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Product Data Sheet



Firewin

2019-01

Knauf Fire Protection Mortar - FPM

Product description

Knauf Fire Protection Mortar - FPM is a dry white powder consisting of inorganic compounds and perlite.

When mixed with water, the compounds form a highly thermally insulating fire sealing compound to prevent the spread of fire and smoke through openings in fire rated walls and floors, including openings formed around building service penetrations.

Storage

No particular limit for unopened bags in dry places with storage temperatures between 5°C and 30°C.

Method of delivery

Knauf Fire Protection Mortar - FPM Bags of 20 litres, article no. 651116

Scope of application

Knauf Fire Protection Mortar - FPM expands approx. 1% by hydraulic action during curing ensuring a very tight seal around the service penetrations and the surrounding opening apertures. It will also maintain the acoustic design performance in walls and floors.

Knauf Fire Protection Mortar - FPM is easy to sand or drill. The compound dries to an off-white colour which may be painted.

Knauf Fire Protection Mortar is fully set within 1 hour, and will prevent the passage of fire and smoke for up to 4 hours.

Properties

- Classified in walls and floors of concrete, brick, gypsum etc
- Suitable for cables, bundled cables, cable racks, cable trays, steel, copper, alupex, plastic pipes and air ventilation ducts
- High degree of mechanical resistance; the seal is load bearing without reinforcement
- Nearly unlimited storage time
- No priming necessary prior to application in most building material substrates however metal services in contact with the seal must be corrosion protected
- Certified according to ETA 18/0929
- EAD 350454-00-1104

Technical Data	
Condition	Powder ready for mixing with water
Product consumption at 2:1 mix	Approx. 3.42 bags per m ² @ 50mm depth Approx. 6.83 bags per m ² @ 100mm depth
Dry density	About 900 kg/m ³ after full cure
Flash point	None
Reaction to fire	Class A1 according to EN 13501-1
Hardened	Less than 1 hour depending on the local climate
Totally hardened	Up to 30 days depending on thickness and temp.
Flexibility	None
Durability/service	Class Z2
Thermal conduct.	0.051 W/mK
Working life	30 years
Storage	No particular limit for unopened bags in dry places with storage temperatures between 5°C and 30°C
Compatibility	Suitable for use with most materials, but should not be used in direct contact with metals that may corrode
Limitations	Should not be used in permanently damp areas or in moving joints
Classification	CE-marked – Fire seal for fire rated openings and penetrations class EI 240
Colour	Off white

Emission data (indoor air quality):

Compound	Emission rate after 3 days	Emission rate after 4 weeks
TVOC	12 µg/m ³	< 5 µg/m ³
TSVOC	n.d.	< 5 µg/m ³
VOC w/o NIK	n.d.	< 5 µg/m ³
R Value	n.d.	< 1
Formaldehyde	7.1 µg/m ³	n.d.
Acetaldehyde	< 3 µg/m ³	n.d.
Sum for+ace	< 0.006 ppm	n.d.
Carcinogenic	< 1 µg/m ³	< 1 µg/m ³
n.d. or < means not detected		

Sound insulation:

Description	Sound reduction
Single sided cast ≥ 50 mm on stone wool board	64 dB
Single sided cast ≥ 100 mm without board	64 dB
Double sided cast ≥ 25 mm on stone wool board	64 dB
Double sided cast ≥ 50 mm without board	64 dB

FPM has been tested at BM Trada (UKAS accredited); according to EN ISO 10140-2:2010.

Safety:

Please observe the EC Safety Data Sheet.

Note

FPM complies with the requirements of GEV and the results correspond to the EMICODE emission class EC 1^{PLUS} which is the best possible environmental and indoor hygiene health protection mark. Tested by Eurofins Product Testing, report number G12874B.

Resistance to Fire		
Construction	Description	Classification
Flexible walls comprise gypsum, masonry, aerated concrete or concrete	Up to 2400 mm wide by 1200 mm high blank seal with double sided 25mm Knauf Fire Protection Mortar on 25mm cast board	EI 120 (E 120)
Rigid walls comprise masonry, aerated concrete or concrete, within walls or between the head of walls and the soffit of floor slabs	Up to 2400 mm wide by 1200 mm high blank seal with single sided 50mm Knauf Fire Protection Mortar on 50mm cast board	EI 120 (E 180)
	Up to 2400 mm wide by 1200 mm high blank seal with single sided 100mm Knauf Fire Protection Mortar	EI 240 (E 240)
Rigid floors comprise aerated concrete or concrete within floors or between floors and walls	Up to 2400 mm by 1200 mm blank seal with 50mm Knauf Fire Protection Mortar on top of 50mm cast board	EI 180 (E 180)
	Up to 2400 mm by 1200 mm blank seal casted with 100mm Knauf Fire Protection Mortar	EI 240 (E 240)

The cast board comprise stone wool with density $\geq 150\text{kg/m}^3$. Please read the Installation Instructions before usage.

Note

Under EN 1366-3 rules, results from tests in floors with a penetration seal length of minimum 1m apply to any length as long as perimeter length to seal area ratio is not smaller than that of the test specimen. The following aperture sizes are therefore allowed where 2400 x 1200 mm is described in this data sheet and in the installation instructions.

Additional Aperture Sizes in Floors
Maximum Aperture Sizes within Floors or between Floors and Walls
1200 mm width x 2400 mm length (tested)
1100 mm width x 2900 mm length
1000 mm width x 4000 mm length
900 mm width x 7000 mm length
≤ 800 mm width x ∞ (infinite) length

Note

Knauf Fire Protection Mortar has been subject to concentrated load and impact tests in floors according to ETAG 026-2 and EOTA TR001 Clause 2. The tests were conducted on the minimum allowed cast depth of 100mm. According to the loading limits in the table below, reinforcement is not necessary, however it is highly recommended that the edges of the aperture are brushed free of any dust or loose particles and that any contamination is washed away using clean water. Moistening the edges well before casting will improve adhesion.

Knauf Fire Protection Mortar should not be cast in surface treated concrete. The mortar must be mixed to a thick but fluid mass at a rate of approx. 2 parts of powder to 1 part water. Maximum loadbearing performance will be achieved 28 days after casting.

Test results:

Loadbearing Properties (floors)	
Test in 1500x1000mm frame	Results
Soft body impact, serviceability	500Nm
Soft body impact, safety in use	700Nm
Hard body impact, serviceability	6 Nm
Hard body impact, safety in use	10 Nm
Concentrated load to ETAG 26-2	15 kN

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