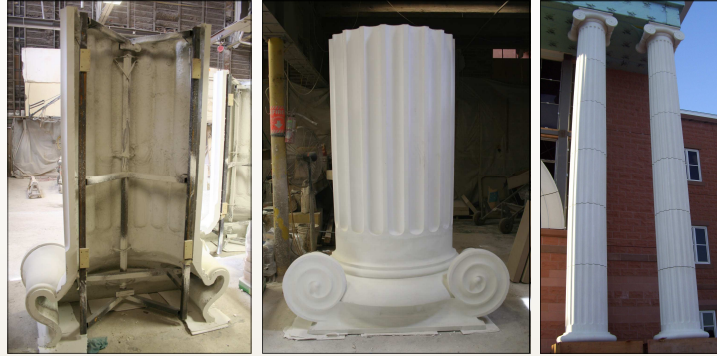


TFRC

Tuscan Fiber Reinforced Concrete



TFRC is a high strength pre-engineered GFRC mix that has been optimized to produce industry leading Grade 18 (18 Mpa/2,611psi) levels consistently and affordably. By combining the correct ratios in a quality controlled pre-engineered bag mix TFRC gives you higher strengths, guaranteed quality control, and a lower carbon footprint.

Strength

TFRCs engineered mix allows you to achieve the desired strengths specified by adjusting the % of fiber used, TFRC accomplishes this using less fiber than traditional spray up methods. In order to attain British Standards Grade 18 the Limit of Proportionality (LOP) must be 7 and the Modulus of Rupture (MOR) must be 18. The traditional chopped fiber method requires 5.5% to 6.5% of fiber to achieve a Grade 18 (18 Mpa/2,611psi) result while TFRC requires only 4%. If the design of the project requirement is less, a reduction of fiber in TFRC will still achieve consistent, high strengths.

Guaranteed Quality Control

Tuscan Stoneworx has combined the technology from Power Sprays Variable High Speed Shear Mixer and Peristaltic Pump with TFRC pre-engineered bag mix. This combination of equipment and material eliminates variables associated with traditional GFRC mix; the inconstant flow of fiber and mix, color segregation of material, separation of materials, and inconsistent strengths from fiber lost in the chopping process. The TFRC bag eliminates the human variable of mixing the correct percentages of the right components. The equipment manages quality control by not allowing the operator to adjust his water, air, or fiber while spraying. This maintains consistent strengths throughout the project. The components in TFRC eliminate separation of material while going through the pump or hose, maintaining great work ability and consistent color in parts and assuring a reliable spray up every time.

Lower Carbon Footprint

TFRC allows you to hit the industry's highest strength levels with less fiber than a traditional GFRC mix by at least 1-1/2%. Higher strengths contribute to thinner, lighter parts, with fewer means of attachment. Less material and fiber create a smaller carbon footprint per project. Easier means of attachment make for quicker installation, less labor and significant cost savings. TFRC creates a paradigm shift in traditional GFRC production—higher strengths, tighter quality control, and lower carbon footprint.

Design and Testing

While designers may want the most ornamental parts, engineers have the final say on a project with their focus on safety. TFRC's strength and consistency allow designers and engineers to collaborate together on a part that meets both of their design requirements. Whether it is grade 13, 15 or 18 the performance starts with the testing of coupons for each project, making sure they achieve the minimum requirements specified by the engineer.

Description

TFRC is a high strength pre-engineered GFRC mix that has been optimized to produce industry leading Grade 18 levels consistently and affordably. By combining the correct ratios in a quality controlled pre-engineered bag mix TFRC gives you higher strengths, guaranteed quality control, and a lower carbon footprint.

Uses

With the right ratios and fiber, TFRC is a replacement for any GRC backing application, cladding, and architectural trim where strength and consistency are needed. TFRC's versatility allows it to be sprayed, packed, cast, and in some cases used in a one coat system.

Coverage

All coverage's are approximate and depend upon details and individual application technique. TFRC is produced in 80lb bags with approximately 16ft² (1.48m²) per bag when sprayed 1/2" (12.7mm) thick.

Application Procedure

Spray or hand pack face coat using Tuscan Cast Stone or TFRC, based on design requirements back using TFRC with 2%, 3%, or 4% fiber.

Storage

Materials shall be stored in a cool, dry location protected from inclement weather and other sources of moisture damage.

Technical & Field Services

Available upon request.

MSDS Sheets

See *Tuscan Stoneworx Publication TS-800*

Caution

This product may cause skin irritation. The use of protective clothing to prevent contact with the skin is recommended.



Procedures	
Pre-Engineered Grade	18 2,611 psi
Aggregate / cement ratio	0.95
Water / cement ratio	.30-.33
Glass fiber content (% by total mix weight)	3.0%
Polymer solids content (% by total mix weight)	1.37%

Minimum requirements at 28 days.	
Grade	18
Minimum glass fiber content (% by weight)	3%
Characteristic LOP (N/mm ²)	8 1,161 psi
Characteristic MOR (N/mm ²)	18 2,611 psi
MOR top/bottom ratio	.8-1.25
Minimum bulk density (kg/m ³)	1800-2000



Tuscan Stoneworx assumes no liability, expressed or implied, as to the architecture, engineering or workmanship of any project. To ensure that you are using the latest, most complete information, contact Tuscan Stoneworx.

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Tuscan Fiber Reinforced Concrete—TFRC

Engineered GRC Pre-Mix

Description

Tuscan StoneWorx is proud to introduce GRC mix design in a bag, with the development of our new TFRC bag product. Stronger, better flexibility, and lighter weight; TFRC's all in one pre-mix bag provides quality control, with a simple one step mix process that eliminates time and errors.

Uses

With the right ratios and fiber already mixed into each bag, TFRC is a replacement for any GRC backing application- cladding, and architectural trim. TFRC's versatility allows it to be sprayed, packed, cast, and in some cases used in a one coat system.

Coverage

All coverage's are approximate and depend upon details and individual application technique. TFRC is produced in 80lb bags with approximately 15ft² (1.39m²) per bag when sprayed 1/2" (12.7mm) thick.

Application Procedure

Spray or hand pack Face Coat using Tuscan Cast Stone or TFRC, based on design requirements back using TFRC with 3%,4%, or 5% fiber.

Strengths

3% Fiber	—	LOP 10	MOR 14
4% Fiber	—	LOP 10	MOR 15
5% Fiber	—	LOP 10	MOR 18

Storage

Materials shall be stored in a cool dry location protected from inclement weather and other sources of moisture damage.

Technical & Field Services

Available upon request.

MSDS Sheets

See Tuscan StoneWorx Publication TS-800

Caution

This product may cause skin irritation. The use of protective clothing to prevent contact with the skin is recommended.



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