SECTION 08 63 00

SKYLIGHT SYSTEMS

Display hidden notes to specifier. (Don't know how? [Click Here](https://www.arcat.com/sd/display_hidden_notes.shtml))

\*\* NOTE TO SPECIFIER \*\* Solar Innovations® Architectural Glazing Systems; folding glass wall systems, stacking glass wall systems. sliding aluminum-framed glass doors, metal framed skylights, pre-engineered glass structures, greenhouse, sunroom, and conservatories.  
This section is based on the products of Solar Innovations® Architectural Glazing Systems, which is located at:  
31 Roberts Rd.  
Pine Grove, PA 17963  
Toll Free Tel: 800-618-0669  
Tel: 570-915-1500  
Fax: 800-618-0743  
Fax: 570-915-6083  
Email:[skylight@solarinnovations.com](mailto:skylight@solarinnovations.com?subject=RE:ARCAT%20Spec%20Question%20(08630slr):%20%20)  
Web:[solarinnovations.com](https://solarinnovations.com/)  
  
[[Click Here](https://www.arcat.com/arcatcos/cos39/arc39185.html)] for additional information.  
  
Since 1998, Solar Innovations Architectural Glazing Systems® has grown to become a leader in the architectural glazing industry, providing innovative solutions to customers all over the world. With over 25,000 projects completed, our 360,000+ square foot Pine Grove, PA LEED Gold-designed manufacturing facility produces the most complete product line in the industry. With this capability, we provide a cohesive look across the entirety of a project's glazing needs. Our door, window, skylight and structure systems have been recognized to be among the highest in quality and performance for both the commercial and residential markets. As a single-source manufacturer of aluminum, wood and vinyl products, we tailor our systems to meet the project's specific needs. To further stand out, our custom hardware is machined in-house, delivering a level of craftsmanship to our products that is unmatched in the industry. Also, most of our engineering and product testing is done in our state-of-the-art testing facility, providing our customers with exacting standards and specifications.  
Solar Innovations®' Architectural Glazing Systems® bifold, slide and stack, sliding, and lift-slide door systems allow our customers to open wide spans to the outdoors, while providing excellent air and water performance, ADA compliance, impact certification, and thermally-broken systems to lower energy consumption. Our casement, awning, hopper, pivot and tilt-turn windows, as well as our aluminum and wood curtain walls, meet the same standards as our door systems and allow for excellent daylighting and fresh air, which brings health benefits to the building's inhabitants, reduces heating costs and adds functionality to the space. For more daylight and fresh air, our retractable and operable skylights allow for motorized or manually-operated ventilation. Our pyramid, polygonal, barrel-vault and dome skylights make a bold architectural statement while our walkable skylights allow for more useable space to roofs with foot traffic. Additionally, our greenhouses, conservatories, sunrooms, pool enclosures, and walkways allow our customers to surround themselves with the beauty of the outdoors year-round, all in a climate-controlled environment for both plants and people.  
While we already offer the most comprehensive product line in the architectural glazing industry, we continuously partner with customers to stretch the limits of architectural possibilities. This expands our product offerings and fuels our company's growth. When other manufacturers say no, Solar Innovations® Architectural Glazing Systems says yes.

1. GENERAL
   1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Skylight systems; fixed, operable and retractable.
       1. Accessories.
       2. Glass and glazing.
    2. Glass Walkways and Canopies:
  1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 03 30 00 - Cast-in-Place Concrete.
    2. Section 03 41 16 - Precast Concrete Slabs.
    3. Section 04 27 23 - Cavity Wall Unit Masonry.
    4. Section 05 40 00 - Cold-Formed Metal Framing.
    5. Section 06 10 00 - Rough Carpentry.
    6. Section 06 20 00 - Finish Carpentry.
    7. Section 07 21 19 - Foamed-In-Place Insulation.
    8. Section 07 46 16 - Aluminum Siding.
    9. Section 07 60 00 - Flashing and Sheet Metal.
    10. Section 07 90 00 - Joint Protection.
  1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. American Welding Society (AWS):
       1. AWS D1 - Structural Welding Code.
    2. ASTM International (ASTM):
       1. ASTM A36/A36M - Standard specification for carbon structural steel.
       2. ASTM B117 - Standard Practice for Operating Salt Spray (Fog) Apparatus.
       3. ASTM B221/B221M - Standard specification for aluminum and aluminum-alloy extruded bars, rods, wires, profiles, and tubes.
       4. ASTM B241/B241M - Standard specification for aluminum and aluminum-alloy seamless pipe and seamless tubes.
       5. ASTM B308 - Standard Specification for Aluminum-Alloy 6061-T6 Standard Structural Profiles.
       6. ASTM C864 - Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers.
       7. ASTM C1115 - Standard specification for dense elastomeric silicone rubber gaskets and accessories.
       8. ASTM E283 - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Skylights, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
       9. ASTM E330 - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.
       10. ASTM E331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.
       11. ASTM E547 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Difference.
       12. ASTM E1886 - Standard test method for performance of exterior windows, curtain walls, doors, and impact protective systems impacted by missiles and exposed to cyclic pressure differentials.
       13. ASTM E1996 - Standard specification for performance of exterior windows, curtain walls, doors, and impact protective systems impacted by windborne debris in hurricanes.
    3. Fenestration and Glazing Industry Alliance (FGIA):
       1. AAMA 611 - Voluntary Specifications for Anodized Architectural Aluminum.
       2. AAMA 1503 - Voluntary Test Method For Thermal Transmittance And Condensation Resistance Of Windows, Doors, And Glazed Wall Sections.
    4. Flat glass marketing association, glazing manual (FGMA).
    5. Forest Stewardship Council (FSC).
    6. Glass Association of North America (GANA): Glazing manual.
    7. National Accreditation and Management Institute, Inc. (NAMI).
    8. National Glass Association (NGA).
    9. National Greenhouse Manufacturer's Association (NGMA).
    10. Window and Door Manufacturer's Association (WDMA): AAMA/WDMA/CSA 101/I.S.2/A440 - Windows, Skylights and Glass Doors.
  1. SUBMITTALS
     1. Submit under provisions of Section 01 30 00.
     2. Product Data:
        1. Manufacturer's data sheets on each product to be used.
        2. Preparation instructions and recommendations.
        3. Storage and handling requirements and recommendations.
        4. Typical installation methods.

\*\* NOTE TO SPECIFIER \*\* Delete color selection samples if colors have been pre-selected.

* + 1. Selection Samples: Two complete color chip sets representing manufacturer's full range of stocked colors with a standard size of 2 x 3 inches (50 x 75 mm).

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Verification Samples: Two representative units of each type, size, color and finish.
       1. Aluminum Finish: Two samples, minimum size of 2 x 3 inches (50 x 75 mm), representing actual material and color.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Wood Finish: Two samples, minimum size of 2 x 5 inches (50 x 127 mm), representing actual product and color.
      2. Glazing: Two samples, minimum size of 12 x 12 inches (300 x 300 mm), representing specified glass, including coatings and frit patterns.

\*\* NOTE TO SPECIFIER \*\* Assembly sample provided upon request only.

* + - 1. Assembly Sample: One sample demonstrating connection details with a maximum size of 12 x 12 x 12 inches (305 x 305 x 305 mm). Glazing included as offered by glass supplier. Sample developed to best represent the specified product.
    1. Shop Drawings: Detailed drawings prepared specifically for the project by manufacturer. Include information not fully detailed in manufacturer's standard product data, including, but not limited to wall elevations and detail sections of every typical composite member.
       1. Show opening dimensions, framed opening tolerances, profiles, product components, anchorages, and accessories.
       2. Include details of materials, alloys and tempers of aluminum, construction, finish, fastener locations, glazing, hardware arrangements and relationship with adjacent construction.
       3. Include schedule identifying each unit, with marks or numbers referencing Drawings.
       4. Show surrounding substrates and relevant conditions.
    2. Maintenance Manuals: Manufacturer's maintenance manuals.
    3. Warranty: Manufacturer's warranty online registry.
  1. QUALITY ASSURANCE
     1. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with a minimum 20 years documented experience in fabrication of skylight systems for projects of similar scope.
        1. Use an extruded aluminum system comprised of domestically produced aluminum and is fabricated and assembled in the USA.
        2. Recognized by NAMI.
        3. Member in good standing of the National Greenhouse Manufacturer's Association (NGMA).
        4. Member in good standing of the National Glass Association (NGA).
     2. Installer Qualifications: Company experienced in performing Work of this section that has specialized in installation of work similar in scope and complexity required for this project for a minimum of 10 years.
     3. Source Limitations: Each product type from a single manufacturing source to ensure uniformity.

\*\* NOTE TO SPECIFIER \*\* Include mock-up if the project size or quality warrant the expense. The following is one example of how a mock-up on might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project. Fill in blank below with approximate size of mockup or delete line.

