

Low-e

1. Complying with ASTM C1376, coated by vacuum deposition (sputter-coating) process, and complying with other requirements specified in this Section and in the Glass Schedule.
2. Coating Quality Requirements: The allowable range of defects in coatings applied to Glass shall be as accepted through Glass Sample submissions. Installed coated Glass products which are outside of the accepted Sample range are subject to rejection by the Architect. In order to reduce the possibility of Glass rejections, the supplier of coated Glass products shall provide Glass coating production runs for the entire Project from a single coating facility. The allowable range of defects are defined as follows:
 - a. The vision Glass area is defined as the field of Glass which is greater than 1 in. from the Glass unit edge.
 - b. Pinholes:
 - i. At an indoor viewing distance of 10 ft at viewing angle of 90 degree against bright uniform background for non-reflective and reflective low- emissivity coatings:
 - ii. Pinholes greater than 0.06 in. in diameter, separated by greater than or equal to 12 in., are not permitted in 800/o of the central portion of the vision Glass area. Pinholes larger than 0.1 in. separated by greater than or equal to 12 in. are not allowed in the outer 200/o of the perimeter vision Glass area.
 - iii. No more than two readily-apparent blemishes are allowed in a 3 in. dia. circle and no more than five readily-apparent blemishes are allowed in a 12 in. diameter circle.
 - c. Scratches:
 - i. At an indoor viewing distance of 10 ft at viewing angle of 90 degree against bright uniform background for non-reflective and reflective low- emissivity coatings:
 - ii. Scratches are allowed in the 800/o of the central Glass area if not detectable at the viewing distance; and scratches less than or equal to 1 in. are allowed in the outer 200/o area if not detectable at the viewing distance. Concentrated scratches or abraded areas are not allowed.
 - iii. Scuffs, rub marks, cup marks, or abraded areas are not permitted in any Glass area.
 - d. Reflectance and Transmission Inspection:

- i. When viewed outdoors at viewing angle of 90 degrees under uniform lighting conditions and at a distance of 10 ft for low emissivity coatings, color, reflectance, and transmission is permitted to have a slight variance subject to Architect's acceptance.
 1. Mottling and streaking of the coating is not permitted.
 2. Coating arcing is not permitted.
 3. Water blow off stains are not permitted.
 4. Handprints are not permitted.
 5. Roller marks are not permitted.
 6. Distortion due to climatic and pressure changes is not permitted.
 7. Tag residue is not permitted.
 - ii. Checkerboarding of coated Glass is not permitted. Checkerboarding occurs when Glazing panels of the same type take on noticeably different hues. In addition to the ASTM C1376 requirements, the color readings taken by the manufacturer shall all lie in the same color quadrant of the L*a*b* color space as defined in ASTM D2244. Stated differently, 'a*' values (representing the red-green axis) shall be either all positive or all negative. In the same way, the 'b*' values (representing the yellow-blue axis) shall be either all positive or all negative.
 1. Edge Deletion: Edge deletion of sputter coatings is to be provided at insulating glass units. Edge deletion shall extend into the primary seal area to the greater of 3/8 inch or 50 percent of the primary seal height.
3. Low-E Coating: Provide Saint Gobain COOL-LITE SKN18311 Low-E coating or approved equal.

Insulated Glass

1. Factory-assembled units consisting of sealed lites of Glass separated by a dehydrated interspace, qualified according to ASTM E2190, and certified with the IGCC complying with other requirements specified.
2. Argon Filled Glass Unit Requirements
 - a. Argon filled insulated units shall have a minimum argon concentration of 900/o when tested to ASTM E2269 or ASTM E2649. The Glass fabricator shall provide documentation demonstrating the concentration of units produced for each Glass Type.

3. Sealing System

- a. Dual seal, with black polyisobutylene and black silicone primary and secondary, respectively. The secondary seal shall conform to ASTM C1249.
 - i. Primary seal shall not have a reduced thickness at the corners. An increased thickness of the primary seal at the corners is acceptable.
- b. Other materials may be substituted as secondary Sealants subject to compatibility testing and Architect's approval.
- c. Provide secondary Sealant compatible with structural and weather Sealants.
- d. Select colors during pre-construction submittal and mockup review and evaluation.

4. Spacer Bars:

- a. Stainless steel, hollow-tube type, filled with a low-nitrogen-absorption desiccant.
 - b. Spacer shall be continuous with bent or fully soldered corners. Locate spacer joint at the top or sides of the units, but in no instances at the sill or corners. Design units to minimize the number of spacer joints. Provide solid keys, embedded in butyl sealant on all four sides, at spacer joints.
5. Provide molecular sieve or silica gel, or blend of both types of desiccant.
- a. Desiccant shall not be visible on inside surfaces of the IGU.
6. Split spacers, bowing spacer sightlines, primary and secondary seal discontinuities, and excessive unit slide are not permitted.
7. Combined overall bow and pillowing of IGU lites shall not exceed overall bow values specified in ASTM C1048 and shall be measured in the factory and on site.