**SECTION 08 63 00 – METAL-FRAMED SKYLIGHTS**

1. GENERAL

ADMINISTRATIVE REQUIREMENTS

Pre-Installation Conference:

Attendance: [Architect,] [Owner,] [Contractor,] [Construction Manager,] [Design/Builder] installer, and related trades.

Review: Project conditions, manufacturer requirements, delivery and storage, staging and sequencing, and protection of completed work.

SUBMITTALS

Action Submittals:

Shop Drawings: Illustrate products, installation, and relationship to adjacent construction.

Product Data: Manufacturer’s descriptive data and product attributes.

Samples:

* + - * 1. [3 x 3] [\_\_ x \_\_] inch [75 x 75] [\_\_ x \_\_] mm coating [selection samples.] [verification samples.].
        2. [12] [\_\_] inch [300] [\_\_] mm long aluminum framing system samples.

Closeout Submittals:

Maintenance Instructions.

SYSTEM DESCRIPTION

Skylight System:

Tubular aluminum sections with self-supporting framing, factory prefinished, vision glass, [metal panel infill,] and related flashings, anchorage, and attachment devices.

Pressure-equalized ventilated rainscreen.

Integral condensation gutter, minimally visible.

Internal drainage of water infiltration by means of gutters and downspouts, not dependent on joint sealers to prevent water infiltration.

Glazing Method: [Pressure glazed.] [Two-sided structural silicone glazed.] [Four-sided structural silicone glazed.]

Design Requirements:

* + - 1. Design skylight system to withstand:
         1. Live and dead loads in accordance with Building Code.
         2. Design wind pressure in accordance with [ASCE 7.] [Building Code.] [\_\_\_\_.]
         3. Movement caused by an ambient temperature range of [120] [\_\_] degrees F [49] [\_\_] degrees C and a surface temperature range of [160] [\_\_] degrees F [71] [\_\_] degrees C.
         4. Movement between skylight system and adjacent construction.

Deflection and Stress Limits:

Normal to plane of glass, deflection of framing members shall not exceed L/175 or ¾ inch 19 mm, whichever is less. Where joint sealer joint occurs between framing members and building elements, deflection of framing members shall not exceed one half of joint width, or less if required by joint sealer manufacturer.

In plane of glass, deflection of framing members shall not reduce glass bite below 75 percent of design dimension, and shall not reduce glass edge clearance below 25 percent of design dimension or 1/8 inch 3 mm, whichever is greater. Restrict deflection further if required for assembly and fit of components.

At connection points of framing members to anchors, anchor deflection in any direction shall not exceed 1/16 inch 1.5 mm.

Performance Requirements:

Air infiltration; tested to ASTM E283-04 (2012):

* + - * 1. Maximum 0.01 CFM per square foot at 1.57 PSF on 43.06 square foot specimen. 0.04 liter per second per square meter at 75 Pa on 4.00 square meter test specimen.
        2. Maximum 0.03 CFM per square foot at pressure of 6.27 PSF on 43.06 square foot test specimen. 0.18 liters per second per square meter at 300 Pa on 4.00 square meter test specimen.

Air infiltration: Maximum 0.14 cubic meter per hour per meter at 75 Pa, 11.07 m crack length, tested to CAN/CSA A440-00.

Water infiltration: No water infiltration, tested to ASTM E331-00 (2009) and ASTM E547-00 (2009) at 42.0 PSF 2000 Pa.

Water infiltration: No water infiltration, tested to CAN/CSA A440-00 at 730 Pa.

Structural resistance, tested to ASTM E330:

* + - * 1. Maximum 0.17 inch 4.43 mm deflection at positive 100.25 PSF 4800 Pa.
        2. Maximum 0.17 inch 4.33 mm deflection at negative 100.25 PSF 4800 Pa.
        3. Maximum 0.01 inch 0.32 mm permanent deformation at positive 150.38 PSF 7200 Pa.
        4. Maximum 0.01 inch 0.20 mm permanent deformation at negative 150.38 PSF 7200 Pa.