* + 1. Mock-Up: Construct a mock-up with actual materials in sufficient time for Architect's review and to not delay construction progress. Locate mock-up as acceptable to Architect and provide temporary foundations and support.
       1. Intent of mock-up is to demonstrate surface preparation techniques, quality of workmanship and visual appearance.
       2. Approximate Size: \_\_\_\_\_\_\_\_.
       3. Refinish mock-up area as required to produce acceptable work.
       4. Do not continue with remaining work until workmanship, color, and sheen are approved by Architect.
       5. If mock-up is not acceptable, rebuild mock-up until satisfactory results are achieved.
       6. Do not alter or remove mock-up until work is completed or removal is authorized.
       7. Retain mock-up during construction as standard for comparison with completed work.
       8. Incorporate accepted mock-up as part of the Work.
  1. PRE-INSTALLATION CONFERENCE
     1. Convene a conference approximately two weeks before scheduled commencement of the Work. Attendees to include Architect, Contractor and trades involved. Agenda to include schedule, responsibilities, critical path items and approvals.
  2. DELIVERY, STORAGE, AND HANDLING
     1. Store and handle in strict compliance with manufacturer's written instructions and recommendations. Store products in manufacturer's original unopened packaging, covered to protect factory finishes from damage, precipitation, and construction dirt until ready for installation. Store materials off construction grounds in a secure location that is a dry, covered area and protected from weather conditions.
     2. Inspect and report any freight damages to the manufacturer immediately.
     3. Protect from damage due to weather, excessive temperature, and construction operations.
  3. PROJECT CONDITIONS
     1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.
     2. Perform structural silicone sealant work when air temperature is between 40 - 120 degrees F (4 - 49 degrees C).
  4. WARRANTY

\*\* NOTE TO SPECIFIER \*\* Many components are also warranted by the original manufacturers for greater lengths of time. Reference original component manufacturers' warranties for complete information. Manufacturer offers extended warranties and service contracts on a per job basis.

* + 1. Manufacturer's Warranty: Provide manufacturer's standard limited warranty against defects in materials and workmanship.
       1. Warranty Period for Skylights: 1 year for cases of normal use.
       2. Warranty for Frame Finish:

\*\* NOTE TO SPECIFIER \*\* Delete warranty options below not required.

* + - * 1. Anodized Finishes: Provide a warranty of 2-5 years, depending on applicator
        2. Stock Color AAMA 2605 Finishes: 2-3 coats powder or liquid dependent on color and/or application, provide paint manufacturer's warranty for color and film integrity for at least 15 years from date of application.
        3. Custom Color AAMA 2605 Finishes: 2-3 coats powder or liquid dependent on color and/or application, provide paint manufacturer's warranty for color and film integrity for at least 15 years from date of application.
        4. Stock Color AAMA 2604 Finishes: 2 coats powder or liquid, provide warranty for color and film integrity for 10 years from date of application.
        5. Custom Color AAMA 2604 Finishes: 2 coats powder or liquid, provide paint manufacturer's warranty for cracking and pulling integrity for 10 years from date of application.
        6. Custom AAMA 2603 Finishes: 1 coat liquid only, thermosetting acrylic resin finishes, provide warranty for cracking and pulling integrity for 5 years from date of application.
        7. Stock Color AAMA 2603 Finishes: 1 coat liquid only, provide paint manufacturer's warranty for cracking and pulling integrity for at least 5 years from date of application.
        8. Custom Warranty Period: \_\_\_\_ years, to be approved and accepted in writing by manufacturer based on project's scope and application.

\*\* NOTE TO SPECIFIER \*\* Under extreme conditions, warranties for glazing may be less than twenty (20) years. Verify conditions with manufacturer. Delete the following paragraph if not required or edit to suit conditions.

* + - 1. Warranty for Glazing: Manufacturer's standard warranty against defective materials, delamination, seal failure, and defects in manufacturing for up to 20 years.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturer: Solar Innovations® Architectural Glazing Systems, which is located at: 31 Roberts Rd.; Pine Grove, PA 17963; ASD Toll Free Tel: 800-618-0669; Tel: 570-915-1500; Fax: 800-618-0743; Fax: 570-915-6083; Email: skylight@solarinnovations.com; Web: http://www.solarinnovations.com

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
    2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 and the following criteria.
       1. Structural Calculations: For products specified; stamped by a professional engineer licensed in the state in which the Project is located.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. SKYLIGHT SYSTEMS
     1. Performance Requirements

\*\* NOTE TO SPECIFIER \*\* Edit the following section to suit project requirements. Coordinate with manufacturer for the project location, wall size, and local building code to provide a system tailored to your needs.

* + - 1. Air and Water Leakage Performance:
         1. Design, fabricate, assemble, and erect the aluminum glazed system to be permanently free of significant air leakage.
         2. Significant leakage to be defined as a differential test pressure amounting to 20 percent of specified strength performance pressure required with operable windows doors, or joints, if any, sealed to prevent crack leakage.
         3. Significant Air Leakage: No more than 0.30 cfm per sq ft (projected area of module), determined by ASTM E283.

Supply certified testing reports adhering to the requirements set forth by ASTM E283 at the required pressure of 1.57 psf (75 Pa).

Supply certified testing reports adhering to the requirements set forth by ASTM E281 at the required pressure of 6.24 psf (300 Pa).

* + - * 1. Significant Water Leakage: Any uncontrolled penetration of water, determined by ASTM E331; at test pressure equal to 15 percent of positive wind pressure design, but not less than 12 psf (574 Pa).
      1. Structural Performance: As tested in accordance with ASTM E330; with no glass breakage or permanent damage to fasteners, anchors, hardware, or actuating mechanisms.
         1. Normal wall deflection not exceeding 1/175 of clear span for span lengths of 162 inches (4115 mm) or less and 1/240 plus 1/4 inch (6.4 mm) for others. Restrict deflection to 3/4 inch (19 mm) maximum for individual glazing lites.
         2. Parallel to wall deflection not exceeding 75 percent of glass edge clearance. Restrict deflection to L/360 or 1/8 inch (3 mm) maximum. Restrict deflection to 1/16 inch (1.6 mm) maximum above doors and/or windows. Increasing the deflection to 1/8 inch (3 mm) to be permitted if the door operation is not affected.
         3. Deflection of the entire assembly, including, but not limited to, glass, not to exceed 1-1/2 inches (38 mm).
      2. Thermal Performance: Tested values, certifications, and simulation protocols.
         1. U-Value: Unit complies with U-value, NFRC rating, or simulation in accordance with NFRC 100 protocol, shown in manufacturer's published data for glazing and sill specified.

\*\* NOTE TO SPECIFIER \*\* Fill in blank with U-value, based on glazing selected. Consult manufacturer.

U-Value: \_\_\_.

* + - * 1. Solar Heat Gain Coefficient: Unit to comply with the Solar Heat Gain Coefficient NFRC rated, or simulation in accordance with NFRC 200 protocol, shown in manufacturers published data for the glazing and sill specified.

\*\* NOTE TO SPECIFIER \*\* Fill in blank with SHGC, based on glazing selected. Consult manufacturer.

SGHC: \_\_\_.

* + - * 1. Visible Light Transmittance: Unit to be simulated for complete system visible light transmittance for the specific system details including glazing and required sill.

\*\* NOTE TO SPECIFIER \*\* Fill in blank with VLT, based on glazing selected. Consult manufacturer.

Visible Light Transmittance: \_\_\_.

* + - 1. Compliance:

\*\* NOTE TO SPECIFIER \*\* Delete skylight systems and associated test results not required. Coordinate selection of testing results below with selection of option for ' Basis of Design' in the following Article.

* + - * 1. Testing Results for Fixed Skylights: SI5600 Pyramid Skylight System as manufactured by Solar Innovations Architectural Glazing Systems; when tested on a typical unit containing a maximum glass size of (WxH) 46-1/16 x 56-3/16 inches (1170 x 1427 mm). (NCTL 110-15867-1)

Air Infiltration Test per ASTM E283:

Pressure of 1.6 psf (75 Pa): 0.18 cfm per sq ft (54.9 L per min per sq m) infiltration.

Pressure of 6.24 psf (300 Pa): 0.24 cfm per sq ft (73.1 L per min per sq m) infiltration.

Water Penetration Test per ASTM E331: Water pressure of 30.0 psf (1436 Pa), 5.0 gal per hour per sq ft (204 L per hour per sq m) no leakage.

Uniform Structural Load Test per ASTM E330:

Positive Design Pressure: 65 psf.

Negative Design Pressure: 65 psf.

Florida Product Approval: Impact FL No. 11259.2.

* + - * 1. Testing Results for Fixed Skylights: SI5900 Fixed Pitch Welded Curb Skylight System as manufactured by Solar Innovations Architectural Glazing Systems; when tested on a typical unit containing a maximum glass size of (WxH) 46-3/4 x 94-3/4 inches (1270 x 2489 mm). (NCTL 110-11305-1)

Air Infiltration Test per ASTM E283:

Pressure of 6.24 psf (300 Pa): 0.04 cfm min per sq ft (12.2 L per min per sq m) infiltration.

Water Penetration Test per ASTM E331: Water pressure of 12 psf (574 Pa) psf, 5.0 gal per hour per sq ft (204 L per hour per sq m)no leakage.

Uniform Structural Load Test per ASTM E330:

Positive Design Pressure: 75 psf (3591 Pa).

Negative Design Pressure: 75 psf (3591 Pa).

Florida Product Approval: Impact FL No. 11259.4.

