is laminated or tempered.
- Stand 90 degrees square to the plane of the glass.
- Examine the surface for no more than 10 seconds.
- If there are any readily apparent defects, try to clean the surface again to ensure that they cannot be removed.



Refer to page 1 for rules regarding shaded perimeter area

https://fgiaonline.org/council/92#standards-specifications
(Glass Inspection for the Homeowner)



Reference illustration of proper examination

SASH AND FRAME

Window sash-to-frame tolerance refers to the necessary gap for operation, typically ¼" to ½" (6mm-12mm) around the entire unit for rough openings, allowing for insulation and adjustment, while the operating sash (the part that moves) needs less play, usually 1/16" to ¼" (3mm-6mm) clearance or overlap with the main frame for smooth movement and proper hardware engagement, with specific gaps varying by window type (casement, double-hung, single-hung).

Allowable variance:

- +/- .0625" (1/16") per sash = .125" (⅛")
- +/- .0625" (1/16") for the mainframe height variation
- Overall, .1875" (3/16") to .25 (¼")