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## Technical Insulation

Passive Fire Protection  
Great Britain & Ireland

# K-Stop® Compound Fire Mortar

## Technical Data Sheet

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### Description

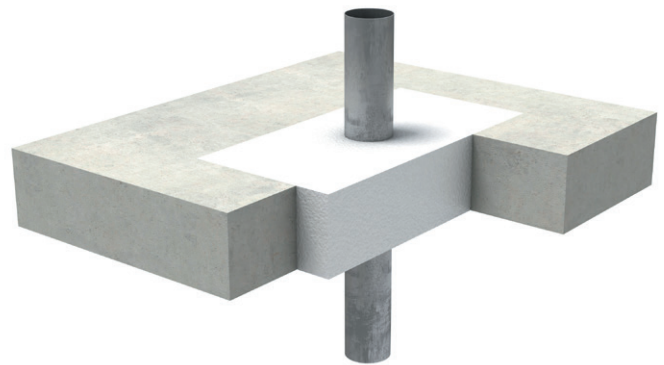
Kingspan K-Stop® Compound Fire Mortar is a dry white powder consisting of inorganic compounds and perlite.

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-Stop® Compound Fire Mortar will also maintain the acoustic design performance in walls and floors.

K-Stop® Compound Fire Mortar expands approx. 1% by hydraulic action during curing ensuring a very tight seal around the service penetrations and the surrounding opening apertures.

K-Stop® Compound Fire Mortar is easy to sand or drill. The compound dries to an off-white colour which may be painted.



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### General 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.
- Simple to apply leaving a very smooth finish.
- High degree of mechanical resistance; the seal is load bearing without reinforcement.
- Tested for air permeability.
- 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, but not suitable to fitting of doors or in service openings that involve movement.
- The product is certified for use in walls but it is recommended to use Kingspan K-Stop® Coated Batts for these applications.
- Fast drying, 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.

# K-Stop® Compound Fire Mortar

## 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 25 mm K-Stop® Compound Fire Mortar on 25 mm 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 50 mm K-Stop® Compound Fire Mortar on 50 mm cast board	EI 120 (E 180)
	Up to 2400 mm wide by 1200 mm high blank seal with single sided 100 mm K-Stop® Compound Fire 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 50 mm K-Stop® Compound Fire Mortar on top of 50 mm cast board	EI 180 (E 180)
	Up to 2400 mm by 1200 mm blank seal casted with 100 mm K-Stop® Compound Fire Mortar	EI 240 (E 240)

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

## Additional Aperture Sizes in Floors

Under BS EN 1366-3: 2021\* (Fire resistance tests for service installations - Penetration seals) rules, results from tests in floors with a penetration seal length of minimum 1 metre 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.

### 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
$\leq 800$ mm width x (infinite) length

\* And all previous editions.

## Emission Data (Indoor Air Quality)

Compound	Emission Rate After 4 Weeks
TVOC	$< 2 \mu\text{g/m}^3$
Formaldehyde	$< 3 \mu\text{g/m}^3$
Ammonia	n.d.
Carcinogenic	n.d.

NB n.d. or < means not detected.

Regulation or Protocol	Conclusion
French VOC Regulation	Pass / A+
German AgBB (2021)/ABG (2022)	Pass
French CMR Components	Pass
Italian CAM Edilizia	Pass
Belgian Regulation	Pass
EMICODE	Pass / EC 1 PLUS
Blue Angel (DE-UZ 132)	Pass
BREEAM International	Pass / Exemplary Level
BREEAM NL	Pass / Exemplary Level
BREEAM NOR	Pass / Exemplary Level
LEED® v4.1 BETA	Pass
Finnish M1 Classification	Pass / M1

K-Stop® Compound Fire Mortar has been tested by Eurofins Product Testing; reports available upon request.

## Curing Times

Application	Temperature	Cure Time
For filler 3.5 to 1 mix	0 °C	19 minutes
	10 °C	18 minutes
	20 °C	17 minutes
	30 °C	16 minutes
	40 °C	15 minutes
For casting 2 to 1 mix	0 °C	40 minutes
	10 °C	35 minutes
	20 °C	30 minutes
	30 °C	25 minutes
	40 °C	20 minutes

K-Stop® Compound Fire Mortar was mixed with an electric mixer for 90 seconds at 750 rpm with a 100 mm diameter paddle. Note the greater the sheer / agitation generated in the mixing process the quicker the mortar will set.

K-Stop® Compound Fire Mortar is designed to be a quick curing system for professional installers where fast application times is of the highest importance.

# K-Stop® Compound Fire Mortar

## Pipe End Configurations

When testing pipes, one can choose not to cap (or close) the pipe, or cap the pipe inside the furnace, or outside the furnace, or on both sides. The configuration chosen depends on the intended application of the pipe and/or the installation environment.

The code defining if a pipe is capped is stated after the fire classification. For instance EI 60 C/U which means the pipe was capped inside the furnace, and uncapped outside the furnace. The test configuration defines the approvals possible.

Our engineering judgment based on BS EN 1366-3: 2021\* (Fire resistance tests for service installations - Penetration seals) are:

Intended Use of Pipe	Pipe End Condition <sup>3)</sup>	
Rainwater pipe, plastic	At drainage	U/U <sup>1)</sup>
	Not at drainage	C/C <sup>2)</sup>
Drainage or sewage pipe, plastic	Ventilated drain	C/U <sup>1)</sup>
	Unventilated drain	U/C <sup>2)</sup>
	Drain w/water trap	U/C <sup>1)</sup>
	Not at drainage	C/C <sup>2)</sup>
Metal or plastic pipe in closed system (water, gas, air etc.)	C/C <sup>1)</sup>	
Metal pipe in ventilated system (sewage etc.)	U/C <sup>1)</sup>	
Flue gas recovery system pipe, plastic	U/C <sup>1)</sup>	
Pipe with open ends and ≥ 50cm length on both sides, plastic	U/U <sup>2)</sup>	
Waste disposal shaft pipe, metal	U/C <sup>2)</sup>	

<sup>1)</sup> Stated in BS EN 1366-3: 2021\*.

<sup>2)</sup> Kingspan's judgment based on tests.

<sup>3)</sup> U/U classified fire seals cover C/U, U/C and C/C. C/U classified fire seals cover U/C and C/C. U/C classified fire seals cover C/C.

\* And all previous editions.

## Technical Data

Condition	Powder ready for mixing with water
Product Consumption at 2:1 Mix	Approx. 3.42 bags per m <sup>2</sup> @ 50 mm depth Approx. 6.83 bags per m <sup>2</sup> @ 100 mm depth
Dry density	About 900 kg/m <sup>3</sup> after full cure
Flash Point	None
Reaction to Fire	Class A1
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 Z <sub>2</sub> intended for use in internal conditions with humidity classes other than Z <sub>1</sub> , excluding temperatures below 0 °C
Thermal Conduct	0.051 W/mK
Working Life	25 years
Application Temperature	+5 to +50 °C
Curing Temperature (30 days)	0 to +50 °C
Service Temperature after Cure	0 to +80 °C
Storage	18 months stored in unopened bags or pails. Should be stored between 5 °C and 30 °C and in dry conditions. Damp and humid conditions will affect the shelf life
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. Must be protected against frost during cure
Classification	CE and UKCA marked - Fire seal for fire rated openings and penetrations EI 240 depending on application
Colour	Off white
Packaging	Bags of 15 kg

## Installation

Please refer to the K-Stop® Compound Fire Mortar installation guide, available to download from [www.kingspanpassivefireprotection.co.uk](http://www.kingspanpassivefireprotection.co.uk).

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# Contact Details

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