* + - * 1. Testing Results for Fixed Skylights: SI5900 Flat Welded Curb Skylight System as manufactured by Solar Innovations Architectural Glazing Systems; when tested on a typical unit containing a maximum glass size of (WxH) 33-1/4 x 69 inches (845 x 1753 mm). (NCTL 110-15873-1)

Air Infiltration Test per ASTM E283:

Pressure of 1.6 psf (75 Pa): Less than 0.01 cfm min per sq ft (3.0 L per min per sq m) infiltration.

Pressure of 6.24 psf (300 Pa): Less than 0.01 cfm min per sq ft (3.0 L per min per sq m) infiltration.

Water Penetration Test per ASTM E331: Water pressure of 30.0 psf (1436 Pa), 5.0 gal per hour per sq ft (204 L per hour per sq m) no leakage.

Design Pressure: Positive or negative 80 psf (3830 Pa).

Florida Product Approval: Impact FL No. 11259.1.

* + - * 1. Testing Results for Operable Skylights: SI6400 Operable System as manufactured by Solar Innovations Architectural Glazing Systems; when tested on a typical unit containing a maximum size of (WxH) 86-5/16 x 66-11/16 inches (2192 x 1693 mm). NCTL 110-18788-1

Air Infiltration Test per ASTM E283:

Pressure of 6.24 psf (300 Pa): Less than 0.01 cfm min per sq ft (3.0 L per min per sq m) infiltration.

Water Penetration Test (ASTM E331 and ASTM E547): Water pressure of 15.0 psf, 5.0 gal per hour per sq ft (204 L per hour per sq m)no leakage.

Uniform Structural Load Test per ASTM E330:

Positive Design Pressure: 40 psf (1915 Pa)

Negative Design Pressure: 40 psf (1915 Pa)

Florida Product Approval: Impact FL No. 17581.2.

* + - * 1. Testing Results for Operable Skylights: SI6400 Retractable Skylight System as manufactured by Solar Innovations Architectural Glazing Systems; when tested on a typical unit containing a maximum panel size of (WxH) 47 x 111-7/8 inches (1193 x 2841 mm). NCTL 110-19344-1

Air Infiltration Test per ASTM E283:

Pressure of 1.57 psf (75 Pa): Less than 0.10 cfm min per sq ft (30.5 L per min per sq m) infiltration.

Water Penetration Test (ASTM E331 and ASTM E547): Water pressure of 6.9 psf, 5.0 gal per hour per sq ft (204 L per hour per sq m)no leakage.

Uniform Structural Load Test per ASTM E330:

Positive Design Pressure: 45 psf (2154 Pa)

Negative Design Pressure: 45 psf (2154 Pa)

Florida Product Approval: Impact FL No. 17581.1.

* + 1. Skylight Systems:

\*\* NOTE TO SPECIFIER \*\* Delete basis of design options not required.

* + - 1. Basis of Design: SI5000 Fixed Skylights as manufactured by Solar Innovations Architectural Glazing Systems.

\*\* NOTE TO SPECIFIER \*\* Additional configurations available. Delete configurations not required.

* + - * 1. Configuration: As indicated on Drawings.
        2. Configuration: Welded curb.
        3. Configuration: Double pitch.
        4. Configuration: Single slope.
        5. Configuration: Pyramid.
        6. Configuration: Hip end.
        7. Configuration: Straight eave, double pitch, even span.
        8. Configuration: Dome.
        9. Configuration: Walkable.
        10. Configuration: Barrel vault.
        11. Configuration: Lean-to.

\*\* NOTE TO SPECIFIER \*\* Delete framing member materials not required. Consult manufacturer to determine which framing meets project specific requirements; dependent upon structural requirements. Coordinate selection of framing member materials with finish options later in this article.

* + - * 1. Framing Member Materials: As indicated on Drawings.
        2. Framing Member Materials: Aluminum.
        3. Framing Member Materials: Solid wood interior, aluminum exterior; aluminum base plate and pressure cap system.

\*\* NOTE TO SPECIFIER \*\* Delete muntin options not required.

* + - * 1. Muntins: As indicated on Drawings.
        2. Muntins: Standard muntin.
        3. Muntins: G2 end wall bar muntin backer.
        4. Muntins: Boxed muntin.
        5. Muntins: Beveled muntin.
        6. Muntins: 2-tier muntin.

\*\* NOTE TO SPECIFIER \*\* Delete condensation gutter options not required.

* + - * 1. Condensation Gutters: As indicated on Drawings.
        2. Condensation Gutters: 2-1/2 inches (64 mm).
      1. Basis of Design: SI6400 Operable and Retractable Skylights as manufactured by Solar Innovations Architectural Glazing Systems.
         1. Design: Skylight design determined by final engineering based on force required by skylight assembly, degree of openness, and pitch of installation.

\*\* NOTE TO SPECIFIER \*\* Additional configurations available. Delete configurations not required.

* + - * 1. Configuration: As indicated on Drawings.
        2. Configuration: 90 degree operation.
        3. Configuration: On-slope retractable.
        4. Configuration: Flat retractable.
        5. Configuration: Operable ridge vents.
        6. Configuration: Venting.

\*\* NOTE TO SPECIFIER \*\* Delete operation mechanism options not required

* + - * 1. Operation Mechanism: As indicated on Drawings.
        2. Operation Mechanism: Manual.
        3. Operation Mechanism: Surface-mounted chain actuator.
        4. Operation Mechanism: Spindle actuator.
        5. Framing Member Materials: Aluminum.

\*\* NOTE TO SPECIFIER \*\* Delete all operation accessories if manual operation is selected above. Delete operation accessory options not required.

* + - * 1. Operation Accessories: As indicated on Drawings.
        2. Operation Accessories:

\*\* NOTE TO SPECIFIER \*\* Delete or add operation accessories as required.

Thermostat.

Rain sensor.

Wall-mounted control pad.

Remote.

Wind sensor.

* + - 1. Basis of Design: As scheduled and indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Many code jurisdictions have their own local code requirements. Provide local code requirements under which the project is being designed; i.e. Uniform Building Code, 1997 Edition with local amendments. If project location is only national code jurisdiction, indicate as such.

* + - 1. Local Code Jurisdiction: \_\_\_\_\_\_.

\*\* NOTE TO SPECIFIER \*\* Delete assembly options not required. Pre-assembled/pre-glazed skylights can be shipped up to 8 x 8 ft (2438 x 2438 mm)depending on the configuration, accessories, engineering, shipping method, and installation logistics. The skylight is shipped as complete as possible, requiring a crane to hoist or lift the skylight into place. Once in place, the skylight only needs to be fastened to the structure to complete the installation. This option provides the ultimate manufacturing control and the greatest ease of installation. Pre-assembled/pre-glazed skylights up to 4 x 8 ft (1219 x 2438 mm) flat (nonwalkable) and up to 8 x 8 ft (2438 x 2438 mm) geometric shapes also require engineering approval. Pre-assembled/not pre-glazed skylights feature welded curbs and a pre-assembled frame which can be lifted or hoisted into place for factory assembled, water tight, and secure curb details. Installation is reduced to installing only glass, exterior caps, fasteners, and finishing the exterior seals. Pre-assembled/not pre-glazed skylights require less expertise and time to install than the knocked down models offered. Pre-assembled/not pre-glazed flat and geometric shaped skylights up to 8 x 8 ft (2438 x 2438 mm) require engineering pre-approval.

* + - 1. Assembly: As indicated on Drawings.
      2. Assembly: Factory assembled, factory glazed.
      3. Assembly: Factory assembled, not factory glazed.

\*\* NOTE TO SPECIFIER \*\* Delete dimension options not required.

* + - 1. Dimensions: As indicated on Drawings.
      2. Dimensions:
         1. Width: \_\_\_\_\_.
         2. Length: \_\_\_\_\_.
         3. Projection: \_\_\_\_\_.
         4. Ridge Height: \_\_\_\_\_.

\*\* NOTE TO SPECIFIER \*\* Through use of custom curves composed of laminated glass, custom curved eave structures can be provided with roof pitches varying from 2/12 to 8/12 and can meet any specified length. Straight eave enclosures can be designed with roof pitch from 2/12 to 12/12 or greater. Fill in blanks below or delete lines with blanks. If filling in blanks, delete lines for ' As indicated on Drawings'.

* + - 1. Roof Pitch: As indicated on Drawings.
      2. Roof Pitch: \_\_\_\_\_.

\*\* NOTE TO SPECIFIER \*\* Delete eave options not required. Eaves only applicable to fixed skylights. Delete all options for eaves if operable or retractable skylights selected as basis of design.

* + - 1. Eaves: As indicated on Drawings.
         1. Eaves Height: As indicated on Drawings.
      2. Eaves: Straight eave.
         1. Eave Height: As indicated on Drawings.
         2. Eave Height: \_\_\_\_\_.
      3. Eaves: Curved eave.
         1. Eave Height: As indicated on Drawings.
         2. Eave Height: \_\_\_\_\_.

\*\* NOTE TO SPECIFIER \*\* Delete framing system options not required.

* + - 1. Framing System: As indicated on Drawings.
      2. Framing System: SI5206 LD System as manufactured by Solar Innovations Architectural Glazing Systems.

\*\* NOTE TO SPECIFIER \*\* Delete size options not required.

