

# MONOKOTE® MK-6 GF Product Data Sheet

Product data and application instructions

## Product Description

MONOKOTE®MK-6 GF is a single component, spray applied, mill-mixed fire resistive plaster. MONOKOTE® MK-6 GF has approval for use on structural steel members and fluted decking to provide up to four hours of fire protection, and on flat plate cellular decking for up to three hours with SPATTERKOTE®SK-3.

## Features & Benefits

MONOKOTE®cementitious fireproofing offers many significant advantages to the architect, owner, applicator and building occupant. These include:

- Proven in-place performance
- Low in-place cost
- Fast, efficient application
- UL fire tested and factory inspected
- Building Code compliant (ICBO, SBCCI, BOCA, ICC)

## Delivery & Storage

- All material to be used for fireproofing shall be delivered in original unopened packages bearing the name of the manufacturer, the brand and proper UL labels for fire hazard and fire resistance classifications.
- The material shall be kept dry until ready for use. Packages of material shall be kept off the ground, under cover and away from sweating walls and other damp surfaces. All bags that have been exposed to water before use shall be discarded. Stock of material is to be rotated and used before its expiration date.

## Steel & Concrete Surfaces

- Prior to the application of MONOKOTE® MK-6 GF, an inspection shall be made to determine that all steel surfaces are acceptable to receive fireproofing. The steel shall be free of oil, grease, rolling compounds or lubricants, loose mill scale, excess rust, noncompatible primer, lock down agent or any other substance that will impair proper adhesion. Where necessary, the cleaning of steel surfaces to receive fireproofing shall be the responsibility of the general contractor.
- The project architect shall determine if the painted/primed structural steel to receive fireproofing has been tested in accordance with ASTM E119, to provide the required fire resistance rating.
- Many Fire Resistance Designs allow the use of painted metal floor or roof-deck in place of galvanized decking. Painted decking must be UL listed in the specific fire resistance designs and must carry the UL classification marking. Consult your local GCP sales representative for details.

- Prior to application of MONOKOTE® MK-6 GF, a bonding agent, approved by the fireproofing manufacturer, shall be applied to all concrete substrates to receive MK-6 GF.
- Fireproofing to the underside of roof deck assemblies shall be done only after roofing application is complete and roof traffic has ceased.
- No fireproofing shall be applied prior to completion of concrete work on steel decking.
- Other trades shall not install ducts, piping, equipment, or other suspended items until the fireproofing is completed and inspected.
- Other trades shall install clips, hangers, support sleeves, and other attachments that penetrate the fireproofing, prior to application of the fireproofing.

## Performance Characteristics

| PHYSICAL PROPERTIES             | RECOMMENDED SPECIFICATION  | TYPICAL VALUES   | TEST METHOD           |
|---------------------------------|--|--|-----------------------|
| Dry density, minimum average    | 15 pcf (240 kg/m <sup>3</sup> )  | 15 pcf (240 kg/m <sup>3</sup> )  | ASTM E605             |
| Bond strength                   | 200 psf (9.6 KPa)  | 339 psf (16.2 KPa)   | ASTM E736             |
| Compression, 10% deformation    | 1,200 psf (51 KPa)   | 1,483 psf (71.0 KPa)   | ASTM E761             |
| Air erosion                     | Max 0.000 g/ft <sup>2</sup> (0.00 g/m <sup>2</sup> )                           | 0.000 g/ft <sup>2</sup> (0.00 g/m <sup>2</sup> )                               | ASTM E859             |
| High velocity air erosion       | No continued erosion after 4 hours   | No continued erosion after 4 hours   | ASTM E859             |
| Corrosion                       | Does not contribute to corrosion   | Does not contribute to corrosion   | ASTM E937             |
| Bond impact                     | No cracking, spalling or delamination  | No cracking, spalling or delamination  | ASTM E760             |
| Deflection                      | No cracking, spalling or delamination  | No cracking, spalling or delamination  | ASTM E759             |
| Resistance to mold growth       | No growth after 28 days  | No growth after 28 days  | ASTM G21              |
| Surface burning characteristics | Flame spread = 0<br>Smoke developed = 0  | Flame spread = 0<br>Smoke developed = 0  | ASTM E84              |
| Combustibility                  | Less than 5 MJ/m <sup>2</sup> total, 20 kw/m <sup>2</sup><br>peak heat release | Less than 5 MJ/m <sup>2</sup> total, 20 kw/m <sup>2</sup><br>peak heat release | ASTM E1354            |
| Impact penetration              | Max 6 cm <sup>3</sup> abraded  | 3.9 cm <sup>3</sup>  | City of San Francisco |
| Abrasion resistance             | Max 15 cm <sup>3</sup> abraded   | 8.3 cm <sup>3</sup>  | City of San Francisco |

