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FRP Rebar Technical Information and Specifications

Composition

The material is a composite of cross-linking polymer resin matrix reinforced by continuous glass filaments in a Reinforcement-to-Matrix Ratio of 70/30 percent by weight.

Fiberglass roving is drawn into a tank of thermosetting plastic resin where saturation takes place. The roving is then drawn through an orifice equal in diameter to the glass-to-resin ration of 70/30. A spiral winding is applied and the material is cured continuously, producing a void-free, corrosion-resistant matrix that bonds and protects the glass fibers.

Series E Rebar: 30% Vinylester Resin
Catalyst
70% 113 Yield Fiberglass Roving

What makes pultruded products so strong?

Pultrusion is a machine method of producing continuous composite profiles with high strength and close dimensional tolerances. Glass and synthetic filaments saturated in polymer resins are pulled through steel dies that shape the profiles and control the reinforcement-to-matrix ratio. Physical and chemical properties are (within limits) engineered to the application by resin selection and directional reinforcement combinations.

Applications

Ideal for reinforcing regular and polymer concrete used in environments where chemical or saltwater induced corrosion occurs, or nonmagnetic and non-conductive materials are required.

- Chlorine cells
- Electric Utility Substation Reactor Bases
- Housing for Magnetic Resonance Imaging Equipment (MRI)
- Seawalls, Floating Docks, Underwater Structures
- General Concrete Structures Requiring High Strength and Light Weight

Physical Data

Tensile Modulus:

7.86 x 10^6 PSI Average

Coefficient of Thermal Expansion:

5.5 x 10^6 In/In °F

Density:

0.070 lbs/In^3 (about ¼ that of steel)

Bond Strength:

1250 PSI, based on 40,000 PSI Concrete

Minimum Ultimate Shear Strength:

Transverse – 20,000 PSI, Specific Gravity – 1.75

Contact Us

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