* + - * 1. Size: As indicated on Drawings.
        2. Size: 2 x 2 inches (50 x 50 mm), not including glazing depth.
        3. Size: 2 x 2-13/16 inches (50 x 71 mm), not including glazing depth.
        4. Size: 2 x 5-1/2 inches (50 x 140 mm), not including glazing depth.
        5. Size: 2 x 8 inches (50 x 203 mm), not including glazing depth.
      1. Framing System: SI5256 HDSystem as manufactured by Solar Innovations Architectural Glazing Systems.

\*\* NOTE TO SPECIFIER \*\* Delete size options not required.

* + - * 1. Size: As indicated on Drawings.
        2. Size: 2-1/2 x 4 inches (64 x 102 mm), not including glazing depth.
        3. Size: 2-1/2 x 6 inches (64 x 152 mm), not including glazing depth.
        4. Size: 2-1/2 x 7 inches (64 x 178 mm), not including glazing depth.
        5. Size: 2-1/2 x 8 inches (64 x 203 mm), not including glazing depth.
      1. Framing System: SI5202 LD System as manufactured by Solar Innovations Architectural Glazing Systems.

\*\* NOTE TO SPECIFIER \*\* Delete size options not required.

* + - * 1. Size: As indicated on Drawings.
        2. Size: 2 x 2 inches (50 x 50 mm), not including glazing depth.
        3. Size: 2 x 2-13/16 inches (50 x 71 mm), not including glazing depth.
        4. Size: 2 x 5-1/2 inches (50 x 140 mm), not including glazing depth.
        5. Size: 2 x 8 inches (50 x 203 mm), not including glazing depth.
      1. Framing System: SI5252 HD System as manufactured by Solar Innovations Architectural Glazing Systems.

\*\* NOTE TO SPECIFIER \*\* Delete size options not required.

* + - * 1. Size: As indicated on Drawings.
        2. Size: 2-1/2 x 4 inches (64 x 102 mm), not including glazing depth.
        3. Size: 2-1/2 x 6 inches (64 x 152 mm), not including glazing depth.
        4. Size: 2-1/2 x 7 inches (64 x 178 mm), not including glazing depth.
        5. Size: 2-1/2 x 8 inches (64 x 203 mm), not including glazing depth.

\*\* NOTE TO SPECIFIER \*\* Delete framing member cross section options not required.

* + - 1. Framing Member Cross Section: As required to accomplish performance criteria.
      2. Framing Member Cross Section: \_\_\_\_\_.

\*\* NOTE TO SPECIFIER \*\* Delete bay center options not required. The following is applicable only on curved eave even-span structures. 30-1/2 inches (775 mm) bay centers are the only option available for 30 degree pitch. Fill in blank below for custom bay centers or delete line. Bay centers options only applicable to fixed skylights. Delete all options for bay centers if operable or retractable skylight is specified.

* + - 1. Bay Centers: As indicated on Drawings.
      2. Bay Centers: 30.5 inches (774 mm).
      3. Bay Centers: 38 inches (965 mm).
      4. Bay Centers: Custom, \_\_\_\_\_\_\_.

\*\* NOTE TO SPECIFIER \*\* Provide the design intent of the mullions here or as indicated on the Drawings. For instance, the design may call for the use of mullion to break up the glass to match the pattern on an existing structure. Any type of guideline for design the Architect can provide will assist the manufacturer in a workable design solution. Obtain the manufacturer's approval of design shown on Drawings. Delete one of the following options or modify to reflect actual design intents.

* + - 1. Basic Mullion and Purlin Design: As indicated on Drawings.
      2. Basic Mullion and Purlin Design: Uniform bay widths; dimension as recommended by manufacturer.

\*\* NOTE TO SPECIFIER \*\* Delete screens if not required.

* + - 1. Screens:

\*\* NOTE TO SPECIFIER \*\* Delete screen type options not required.

* + - * 1. Type: As indicated on Drawings.
        2. Type: SI1000 Fixed screens as manufactured by Solar Innovations Architectural Glazing Systems.
        3. Type: SI1000 Operable screens as manufactured by Solar Innovations Architectural Glazing Systems.

\*\* NOTE TO SPECIFIER \*\* Delete operation option not required.

Manual operation.

Motorized operation.

* + - * 1. Framing: Aluminum, 1 x 1 inch (25 x 25 mm).

\*\* NOTE TO SPECIFIER \*\* Delete screen material options not required. Black Tuffscreen mesh only available with S-Series operable screen systems.

* + - * 1. Screen Materials: As indicated on the Drawings.
        2. Screen Materials: Standard gray colored charcoal.
        3. Screen Materials: Fiberglass.
        4. Screen Materials: Aluminum.
        5. Screen Materials: Black Tuffscreen mesh.

\*\* NOTE TO SPECIFIER \*\* Delete size option not required. Maximum panel size for fixed screens is 5 x 10 ft (1524 x 3048 mm). Maximum panel size for folding screens is 4 x 10 ft (1219 x 3048 mm). Maximum panel size for sliding screens with mullion support is 6 x 12 ft (1829 x 3578 mm). For B-Series screens the maximum double screen size is 32 ft x 10 ft 6 inches (9734 x 3200 mm) and maximum single screen size is 16 ft x 10 ft 6 inches (4877 x 3200 mm). For C-Series screens the maximum size for screen/blind configuration is (WxH) 12 ft x 7 ft 6 inches (3658 x 2286 mm), the maximum size for single screens is (WxH) 12 x 10 ft (3658 x 3048 mm), the maximum size for single blinds is (WxH)12 ft x 7 ft 6 inches (3658 x 2286 mm), the maximum size for double screens is 24 x 10 ft (7315 x 3048 mm) and maximum size for double blinds is 24 ft x 7 ft 6 inches (7315 x 2286 mm). For S-Series screens the maximum height at 14 ft (4267 mm) width is 16 ft (4877 mm), the maximum height at 20 ft (6096 mm) width is 10 ft (3048 mm) and the maximum height at 22 ft (6706 mm) width is 8 ft (2438 mm). Oversized panels available with engineering approval.

* + - * 1. Size: As indicated on the Drawings.
        2. Size: \_\_\_\_\_\_\_\_.
        3. Mounting and Configuration: As indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* All accessories must be included in submitted architectural Drawings. Operable accessories must include a thermal break. Delete options not required.

* + - 1. Skylight Accessories: As indicated on Drawings.
      2. Skylight Accessories:
         1. Ridge vents, with thermal break.
         2. Eave vents, with thermal break.
         3. Appliques.
         4. Corners.
         5. Corner posts.
         6. Ridge crests.
         7. Moldings.
         8. Decorative crowns.
         9. Decorative gutters.
         10. Palladians.
         11. Trim.
         12. Grids.
         13. Finials.
         14. Transoms.
         15. Windows; fixed/operable.
    1. Materials:

\*\* NOTE TO SPECIFIER \*\* Other alloys and tempers may be used for non-structural members provided they do not void the required warranties. Indicate alloys and tempers clearly on Shop Drawings and in structural calculations.

* + - 1. Aluminum Flashing and Closures:

\*\* NOTE TO SPECIFIER \*\* Delete alloy and temper options not required.

* + - * 1. Alloy and Temper: As indicated on Drawings.
        2. Alloy and Temper: 6063-T1.
        3. Alloy and Temper: 6063-T4.
        4. Alloy and Temper: 6063-T5.
        5. Alloy and Temper: 6063-T6.
        6. Alloy and Temper: 6061-T6.
        7. Sheet Aluminum Finish: Matching system components.
        8. Thickness: Minimum 0.040 inch (1 mm) thick.
        9. Attachment: Secured with concealed fastening method or fastener with head finished to match system components.
        10. Snap-on Covers and Miscellaneous Non-Structural Trim: Minimum thickness as recommended by manufacturer.

\*\* NOTE TO SPECIFIER \*\* Upon request, the manufacturer also offers systems in other hard woods, such as redwood, cherry, or Spanish cedar. Contact the manufacturer for more information. Delete this subparagraph if wood is not required.

* + - 1. Wood: Solid wood mahogany; laminated members permitted for structural purpose, except in high moisture environments.

\*\* NOTE TO SPECIFIER \*\* Upon request, FSC Certified components may be available. Check with manufacturer prior to completing this section. Delete if not required.

* + - * 1. Wood Compliance: FSC Certified components.
      1. Insulation: Expanded polystyrene insulation at filler panels and sheet metal members.

\*\* NOTE TO SPECIFIER \*\* Delete internal reinforcing if not required. Verify with manufacturer if internal reinforcing is required based on framing material, structure, size, and configuration.

* + - 1. Internal Reinforcing, Standards Compliance:
         1. Structural Aluminum Compliance: ASTM B308.
         2. Carbon Steel Compliance: ASTM A36.
         3. Carbon Steel Finish: Factory primed steel, manufacturer recommended primer.
      2. Structural Glazing Sealant: Manufacturer's standard, black.

\*\* NOTE TO SPECIFIER \*\* Delete perimeter sealant options not required.

* + - 1. Perimeter Sealant: As indicated on Drawings.
      2. Perimeter Sealant: Manufacturer's standard, color to match framing finish.
      3. Perimeter Sealant: Manufacturer's standard, color as selected from manufacturer's standard range.