\*Actual laboratory tested values meet or exceed GCP's recommended value. Test reports are available on request from your GCP sales representative

## Mixing

- MONOKOTE® Fireproofing shall be mixed by machine in a conventional, plaster-type mixer or a continuous mixer specifically modified for cementitious fireproofing. The mixer shall be kept clean and free of all previously mixed material. The mixer speed in a conventional mixer shall be adjusted to the lowest speed which gives adequate blending of the material and a mixer density of 40–45 pcf (640–720 kg/m<sup>3</sup>) of material.
- Using a suitable metering device and a conventional mixer, all water shall be first added to the mixer as the blades turn. Mixing shall continue until the mix is lump-free, with a creamy texture. All material is to be thoroughly wet. Target density of 43 ± 1 pcf (688 ± 16 kg/m<sup>3</sup>) is most desirable. Overmixing MONOKOTE® will reduce pumping rate.

## Application

- Application of MONOKOTE® Fireproofing can be made in the following sequence:
  1. For thicknesses of approximately 1/2 in. (13 mm) or less, apply in one pass.
  2. For thicknesses of 5/8 in. (16 mm) or greater, apply subsequent passes after the first coat has set.
- SPATTERKOTE® SK-3 shall be applied to all cellular steel floor units with flat plate on the bottom and to roof decking where required prior to application of MONOKOTE®. SPATTERKOTE® shall be applied in accordance with manufacturer's application instructions.
- MONOKOTE® Fireproofing material shall not be used if it contains partially set, frozen or caked material.
- The minimum average density shall be that required by the manufacturer, listed in the UL Fire Resistance Directory for each rating indicated, ICBO Evaluation Report, as required by the authority having jurisdiction, or minimum average 15 lbs/ft<sup>3</sup> (240 kg/m<sup>3</sup>), whichever is greater.
- MONOKOTE® shall be mixed with water at the job site.
- MONOKOTE® Accelerator is to be used with MONOKOTE® Fireproofing to enhance set characteristics and product yield. The MONOKOTE® Accelerator is injected into the MONOKOTE® Fireproofing at the spray gun. MONOKOTE® Accelerator shall be mixed and used according to manufacturer's recommendations.
- MONOKOTE® is applied directly to the steel, at various rates of application, which will be job dependent, using standard plastering type equipment or continuous mixer/pump units. A spray gun, with a properly sized orifice and spray shield and air pressure at the nozzle of approximately 20 psi (38 KPa), will provide the correct hangability, density and appearance. NOTE: If freshly sprayed MONOKOTE® does not adhere properly, it is probably due to a too wet mix, poor thickness control, or an improperly cleaned substrate.

## Temperature & Ventilation

- The substrate temperature shall be a minimum of 40°F (4.5°C) for at least 1-hour prior to the application of the MONOKOTE®. Additionally, the air and substrate temperature during application and for a minimum of 24 hours after application shall be no less than 40°F (4.5°C).
- Provisions shall be made for ventilation to properly dry the fireproofing after application. In enclosed areas lacking natural ventilation, air circulation and ventilation must be provided to achieve a minimum total fresh air exchange rate of 4 times per hour until the material is substantially dry.

## Field Tests

- The architect will select an independent testing laboratory (for which the owner will pay) to sample and verify the thickness and density of the fireproofing in accordance with the applicable building code.
- The architect will select an independent testing laboratory (for which the owner will pay) to randomly sample and verify the bond strength of the fireproofing in accordance with the provisions of ASTM E736.
- Results of the above tests will be made available to all parties at the completion of pre-designated areas which shall have been determined at a pre-job conference.

## Safety

MONOKOTE® is slippery when wet. The general contractor and applicator shall be responsible for posting appropriate cautionary “SLIPPERY WHEN WET” signs. Signs should be posted in all areas in contact with wet fireproofing material. Anti-slip surfaces should be used on all working surfaces.

Safety Data Sheets (SDS) for MONOKOTE®MK-6 GF are available on our web site or by calling 866-333-3SBM.

[gcpat.com](http://gcpat.com) | North America customer service: 1-866-333-3726

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GCP Applied Technologies Inc., 2325 Lakeview Parkway, Suite 450, Alpharetta, GA 30009, USA

GCP Canada, Inc., 294 Clements Road, West, Ajax, Ontario, Canada L1S 3C6

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