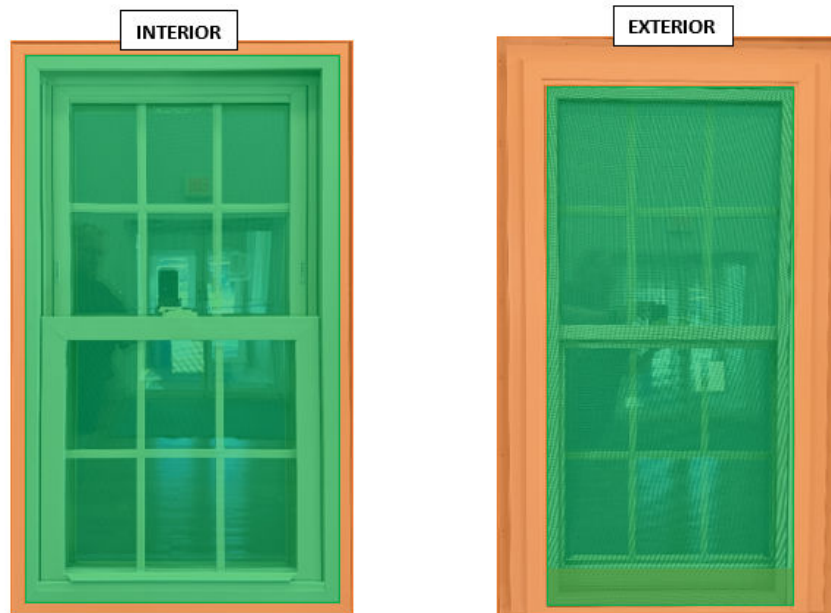


Subject Quality Workmanship Standards	Effective Date: 09/03/2026	Number: QAP001
	Pages: 2	Revision: E

- 1.0 PURPOSE:** To clearly define cosmetic imperfection allowance during end of line inspection for the interior and exterior of finished windows.
- 2.0 SCOPE:** Single-hung, double-hung, casement/awnings, sliders, geometric, picture and transom windows and doors.
- 3.0 DEFINITIONS:**
- Scratch-** Score or mark on a surface caused by a sharp object.
- Pit-** Small recessed blemish (black point, crater or falling star shape).
- Die Line-** Linear imperfections that run parallel to the extrusion surface.
- Vinyl Deformation-** the permanent distortion that occurs when a material is subjected to tensile, compressive, bending, or torsion stresses that exceed its yield strength and cause it to elongate, compress, buckle, bend, or twist during the manufacturing process.
- Grids-** decorative element that makes the window glass look as though it is divided into multiple sections. Sometimes referred to as muntin, which were used when manufacturing large panels of glass was a challenge.
- Muntin-** Bars of wood or metal that separate and hold panes of glass in a window sash. Allow window makers to sell larger windows at a time when window glass was made in much smaller pieces.

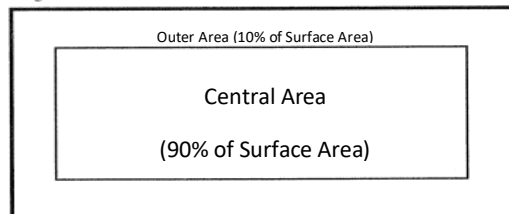
Viwinco Approved Inspection Observation Conditions
Observation: Window viewed at 90 degrees using the naked eye at a distance of 5 feet in indirect lighting. Note: Cosmetic imperfections are cause for rejection, <u>ONLY</u> if observable under the above inspection conditions.



Interior Critical Zones	Exterior Critical Zones
Orange- Outer 20% of the window	Orange- Frame of the window
Green- Remaining 80% of the window	Green- Sashes of the window
Allowed Interior Cosmetic Imperfections	Allowed Exterior Cosmetic Imperfections
Paint Pen Touch-Up: Scratches and Pits may be touched up as long as the paint repair is a straight line or dot(s) not to exceed 1" in length. Please note all laminated vinyl windows require a paint pen to be used to recolor the corner welds after the production process. This is a normal part of the process and not a defect. Paint may be longer than 1" in this location. *Reference Document QWP002 Paint Pen Touch-Up Procedure	
Scratch: Unable to feel Orange- One under 1" in length per 12" or one per surface with a max of 2 per unit Green- One under 1" in length per 24" with a max of 2 per unit	Scratch: Unable to feel Orange- One under 1" in length per 12" with a max of 3 per unit Green- One under 1" in length per 24" with a max of 2 per unit