\*\* NOTE TO SPECIFIER \*\* Delete glazing options not required. Consult manufacturer prior to completing this section of the specifications to verify glass solution matches intended application and safety requirements (laminated layers) of product. Manufacturer will select the type of glazing for the project based on project location, site, use of structure, and input from the Architect. If glazing type has been determined, modify the following to indicate type, thickness, tint, and other specific requirements. Define variances between sloped and vertical glazing as needed. Fill in blank below for custom glazing or delete line.

* + - 1. Glazing: As indicated on Drawings.
      2. Glazing: Single pane, polycarbonate.
      3. Glazing: Custom, single pane, \_\_\_\_\_\_\_\_.
      4. Glazing: Custom insulated.
      5. Glazing: Custom polycarbonate, 25 mm or thicker.
      6. Glazing: Custom heat-strengthened laminated.
      7. Glazing: Double pane glazing, 1 inch (25 mm) insulated glass unit.

\*\* NOTE TO SPECIFIER \*\* Delete outboard glazing lite options not required. Low-E glass includes microscopically thin transparent layers on the glass surfaces that reflect heat back to its source, keeping heat out in the summer, and warmth in during the winter. Other Low-E options are available from Guardian, PPG, and Viracon.

* + - * 1. Outboard Glazing Lites: As indicated on Drawings.
        2. Outboard Glazing Lites: 3/16 inch (5 mm) tempered clear glass with LoE 272 low-emissivity coating on surface two.

Visible Light Transmittance: 72 percent.

Solar Heat Gain Coefficient: 0.41.

* + - * 1. Outboard Glazing Lites: 3/16 inch (5 mm) tempered clear glass with LoE 366 low-emissivity coating on surface two.

Visible Light Transmittance: 65 percent.

Solar Heat Gain Coefficient: 0.27.

* + - * 1. Outboard Glazing Lites: 3/16 inch (5 mm) tempered clear glass with LoE 340 low-emissivity coating on surface two.

Visible Light Transmittance: 39 percent.

Solar Heat Gain Coefficient: 0.18.

\*\* NOTE TO SPECIFIER \*\* Delete vertical inboard glazing lites option if not required. Vertical inboard glazing lites are only applicable to fixed skylights. They are not available with operable or retractable skylights.

* + - * 1. Vertical Inboard Glazing Lites: 3/16 inch (5 mm) tempered clear glass.
        2. Sloped Inboard Glazing Lites: 5/16 inch (8 mm) annealed clear laminated glass with an .060 PVB interlayer.
        3. Air spacer: Stainless steel spacer with dual seals of polyisobutylene/silicone and filled with argon gas.

\*\* NOTE TO SPECIFIER \*\* Discuss all specialty glazing options with the manufacturer to determine viability, benefits, and recommended installation locations. Job specification sections can be provided for the following specialty glazing options.

* + - 1. Glazing: Specialty glazing, electrochromic glass; can be controlled through a building automation system or manually; shading, glare, and HVAC can be controlled.
      2. Glazing: Specialty glazing, thermochromic.
      3. Glazing: Specialty glazing, Solera Glass light diffusion glazing system.
      4. Glazing: Specialty glazing, Lumira Polycarbonate filled polycarbonate panels.

\*\* NOTE TO SPECIFIER \*\* Decorative glazing is a broad category consisting of art glass and other glazing options. Satin etched adds the appearance of a 3-dimensional texture. It should be used on an unexposed surface in an IG unit. Pattern 62 offers an attractive appearance, obscurity, and light transmission capabilities. English reeded glass is a ribbed glass; the ribs of the glass typically run horizontally. Single glue chip or glue chip is a texture that resembles frost on a window pane during the winter cold. Additional custom decorative options are available.

* + - 1. Glazing: Decorative, \_\_\_\_\_\_\_\_.
      2. Glazing: Decorative, Pattern 62.
      3. Glazing: Decorative, single glue chip.
      4. Glazing: Decorative, glue chip.
      5. Glazing: Decorative, English reeded.
      6. Glazing: Decorative, satin/acid etch.
      7. Glazing Gaskets: Compatible with glazing sealant.
         1. Compliance: ASTM C864.
         2. Design Compression type, replaceable, EPDM gaskets; with solid strand cord to prevent shrinkage.
         3. Color: Manufacturer's standard, black.

\*\* NOTE TO SPECIFIER \*\* Delete option below if insulated glazing is not selected above.

* + - 1. Setting Blocks, Edge Blocks, and Spacers: As recommended by manufacturer and compatible with insulated glass.
      2. Fasteners: Aluminum and stainless steel, not causing electrolytic action or corrosion.
         1. Fasteners that are Zinc Cadmium-plated are acceptable in locations as approved by manufacturer.
      3. Finish for Exposed Fasteners: To match finish of aluminum frame.
    1. Finishes:

\*\* NOTE TO SPECIFIER \*\* Delete aluminum skylight frame finish options not required. Stock/standard anodized finishes available at additional cost. Custom dual color and dual finish options available. If more than one finish is required, indicate locations where each is to be used on the architectural Drawings.

* + - 1. Aluminum Skylight Frames: As scheduled and indicated on Drawings.
      2. Aluminum Skylight Frames: Dual color, as indicated on Drawings.
      3. Aluminum Skylight Frames: Dual finish, as indicated on Drawings.
      4. Aluminum Skylight Frames: Mill finish, unfinished.
      5. Aluminum Skylight Frames: Manufacturer's standard white stock finish, AAMA 2603.
      6. Aluminum Skylight Frames: Manufacturer's standard bronze stock finish, AAMA 2603.
      7. Aluminum Skylight Frames: Manufacturer's standard clear anodized finish, Class I AAMA 611.
      8. Aluminum Skylight Frames: Manufacturer's standard dark bronze anodized, Class 1 AAMA 611.
      9. Aluminum Skylight Frames: Manufacturer's Designer black finish, AAMA 2603.
      10. Aluminum Skylight Frames: Manufacturer's Designer sandstone finish, AAMA 2603.
      11. Aluminum Skylight Frames: Manufacturer's Designer natural clay finish, AAMA 2603.
      12. Aluminum Skylight Frames: Manufacturer's Designer Hartford green finish, AAMA 2603.
      13. Aluminum Skylight Frames: Copper cladding.
      14. Aluminum Skylight Frames: Lead coated copper cladding.
      15. Aluminum Skylight Frames: 304 stainless steel cladding with No. 4 satin finish.
      16. Aluminum Skylight Frames: 304 stainless steel cladding with No. 8 mirror finish.
      17. Aluminum Skylight Frames: Powder coating solids finish, bone white, AAMA 2604.
      18. Aluminum Skylight Frames: Powder coating solids finish, fashion gray, AAMA 2604.
      19. Aluminum Skylight Frames: Powder coating solids finish, colonial gray, AAMA 2604.
      20. Aluminum Skylight Frames: Powder coating solids finish, military light blue, AAMA 2604.
      21. Aluminum Skylight Frames: Powder coating solids finish, burgundy, AAMA 2604.
      22. Aluminum Skylight Frames: Powder coating solids finish, charcoal, AAMA 2604.
      23. Aluminum Skylight Frames: Powder coating solids finish, bone white, AAMA 2605.
      24. Aluminum Skylight Frames: Powder coating solids finish, fashion gray, AAMA 2605.
      25. Aluminum Skylight Frames: Powder coating solids finish, colonial gray, AAMA 2605.
      26. Aluminum Skylight Frames: Powder coating solids finish, military light blue, AAMA 2605.
      27. Aluminum Skylight Frames: Powder coating solids finish, burgundy, AAMA 2605.
      28. Aluminum Skylight Frames: Powder coating solids finish, charcoal, AAMA 2605.
      29. Aluminum Skylight Frames: Powder coating metallics finish, champagne, AAMA 2604.
      30. Aluminum Skylight Frames: Powder coating metallics finish, cosmic gray, AAMA 2604.
      31. Aluminum Skylight Frames: Powder coating metallics finish, light bronze, AAMA 2604.
      32. Aluminum Skylight Frames: Powder coating metallics finish, copper, AAMA 2604.
      33. Aluminum Skylight Frames: Powder coating metallics finish, champagne, AAMA 2605.
      34. Aluminum Skylight Frames: Powder coating metallics finish, cosmic gray, AAMA 2605.
      35. Aluminum Skylight Frames: Powder coating metallics finish, light bronze, AAMA 2605.
      36. Aluminum Skylight Frames: Powder coating metallics finish, copper, AAMA 2605.
      37. Aluminum Skylight Frames: Acacia 1001, Light DS 716 textured faux wood finish.
      38. Aluminum Skylight Frames: Acacia 1001, Light DS 402 smooth faux wood finish.
      39. Aluminum Skylight Frames: Acacia 1001, Dark DS 733 textured faux wood finish.
      40. Aluminum Skylight Frames: Acacia 1001, Dark DS 403 smooth faux wood finish.
      41. Aluminum Skylight Frames: Douglas fir 1501 DS 716 textured faux wood finish.
      42. Aluminum Skylight Frames: Douglas fir 1501 DS 402 smooth faux wood finish.
      43. Aluminum Skylight Frames: Cherry 1402 DS 716 textured faux wood finish.
      44. Aluminum Skylight Frames: Cherry 1402 DS 402 smooth faux wood finish.
      45. Aluminum Skylight Frames: Knotty pine 2103 DS 716 textured faux wood finish.
      46. Aluminum Skylight Frames: Knotty pine 2103 DS 402 smooth faux wood finish.
      47. Aluminum Skylight Frames: Cherry 1402 DS 733 textured faux wood finish.
      48. Aluminum Skylight Frames: Cherry 1402 DS 403 smooth faux wood finish.
      49. Aluminum Skylight Frames: Oak assi 2501 DS 733 textured faux wood finish.
      50. Aluminum Skylight Frames: Oak assi 2501 DS 403 smooth faux wood finish.
      51. Aluminum Skylight Frames: Dark walnut 1802 DS 733 textured faux wood finish.
      52. Aluminum Skylight Frames: Dark walnut 1802 DS 403 smooth faux wood finish.
      53. Aluminum Skylight Frames: Teak 2601 DS 706 textured mahogany faux wood finish.
      54. Aluminum Skylight Frames: National walnut 1806 DS 706 textured mahogany faux wood finish.
      55. Aluminum Vent and Eave Frames: White oak wood veneering.
      56. Aluminum Vent and Eave Frames: Red oak wood veneering.
      57. Aluminum Vent and Eave Frames: Birch wood veneering.
      58. Aluminum Vent and Eave Frames: Hard maple wood veneering.
      59. Aluminum Vent and Eave Frames: White ash wood veneering.
      60. Aluminum Vent and Eave Frames: Cherry wood veneering.
      61. Aluminum Vent and Eave Frames: Walnut wood veneering.
      62. Aluminum Vent and Eave Frames: Sapele Mahogany wood veneering.
      63. Aluminum Vent and Eave Frames: Southern yellow pine wood veneering.
      64. Aluminum Vent and Eave Frames: Northern white pine wood veneering.
      65. Aluminum Vent and Eave Frames: Spanish cedar wood veneering.
      66. Aluminum Vent and Eave Frames: Western red cedar wood veneering.
      67. Aluminum Vent and Eave Frames: Douglas fir wood veneering.
      68. Aluminum Vent and Eave Frames: White maple wood veneering.

