SECTION 07830
TRANSLUCENT PANEL SKYLIGHTS

PART 1 - GENERAL

1.1 SUMMARY:

A. Section Includes:

1. Metal framed skylight system.
2. Translucent insulating panels.

B. Related Sections:

1. Section 07820 - Metal Framed Skylights.
2. Section 07900 - Joint Sealers.
3. Section 08800 - Glazing.

1.2 SYSTEM DESCRIPTION:

A. System:

1. Designed by manufacturer to withstand wind and snow loads and to be and remain free from air and water leakages and excessive condensation with outdoor temperature of -10° F., indoor temperature of 70° F., 40% relative humidity.

B. Design Loads: Per UBC requirements.

C. Performance Requirements:

1. Water Penetration: No water penetration shall occur when system is tested in accordance with ASTM E331 using a differential static pressure of 20% of the inward acting design wind load pressure, but not less than 6.25 psf. Water penetration is defined as the appearance of uncontrolled water other than condensation on the interior surface of any part of the skylight.

2. Thermal Movement: Provide such expansion and contraction of component materials as will be caused by a surface temperature range of ±50° F. without causing buckling, stresses on panels, failure of seals, undue stress on structural elements, reduction of performance or other detrimental effects.

1.3 SUBMITTALS:

A. Shop drawings indicating details and interfaces.

B. Calculations: Submit structural calculations prepared in accordance with the Aluminum Association's Specifications for Aluminum Structures (SAS30) by a structural engineer qualified in design of self-supporting sloped translucent panel systems licensed in the State of Colorado.

DESIGNER NOTE: SPECIFIC APPROVAL MUST BE OBTAINED FROM UCB STAFF PRIOR TO INCORPORATING SKYLIGHTS INTO BUILDING DESIGN. FOR DAY-LIGHTING OF INTERIOR SPACES, CONSIDER USE OF CLERESTORIES. USE OF TRANSLUCENT PANEL SKYLIGHTS IS PREFERABLE TO METAL FRAMED GLASS SKYLIGHTS BECAUSE OF ENERGY EFFICIENCY AND GLARE.
1.4 QUALITY ASSURANCE:

A. Installer Qualifications:

1. Work shall be accomplished by mechanics having had at least five years experience in this type of work.

1.5 WARRANTY:

A. Furnish manufacturer's written warranty against defective design, materials, and workmanship and against air and water leakage and excessive condensation for a period of five years from date of final acceptance.

PART 2 - PRODUCTS

2.1 MANUFACTURERS:

A. Kalwall Corp.
B. Major.
C. Skywall.
D. Approved substitute.

2.2 MATERIALS:

A. Extrusions shall be 6063-T5 alloy and temper (ASTM B331 alloy 6063-T5). Fasteners, where exposed, shall be stainless steel.
B. Perimeter anchors shall be aluminum.
C. Translucent Panels:

1. Thickness: 2.75".
2. Exterior Face Sheets: 0.070" thick with protective gel coat finish.
3. Interior Face Sheets: 0.045" thick.
4. Face Sheet Tolerance: ±10% of specified thicknesses.
5. U-Factor: Not more than 0.10.
6. Insulation: Translucent glass fiber uniformly distributed so panels don't look "splotchy".

DESIGNER TO SELECT PANEL FACE SHEET COLORS, LIGHT TRANSMISSIONS, AND SHADING COEFFICIENT TO MEET PROJECT REQUIREMENTS.
PART 3 - EXECUTION

3.1 INSTALLATION:

A. Set on a curb which is a minimum of 8" in height above lowest point of roof surface.

B. Protect panels to ensure panels are not scratched during remainder of construction period.

3.2 TOLERANCES:

A. All parts of the work, when completed, shall be within the following tolerances:

1. Maximum variation from plane or location shown on approved shop drawings: 0.125" per 12 feet of length or 0.5" in total length.

2. Complete surface contact between skin material and perimeter or muntin-mullion to a tolerance of ±0.004".

DESIGNER IS TO CONSIDER ACCESS FOR CLEANING UNITS FOR CONTINUING MAINTENANCE NEEDS, DURING DESIGN.

END OF SECTION 07830