Pit: No larger than 1/32". Pits can be touched up regardless of color. Orange- One per 12" with a max of 3 per unit Green- One per 24" or one per surface with a max of 2 per unit	Pit: No larger than 1/32". Pits can be touched up regardless of color. Orange- One per 12" with a max of 3 per unit Green- One per 24" or one per surface with a max of 2 per unit
Grid: Horizontal flat grid bar shall be continuous when viewing from interior. Touch-up paint allowed. * - Seam gap must not exceed 1/32" across the length of the grid. - Maximum alignment may be off 1/16" in vertical and horizontal, but not both. - Grid intersections shall be flush-fit, with the appearance of nothing more than a thin black line not to exceed 1/32". - Chip/scuffs allowed as long as it doesn't exceed 1/16" in diameter and max of 2 per unit.	Grid: Vertical flat grid bar shall be continuous when viewing from exterior. Touch-up paint allowed. * - Seam gap must not exceed 1/32" across the length of the grid. - Maximum alignment may be off 1/16" in vertical and horizontal, but not both. - Grid intersections shall be flush-fit, with the appearance of nothing more than a thin black line not to exceed 1/32". - Chip/scuffs allowed as long as it doesn't exceed 1/16" in diameter and max of 3 per unit.
SDL (Simulated Divided Lites): Same acceptance criteria as grids above.	
Die Line: Not visible from observation distance	Die Line: Not being able to feel
Vinyl Deformation: 1/8" of deviation from true straight per 24"	
Gap Between Glass and Sash: Maximum 0.035"	
Glazing on Glass: Glazing or silicone is NOT allowed on glass	
Glazing Bead Gap at Mitered Corners: - Horizontal Gap: Maximum 1/32" between adjoining glazing bead ends. - Vertical Gap: NOT allowed. Glazing bead must maintain contact at the joint and with the glass. - Step/Overlap: Acceptable provided no vertical gap is present.	
Sash/Frame Bowing: Maximum 1/8" of deviation from straight per 24"	
Hardware: Zero tolerance for nicks or scratches. Touch-up paint NOT allowed. Locks/operating handles properly aligned and fully functional.	
Welds: *Reference document QAP018 Weld Quality Standards	
Screens: *Reference document QAP016 Screen Quality Standards	
Glass: Cosmetic imperfection allowance is the same for interior and exterior. Reference diagram and table below.	

Diagram 1



Viwinco Glass Standards		
Cosmetic Imperfection	Acceptance Criteria	
	Outer Area (10% of surface)	Central Area (90% of surface)
Scratch	No more than (1) 3" long or less allowed on any 4-surfaces of glass and NOT within 6" from any other cosmetic imperfection in the outer area.	No more than (1) 2" long or less allowed on any 4-surfaces of glass and NOT within 12" from any other cosmetic imperfection.
FOD: Foreign Objects Debris	Any flaw (lint, debris, hair, scuffs, streaks, and dirt) ≤ 1/16" Pass, > 1/16" Fail when NOT within 6" from any other cosmetic imperfection.	Any flaw (lint, debris, hair, scuffs, streaks, and dirt) ≤ 1/16" Pass, > 1/16" Fail when NOT within 12" from any other cosmetic imperfection.
Wavy Glass	0.012 max, measured with straight edge and feeler gage.	
Glass Bubbles, Pinholes, Chips	No chips, pinholes or bubbles on any surface of the glass are acceptable.	
Label and Logo	All logo letters must be legible and etched in the lower left corner. All glass must match label (SGCC requirement.)	
Butyl Requirements	No butyl blow-through greater than 1/16" into sight line Gas hole must be closed with screw and completely covered with black butyl sealant (geo).	
Gap in desiccant/ matrix	No smudges of desiccant over the edge of the spacer. No gray showing through black butyl.	
Spacer Butyl wet-out	Wet-out width must be 0.250" minimum and continuous on 4 sides.	
Spacer Inset	Inside edge of spacer must be ≤ 1/2" from the edge of the glass. Spacer corners 1,2 & 3 measurement from the middle radius of the spacer should be ≤ 1/2" diagonally from corner of glass	