\*\* NOTE TO SPECIFIER \*\* Delete aluminum screen frame finish options not required.

* + - 1. Aluminum Screen Frames: Finish as indicated on Drawings.
      2. Aluminum Screen Frames: \_\_\_\_\_\_\_\_.
      3. Aluminum Screen Frames: Finish to match frames.

\*\* NOTE TO SPECIFIER \*\* Delete wood finish options not required. Final sanding and finishing is by others. It is the customer's responsibility to properly maintain the finish on the wood to preserve any warranty. If solid wood framing members or wood veneering is not selected above, delete options for wood finish listed below.

* + - 1. Wood Finish: As indicated on Drawings.
      2. Wood Finish: Unfinished.
      3. Wood Finish: Manufacturer's standard water based sealer, ICA 3-coat clear, consisting of impregnating agent, base coat, and top coat.
    1. Fabrication:
       1. Fabricate components in accordance with approved Shop Drawings.
       2. Major fabrication must done at the manufacturing location.
       3. Install gaskets and tapes at factory.
       4. Disassemble only to the extent necessary for shipping and handling limitations.
       5. Manufacturer is to be notified of any field modification prior to the activity commencing.
       6. Welding is to comply with standards set forth by the American Welding Society.
       7. Factory-grind exposed welds smooth and flush with adjacent surfaces prior to finish application; restore mechanical finish.
       8. Isolation membrane materials to be used to separate dissimilar metals to prevent galvanic corrosion/action between materials.
       9. Fabricate components to allow for accurate and rigid fit of joints and corners. Match components carefully ensuring continuity of line and design. Ensure joints and connections will be flush and weather tight. Ensure slip joints make full, tight contact and are weathertight.

\*\* NOTE TO SPECIFIER \*\* Delete the following if internal reinforcing is not required for this project.

* + - 1. Steel Components:
         1. Clean surfaces after fabrication and immediately prior to application of primer in accord with manufacturer's recommendations.
         2. Apply specified shop coat primer in accordance with manufacturer's instructions to provide 1.0 mil (0.05 mm) minimum dry film thickness.
      2. Fabricate components true to detail and free from defects impairing appearance, strength or durability.
      3. Provide contoured exterior horizontal or purlin glazing retainers to minimize water, ice, and snow buildup.
      4. Fabricate with removable sill and head stop.
      5. Reinforce components at anchorage and support points, joints, and attachment points for interfacing work.
      6. Accurately size glazing to fit openings allowing for clearances as set forth by the "Glazing Manual" published by the Glass Association of North America (GANA).
      7. Cut glass clean and carefully. Nicks and damaged edges will not be accepted. Replace glass with damaged edges.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. GLASS WALKWAYS AND CANOPIES
     1. Performance Requirements:
        1. Air and Water Leakage: Aluminum glazed systems to be permanently free of Significant leakage; defined as a differential test pressure amounting to 20 percent of specified strength performance pressure required with operable windows doors, or joints, if any, sealed to prevent crack leakage.

\*\* NOTE TO SPECIFIER \*\* Delete significant air leakage option not required.

* + - * 1. Significant Air Leakage: No more than 0.18 cfm per sq ft (0.914 L per sec per sq m); projected area of module, as determined by ASTM E283.

Supply certified testing reports adhering to ASTM E283 requirements.

Required Pressure: 1.57 psf (76 Pa).

Required Pressure: 6.24 psf (300 Pa).

* + - * 1. Significant Water Leakage: Uncontrolled penetration of water, as determined by ASTM E331 at test pressure equal to 10 percent of positive wind pressure design, but not less than 12 psf (575 Pa).
      1. Structural Performance: In accordance with ASTM-E330; with no glass breakage or permanent damage to fasteners, anchors, hardware, or actuating mechanisms.
         1. Normal Wall Deflection:

Span Lengths of 13.5 ft (4115 mm) or Less: 1/175 of clear span.

Span Lengths Greater Than 13.5 ft (4115 mm): 1/240 plus 1/4 inch.

Individual Glazing Lites: 3/4 inch (19 mm) maximum.

* + - * 1. Parallel to Wall Deflection: Not to exceed 75 percent of glass edge clearance.

Restrict deflection to L/360 or 1/8 inch (3 mm) maximum.

Restrict deflection to 1/16 inch (1.5 mm) maximum above doors and/or windows.

Deflection of 1/8 inch (3 mm) is permissible if door operation is not affected.

* + - * 1. Deflection of Entire Assembly Including, but not Limited to, Glass: 1-1/2 inches (38 mm).
      1. Thermal Performance: Tested values, certifications, and simulation protocols.
         1. U-Value: Comply with U-value NFRC rated, or simulated in accordance with NFRC 100 protocol, shown in manufacturer's latest published data for the glazing and sill specified.

U-Value Requirement: Based on glazing. Consult manufacturer.

* + - * 1. Solar Heat Gain Coefficient: Comply with Solar Heat Gain Coefficient NFRC rated, or simulated in accordance with NFRC 200 protocol, shown in manufacturers latest published data for the glazing and sill specified.

SHGC Requirement: Based on glazing. Consult manufacturer.

* + - * 1. Visible Light transmittance: Unit to be simulated for complete system visible light transmittance for specific system details including glazing and required sill.

Visible Light Transmittance: Based on glazing; consult manufacturer.

* + 1. Basis of Design: No. S15900 Pyramid Skylight System as manufactured by Solar Innovations Architectural Glazing Systems. When tested shall meet or exceed the following performance tests.
       1. Tested Unit Glass Size (WxH): 46.06 x 56.19 inch (1170 x 1427 mm).
          1. Air Infiltration per ASTM E283:

At Force of 1.6 psf (77 Pa): Infiltration: 0.18 cfm per sq ft (0.914 L per sex per sq m).

At Force of 6.24 psf (299 Pa): Infiltration: 0.09 cfm per sq ft (0.457 L per sec per sq m).

* + - * 1. Water Penetration per ASTM E331:

Water Pressure of 30.0 psf (1.436 kPa) at 5 gph per sq ft (203.73 L per hr per sq m): No leakage.

* + - * 1. Uniform Structural Load Test per ASTM E330:

Exterior Force of 130 psf (6.224 kPa): 0.065 inch (1.65) permanent set; overload.

Interior Force of 130 psf (6.224 kPa): 0.001 inch (.025) permanent set; overload.

* + - * 1. Florida Product Approval: Impact FL No. 11259.1
    1. Basis of Design: No. SI5900 Fixed Pitch Welded Curb Skylight System as manufactured by Solar Innovations Architectural Glazing Systems. When tested shall meet or exceed the following performance tests.
       1. Tested Unit Glass Size (WxH): 50 x 98 inch (1270 mm x 2489 mm)
          1. Air Infiltration per ASTM E 283:

At Force of 6.24 psf (299 Pa): Infiltration: 0.04 cfm per sq ft (0.203 L per sec per sq m).

* + - * 1. Water Penetration per ASTM E331 and ASTM E547:

Water Pressure of 6 psf (0.287 kPa) at 5 gph per sq ft (203.73 L per sec per sq m): No leakage.

* + - * 1. Uniform Structural Load per ASTM E 330:

Exterior Force of 60 psf (2.873 kPa): 0.004 inch (0.10 mm) permanent set; overload.

