

SPECIFICATIONS SECTION 08625

METAL FRAMED SKYLIGHTS

PART I - GENERAL

1.01 Section Includes

- A. Structural design, engineering and fabrication of aluminum framed skylight system, including structural calculations for the skylight system.
- B. Installation of the skylight system.
- C. Skylight related materials including rafter bars, glazing tapes and caps, trims, splice caps, associated flashings, fasteners, and other accessories required for a complete installation.
- D. Glass and glazing materials including sealants, gaskets, spacers, blocking and other related materials required for a complete installation.

1.02 Related Sections

- A. Section 05120 Structural Steel
- B. Section 05160 Space Frames
- C. Section 05500 Metal Fabrication
- D. Section 06101 Wood Curbs
- E. Section 07600 Flashing and Sheet Metal
- F. Section 07900 Joint Sealers
- G. Section 08800 Glass and Glazing

1.03 References

- A. Aluminum Association (AA) SAS-30 Specifications for Aluminum Structures
- B. American Architectural Manufacturer's Association (AAMA)
 - 1. Standard air and water tests as outlined in AAMA Test 501.
 - 2. Voluntary Guide Specification and Inspection Methods for Clear Anodic finishes for Architectural Aluminum. AAMA 607.1
 - 3. Performance Requirements and Test Procedures for Pigmented Organic Coatings on Extruded Aluminum. AAMA 603.8
 - 4. Specifications for High Performance Organic Coatings on Architectural Extrusions and Panels. AAMA 605.2
 - 5. Voluntary Guide Specification and Inspection Methods for Integral Color Anodic Finishes for Architectural Aluminum. AAMA 606.1
- C. Flat Glass Manufacturers Association (FGMA) Glazing Manual
- D. Insulated Glass Certification Council (IGCC) Classification of Insulated Glass
- E. Glass Association of North America (GANA) Glazing Manual
- F. American Welding Society (AWS) Code for Welding in Building Construction
- G. Consumer Products Safety Commission (CPSC) 16CFR 1202 – Architectural Glazing Standards and Related Material
- H. American Society for Testing and Materials (ASTM)

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1.04 System Performance Description

- A. Design framing system to support design loads as specified by local building codes. Deflection criteria of $L/175$ shall be maximum allowable under design load.
- B. Allowable air infiltration shall not exceed 0.06 CFM of the total glazed surface area when tested in accordance with ASTM E283 at a static pressure of 6.24 PSF.
- C. Water penetration: no uncontrollable water penetration when tested in accordance with ASTM E331 at a static pressure not less than 6.24 PSF.
- D. Thermal Movement: provide for expansion and contraction of materials so there will be no objectionable distortion when subjected to a temperature of ± 50 degrees F.
- E. Provide fasteners with a 4:1 safety factor when fully loaded.
- F. Loading requirements: The skylights shall be designed for the loads specified by the government building codes. The total deflection of rafters shall not exceed $L/125$. All skylight substructure must resist the thrust loads imposed by the skylight system.

1.05 Submittals

- A. Submit structural calculations showing compliance with local codes and system requirements, stamped by a licensed engineer in the state where the project is to be installed.
- B. Submit ___ sets of complete shop drawings showing all details and elevations of the skylight system, including anchoring, glazing materials, sealant and flashing.
- C. Submit samples of each type of finishes and glazing prior to proceeding with fabrication
 - 1. Glazing material: samples for verification of specified color, reflective coating and frit pattern if required.
 - 2. Aluminum Finish: color charts for selection from manufacturer's standard colors.
(**Specifier note:** If custom color is required, please indicate here)

1.06 Quality Assurance

- A. Manufacturer shall have 10 years of practical experience in the fabrication and installation of custom aluminum framed skylights.
- B. The skylight manufacturer (or his authorized representative) shall install the skylight system.

