

ALUMINUM TRUSS ROOF SPECIFICATION (V-Beam Panel Type)

1. GENERAL

This specification covers the design, fabrication, and erection of the aluminum truss roof enclosure with all appurtenances as indicated on the contract drawing and in conformance with the following specifications.

2. SCOPE

The roof fabricator/erector shall furnish all labor, materials and equipment to completely fabricate, deliver, and erect the Aluminum roof structure(s).

3. DESIGN AND MATERIALS

The enclosure shall be a truss supported structure conforming to the specified dimensions. The roof structure shall be a truss system complete with corrugated closure panels. Each truss shall be clear-span and designed to be self-supporting from the periphery structure. Full provisions shall be made to allow for thermal expansion. The roof structure dead weight shall not exceed 3.5 pounds per square foot of surface area.

The roof surface paneling shall be designed as a watertight system under all design load and temperature conditions. All raw edges of the aluminum panels shall be fastened in an interlocking manner to prevent slipping or disengagement under all load and temperature changes. Dissimilar materials which are not compatible shall be physically separated or insulated from each other by means of gaskets or insulating compounds.

- A. Structural Frame: 6061-T6 aluminum.
- B. Closure Panels and Flashing: .040" nominal thickness, 3004 aluminum sheet, stucco embossed, Reynolds V-beam or equal.
- C. Fasteners: 7075-T73 anodized aluminum or Series 300 stainless steel.
- D. Sealant: Silicone by Pecora, GE Silpruf, or equal, as required.
- E. Gaskets/Closures: closed cell EPDM synthetic rubber, as required.
- F. Expansion Anchor Bolts: Series 300 stainless steel.

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- G. Doors, vents and hatches: 6061-T6, 5086-H34, or 3003-H16 Aluminum, .090" nominal thickness.

4. DESIGN LOADING

The truss frame and skin shall be designed in accordance with the "Specifications for Aluminum Structures" as published by the Aluminum Association and designed for full dead load plus the following live load conditions in accordance with ANSI A58.1-1982, category I. ():

- A. Minimum Basic Live Loading: per ANSI
- B. Snow Load: A ground snow load of () pounds per square foot shall be used in accordance with ANSI if the resultant member stresses exceed those produced by the basic live loading of 1.a above. The exposure factor, Ce. shall be () and the thermal factor, Ct. shall be (). Unbalanced loads due to the drifting snow shall also be considered.
- C. Wind Loading: A wind speed of () mph shall be used with the velocity pressures and force distribution as specified by ANSI for wind exposure (). In no case shall the minimum wind speed be less than 70 mph.
- D. Seismic Forces: The earthquake loads for Zone () shall be used.
- E. Combined Loads: The basic live plus dead load combinations for the enclosure analysis shall be in accordance with ANSI.

5. FABRICATION AND ERECTION

Vendor shall perform the work described herein with mechanics skilled and experienced in the fabrication and erection of aluminum structures. The enclosure shall be constructed plumb, level and in proper alignment.

6. QUALIFICATIONS TO BID

No equipment shall be supplied from any manufacturer not regularly engaged in the manufacturing and production of equipment of the size and character herein specified. The manufacturer must have installed and had in satisfactory use for a period of not less than five years, at least one enclosure of size and type comparable to the units specified, and shall submit evidence of such manufacture and operation with his bid proposal or pre-bid submittal.

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Bids from manufacturers lacking the experience requirement will be considered if the manufacturer provides a five-year Performance Bond in lieu of evidence of experience and operation. Proof of the ability to provide said bond shall be submitted with his bid proposal and/or pre-bid submittal. The bond shall guarantee satisfactory operation as defined by the technical specifications. The bond shall state that the manufacturer shall, in case of unsatisfactory service, remedy the problem within thirty (30) days after written notification, and the Owner's option, replace the domes or forfeit the bond. The bonding period shall commence upon written acceptance by the Owner of the installed equipment and all appurtenances and final acceptance of the General Contract.

The enclosure shall be manufactured by Temcor of Gardena, California, (800-421-2263) or an approved equal.

7. SHOP DRAWINGS AND DESIGN CALCULATIONS

Before executing any of the work in this section, prints or drawings shall be submitted to the engineer showing dimensions, sizes, thickness, gauges, materials, finishes, joint attachment and erection procedure. A complete set of design calculations for the enclosure(s) specified shall also be submitted. These calculations shall be signed by a registered professional engineer. All work shall be fabricated and erected in accordance with fabricator/erector drawings.

8. GUARANTEE

The enclosure shall be guaranteed for a period of one (1) year against defective materials and construction.

10/09/01