

# Steele Plastics, Inc

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## Specifications

### Fiberglass Riser/Extension

#### SCOPE

This specification is intended to describe the minimum design and manufacturing requirements for Fiberglass Reinforced Plastic Sump Basin and Wetwell Risers/Extensions supplied by Steele Plastics Inc.

#### REFERENCED STANDARDS

- ASTM D2583, Standard Test Method for Indentation Hardness of Rigid Plastics by Means of a Barcol Impressor.
- ASTM D3753, Standard Specification for Glass-Fiber Reinforced Polyester Manholes and Wetwells.
- AWWA C950, Fiberglass Pressure Pipe.

#### DESIGN

**General:** Shell design shall be in accordance with the methods and formulas in AWWA C950 M-45. Design shall be based on industry standard lamination analysis for the glass reinforcement layers and resins system. Design shall determine cylinder thickness.

**Laminate Properties:** The minimum flexural modulus in the circumferential direction shall be 2,000,000 psi and in the longitudinal directions shall be 1,000,000 psi.

**Wall Thickness:** Wall thickness shall vary with basin/wetwell height. Calculated wall thicknesses shall be based on the following site assumed conditions:

- Soil Modulus: 700 PSI.
- Soil Density: 120 Lbs. per cubic foot.

Calculations shall employ a Luchers's safety factor of 2.

## **Riser/Extension**

A fiberglass riser/extension shall be installed on top of a concrete or other suitable structure for the purpose of gaining access to that structure which allows for a smaller opening at ground level. It shall extend up from the base structure to the ground surface. The fiberglass riser shall not be intended to be used as extension or other wise used to extend the length of a Steele Plastics Inc. fiberglass basin or wetwell unless said basin or wetwell has been specifically designed to accept a riser/extension.

## **MATERIALS**

**Resin:** Resins used shall be commercial grade unsaturated polyester type, suitable for the intended service as indicated by usage history or resin manufacturer's recommendation.

**Cure System:** Resin promotion and catalyst system used shall follow resin manufacturers' guidelines.

**Fillers and additives:** No fillers or resin extenders of any type shall be utilized. A maximum of two percent by weight of any commercial grade thixotropic agent may be added to resins for the purpose of viscosity control.

**Reinforcing Materials:** Reinforcing material shall be commercial grade "E" type glass fibers in the form of chopped strand mat, chopped roving, woven roving or continuous roving. Glass fibers shall be treated with a coupling agent that facilitates bonding between the reinforcement and the resin.

## **QUALITY ASSURANCE**

**Visual Acceptance:** The inner surface shall be free of exposed fiber, crazing and delaminations. No Blisters larger than 1/2 inch or wrinkles more than 1/8 inch in depth will be allowed.

**Laminate Cure:** Laminate cure shall be indicated by means of Barcol hardness measured in accordance with ASTM D2583. The average Barcol hardness shall not be less than 90 percent of the resin manufacturer's recommendation for clear resin castings.

**Workmanship:** All workmanship and materials throughout shall be of the highest quality available.

This riser/extension shall be as manufactured by Steele Plastics Inc, Conway Arkansas.

**Notice: Adding Extensions/Risers to fiberglass basins.**

Steele Plastics Inc. basins are designed, and built, to be installed with the top flange flush with the top of the ground. When an extension is added to the top of the basin, it effectively buries the original tank deeper than it was designed to be installed. Many of our customers, thru their own experience and knowledge of the job site, choose to add an extension or "riser" to an existing installed basin. However, it must be clearly understood that the application of the extension is solely at the discretion of the purchaser, and that the warranty on the original basin is null and void.