



STORM ENCLOSURE

SECTION 13167 PRE-ENGINEERED ENCLOSURE

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Pre-engineered enclosures.

1.2 REFERENCES

- A. ASTM C 518 – Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
- B. ASTM D 256 – Standard Test Method for Determining the Pendulum Impact Resistance of Notched Specimens of Plastics.
- C. ASTM D 618 – Standard Practice for Conditioning Plastics for Testing.
- D. ASTM D 638 – Standard Test Method for Tensile Properties of Plastics.
- E. ASTM D 732 – Standard Test Method for Shear Strength Plastics by Punch Tool.
- F. ASTM D 790 – Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
- G. ASTM D 792 – Standard Test Method for Specific Gravity (Relative Density) and Density of Plastics by Displacement.
- H. ASTM D 1622 – Standard Test Method for Apparent Density of Rigid Cellular Plastics.
- I. ASTM D 2583 – Standard Test Method for Indentation Hardness of Rigid Plastics by Means of a Barcol Impressor.

1.3 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Shop Drawings: Show:
 - 1. Critical dimensions, jointing and connections, fasteners and anchors.
 - 2. Materials of construction.
 - 3. Sizes, spacing, and location of structural members, connections, attachments, openings, and fasteners.
 - 4. Color(s).
- C. Samples: 8-inch square sample of representative fiberglass reinforced plastic laminate.
- D. Manufacturer's installation instructions.

1.4 SYSTEM DESCRIPTION

- A. Size: provide an enclosure of the following type(s):
 - 1. Size: 3 FEET 4 INCHES W x 2 FEET 4 INCHES D x 3 FEET 6 INCHES H.
 - i. One-piece molded construction.
 - ii. Integral floor.
 - iii. Fully opening gull-wing door with molded-in recessed area designed to accept the mounting of an ISCO or American Sigma brand logging rain gauge.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store products indoors or in weather protected area until installation. Protect from construction traffic and damage.

PART 2 PRODUCTS

2.1 MANUFACTURER

- A. The product shall be manufactured by TRACOM, Inc.; 6575-A Industrial Way, Alpharetta, Georgia 30004; Tel. (877) 435-8637, Fax (770) 664-6565, www.tracomfrp.com.
- B. Requests for substitution must be made in writing and received by the engineer's office a minimum of ten (10) business days before bid opening. Substitutions shall be made in accordance with the provisions of Section 01600.
- C. Substitutions: Manufacturers not pre-approved shall not be allowed.
- D. Warranty: Enclosures shall be warranted to be free of defects in workmanship and materials for a period of two years from shipment.

2.2 MATERIALS

- B. One-Piece Molded Composite Construction:
 - 1. Laminate: Isophthalic polyester resin and chopped commercial grade E-glass strand fiberglass with a coupling agent that will provide a suitable bond between the glass reinforcement and the resin, with a minimum glass content of 25%.
 - i. Exterior surface: 15 mil gel coat with U.V. inhibitors and a satin finish, lightly textured and free from fiber pattern, roughness, or other irregularities.
 - ii. Exterior laminate: 1/8 inch thick (minimum); chemically bonded to the surface gel coat and encapsulating the foam core.
 - iii. Foam core (2.2.A.2)
 - iv. Interior laminate: 1/8 inch thick (minimum); chemically bonded to the interior gel coat and encapsulating the foam core.
 - v. Interior surface: White (#1540) gel coat with satin finish, and free from exposed glass or other irregularities.
 - vi. Laminate properties:

1. Tensile strength (ASTM D 638): 11,000 psi.
 2. Flexural strength (ASTM D 790): 18,000 psi.
 3. Shear strength (ASTM D 732): 12,000 psi.
 4. Barcol hardness (ASTM D 2583): 40.
 5. Impact (ASTM D 256): 12 ft lbs/inch.
 6. Density / specific gravity (ASTM D 792): 93.6 PCF/1.5.
 7. The manufacturer shall maintain a continuous quality control program and upon request shall furnish to the engineer certified test results of the physical properties.
2. Core:
- i. Rigid closed cell, self-extinguishing, polyisocyanurate foam with a density of 1.8 pounds per cubic foot. Foam shall be T200 Elfoam.
 - ii. 1 inch thick with a minimum insulating value of R=7.
 - iii. Core properties:
 1. Thermal conductivity (ASTM C 518): 0.13 BTU inch / hr. SF F.
 2. Density / specific gravity (ASTM D 1622): 1.8 PCF/0.03.

2.3 COMPONENTS

- A. Door:
- a. Front access gull-wing door: One-piece molded fiberglass construction 1 1/4 inch thick.
 - i. Mount door with T-304 stainless steel continuous stainless steel piano hinge.
 - ii. Provide single-point T-304 stainless steel pad-lockable hasp.
 - b. Provide door support arm. Support arm shall be T-304 stainless steel and self-locking to ensure against accidental closure.
 - c. Provide single molded, cushioned, black rubber door pull of a minimum size of 6 1/2 inches L x 1 1/2 inches D.
- B. Louvers:
- a. Provide one, _____ inch by _____ inch fixed louver (**OPTIONAL**).
- C. Handles:
- a. Provide four (two per side) molded, cushioned, black rubber pull of a minimum size of 6 1/2 inches L x 1 1/2 inches D and of the same type as the door pull.
- D. Coupling:
- a. Provide one (1) 2 inch NPT coupling at the base of the back wall of the enclosure to facilitate the installation of sample or bubble tubing, electrical power, or other cabling.

2.4 EQUIPMENT

- A. Heater: 200 watt, line powered wall heater with built-in thermostat (0-100 F) (**OPTIONAL**).

- B. Heater: 400 watt, line powered wall heater with built-in thermostat (0-100 F) **(OPTIONAL)**.
- C. Heater: 500 watt, line powered wall heater with built-in rheostat **(OPTIONAL)**.
- D. Receptacle: GFCI receptacle 15A 125V, 20 A 125V feed-through, with 5mA +/- 1mA trip threshold in weatherproof outlet box **(OPTIONAL)**.
- E. Equipment Shelf: 17 inch wide by 19 inch long FRP instrument shelf for mounting of flow meter **(OPTIONAL)**.

2.5 FINISHES:

- A. Color: #1540 Pure White.
- B. Color: _____ **(OPTIONAL)**.

END OF SECTION

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