

exterior and interior layers. Pot-applied coatings or films of dissimilar materials are unacceptable. Panel width shall not exceed 2 feet to ensure best performance for wind uplift, vibration, oil canning and visual appearance. The following manufacturing requirements shall be met:

- a. Extruded in one single formable length. Transverse sections are unacceptable. The panels shall be manufactured with upstands which are integral to the unit, and the upstands shall be 90 degrees to the panel face (standing seam dry glazed concept). Welding or gluing of upstands or standing seam is unacceptable.
- b. Mullions shall be dry glazed profiles, using no sealant, welding, adhesives or gaskets; mullions shall be thermally broken and continuous for panel length.
- c. For structural performance, the use of adhesives, plastic or sonic welding or sealant is not allowed.
- d. For longevity, the minimum ratio of panel weight to thickness shall be 0.91 psf for 4 inch double glazed thick panel.
- e. Extruded panel includes integral extruded multi-cells, and truss-like structural core for resistance to buckling. The panel's exterior skins shall be interconnected and spaced apart by supporting ribs, perpendicular to the skins, at a spacing not to exceed 0.16 inches (truss-like construction). In addition, the space between the two exterior skins in a cross section shall be divided by multiple parallel intermediate surfaces, at a spacing not to exceed 0.16 inches.
- f. Interior flame spread classification shall be Class I in accordance with ASTM E84.
- g. Smoke density no greater than 70 in accordance with ASTM D2843.
- h. The exterior and interior faces shall be an approved light transmitting panel with a CC1 fire rating classification in accordance with ASTM D635.
- i. Self-ignition greater than 1058 degrees F in accordance with ASTM D1929.
- j. Fire rated roof assembly translucent panels shall be successfully evaluated for fire from exterior exposure per ASTM E108 to meet Class A rating. The panel shall be listed by an independent recognized listing laboratory.

2.4 COMMON PANEL REQUIREMENTS

2.4.1 Appearance

The face sheets shall be uniform in color to prevent splotchy appearance. Faces shall be completely free of ridges and wrinkles which prevent proper surface contact. Clusters of air bubbles/pinholes which collect moisture and dirt are not acceptable.

2.4.2 Panel Fabrication

Panel construction shall meet the following requirements:

- a. Light transmission 30 percent minimum.

- b. Assembled panel thickness ~~4 inches~~ 2 inches minimum.
- c. Grid size shall be 12 inches by 24 inches, oriented along the panel length.

2.4.3 Thermal Performance

Skylights (including frames and glass) shall be certified by the National Fenestration Rating Council with a whole-unit Solar Heat Gain Coefficient (SHGC) maximum of 0.34 determined according to NFRC 200 procedures and a U-factor maximum of 0.69 Btu/hr-ft²-F in accordance with NFRC 100.

2.4.4 Condensation Index Rating

The condensation index rating shall be 30 as determined using National Fenestration Rating Council approved software THERM.

2.5 SKYLIGHT SYSTEMS

Submit manufacturer's certificate that the systems meet or exceed specified requirements. Systems shall be evaluated and listed (the whole skylight as a unit, not just a glazing material in the unit) by the recognized building code authorities: ICC and SBCCI-Public Safety Testing and Evaluation Services Inc. Product ratings determined using NFRC 100 and NFRC 200 shall be authorized for certification and properly labeled by the manufacturer. Provide skylight systems meeting the following requirements:

- a. Integral perimeter framing system assembly shall be by the manufacturer.
- b. Exterior panel faces shall be crystal in color. Interior panel faces shall be white or crystal in color.
- c. Air infiltration at 1.57 psf shall be less than 0.04 cfm/ft² and at 6.24 psf shall be less than 0.1 cfm/ft² in accordance with ASTM E283.
- d. Water penetration at test pressure of 15 psf shall be zero in accordance with ASTM E331.
- e. Manufacturer shall be responsible for maximum system deflection, in accordance with the applicable building code, and without damage to system performance. Deflection shall be calculated in accordance with engineering principles.
- f. Proper weepage elements shall be incorporated within the perimeter framework of the glazing system for drainage of any condensation or water penetration.
- g. System shall accommodate movement within the system; movement between the system and perimeter framing components; dynamic loading and release of loads; and deflection of supporting members. This shall be achieved without damage to system or components, deterioration of weather seals and fenestration properties specified.
- h. The exterior panel face shall repel an impact of 200 foot-pounds without fracture or tear when impacted by a 3.25 inch diameter, 5 pound