

Guide Specification FRP (Fiberglass-Reinforced Plastic) Planters and Liners

1.0 GENERAL

1.1 WORK INCLUDED

- A. FRP Planters & Liners

1.2 RELATED WORK

- A. Section 033000 Cast-in-Place concrete
- B. Section 129233 Interior Planters
- C. Section 129333 Manufactured Planters
- D. Section 329433 Planters
- E. Section 129300 Site Furnishings

1.3 SUBMITTALS

- A. Product Data: Manufacturer's standard catalog cut sheets.
- B. Samples: As required for color selection or material thickness only.
- C. Shop Drawings: For custom applications, showing critical sizes and dimensions for installation and integration with other work.
- D. Environmental Product Declarations (EPDs): Submit third-party verified and product-specific EPDs for the specified materials, demonstrating compliance with ISO 21930, 14025, and 14044, or equivalent standards.

1.4 DELIVERY, STORAGE AND HANDLING

- A. Unwrap and inspect planters after delivery for signs of damage during transit.
- B. Protect Planters from damage during storage and handling.
- C. Store planters or planter liners indoors if possible. Do not stand or walk on planters or planter liners

1.5 PROJECT CONDITIONS

- A. Contractor to provide a level surface area, adequate for weight of planter and saturated soil of 90 lbs per cubic sq ft.
- B. Protect units from damage by adjacent work. Clean units with water spray to remove workplace dust.

1.6 WARRANTY

- A. Product will be free from defects in material and/or workmanship for a period of 3 years from invoice date
- B. Warranty does not apply to damages from alteration, misuse, or installation damage
- C. Normal use of these products may result in scratches, nicks, and dents. These are considered normal wear. tear, and are not the responsibility of the manufacturer
- D. Manufacturer shall have field service team to advise on potential warranty issues
- E. Manufacturer will, at its option repair, replace, or refund the purchase price of products that are deemed defective by an authorized representative.

2.0 PRODUCTS

2.1 ACCEPTABLE PRODUCTS/MANUFACTURERS

A. FRP Planters & Liners, manufactured by Tournesol Siteworks Tel: (800) 542-2282 tournesol.com

2.2 FIBERGLASS PLANTERS AND LINERS

A. Materials –

1. Glass fibers shall be PPG or equivalent. For hand layup fibers should be uniform chopped strand mat, minimum 3 oz. density. Smaller round containers will use one layer of mat (or spray equivalent), smaller squares and larger round containers must use two layers (or spray equivalent), larger square and rectangular containers must use min. 3 layers (or spray equivalent).
2. Polyester resin shall be compounded by a reputable manufacturer. All planters and planter liners will be fabricated of 100% resin – inorganic fillers will not be acceptable.
3. Painted finishes will be made of polyurethane low VOC (less than 2.8 VOC) enamel with excellent corrosion and chemical resistance.

B. Construction –

Architectural parts shall be fabricated by hand-layup, spray laminate, using suitable molds to attain the desired surface finish. The finished reinforced plastic material shall be not less than 5/32" thick and thicker in those areas requiring additional structural strength.

Where ribs or stiffeners are to be fastened to liner sections by spray laminating over premolded forms, the stiffeners or ribs shall be located and spray laminated into position so that the finished joint shall conform to performance specifications below.

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 bottom panels to be penetrated with drainage or irrigation holes. Bottom third of interior of planter or planter liner to be waterproofed with additional layer of black gel coating, additional waterproofing available as specified.

C. Performance characteristics –

As confirmed by Finite Element Analysis (FEA), vertical walls will not deflect more than L/250 over the length (L) of planter when loaded with 90 lbs./cu.ft. level backfill soil media to within 2" of top of Planter. Manufacturer to provide copies of FEA results confirming this performance upon request. Similar performance with heavier soil media is available by specification.

D. Finish – specified finish; factory finished. Custom Colors if specified

E. Sizes –

Modular units fabricated to size by manufacturer as required to fill specified areas. Refer to catalog for standard sizes. Custom sizes as per approved shop drawings.

F. Drainage Holes

Drain holes to be drilled in field by contractor unless specified. 1-5/8" hole is standard

G. Fire retardant –

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

2.3 PLANTER OPTIONS

A. Integrated Accessory Pockets –

Electrical boxes, irrigation access, electrical access, Audio components

B. Integrated Options –

Wally Bench, Casters, Scoops, Tournesol, Tiedowns, Lift Channels, False bottom, Reinforced bottom,

C. Drainage control products –

Pump-out pipe, sleeved corrugated drainage pipe, overflow drains, and atrium drain covers

3.0 EXECUTION

3.1 PREPARATION

A. Field installed drainage/irrigation connection fitting. Thread-by-thread thermoplastic drainage adapter, 1/2", 3/4" and 1"NPT female thread available.

Contractor to locate drainage hole, drill as necessary, and install fitting.

B. Lifting hooks or stabilizer anchors, quantity, size, and capacity as specified.

3.2 INSTALLATION

A. Provide continuous basal support.

B. Install Planters and Liners level (or shim to level) to permit adequate drainage and irrigation.