Wind load resistance: Tested to CAN/CSA A440-00:

* + - * 1. Maximum net deflection measured at mid-height of vertical mullion: 2.81 mm at positive 3330 Pa.
        2. Maximum net deflection measured at mid-height of vertical mullion: 2.47 mm at negative 3330 Pa.

QUALITY ASSURANCE

Installer Qualifications: Minimum [2] [\_\_] years’ experience in work of this Section.

Mockup: [4 feet 1200 mm wide x 8 feet 2400 mm high.] [\_\_.]

WARRANTIES

Manufacturer’s 5 year warranty against air and water infiltration.

PRODUCTS

MANUFACTURERS

Contract Documents are based on Vision 700-R-S-HP by Unicel Architectural Corp., 800-668-1580, [www.unicelarchitectural.com.](http://www.unicelarchitectural.com.)

Substitutions: [Under provisions of Division 01.] [Not permitted.]

MATERIALS

Aluminum:

Extrusions: ASTM B221, 6063-T5 alloy and temper.

Sheet: ASTM B209.

Steel Shapes: ASTM A36/A36M.

ACCESSORIES

Thermal Break Material: Heat-injected Acetal or extruded PVC.

Flexible Membrane: 0.015 inch 0.4 mm thick.

Anchors and Fasteners: Stainless or cadmium plated steel.

Glass and Glazing Accessories: Specified in Section [08 80 00.] [\_\_ \_\_\_\_.]

Joint Sealers:

Perimeter: Specified in Section [07 92 00.] [\_\_ \_\_\_\_.]

Internal: ASTM C920, Type S, Grade NS; single component silicone.

Rigid Insulation: Minimum R-value of 4.5 per inch RSI value of 0.79 per 25 mm of thickness.

Primer Paint: Zinc rich type.

Bituminous Paint.

FABRICATION

Accurately fit and secure joints and intersections. Make joints flush, hairline, and weathertight.

Fabricate in largest practical units.

Conceal fasteners and attachments from view.

Drain water occurring within system to exterior.

Fabricate aluminum components with integral low conductance thermal barrier between exterior and interior exposed components.

Vent glazing cavity to exterior so that pressure differentials during driving rain conditions will not drive rain past outer glazing cap.

Reinforce framing members with internal steel when required to support imposed loads.

Apply bituminous paint to surfaces in contact with dissimilar metals, masonry, or cementitious materials.

FINISHES

Aluminum: AA M12C22A31, Class I anodized, clear.

\*\*\*\* OR \*\*\*\*

Aluminum: AA M12C22A42, Class I anodized, [[light] [medium] [dark] bronze] [black] [\_\_\_\_] color.

\*\*\*\* OR \*\*\*\*

Aluminum:

Type: AAMA 2603, thermosetting acrylic resin coating.

Source: Duracron by PPG Industries, Inc. or equivalent.

Color: [Custom] [\_\_\_\_] color.] [To be selected from manufacturer's full color range.]

\*\*\*\* OR \*\*\*\*

Aluminum:

Type: AAMA 2605, fluoropolymer coating containing minimum 70 percent PVDF resins.

Source: Duranar by PPG Industries, Inc. or equivalent.

Color: [Custom] [\_\_\_\_] color.] [To be selected from manufacturer's full color range.]

\*\*\*\* OR \*\*\*\*

Aluminum:

Type: AAMA 2605, fluoropolymer coating containing minimum 70 percent PVDF resins.

Source: Duranar Powder Coating by PPG Industries, Inc. or equivalent.

Color: [Custom] [\_\_\_\_] color.] [To be selected from manufacturer's full color range.]

Ferrous Metals: [Hot dip galvanized.] [Prime painted.]

EXECUTION

INSTALLATION

Install in accordance with manufacturer's instructions and approved Shop Drawings.

END OF SECTION