

**SECTION 13123**

**PRE-FABRICATED SOLARIUM**

PART I - GENERAL

**1.01 SECTION INCLUDES**

- A. Designed, pre-engineered and shop fabricated solarium with aluminum formed frame, glazing and shades.
- B. Insulated glazing installed.
- C. Shades provided and installed.
- D. Attachment to foundation and footings with appropriate and designed anchor bolts.
- E. Design of building and foundations and participation in the approval process.

**1.02 RELATED SECTIONS DESCRIBING WORK INCLUDED UNDER THIS SECTION**

- A. Sections 03100, 03200, 03300 - Concrete formwork, reinforcing and material. Concrete footings.
- B. Section 04340 - Concrete masonry stem wall.
- C. Section 07200 - Insulation: furred wall insulation.
- D. Section 07600 - Sheet metal flashing: attachment to existing.
- E. Section 07900 - Sealant: Sealants used in building.
- F. Section 09250 - Gypsum wallboard: Interior finish.
- G. Section 09310 - Tile Flooring and base.
- H. Section 09680 - Carpet: Flooring.
- I. Section 09900 - Painting: Finish painting.
- J. Section 16100 - Electrical - Building electrical, lighting and signal systems.

**1.03 REFERENCES**

- A. AISC - Specification for the Design, Fabrication and Erection of Structural Steel for Buildings.
- B. ASTM A325 - High Strength Bolts for Structural Steel Joints.

**1.04 DESIGN REQUIREMENTS**

- A. Thermal resistance of Wall System: See Section 07200.
- B. Members to withstand dead load, live load, and design loads due to pressure and suction of wind and seismic calculated in accordance with 1995 California Building Code.
- C. Assembly to permit transport of components without buckling, failure of joint seals, undue stress on fasteners or other detrimental effects.
- D. Size and fabricate wall and roof systems free of distortion or defects detrimental to appearance or performance.

**1.05 SUBMITTALS**

- A. Manufacturer shall provide units designed and signed for by a State of California licensed Structural Engineer. The manufacturer shall prepare and submit a complete set of fabrication drawings, with all calculations, specifications, details, etc. Manufacturer shall submit and process said detail drawings, calculations, and specifications through the Government and Architect, and make any required revisions and/or corrections to obtain approval.
- B. Shop Drawings: Indicate assembly dimensions, locations of structural members, connections, attachments, openings, loads, and any other data required to show the complete structure to be provided.
- C. Indicate wall and roof system dimensions, panel layout, general construction details, anchorage and method of anchorage, method or installation.
- D. Indicate framing anchor bolt settings, sizes, and locations from datum and foundation loads.

**1.06 PROJECT RECORD DOCUMENTS**

- A. Submit all equipment warranties and operations and maintenance manuals.
- B. Accurately record actual locations of concealed utilities.

**1.07 QUALIFICATIONS**

- A. Manufacturer: Company specializing in manufacturing the products specified in this Section with minimum three years documented experience.
- B. Design structural components and connections under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the State of California.

**1.08 FIELD MEASUREMENTS**

- A. Verify that field measurements are as indicated on drawings.

**1.09 WARRANTY**

- A. Provide five year warranty for weather tightness of building enclosure elements after installation.

PART II - PRODUCTS

**2.01 SYSTEM DESCRIPTION**

- A. The Bel-Aire by Sunshine Rooms Solariums as distributed by Atascadero Glass, Inc. (805)466-2644 or approved equal. 2:12 pitch.
- B. Modular construction with bronze anodized heavy duty frame 5-3/4" thick x 2-1/4" wide. Dual-paned 15/16" insulated solar bronze glazing tempered and laminated as required by code.
- C. Thermal Designs solarium roman shades. Shades to be acrylic backed with foylon for 100% light blocking. Color to be selected from one of 20 standard fabrics. Gable end shades for all bays shall be provided as well as roman shade for length of solarium roof and wall.
- D. Ceiling height: 10'-10" at low point and 13'-10" at high point. Setting on 3'-0" high stem wall.
- E. H.V.A.C.:
1. Air conditioning of space to be off new unit placed on roof of existing building. See Division 15 for specification of system.

**2.02 MATERIALS - FRAMING**

- A. Aluminum Members: Alloy 6061-T6 with allowable stress 21,000 psi. Bronze anod finish on all exposed portions.
- B. Anchor Bolts: ASTM A307. Galvanized to ASTM A386, Class B if exposed on the exterior of the building.
- C. Bolts, Nuts, and Washers: ASTM A325 or A307. Galvanized to ASTM A153 if exposed on the exterior of the building.
- D. Grout: Non-shrink type, premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents, capable of developing minimum compressive strength of 2400 psi in two days and 7000 psi in 28 days.

**2.03 GLAZING**

- A. Dual pane 15/16" glazing with laminated safety glazing at all overhead units. Solar bronze color.

PART III - EXECUTION

**3.01 EXAMINATION**

- A. Verify site conditions.
- B. Verify that foundation, mechanical and electrical utilities, and placed anchors are in correct position.

**3.02 ERECTION - FRAMING**

- A. Provide for erection and wind loads. Provide temporary bracing to maintain structure plumb and in alignment until completion of erection and installation of permanent bracing.

**3.03 ERECTION - GLAZING SYSTEMS**

- A. Install in accordance with manufacturer's instructions.
- B. Exercise care when cutting pre-finished material to ensure cuttings do not remain on finish surface.
- C. Provide expansion joints where indicated.
- D. Install sealant and gaskets to prevent weather penetration.
- E. Seal wall and roof accessories watertight and weather tight with sealant.

**3.05 TOLERANCES**

- A. Framing Members: 1/4 inch from level; 1/8 inch from plumb.

**END OF SECTION**