Interior Force of 60 psf (2.873 kPa): 0.003 inch (0.08 mm) permanent set; overload.

* + - * 1. Florida Product Approval: Impact FL No. 11259.3
    1. Basis of Design: No. SI5900 Flat Welded Curb Skylight System as manufactured by Solar Innovations Architectural Glazing Systems. When tested shall meet or exceed the following performance tests.
       1. Tested Unit Glass Size (WxH): 33.25 x 69 inch (845 mm x 1753 mm).
          1. Air Infiltration per ASTM E 283:

At Force of 1.6 psf (0.077 kPa): Infiltration: 0.01 cfm per sq ft (0.051 L per sec per sq m).

At Force of 6.24 psf (299 Pa): Infiltration: 0.01 cfm per sq ft (0.051 L per sec per sq m).

* + - * 1. Water Penetration per ASTM E331 and ASTM E547:

Water Pressure of 30 psf (1.436 kPa) at 5 gph per sq ft (203.73 L per sec per sq m): No leakage.

* + - * 1. Design Pressure: 80 psf (30830 kPa).
        2. Thermal Penetration Test - AAMA 1503-98.

Thermal Transmittance (U-Value): 0.30 btu per sq ft per F (1.7 W per sq m per K).

Condensation Resistance Fact (CRF): 52.

* + - * 1. Florida Product Approval: Impact FL No. 11259.2.
    1. Dimensions: for SI5001-Series Walkways and Canopies:
       1. Width: \_\_\_\_\_.
       2. Length: \_\_\_\_\_.
       3. Projection: \_\_\_\_\_.
       4. Ridge Height: \_\_\_\_\_.
       5. As indicated on the Drawings

\*\* NOTE TO SPECIFIER \*\* Through use of custom curves composed of laminated glass, custom curved eave structures can be provided with roof pitches varying from a 2/12 to an 8/12 and can meet any specified length. Straight eave enclosures can be designed with any roof pitch from 2/12 to 12/12 or greater.

* + - 1. Roof Pitch: \_\_\_\_\_.
      2. Eave Height: \_\_\_\_\_.
    1. Configuration:

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs

* + - 1. Straight Eave.
      2. Curved Eave.

\*\* NOTE TO SPECIFIER \*\* Delete two of the following three paragraphs

* + - 1. Double pitch / even span.
      2. Lean-to.
      3. Single slope.

\*\* NOTE TO SPECIFIER \*\* Consult manufacturer prior to completing this section of the specifications to verify glass solution matches intended application and safety requirements (laminated layers) of product. The manufacturer will select the type of glazing for the project based on project location, site, use of structure, and input from the Architect. If glazing type has been determined, modify the following to indicate type, thickness, tint, and other specific requirements. Define variances between sloped and vertical glazing as needed.

* + 1. Glazing:
       1. Single Pane Float Glass: 3/16 inch (5 mm).
       2. Single Pane Float Glass: 1/4 inch (7 mm).
       3. Single Pane: Polycarbonate.
       4. Single Pane: \_\_\_\_\_\_\_\_.
       5. Double Pane: 1 inch (25 mm) insulated glass unit.
          1. Outboard Glazing Lite: 3/16 inch (5 mm) tempered clear glass. LoE 272 low-emissivity coating on surface two.
          2. Stainless Steel Air Spacer: Dual seals of polyisobutylene/silicone.
          3. Air Space: To be filled with argon gas.
          4. Vertical Inboard Glazing Lite: 3/16 inch (5 mm) tempered clear glass.
          5. Sloped Inboard Glazing Lite: 5/16 inch (8 mm) annealed clear laminated glass with an 0.060 PVB interlayer.
       6. Specialty Glazing Options:

\*\* NOTE TO SPECIFIER \*\* Job specification sections can be provided for the following specialty glazing options. Discuss all specialty glazing options with the manufacturer to determine viability, benefits, and recommended installation locations. Delete options not required.

* + - * 1. Electrochromic Glass: Glazing system controlled by a building automation system, greenhouse automation system, or manually.

Shading, glare, and HVAC can all be controlled.

* + - * 1. Thermochromic Glass: Glazing system 'tinted' via natural heat.
        2. Solera Glass: A light diffusion glazing system.
        3. Lumira Polycarbonate: Filled polycarbonate panels to control light diffusion and insulation characteristics.

\*\* NOTE TO SPECIFIER \*\* Delete accessories not required.

* + - 1. Glazing Accessories
         1. Decorative mullions.
         2. Interior Grids: 3/16 x 5/8 inch (5 x 16 mm).
         3. Simulated Divided Lites: 3/8 x 5/8 inch (9.5 x 16 mm).
         4. Applied Grid: 3/4 inch (19 mm) traditional.
         5. Applied Grid: 1-1/4 inch (32 mm) traditional.
         6. Applied Grid: 7/8 inch (22 mm) colonial.
         7. Applied Grid: 7/8 inch (22 mm) ogee.
         8. Applied Grid: 3/4 inch (19 mm) low profile.
         9. Decorative raised panels.
    1. Framing Members:

\*\* NOTE TO SPECIFIER \*\* Edit paragraphs appropriately. Consult manufacturer to determine which framing meets project specific requirements. Delete framing members, sizes and cross sections not required.

* + - 1. Aluminum SI5200FGS - LD Residential System:
         1. Size: 2 by 1/2 inch (50 by 13 mm), not including glazing depth.
         2. Cross Section: As required to accomplish performance criteria.
         3. Cross Section: \_\_\_\_\_\_\_\_\_.
      2. Aluminum SI5300FGS - HD Residential System:
         1. Size: 3 by 1/2 inch (76 by 13 mm), not including glazing depth.
         2. Cross Section: As required to accomplish performance criteria.
         3. Cross Section: \_\_\_\_\_\_\_\_\_.
      3. Aluminum SI5202 - LD Residential System:
         1. Size: 2 by 2 inch (50 by 50 mm), not including glazing depth.
         2. Size: 2 by 2-13/16 inch (50 by 71 mm), not including glazing depth.
         3. Size: 2 by 5-1/2 inch (50 by 140 mm), not including glazing depth.
         4. Size: 2 by 8 inch (50 by 203 mm), not including glazing depth.
         5. Cross Section: As required to accomplish performance criteria.
         6. Cross Section: \_\_\_\_\_\_\_\_\_.
      4. Aluminum SI5252 - HD Residential System:
         1. Size: 2-1/2 by 4 inch (64 by 102 mm), not including glazing depth.
         2. Size: 2-1/2 by 6 inch (64 by 152 mm), not including glazing depth.
         3. Size: 2-1/2 by 7 inch (64 by 178 mm), not including glazing depth.
         4. Size: 2-1/2 by 8 inch (64 by 203 mm), not including glazing depth.
         5. Cross Section: As required to accomplish performance criteria.
         6. Cross Section: \_\_\_\_\_\_\_\_\_.

\*\* NOTE TO SPECIFIER \*\* The following is applicable only on curved eave even-span structures. Standard bay width options are for 14.75 degree pitches. 30.5 inch (775 mm) bay centers are the only option available for 30 degree pitch.

* + - 1. Solid wood interior, aluminum exterior; aluminum base plate and pressure cap system. Dependent upon structural requirements.
      2. Bay Centers: 30.5 inch (775 mm).
      3. Bay Centers: 38 inch (965 mm).
      4. Bay Centers: 46.5 inch (1181 mm).
      5. Custom Bay Centers: \_\_\_\_\_

\*\* NOTE TO SPECIFIER \*\* Retain or add accessories desired for structure. All accessories must be included in submitted architectural drawings.

* + 1. Accessories: All operable accessories must include a thermal break.
       1. Ridge Vents; thermally broken.
       2. Eave Vents; thermally broken.
       3. Appliques.
       4. Corners.
       5. Corner Posts.
       6. Ridge Crests.
       7. Moldings.
       8. Decorative Crown.
       9. Decorative Gutter.
       10. Palladian.
       11. Trims.
       12. Grids.
       13. Finials.
       14. Transom Band.

\*\* NOTE TO SPECIFIER \*\* Provide the design intent of the mullions here or as indicated on the Drawings. For instance, the design may call for the use of mullions to break up the glass to match the pattern on an existing structure. Any type of guideline for design the Architect can provide will assist the manufacturer in a workable design solution. Select one of the following options or modify to reflect actual design intents. Obtain the manufacturer's approval of design shown on Drawings.

* + - 1. Mullion and Purlin Design: Uniform bay widths; dimension as recommended by manufacturer.
      2. Mullion and Purlin Design: As indicated on the Drawings.

\*\* NOTE TO SPECIFIER \*\* Many code jurisdictions have their own local code requirements. Provide local code requirements under which the project is being designed; i.e. Uniform Building Code, 1997 Edition with local amendments. If project location is only national code jurisdiction, indicate as such.

* + 1. Local Code Jurisdiction: \_\_\_\_\_\_\_\_.
    2. Materials:
       1. Aluminum: 6063-T52, 6063-T6, or 6061-T6 alloy and temper.
          1. Other alloys and tempers may be used for non-structural members provided they do not void the required warranties.
          2. Indicate alloys and tempers clearly on shop drawings and in structural calculations.
          3. Framing Members: Thickness based on design loading, cross sectional configuration, and fabrication requirement.
          4. Aluminum Flashing and Closures: Minimum of 0.040 inch (1 mm) thick.
          5. Snap-on Covers and Miscellaneous Non-Structural Trim: Minimum thickness recommended by the manufacturer.
       2. Insulated Panels: Expanded polystyrene; at filler panels and sheet metal members.

