

Fiberglass Engineering Company

Specifications for Fiberglass Planters

Fiberglass

1. Materials: All fiberglass parts shall be constructed of glass fiber reinforced thermosetting polyester resin using either the hand-layup and spray layup methods.
 - a. Glass fibers shall be PPG or equivalent. For hand layup fibers should be uniform chopped strand mat, minimum 3 oz. density. Planters must use minimum 3 layers (or spray equivalent).
 - b. Polyester resin shall be compounded by a reputable manufacturer. All planters will be fabricated of 100% resin - inorganic fillers will not be acceptable.
 - c. Visual surface is of a solid UV-stabilized, colorfast nonfading, weather and stain resistant pigmented gel-coat, uniform in color and texture and permanently fused to the fiberglass laminate. All exposed surfaces shall have minimum 16 MIL layer of gel coat color incorporated into the resin. Gel coating shall be a specified color from manufacture standard colors.

2. Construction:
 - a. All Fiberglass products shall be fabricated by hand-layup, spray laminate. The finished plastic material shall be not less than 5/32" thick and thicker in those areas requiring additional structural strength.
 - b. Where ribs or stiffeners are to be fastened by spray laminating over molded forms, the stiffeners or ribs shall be located and spray laminated into position so that the finished joint shall conform to performance specifications below.
 - c. For vertical surface reinforcement, an inorganic honeycomb strengthening layer using double-veiled, bonded material shall be located and hand – or spray – laminated into position prior to the wall material setting. The entire honeycomb panel must be subject to pressure during curing to ensure proper bonding to wall. Honeycomb thickness will be minimum 1/4", or thicker as required for larger spans. Marine-grade plywood may be substituted for additional wall support when required.
 - d. Contractor to provide adequate bottom structural support for planters and planter liners.

3. Performance Characteristics and Capacities: Finished product to yield the following minimum performances

Hardness, Barcol	50
Tensile Strength, Ultimate	12500 psi
Elongation at break	1.3%
Modulus of Elasticity	1020 ksi
Flexural Modulus	754 ksi
Flexural Yield Strength	27600 psi
Compressive Yield Strength	21800 psi
Glass content, average	35%

Vertical wall panels will not deform more than L/150 when loaded with 50 lbs/cu ft. soil mass.

4. Fire retardant requirement can be met with the addition of retardant chemicals to the resin. Additional information is available for this specification.