

GFRC (Glass Fiber Reinforced Concrete)

GFRC is a combination of fine aggregate, cement, water, polymer, chemical admixtures and glass fiber. The key to GFRC is the glass-fiber reinforcement. The fibers take the place of steel in a wet-cast mix. They allow GFRC to develop much higher flexural strengths than typical wet-cast concrete, allowing you to cast thinner, lighter sections and pieces.

BENEFITS OF GFRC

Lighter weight: With GFRC, concrete can be cast in thinner sections and is therefore as much as 75% lighter than similar pieces cast with traditional concrete. According to Jeff Girard's blog post titled, "The Benefits of Using a GFRC Mix for Countertops", a concrete countertop can be 1-inch thick with GFRC rather than 2 inches thick when using conventional steel reinforcement. An artificial rock made with GFRC will weigh a small fraction of what a real rock of similar proportions would weigh, allowing for lighter foundations and reduced shipping cost.

High strength: GFRC can have flexural strength as high as 4000 psi and it has a very high strength-to-weight ratio.

Reinforcement: Since GFRC is reinforced internally, there is no need for other kinds of reinforcement, which can be difficult to place into complex shapes.

Heat and/or Flame Tolerance

This product is non-combustible and will not burn. It is compatible with all extinguishing media. Use any media that is appropriate for the surrounding fire.

Flash point: Not applicable

Auto ignition temperature: Not applicable

PHYSICAL PROPERTIES

1. Glass Fiber:	3-5% by weight
2. Shell Thickness:	3/8 -5/8 inch (6mm-15mm)
3. Weight:	4-6 Lbs/Ft ₂
4. Density: (ASTM C 948)	105.3 Lbs/Ft ₃ (1686 Kg/m ₃)
5. Finish :	Based on manufacturer's selections
6. Color:	Based on manufacturer's selections
7. Texture:	Based on manufacturer's selections
8. Flexural Strength: (ASTM C947)	1,035 psi (7,136Kpa)
9. Tensile Strength Yield: (ASTM C 947)	755 psi (5206Kpa)
10. Compressive Strength: (ASTM C 138)	4,000 psi (27.6Mpa)
11. Surface Burning:	0
12. Flame Spread Index:	0
13. Smoke Index:	0
14. Fuel Contribution:	0
15. Permeability :	1,200 Coulombs
16. Weather Resistance:	200 Hours = No Loss
17. Modulus of Elasticity: (PCI MNL-130)	1.07E+06 psi
18. Absorption: (ASTM C 948)	19.6%
19. Anchor Pull-Out Test: (PCI-MNL 130 T9.2.2)	432 lb/ft