\*\* NOTE TO SPECIFIER \*\* Upon request, the manufacturer also offers their systems in other hard woods, such as redwood, cherry, or Spanish cedar. Delete this paragraph if wood is not desired. Delete the prohibition for laminated members if acceptable to manufacturer. Wood system are clad in aluminum.

* + - 1. Wood: Solid wood mahogany.
         1. Laminated Members: Permitted for structural purpose, except in high moisture environments.

\*\* NOTE TO SPECIFIER \*\* Upon request, FSC® Certified components may be available. Check with manufacturer prior to completing this section.

* + - * 1. FSC certified components required.
        2. No specialty wood requirements.
      1. Glazing: See product section.
      2. Glazing Gaskets: Compression type design, replaceable, EPDM, complying with ASTM C 864, with solid strand cord to prevent shrinkage.
         1. Completely compatible with glazing sealant.
         2. Profile and hardness as necessary to maintain uniform pressure for watertight seal.
         3. Color: Black.
      3. Flashings: Sheet aluminum; same finish as system components. Secured with concealed fastening method or fastener with head finished to match.
         1. Thickness: As required for conditions encountered.

\*\* NOTE TO SPECIFIER \*\* Verify with manufacturer if internal reinforcing is required based on framing material, size, and configuration.

* + - 1. Internal Reinforcing:
         1. Carbon Steel: ASTM A36/A36M.
         2. Structural Aluminum: ASTM B308/B308M.
         3. Shapes and Sizes: To suit installation.
         4. Shop coat steel components after fabrication with manufacturer recommended primer.
      2. Setting Blocks, Edge Blocks, and Spacers: As required by manufacturer and compatible with insulated glass where required.
      3. Structural Glazing Sealant: Manufacturer's standard. Color: Black.
      4. Perimeter Sealant: Manufacturer's standard color to match framing finish if available; otherwise color as selected from manufacturer's standard range.
      5. Anchors and Fasteners:
         1. Aluminum and Stainless Steel of type which will not cause electrolytic action or corrosion.
         2. Zinc cadmium-plated fasteners may be used if acceptable to manufacturer.
         3. Finish exposed fasteners to match aluminum frame.
      6. Accessories: Provide as schedule to achieve design intent and environmental control.
    1. Finishes: Aluminum.

\*\* NOTE TO SPECIFIER \*\* Delete all but one of the following frame finishes. If more than one finish is required, indicate the locations where each is to be used on the architectural drawings.

* + - 1. Mill finish.
      2. Anodized Complying with AAMA 611:
         1. Color: Clear; class 1.
         2. Color: Dark bronze.
      3. AAMA 2605 Finish:
         1. Color: Manufacturer's standard bronze.
         2. Color: Manufacturer's standard Hartford green.
         3. Color: Manufacturer's standard white.
         4. Color: Manufacturer's standard sandstone.
         5. Color: Manufacturer's standard black.
         6. Color: Manufacturer's standard natural clay.
      4. AAMA 2604 Finish:
         1. Color: Manufacturer's standard bronze.
         2. Color: Manufacturer's standard Hartford green.
         3. Color: Manufacturer's standard white.
         4. Color: Manufacturer's standard sandstone.
         5. Color: Manufacturer's standard black.
         6. Color: Manufacturer's standard natural clay.
      5. AAMA 2603 Finish:
         1. Color: Manufacturer's standard bronze.
         2. Color: Manufacturer's standard Hartford green.
         3. Color: Manufacturer's standard white.
         4. Color: Manufacturer's standard sandstone.
         5. Color: Manufacturer's standard black.
         6. Color: Manufacturer's standard natural clay.

\*\* NOTE TO SPECIFIER \*\* If a custom color or a different type of finish is required, verify availability with manufacturer and enter a description below.

* + - 1. Aluminum Liquid Finish: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
      2. Aluminum Powder Finish: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
      3. Aluminum Anodized Finish: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
      4. Metal Cladding: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
      5. Wood Interior: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\*\* NOTE TO SPECIFIER \*\* Delete the following paragraph if no wood members are required.

* + - 1. Wood Finish: Manufacturer's standard water based sealer applied to minimize damage and discoloration during installation.
         1. Final Sanding and Finishing: By others.

Customer's Responsibility: Properly maintain wood finish to preserve warranty.

ICA 3-Coat Clear Sealer: Consisting of impregnating agent, base coat, and top coat.

* + 1. Fabrication:
       1. Fabricate components in accordance with shop drawings approved by the architect.
       2. Perform all work in a method that will meet or exceed industry standards.
       3. All Major Fabrications: Done at manufacturing location and not onsite.
       4. Manufacturer must remove burrs and rough edges prior to finish application.
       5. Install gaskets and tapes at factory, as reasonable.
       6. Disassemble only to extent necessary for shipping and handling limitations.
       7. Field Modifications: Notify manufacturer prior to commencing activity.
       8. Welding: Comply with standards set forth by the American Welding Society.
       9. Exposed Welds: Grind smooth and flush with adjacent surfaces before finishing; restore mechanical finish.
       10. Isolation Membrane Materials: Use to separate dissimilar metals to prevent galvanic corrosion/action between materials.
       11. Component Fabrication:
           1. Fabricate true to detail and free from defects impairing appearance, strength or durability.
           2. Allow for accurate and rigid fit of joints and corners.
           3. Match components carefully ensuring continuity of line and design.
           4. Ensure joints and connections will be flush and weather tight.
           5. Ensure slip joints make full, tight contact and are weather tight.

\*\* NOTE TO SPECIFIER \*\* Delete the following if internal reinforcing is not required for this project.

* + - 1. Steel Components: Primer application.
         1. Clean surfaces after fabrication and immediately prior to application of primer in accord with manufacturer's recommendations.
         2. Apply specified shop coat primer permanufacturer's instructions to provide 1.0 mil (0.05 mm) minimum dry film thickness.
      2. Glazing Retainers: Contoured exterior horizontal or purlin retainers to minimize water, ice, and snow buildup.
      3. Reinforce components at anchorage and support points, joints, and attachment points for interfacing work.
      4. Accurately size glazing to fit openings allowing for clearances as set forth by the "Glazing Manual" published by the Flat Glass Marketing Association (FGMA).
      5. Cut glass clean and carefully.
         1. Nicks and damaged edges will not be accepted.
         2. Replace all glass with damaged edges.

1. EXECUTION
   1. EXAMINATION AND PREPARATION
      1. Prepare substrates in strict accordance with the approved Shop Drawings, using the methods recommended by the manufacturer for achieving best result for the substrates under project conditions. Thoroughly clean surfaces and substrates prior to installation.
      2. Do not proceed with installation until substrates have been prepared using the methods recommended by the manufacturer and deviations from manufacturer's recommended tolerances are corrected. Commencement of installation constitutes acceptance of conditions.
      3. If preparation is the responsibility of another installer, notify Architect in writing of deviations from manufacturer's recommended installation tolerances and conditions.
   2. INSTALLATION
      1. Install in accordance with manufacturer's instructions, approved submittals and in proper relationship with adjacent construction.
         1. Separate dissimilar materials using nonconductive tape, paint, or other material not visible in finished work.
         2. Provide attachments and shims to permanently fasten system to building structure.
         3. Maintain dimensional tolerances and alignment with adjacent work.
         4. Anchor securely in place, allowing for required movement, including but limited to expansion and contraction.
         5. Install glazing sealants in accordance with manufacturer's instructions, including but not limited to surface preparations.
         6. Set sill members in bed of sealant. Set other members with internal sealants to provide weather tight construction.
         7. Install flashings, bent metal closures, corners, gutters, and other accessories as detailed on Shop Drawings and required for complete installation.
         8. Clean surfaces and install sealant in accordance with sealant manufacturer's instructions and guidelines.
   3. FIELD QUALITY CONTROL
      1. Field Inspection: Coordinate field inspection with appropriate sections in Division 01.

\*\* NOTE TO SPECIFIER \*\* Include if manufacturer provides field quality control with onsite personnel for instruction or supervision of product installation, application, erection or construction. Delete if not required.

* + 1. Manufacturer's Services: Coordinate manufacturer's services in accordance with appropriate sections in Division 01.
  1. TESTING AND ADJUSTING
     1. Adjust hinge set, locksets, and other hardware for proper operation.
     2. Lubricate using a manufacturer approved lubricant compatible with frame coatings.
  2. CLEANING AND PROTECTION
     1. Clean and protect products in accordance with the manufacturer's recommendations.
        1. Remove temporary coverings and protection of adjacent work areas.
        2. Clean and dress sealant prior to installation completion.
        3. Clean glass prior to installation completion.
        4. Clean entire enclosure one time at completion of installation. Cleaning includes surface cleaning of aluminum framing and glass and cleanup of construction debris.
     2. Touch-up, repair or replace damaged products before Substantial Completion.
        1. Areas with Abraded Surface Finish: Clean and touch-up with air dry paint, as approved and furnished by window manufacturer, color to match factory applied finish.

END OF SECTION