

DESCRIPTION

ISOLATEK™ Type M-II is a spray-on premixed mortar, based on vermiculite and Portland cement, for applications on concrete or steel structures. The thickness of the coating applied enables it to withstand thermal shock caused by hydrocarbon fire or "JetFire". ISOLATEK™ Type M-II has the mechanical strength to resist cracking or spalling. It can be given additional strength by a manual application of a thin layer of ISOLATEK™ Type TG.

FIELDS OF APPLICATION

- Metal beams and posts
 - Concrete posts and beams
 - Tanks, storage spheres
 - Retention tanks
 - Concrete slabs and shells
 - Partitions and floors
 - Masonry
- For new buildings or renovations.



APPROVALS

- International standards:**
- BS 476, Part 20, Appendix D (UK)
 - ASTM E119 (USA)
 - DIN 4102 (DE)
 - DTU (FR) concrete fire and steel fire

Fire resistance:

- Hydrocarbon Fire, NPD
- JetFire, Lloyds of London
- Cellulose ISO 834
- GASAFE approval
- HCinc, RWS

REINFORCEMENT

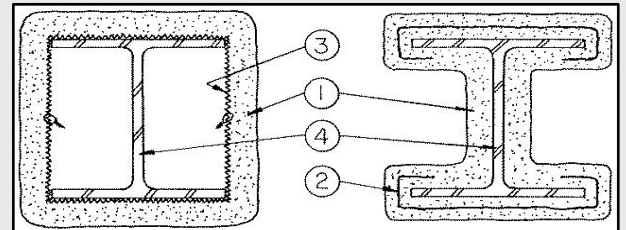
Many fire tests have been conducted without mesh reinforcement and these demonstrate ISOLATEK™ Type M-II's ability to withstand severe fire conditions and thermal shock in hydrocarbon fires.

However, using reinforcing mesh improves ISOLATEK™ Type M-II, making it a highly durable product resistant to mechanical damage and flaking, especially in environments subject to vibration, de-bonding and shock.

SUBSTRATE PREPARATION

The supports must be prepared in compliance with fire resistance standards and recommendations. More generally, surfaces must be clean, dry and free from dust, loose rust, rolling waste, resinous products or any other substances or coatings likely to reduce adhesion.

We recommend the use of ISOLATEK™ Type EBS on all rust-proofed and galvanized steel supports



- 1 - ISOLATEK™ Type M-II
- 2 - Mesh around the edge
- 3 - Cribbing mesh
- 4 - Cross-section W250x73

E.g.: values for cross-section W250x73.
massivity : 162 m⁻¹

IMPLEMENTATION

ISOLATEK™ Type M-II may only be applied by operators trained by INNOVATIVE FIRE SYSTEMS.

EQUIPMENT

ISOLATEK™ Type M-II can be used with PUTZMEISTER P11 type machines or equivalent which must be fitted with exhaust spark-arresters.

Contact our Technical Department to learn how to improve your competitiveness. We will advise you on the choice of machines, settings and spray accessories.

Duration	Minimum thickness Peripheral	Minimum thickness Cribbing
45 Mins	17,5 mm	17,5 mm
1 H	20,7 mm	20,7 mm
1 H 30	27,0 mm	23,9 mm
2 H	33,4 mm	23,9 mm
2 H 30	39,7 mm	30,2 mm
3 H	46,0 mm	36,6 mm
4 H	58,8 mm	57,2 mm



ISOLATEK™ Type M-II

High Density Fire Resistive Mortar

INNOVATIVE FIRE SYSTEMS

MIXING

Empty the bag of ISOLATEK™ Type M-II into the mixer while the blades are turning. Add water (17 to 21 litres per bag), and mix for about 3 minutes (after the last bag is added) to achieve the target mixer slurry density.

TEMPERATURES : APPLICATION and DRYING

The air and substrate temperature must be above +4°C and this must be maintained before, during and for at least 24 hours after applying of ISOLATEK™ Type M-II.

In a closed area, the air must be completely renewed at least 4 times every hour until the mortar is completely dry. ISOLATEK™ Type M-II hardens on the surface within 5 to 7 hours (20°C / 50% RH).

In environments subject to condensation, the substrate temperature must be maintained 2°C at least above dew point.

TOP COAT

To prevent chemical pollution by capillarity, bacteria and fungi development, or subsequent damages due to frequent washing of the surface, we strongly recommend use of a generic top coat as protection. Please contact our Technical Department for further information.

ADVANTAGES OF ISOLATEK™ Type M-II

Excellent adhesion : concrete and steel
References: BP, SHELL, EXXON, TOTAL, CHEVRON, PHILIPS, ENI, etc.
Fire Tests: 50 tests have been carried out
Resistance: Good resistance to shock and explosion
Simplicity: Single product for On & Off-shore industries
Finish: Pattern finish using ISOLATEK™ Type TG

ENVIRONMENT

To respect the environment, we advise you do not pour our products into drains, water courses or onto the ground.

FURTHER INFORMATION

Using a tubular column system increases density and hence consumption per m² as compared with a premixing machine, the latter taking full advantage of ISOLATEK™ Type M-II 's air-introduction agents.

SAFETY DATA SHEET

Available on request from Innovative Fire Systems or downloadable from www.innovativefiresystems.com.

CHARACTERISTICS and PERFORMANCES

In compliance with fire resistance standards

Colour	Off-white	
Finish	monolithic as sprayed or with pattern finish	
Density (dry product)	775 Kg/m ³ ± 15%	
Setting	hydraulic	
Touch dry	2 to 6 hours at 20°C and 50% RH	
Theoretical yield	8 Kg/m ² for 10 mm thick	
Minimum thickness	8 mm without reinforcing, 15 mm with reinforcing	
Fire resistance on Steel	R240 HC curve	R240 ISO 834 curve
Minimum thickness	15 mm	10 mm
Maximum thickness	63 mm	40 mm
Massivity factor	Up to 310 m-1	Up to 350 m-1
Adhesion to support	47.9 g/m ² in compliance with ASTM E736	
Corrosion on raw steel	Does not promote corrosion	
Non-combustibility	Non-combustible ASTM E136	
Smoke generation	Does not contribute to smoke generation	
Hot / cold cycle	Resistant	
Freeze / thaw cycle	Resistant	
Thermal conductivity	0.19 W/mK at 20°C	
pH (wet product)	12.0 to 12.5	
pH (dry product)	9.0 to 9.5	
Erosion resistance in air	0.00 g/m ² in compliance with ASTM E859	
Compression strength	2.068 kPa in compliance with ASTM E736	
Shock resistance	Does not fragment, flake, or detach, in compliance with ASTM E760	
Substrate Deformation	Does not fragment, flake, or detach, in compliance with ASTM E759	

PRODUCT INFORMATION

Packaging	22.67 kg bag (50 pounds)	
Storage	Off the ground and dry, in its original packaging, protected from damp, frost, excessive heat (40°C) and excessive exposure to sunlight.	
Storage Period	Maximum 2 years	
Cleaning	Equipment Site	With water before it dries easier when dry

The performances noted reflect the tests performed as on the date this commercial sheet was drafted.
Sale of these products is subject to the general terms and conditions of sale set out on the company's invoices.

