



“GFRC” (EXTERIOR GLASS FIBER REINFORCED PORTLAND CEMENT)
MATERIAL PROPERTIES – TECHNICAL SPECIFICATIONS

MATERIALS: 3/8” mesh fabric scrim layer, behind cement face coat, backed up with multi-directional high zirconia alkali-resistant chopped strand fiberglass cast into a matrix of fine sand, potable water, polymer and Type-I gray Portland Cement.

EMBEDMENT/CORE: Plywood at attachment flanges for fastener support. Foam and/or wood “ribs” and/or metal rebar cast into parts as required for rigidity/flatness.

FINISHING: “GFRC” is supplied as a smooth, unfinished gray surface, ready for field application of patching/float compounds and decorative coatings (EIFS type, troweled on mesh or spray applied, textured or smooth paints, etc.). Specific and important information on assembly and finishing is found in the GFRC General Installation Instructions ‘INSTALL-1’ Data Sheet.

PHYSICAL CHARACTERISTICS:

Shell Thickness: 1/2” Nominal Standard (+1/8” , -1/16” / Unit)

Glass Fiber Content: PCI Guidelines 5% (by Weight)

Weight: +/- 5 (lbs/ft²) (varies with embedment/reinforcement, piece shape)

Strength: Flexural: Modulus of Rupture (MOR) 2500 – 4000 (PSI)
Limit of Proportionality (LOP) 900 – 1500 (PSI)
Flexural Modulus of Elasticity 1.5 – 2.9 x 10⁶ (PSI)

Tensile: Ultimate Tensile (UTS) 1000 – 1600 (PSI)
Yield – Bend-Over Point (BOP) 700 – 1000 (PSI)
Strain to Failure 0.6 – 1.2 %

Compressive Strength 7000 – 12000 (PSI)

Charpy Impact Strength 55 – 140 (in-lb/in²)

Poisson’s Ratio 0.3

Heat: Thermal Conductivity 3.5 – 7.2 (BTU/in/hr/ft²/°F)

Thermal Expansion Coefficient 6 – 9 (x 10⁻⁶ in/in/°F)

Fire: Incombustible Material, ASTM E84-80 (UBC Class 1) Flame=5, Fuel=5, Smoke=5

Moisture: Water Absorption by Weight 3 – 5 %

Water Vapor Permeability 0.25 – 0.35 x 10 ft/s

Density: (Dry) 120 – 140 (PCF)

Tolerances: Fabrication: Dimensional – all directions +/- 1/8”

Warpage or Bowing +/- 1/16” /foot

Square / Skew /Diagonal +/- 1/8” in 10’

Out of Round +/- 1/16” / foot of diameter