

**MEKCO® a Division of ConceptWorks, Inc.**  
SECTION 13140  
FIBERGLASS REINFORCED PLASTIC BUILDINGS

**PART 1 - GENERAL**

1.01 SUMMARY

A. Section Includes:

1. Freestanding, shop fabricated and assembled fiberglass reinforced plastic (FRP) insulated composite buildings.
2. Include fasteners, anchors, doors and frames, vents, windows, gasketing, lighting, and HVAC.

1.02 SYSTEM DESCRIPTION

A. Design Requirements:

1. Buildings shall conform to dimensions shown on Drawings or Buildings shall have outside dimensions of \_\_\_\_\_ ft long by \_\_\_\_\_ ft wide with a minimum eave height of \_\_\_\_\_ ft.
2. Buildings shall be completely waterproof, air and watertight, corrosion and chemical resistant, lightweight, and environmentally aesthetic.
3. Design to sustain superimposed loads for load combinations in accordance with ASCE 7-98.
  - a. Design loads:
    - (1) Dead load of building, live (snow) load, 35 psf, wind load, 25 psf, mechanical equipment.
    - b. During installation of the composite FRP structure a concentrated load not exceeding 250 pounds may be placed on any portion of the roof. The concentrated load shall not be applied to the roof if other loads are present.
4. Stresses produced by specified load conditions shall be determined consistent with recognized methods of analysis.
5. Average R-value of assembled building shall be minimum of R-7.

1.03 SUBMITTALS

A. Product Data:

1. Resin and glass manufacturers material specifications.

B. Shop Drawings:

1. Include plans and elevations, fabrication details indicating laminate thickness and section depths and widths, location of openings and equipment supports, size and location of anchor bolts, and gasketing details.

C. Submit in accordance with Section 01330.

1.04 QUALITY ASSURANCE

- A. Buildings provided shall be end product of one manufacturer to achieve standardization for appearance. Manufacturer Qualifications: Building shall be manufactured and erected by firm with minimum of 5 yrs experience in structures of size and character specified.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Store and protect on manufacturer's site, project site and during shipment and installation to prevent warping and fracturing.

**PART 2 - PRODUCTS**

2.01 MANUFACTURER

- A. MEKCO®, a Division of ConceptWorks, Inc., 11110 Hwy. 42, Newton, WI 53063, 920-693-8163 phone, 920-693-8165 fax, [build@mekco.com](mailto:build@mekco.com) e-mail, [www.mekco.com](http://www.mekco.com) website.

2.02 LAMINATE MATERIALS

- A. Resins, Gel Coat, Glass Reinforcing, Insulation.
  - 1. As provided by MEKCO®, a Division of ConceptWorks, Inc.

2.03 MISCELLANEOUS MATERIALS

- A. Concrete Anchors, Doors, Gasketing, to be provided by MEKCO®, a Division of ConceptWorks, Inc.
- B. Permanently fused building assembly yielding a watertight one-piece structure.

2.04 FABRICATION

- A. Form individual segments on high gloss molds ensuring consistent dimensions of finished parts. Cast each segment in one piece. Laminate shall consist of chopped roving impregnated with resin. Form panel flanges and perimeter anchoring flanges to the interior of the building.

2.05

**ASSEMBLY**

- A. Shop assemble complete building. Flanges between adjacent panels shall be factory bonded together with structural adhesive. Seal exterior edges of adjacent panels with color matched silicon sealant. Fit and bond appurtenances, formed separately, into openings cut in finished panel or integrally mold to panel. Bond attachments with glass fibers and resin from interior of panel. Resin seal cut or drilled edges.

**PART 3 - EXECUTION**

3.01

**EXAMINATION**

- A. Examine surface to receive building for acceptable installation conditions. Do not start installation unless acceptable conditions are provided.

3.02

**INSTALLATION**

- A. Install in accordance with manufacturer's instructions and approved submittals. Field erect panels. Flanges between adjacent panels shall be bolted and gasketed. Use washers to avoid localized stresses. Seal exterior edges of adjacent panels with color matched silicon sealant.
- B. Install continuous neoprene gasket between perimeter anchoring flange and where panels rest on supporting structure. Resin seal cut or drilled edges. Repair damaged panels. Minimum spacing and edge distances of concrete anchors shall conform to requirements of Section 05500.