

Pre-Engineered Modular Shelters Specification

Part I -- GENERAL

A. Description

1. This Specification covers the design, fabrication and installation of pre-engineered modular shelters.
2. The shelter shall protect against the environmental elements, and is intended to serve as a passenger waiting shelter, a smoker's shelter, or in general as a protection from inclement weather.

B. Manufacturer's Qualifications

Shelter framework, wall and roof panels, equipment and related hardware shall be furnished by a manufacturer regularly engaged in the manufacturing of such products for a minimum of five (5) years, and shall be of premium grade material, construction, and finish.

C. Submittals

The following drawings and documentation will be furnished:

1. Shop drawings shall show wall and roof panels; details of materials, fabrication and assembly; framing profiles; fastener types and locations, flashing, and seal details if applicable.
2. Erection drawings: Provide instructions and drawings, and develop erection procedures to enable field installation or repair of shelter.
3. Manufacturer's literature and data provide manufacturer's information for wall and roof panels, and all accessories and equipment furnished.

D. Applicable Publications

The publications listed below form a part of this specification.

1. Federal Specifications (Fed. Spec.):
 - a) QQ-A-200/9C(1)....Extruded aluminum members 6063-T5
 - b) HH-I-521B....Insulation board, Thermal, Semi-Rigid Polyurethane.
 - c) TT-S-001657....Sealants, Type 1.
2. American Society for Testing Materials (ASTM):
 - a) C-920-79....Elastomeric Joint Sealants Type S, Class 12, Grade NS
 - b) C-518....Insulation Board, Semi-Rigid Polyurethane.
 - c) E-84....Standards method of test for surface burning characteristics of building materials.
3. American National Standards Institute (ANSI): ANSI A58.1....Gravity and Lateral Loads Design.
4. Uniform Federal Accessibility Standards: FED-STD-795, 4/1/88....4.13 Door Accessibility.
5. The Aluminum Association (AA): Designation System for Aluminum Finishes (March 1973).
6. International Conference of Building Officials, Uniform Building Code.
7. Public Law 101-336: Americans with Disabilities Act of 1990 (ADA).
8. Public Law 102-585: Veterans Health Care Act of 1992, Sec. 526, Attachment A: "Design Requirements for Detached Smoking Areas."

Part II -- PRODUCT

A. Framing

1. The shelter framework (columns, sills, and headers) shall be fabricated using 6063-T5 extruded aluminum members (Fed. Spec. QQ-A-200/9C(1)).
2. Extrusion shapes shall be engineered to provide a framework of adequate structural integrity to satisfy the uniform building code (UBC), and to meet the requirements for snow, wind, and seismic loading for the location(s) being considered.
3. Framing members shall be 2.5" x 2.5" x 1/8" thick square extruded aluminum tubes. Mullions shall be 1.5" x 2.5" x 1/8" thick extruded aluminum tubes. Larger framing members to be used when required.
4. The framework shall be assembled with only stainless steel and aluminum fasteners to prevent rusting or electrolytic interaction with framing members.
5. Shelter framing components, and the method of fastening them to the supporting foundations shall be capable of withstanding lateral loads per ANSI A58.1, the UBC, or applicable local building codes, whichever is more stringent.
6. Method of mounting shelter to concrete pad shall allow for up to 4" of slope adjustment.

B. Roof, Window, Wall Panels

1. Roof configuration shall be (choose 1):
 - a) thermoformed acrylic bubble dome(s), (choose) white or bronze, constructed in an integral fascia/gutter member, min. 1/8" thick and (choose) 2.5" or 6" fascia, and supporting loads listed herein.
 - b) barrel vault shape with 6mm bronze polycarbonate structured sheet, , constructed in an integral fascia/gutter member, min. 1/8" thick and (choose) 2.5" or 6" fascia, and supporting loads listed herein.

- c) standing seam metal roofing, gable or hip shape (bronze or other color – consult factory), constructed in an integral fascia/gutter member, min. 1/8" thick and (choose) 2.5" or 6" fascia, and supporting loads listed herein.
 - d) metal flat pan with 6" fascia/gutter, constructed in an integral fascia/gutter member, 6" high, and supporting loads listed herein.
2. Window panels shall be 1/4" thick, and secured to the framing structure with special extrusions to provide a safe weather-protective enclosure. Window color shall be (choose one): clear or bronze-tint (other tints available – consult factory). Window material shall be (choose one):
- a) tempered glass,
 - b) acrylic,
 - c) polycarbonate or
 - d) mar-resistant polycarbonate
 - e) translucent polycarbonate structured sheet
3. Wall and roof panels shall be sealed as required to provide a water-proof barrier in compliance with fed. spec. II-S-001657 using ASTM C-920-79 sealants.

C. Finish

Finish of extruded aluminum framework, in accordance with the Aluminum Association, shall be (choose one):

- 1. Class I anodized. Color shall be (choose one):
 - a. Dark Bronze anodized (standard)
 - b. Clear anodized
 - c. Black anodized
 - d. Other: _____
- 2. Powder-coated. Color selected from standard RAL color chart

D. Guarantee

Materials and workmanship shall be guaranteed for one year, starting on the day of acceptance.

Part III -- ERECTION

A. Delivery

The shelter unit shall be shipped in modular form, with detailed written and/or video instructions for installation.

B. Erection

The manufacturer shall provide erection instructions complete with diagrams. Erection shall be performed by the manufacturer or his representative (option). The manufacturer shall guarantee the installation for a period of one (1) year from the date of acceptance.

C. Protection and Cleaning

Protect panels and other components from damage during shipping and erection, and until project is accepted by the customer.