



Forton[®] MG Casting System

The Forton[®] MG Casting System has proven itself to be a viable material for producing architectural moldings and ornamentation. It is a versatile, lightweight, material that easily lends itself to many production techniques and can easily achieve a range of attractive architectural looks. It can be reinforced with a range of type “E” glass fiber reinforcements depending on the manufacturing method. That means it can use the spray chop method, hand lay-up, premix or solid cast methods.

Glass reinforcement in the back-up layer must be a minimum of 5% by weight and 15% is achievable if physical and flexural properties of the application require the composite to have above normal strengths, such as impact or ductility. The range of flexural properties obtainable with FMG is much wider than what can be obtained with GRG or GFRC because these properties are glass fiber percentage dependent.

The face mix thickness should be a minimum of 1/8” (3mm) thick.

The thickness of the FMG back-up layer should be a minimum of 3/8” (10mm) thick.



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Typical Physical Properties

Density	95-100 pcf
Compressive C 109	6 – 9,000 psi
Flexural Yield C 947 Dry	1,800 – 2,900 psi
Flexural Ultimate	3,500 – 9,400 psi
Strain to Failure	2%
Modulus of Elasticity	8×10^{-6} psi
Tensile Yield	1,200 – 1,400 psi
Tensile Ultimate	3,500 – 5,100 psi
Impact Strength D 256	170 in.lb/in ²
Thermal Expansion	11×10^{-6} in/in/°F
Moisture Movement	<1 0/00
Equilibrium Moisture Content	
65% RH	max. 0.5wt%
85% RH	max. 1.2 wt%
Water Vapor Diffusion	250 mp
Freeze – Thaw resistance	Excellent



Typical Mix Designs (lbs. or kg)

Basic Mix Design (face mix or back-up)

FGR-95 alpha gypsum	10
VF-812	5
Dry Resin (MF 415)	1
Ammonium Chloride	.05
Metal Powders	15
Aggregate Fillers	0 to 150% to wt. of gypsum
Pigment	1% to wt. of gypsum

Back-up Mix Design

Same as above, with the addition of glass fiber

Glass Fiber	5 to 15% by wt. of total mix
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Fire Performance Properties

ASTM E84

Unpainted

Classification	Class I
Flame Spread	10
Smoke Developed	35

Painted

Classification	Class I
Flame Spread	10
Smoke Developed	15

NFPA 259

Basic FMG slurry	1,571 Btu/lb
Typical 1/2" @ 100 pcf	6,546 Btu/ft ²

NFPA 268

Painted	Pass
Unpainted	Pass

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