

✓TopMark Products

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FORTON MG – Polymer – “MODIFIED GYPSUM”

It is a well-known fact that gypsum has very poor resistance to the effect of outdoor exposure. Consequently, gypsum products have been confined to indoor applications, such as moldings or decorative arts objects. These applications are normally thick and heavy to compensate for gypsum's fragile nature.

Introducing the **Forton modified Gypsum** system. The basic strength properties of an a-hemihydrate gypsum when combined with the Forton polymer system and glass fibres give a new and improved composite with unique applications.

With increasing environmental and health and safety requirements, **Forton MG** offers to the market a product that is:

- weather resistant and strong
- quickly demoldable and
- economical

In addition to these properties, **Forton MG** offers very important advantages

- a solvent free water based system
- a non toxic mix design
- easy to use
- UCB Class 1 or Class 1 BS 476 parts 6 and 7 fire ratings

Extensive research and testing has proven that **Forton MG** has mechanical and physical properties, which enable the material to be used in a wide range of architectural and sculptural applications. It has excellent weather resistance when painted or sealed against the elements. The system is easy to cast into molds and offers a wide range of aesthetically pleasing finishes and surface textures. Moreover, the **Forton MG** system allows the manufacturing of very detailed surfaces, which can be formed in many ways.

Since the production of the system in 1990, **Forton MG** products have been successfully used in the USA as well as Europe. Examples of these applications include:

- displays and special effects
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- decorative arts and home furnishings
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- floral and plant containers
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- sculpture and art castings
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- decorative column covers
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- architectural ornamentation
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- architectural facade panels

THE FORMULA

There are five major ingredients of the Forton System. You do not need all of these to make up your formula. Your formula will be dependent on your application.

Forton VF-812. The liquid component, Forton VF-812 is a specially formulated acrylic copolymer to cross link with the dry resin and hardener to make the end product moisture resistant and ultra violet stable.

FGR-95. The Hydrocal gypsum is the basic ingredient, to which the required quantities of melamine-resin are added.

Resin. The dry melamine resin powder is added to ensure moisture resistance. One word of warning – the resin is extremely hygroscopic.

Hardener. (AM Chloride) The hardener is a chemical pH adjuster to ensure that the cross-linking with the acrylic copolymer and the dry resin takes place.

Fibreglass. Chopped strands provide Forton MG with much of its strength.

Interior Grade Mixing Proportions

FGR-95	100 parts
VF-812	50 parts
+varying e-glass fibres if required	

Exterior Grade Mixing Proportions

FGR-95	100 parts
MF415 Dry Resin	10%
Am Chloride	0.5%
VF-812	50 parts

The Dry Resin and Chloride are calculated from the weight of FGR-95 and then mixed into the FGR-95, The VF-812 is then added using the 100 parts to 50 parts ratio. The typical working time is 15 minutes, set time is 60 minutes. About 7 1/2 kgs of Forton would cover a 1 square metre x 5mm thick

MANUFACTURING METHODS

All typical manufacturing processes are possible using the **Forton MG** system, depending on the type of mold, complexity, surface finish and quantity required.

- Solid casting
- Hand lamination/lay up
- Spray-up
- Rotational casting

SURFACE FINISHES

For most **Forton MG** applications an aesthetic surface finish is required. A wide variety of surface finishes are achievable using face mixes and quality molds. The face mixes are applied in a thin layer and backed up by **Forton MG** composite. Some of the face-mix options and finishing techniques are achieved using: -

Metal powders	Integral pigments
Aggregates	Painting
Sandblasting and/or grinding	Polishing

No warranty is expressed or implied regarding the accuracy of results to be obtained from the use of these materials. Each user should conduct their own tests to determine the suitability of the materials for his/hers particular purpose