SECTION 08 62 00 - UNIT SKYLIGHTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Self-flashing unit skylights with integral curb.
2. Unit skylights mounted on site-built curbs.

1.2 PERFORMANCE REQUIREMENTS

A. AAMA/WDMA Performance Requirements: Provide unit skylights of performance class and grade indicated that comply with AAMA/WDMA 101/I.S.2/NAFS.

1. Performance Class and Grade: As indicated for selected skylight.
2. Live load: 25 pounds per square foot live load.

1.3 SUBMITTALS

A. Product Data: For each type of unit skylight indicated.

B. Shop Drawings: For unit skylight work. Include plans, elevations, sections, details, and connections to supporting structure and other adjoining work.

C. Samples for Verification: For each type of exposed finish required, in a representative section of each unit skylight in manufacturer's standard size.

D. Qualification data.

E. Product test reports.

F. Field quality-control reports.

G. Maintenance data.

H. Sample warranty.

1.4 QUALITY ASSURANCE

A. Manufacturer Qualifications: A manufacturer capable of fabricating unit skylights that meet or exceed performance requirements indicated and of documenting this performance by inclusion in lists and by labels, test reports, and calculations.

B. Installer Qualifications: An installer acceptable to unit skylight manufacturer for installation of units required for this Project.

C. Surface-Burning Characteristics of Plastic Glazing: Provide plastic glazing sheets identical to those tested for fire-exposure behavior per test method indicated below by a testing and inspecting agency acceptable to authorities having jurisdiction. Identify materials with appropriate markings of applicable testing and inspecting agency.

1. Self-Ignition Temperature: 650 deg F or more for plastic sheets in thickness indicated when tested per ASTM D 1929.
2. Smoke-Production Characteristics: Comply with either requirement below:

a. Smoke-Developed Index: 450 or less when tested per ASTM E 84 on plastic sheets in manner indicated for use.
b. Smoke Density: 75 or less when tested per ASTM D 2843 on plastic sheets in thickness indicated for use.

3. Burning Characteristics: Tested per ASTM D 635.

a. Acrylic Glazing: Class CC2, burning rate of 2-1/2 inches per minute or less for nominal thickness of 0.060 inch or thickness indicated for use.
b. Polycarbonate Glazing: Class CC1, burning extent of 1 inch or less for nominal thickness of 0.060 inch or thickness indicated for use.

D. Unit Skylight Standard: Comply with AAMA/WDMA 101/I.S.2/NAFS, "North American Fenestration Standard Voluntary Performance Specification for Windows, Skylights and Glass Doors," for minimum standards of performance, materials, components, accessories, and fabrication. Comply with more stringent requirements if indicated.

E. Comply with requirements from the state of Washington regarding fall protection for a 5000 pound load. Coordinate with University regarding anchors and tie-offs.

1.5 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of unit skylights that fail in materials or workmanship within specified warranty period.

1. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. American Skylites.

2. Bristolite Skylights.
3. CPI International.
4. GE Polymer Shapes; General Electric Company.
5. Glazed Structures Inc.
6. Hi Pro International, Inc.
7. Kalwall Corporation.
8. Naturalite Skylight Systems; Vistawall Group (The).
9. Solar Industries, Inc.
10. Sunglo Skylight Products.
11. VELUX America.
12. Wasco Products, Inc.
13. or approved equal

2.2 MATERIALS

A. Aluminum Components:

1. Sheets: ASTM B 209, alloy and temper to suit forming operations and finish requirements but with not less than the strength and durability of alclad Alloy 3005-H25.
2. Extruded Shapes: ASTM B 221, alloy and temper to suit structural and finish requirements but with not less than the strength and durability of Alloy 6063-T52.

B. Fasteners: Same metal as metal being fastened, nonmagnetic stainless steel, or other noncorrosive metal as recommended by manufacturer. Finish exposed fasteners to match material being fastened.

2.3 GLAZING

A. Acrylic Glazing: ASTM D 4802, thermoformable, monolithic sheet, category as standard with manufacturer, Finish 1 (smooth or polished), Type UVF (formulated with UV absorber).

1. Double-Glazing Profile: Dome, 25 percent rise.

a. Thicknesses: Not less than thicknesses required to exceed performance requirements.
b. Outer Glazing Color: Colorless, transparent.
c. Inner Glazing Color: Colorless, transparent.

B. Polycarbonate Glazing: Thermoformable, extruded monolithic sheets, UV resistant, burglar-resistance rated per UL 972, and with average impact strength of 12 to 16 ft-lb/in. of width when tested per ASTM D 256, Test Method A (Izod).

1. Double-Glazing Profile: Dome, 25 percent rise.

a. Thicknesses: Not less than thicknesses required to exceed performance requirements.
b. Inner Glazing Color: colorless, transparent.
c. Outer Glazing Color: colorless, transparent

C. Glazing Gaskets: Manufacturer's standard.

2.4 INSTALLATION MATERIALS

A. Bituminous Coating: SSPC-Paint 12, solvent-type, bituminous mastic, nominally free of sulfur and containing no asbestos fibers, formulated for 15-mil dry film thickness per coating.

B. Joint Sealants: As specified in Division 07 Section "Joint Sealants."

C. Mastic Sealant: Polyisobutylene; nonhardening, nonskinning, nondrying, nonmigrating sealant.

D. Roofing Cement: ASTM D 4586, asbestos free, designed for trowel application or other adhesive compatible with roofing system.

2.5 UNIT SKYLIGHTS

A. General: Provide factory-assembled unit skylights that include glazing, extruded-aluminum glazing retainers, gaskets, and inner frames and that are capable of withstanding performance requirements indicated.

B. Integral Curb: aluminum or steel, reinforced, self-flashing type.

1. Height: 8 inches.
2. Construction: Double wall.
3. Insulation: Manufacturer's standard rigid or semirigid type.

C. Unit Shape and Size: As indicated.

D. Condensation Control: Fabricate unit skylights with integral internal gutters and nonclogging weeps to collect and drain condensation to the exterior.

E. Thermal Break: Fabricate unit skylights with thermal barrier separating exterior and interior metal framing.

2.6 ALUMINUM FINISHES

A. Mill Finish: Manufacturer's standard.

B. Baked-Enamel or Powder-Coat Finish: AAMA 2603 except with a minimum dry film thickness of 1.5 mils. Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.

1. Color and Gloss: As selected by Owner from manufacturer's full range.

C. High-Performance Organic Finish: 2-coat fluoropolymer finish complying with AAMA 2605 and containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.

1. Color and Gloss: Match Owner's sample.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Coordinate installation of unit skylight with installation of substrates, vapor retarders, roof insulation, roofing membrane, and flashing as required to ensure that each element of the Work performs properly and that combined elements are waterproof and weathertight.

B. Comply with recommendations in AAMA 1607 and with manufacturer's written instructions for installing unit skylights.

3.2 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.

B. After completion of installation and nominal curing of sealant and glazing compounds but before installation of interior finishes, test for water leaks according to AAMA 501.2.

C. Perform test for total area of each unit skylight.

D. Work will be considered defective if it does not pass tests and inspections.

E. Additional testing and inspections, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.3 CLEANING

A. Clean exposed unit skylight surfaces according to manufacturer's written instructions.

END OF SECTION 08 62 00