TEMCOR

Phone: (310) 523-2322 • Fax: (310) 523-2380

150 West Walnut Street, Gardena, California 90248 USA
P.O. Box 48008, Gardena, California 90248 USA

ALUMINUM TRUSS ROOF SPECIFICATION

1. GENERAL

This specification covers the design, fabrication, and erection of the aluminum roof with all appurtenances as indicated on the contract drawings 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(s) conforming to the specified dimensions. The roof structure(s) shall be a fully rectangular or triangular space truss complete with non-corrugated closure panels. The truss shall be clear-span. Full provisions shall be made to allow for thermal expansion. The truss 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 covered, sealed, and firmly clamped with batten bars 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 struts: 6061-T6 aluminum.

B. Structural frame gussets: 6061-T6 aluminum, .312" nominal thickness.

C. Triangular or rectangular closure panels: 0.050" nominal thickness 3003-H16 aluminum Sheet.

D. Triangular or rectangular skylight panels if specified: 1/4" thick clear acrylic. Skylight square footage shall be 1% of covered area, minimum.

E. Fasteners: 7075-T73 anodized aluminum or Series 300 stainless steel.

F. Sealant: Silicone, Pecora, GE Silpruf, or equal.

G. Gaskets: Silicone, General Electric SE-44/88 or equal.

H. Expansion Anchor Bolts: Series 300 stainless steel.

I. Dormers, doors, vents and hatches: 6061-T6, 5086-H34 or 3003-H16 aluminum, .090" nominal thickness.

4. DESIGN LOADING

The truss and panels 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 ( ):

A. Design Load

1. Minimum Basic Live Loading: Per ANSI

2. 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, Ct. shall be ( ) and the thermal factor, Ct. shall be ( ). Unbalanced loads due to the drifting snow shall also be considered.

3. 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.

4. Seismic Forces: The earthquake loads for Zone ( ) shall be used.

5. Combined Loads: The basic live plus dead load combinations for the truss analysis shall be in accordance with ANSI.

B. Panel Design Loads (not acting simultaneously with above live loads).

The aluminum panels shall be secured to the truss frame to withstand the following vertical loads without exceeding the specified allowable stresses.

1. Two concentrated loads of 250 pounds each, applied simultaneously on two separate one square foot areas of the panel.

2. A distributed load equal to the ground snow load (item 1.b) or 60 pounds per square foot over the total panel, whichever is greater.

Aluminum Truss Roof Specification

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 truss shall be constructed plumb, level, and in proper alignment by the truss manufacturer. Field refabrication of structural components or panels will not be accepted. Forcing of the structure to make fitup during construction is expressly forbidden and not acceptable (causes locked-in stresses). All sealants and gaskets shall be applied and installed in a manner suitable to that of architectural class work. All sealant joints shall be tooled slight concave after sealant is installed. Care shall be taken to keep sealant confined to joint area, and any outside of the joint shall be removed so that the panels will be free from misplaced sealant. The work is to be directed by a qualified supervisor who will remain on the job site until completion.

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 truss roof 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.

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, at the Owner's option, replace the vaults 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 truss roof shall be manufactured by Temcor of Gardena, California, (800-421-2263) or an approved equal.

7. SHOP DRAWINGS AND DESIGN CALCULATIONS

Aluminum Truss Roof Specification

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

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