

“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/floating compounds and decorative coatings (EIFS type, troweled on mesh or spray applied, textured or smooth paints, etc.).

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