1.07 Warranty

- A. Warrant the skylight system to be free from defects in workmanship and materials for a period of ___ (**specifier please add**) years from the date of final completion of the skylight.
- B. Warrant the glass against defective materials and seal failure per the glass manufacturer's warranty.
- C. Aluminum frame finish warranty. (**specifier please select one**)
 - 1. Powder coat finish shall be warranted for a period of (1) one year from date of application.
 - 2. Fluoropolymer (Kynar) finish shall be warranted for a period of (5) five years from the date of application.
 - 3. Anodized finish shall be warranted for a period of (1) one year.
 - 4. Mill Finish Aluminum (finish warranty is not applicable).

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PART II – PRODUCTS

2.01 Manufacturer

- A. The drawings and specifications are based on products as manufactured by ACRALIGHT International Skylights, a division of International Skylights, 1831 S. Ritchey Street, Santa Ana, CA 92705 (800 325-4355) www.acralight.com
- B. Acceptable manufacturer: ACRALIGHT International Skylights, (800 325-4355). www.acralight.com
- C. Optional manufacturers must pre-qualify to bid not less than (10) ten days prior to bid date.

2.02 Materials and Fabrication

- A. Skylight framing members, perimeter curb and glazing caps shall be 6063-T5 or 6063-T6 aluminum alloy of sufficient thickness for the application.
- B. Glazing accessories shall include glazing tapes, setting blocks and sealant of the type and quality to provide performance and serviceability for the life of the skylight system.
- C. Fasteners: Fasteners used for the attachment of exterior cap retainers shall be corrosion resistant steel. All other fasteners shall be zinc plated steel unless otherwise specified.
- D. Glazing: Glass strength shall be determined by using AAMA “Glass Design for Sloped Glazing” guidelines and as specified in Specifications Section 08800. Glass make-up shall be: _____
- E. Finish: Exposed metal surfaces of skylight system, including framing, support system, flashings and other items associated with the skylight shall be finished with: (**specify one**)
 - 1. Two, three or four coat fluoropolymer (Kynar 500) resin based coating, in accordance with AAMA 605.2. Color shall be selected by Architect.
 - 2. Powder Coat Finish, color to be selected by Architect.
 - 3. Clear Anodized Finish in accordance with AAMA 607.1
 - 4. Medium or Dark Bronze Anodized Finish in accordance with AAMA 606.1.
 - 5. Mill Finish Aluminum.

2.03 Fabrication

- A. Skylights shall be factory fabricated to the size and configuration indicated on the Architectural drawings and assembled in the largest possible sections at the factory and in accordance with job-site conditions.
- B. Design rafter bars and caps to accept EPDM and/or Santoprene gaskets.
- C. Utilize silicon or neoprene setting blocks to support glass.
- D. All clips for the connection of the skylight frame shall be steel or aluminum.
- E. All welding shall be TIG welded and ground smooth where required.
- F. Locate weep holes to properly drain water to the exterior at each rafter

PART III – EXECUTION

3.01 Installation

- A. Installation shall be under the direction of the skylight manufacturer and by an approved sub-contractor.
- B. Verify dimensions of skylight support structure prior to proceeding with fabrication. Installer shall notify the General Contractor of dimensional errors in the support structure. Installation shall not proceed until dimensional errors are corrected in the field or a written notice to proceed is given to proceed with the “as-built” conditions.
- C. Skylight materials shall be installed in accordance with the manufacturer’s erection drawings and recommendations.

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- D. Contact areas between aluminum and dissimilar materials shall be isolation with a protective material to prevent electrolytic corrosion.
- E. Apply sealants as recommended by the manufacturer.

3.02 Cleaning

- A. Clean glass and frame upon completion of the skylight installation.
- B. Final cleaning, if required, subsequent to completion of the skylight installation, is not to be performed by the manufacturer.

3.03 Protection

- A. The skylight manufacturer does not provide or include any temporary protection for the skylight system after completion of the installation. Protection of the skylight system from other trades, after completion of the installation, shall be the responsibility of the General Contractor.

END OF SECTION 08625