

# K-FLEX FIRE EX MORTAR

## DESCRIPTION

K-FLEX FIRE EX MORTAR 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.

K-FLEX FIRE EX MORTAR will also maintain the acoustic design performance in walls and floors.

K-FLEX FIRE EX MORTAR expands approx. 1% by hydraulic action during curing ensuring a very tight seal around the service penetrations and the surrounding opening apertures.

K-FLEX FIRE EX MORTAR is easy to sand or drill. The compound dries to an off-white color which may be painted.

## CHARACTERISTICS AND FEATURES

- Classified in walls and floors of concrete, brick, gypsum etc.;
- Suitable for cables, bundled cables, cable racks, cable trays, steel, copper, alupex and plastic pipes and air ventilation ducts;
- Simple to apply leaving a very smooth finish;
- High degree of mechanical resistance; the seal is load bearing without reinforcement;
- No priming necessary prior to application in most building material substrates, however metal services in contact with the seal must be corrosion protected;
- Suitable for most surfaces, included concrete, bricks, Leca, steel, plastic etc,
- The product is certified for use in gypsum walls;
- Fully set within 1 hour;
- The fire performance specification of the compound has been derived when the seal has been left to cure for 1 month;
- Nearly unlimited storage time.

## TECHNICAL DATA

<b>Condition</b>	Powder ready for mixing with water
<b>Dry density</b>	About 900 kg/m <sup>3</sup> after full cure
<b>Flash point</b>	Class A1 according to EN 13501-1
<b>Hardened</b>	Less than 1 hour depending on the local climate
<b>Totally hardened</b>	Up to 30 days depending on thickness and temp.
<b>Flexibility</b>	None
<b>Thermal conduct.</b>	0.051 W/mK
<b>Storage</b>	No particular limit for unopened bags in dry places with storage temperatures between 5°C and 30°C
<b>Compatibility</b>	Suitable for use with most materials, but should not be used in direct contact with metals that may corrode
<b>Limitations</b>	Should not be used in permanently damp areas or in moving joints
<b>Colour</b>	Off white
<b>Packaging</b>	Bags of 20 litres Pails of 10 litres Bags: 63 on the pallet, equals approx. 800 kg

## SOUND INSULATION

K-FLEX FIRE EX MORTAR has been tested at BM Trada (UKAS accredited); according to EN ISO 10140-2:2010.

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

## LOADBEARING PROPERTIES (FLOORS)

K-FLEX FIRE EX 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 maximum allowed aperture size of 1200x2400mm and 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.

K-FLEX FIRE EX 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.

Type of Test	Results
Soft body impact, serviceability	100Nm
Soft body impact, safety in use	200Nm
Hard body impact, serviceability	3.75Nm
Hard body impact, safety in use	10Nm
Concentrated load to ETAG 26-2	2kN
Concentrated load, break point	4.85kN

## EMISSION DATA (INDOOR AIR QUALITY)

K-FLEX FIRE EX MORTAR complies with the requirements of GEV and the results correspond to the EMICODE emission class EC 1PLUS which is the best possible environmental and indoor hygiene health protection mark.

Compound	Emission rate after 3 days	Emission rate after 4 weeks
TVOC	12 $\mu\text{g}/\text{m}^3$	< 5 $\mu\text{g}/\text{m}^3$
TSVOC n.d	n.d.	< 5 $\mu\text{g}/\text{m}^3$
VOC w/o NIK	n.d.	< 5 $\mu\text{g}/\text{m}^3$
R Value	n.d.	< 1
Formaldehyde	7.1 $\mu\text{g}/\text{m}^3$	n.d.
Acetaldehyde	< 3 $\mu\text{g}/\text{m}^3$	n.d.
Sum for+ace	< 0.006 ppm	n.d.
Carcinogenic	< 1 $\mu\text{g}/\text{m}^3$	< 1 $\mu\text{g}/\text{m}^3$

n.d. or < means not detected

## LIMITATIONS

K-FLEX FIRE EX MORTAR is not suitable to fitting of doors or in service openings that involve movement;

Since the product is applied under circumstances beyond our control, L'Isolante K-Flex can accept no direct or consequential liability, whether in contract or in tort, for the interpretations of such recommendations and reserves the right to modify the recommendations as necessary.