

DuraFiber™ Buildings

1.0 SCOPE

This specification describes construction, standard configurations, and standard options for Orenco® DuraFiber™ Fiberglass Shelters, as manufactured by Orenco Composites™, 133 Weyerhaeuser Dr. N., Roseburg, OR 97470.

2.0 GENERAL

DuraFiber Shelters are insulated, foam-core, monolithically-molded fiberglass structures with exterior widths 4 to 40 feet (1.2 - 12.2 m) in 2-foot increments, and heights of 8 to 12 feet (2.4 - 3.7 m) in 1-foot increments. Standard lengths from 4 to 50 feet (1.2 to 15.2 m) in 1-foot (0.3-m) increments are available. Orenco Fiberglass Shelters are delivered fully assembled and ready to connect to electricity and other utilities as specified.

3.0 STRUCTURAL REQUIREMENTS

DuraFiber Shelters are capable of withstanding 160 mph (258 kph) wind loads when properly anchored. The roof is capable of handling a 100 psf (488 kg/m²) live load.

4.0 MATERIALS AND CONSTRUCTION

4.1 Materials: General

DuraFiber Shelters are manufactured from fiberglass reinforced polyester resin, using grades of resin and fiberglass considered acceptable for use in water and wastewater environments. Insulation foam is a minimum 2 lb/ft³ (32 kg/m³) polyurethane or polyisocyanurate. The inside surface is protected with a polyester gelcoat; the outside surface is protected with a high performance polyaspartic urethane for continuous outdoor exposure. Torque Tan is the standard color. (Optional colors may be specified.)

4.2 Walls and Ceiling

DuraFiber Shelters are seamless, molded, one-piece enclosures that use a closed-molded RTM or vacuum-bagging process to ensure integral bonding of the foam core with the fiberglass laminates. Walls and ceiling range from 2-4 inches (50-100 mm) thick with a minimum insulation value of R12 (RSI 2.1). The fiberglass laminate on either side of the foam core is a minimum 0.17 inches (4.3 mm) thick. An integral pocket flange is built into the bottom of the shelter for securing the shelter to a concrete slab.

4.3 Optional Fiberglass Floor

DuraFiber Shelters can be set on multiple types of surfaces. An optional fiberglass floor is available. Construction of the optional fiberglass floor is identical to that of the shelter itself. The floor is integrally bonded and sealed to the shelter walls. When the shelter is equipped with a fiberglass floor, the site engineer or architect is responsible for specifying the method for anchoring the shelter to resist wind load. Possible methods include earth anchors or bolting to concrete footings.

4.4 Doors and Hardware

DuraFiber Shelters come standard with painted steel or fiberglass doors. Door width and height dimensions are 36 inches (914 mm) and 80 inches (2032 mm), respectively. Doors can be specified to swing right or left. Each door is hung on 4-inch × 4-inch (100-mm × 100-mm) stainless steel ball bearing hinges with non-removable pins. The hinges are bolted through the door jam with 304 stainless steel fasteners. Doors are supplied with commercial-grade, lever-type handles.

4.5 Lift Points

DuraFiber Shelters are equipped with lifting brackets or eyebolts installed on the ceiling exterior to allow lifting of the shelter by crane, excavator, or similar equipment.

5.0 INSTALLED OPTIONS

Orenco Systems, Inc. offers many pre-installed options including electrical and HVAC systems. Lights, switches, outlets, junction boxes, breaker panels, load centers, alarm systems, louvers, heating and cooling units, etc., can be specified and installed at the factory.

All electrical systems are surface-mounted. All electrical equipment is installed and wired in conformity to the latest edition of the National Electric Code.

NOTE: It is the responsibility of the installing electrician to ensure compliance with all applicable local, state or national codes.

6.0 WARRANTY

DuraFiber Shelters are covered under a 10-year limited warranty on materials and workmanship.