
Technical Insulation

Passive Fire Protection

Great Britain & Ireland

K-Stop® Pressure Exerting Graphite Mastic

Technical Data Sheet

Description

Kingspan K-Stop® Pressure Exerting Graphite Mastic is a high specification formulation designed to prevent the spread of fire, smoke and gases through openings in fire rated walls and floors. K-Stop® Pressure Exerting Graphite Mastic expands when it is subjected to fire and closes openings around penetrations when any combustible or low temperature melting materials have burnt away.

K-Stop® Pressure Exerting Graphite Mastic is designed to fire seal difficult services which traditional fire rated mastics do not achieve such as large plastic pipes.

K-Stop® Pressure Exerting Graphite Mastic can be used with a suitable filling material, i.e. stone wool, in order to ensure correct width to depth ratio and to reduce the shrinking of the sealant during curing. Minimum depth and maximum width of the joints are included in the installation instructions. When activated, the material will expand (intumesce) and prevent the passage of fire and smoke for periods up to 4 hours depending on application.



General Properties

- Classified in most constructions for plastic pipes and cables.
- May be used in combination with Kingspan K-Stop® Coated Batt; see product installation guide for details.
- Easy to apply.
- No priming necessary for application to most materials; see the installation instructions for further details.
- Suitable for most surfaces, included concrete, bricks, Leca, steel, wood, gypsum, glass, PVC and most non-porous surfaces.
- Hardens quickly, tack free after 1 hour.
- The fire performance specification of the joint filler has been derived when the joint filler has been allowed to cure for 30 days.
- Minimum 12 months storage time.
- 25 years working life.



K-Stop® Pressure Exerting Graphite Mastic

Emission Data (Indoor Air Quality)

Compound	Emission Rate After 4 Weeks
TVOC	< 5 µg/m ³
Formaldehyde	< 3 µg/m ³
Carcinogenic	< 1 µg/m ³

NB n.d. or < means not detected.

Regulation or Protocol	Conclusion
French VOC Regulation	Pass / A+
French CMR Components	Pass
German AgBB (2021)/ABG (2022)	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-NOR	Pass / Exemplary Level
LEED-EU (v4.1) BETA	Pass

K-Stop® Pressure Exerting Graphite Mastic has been tested by Eurofins Product Testing; reports available upon request.

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 judgement based on BS EN 1366-3: 2021* (Fire resistance tests for service installations. Penetration seals) are:

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

¹⁾ Stated in BS EN 1366-3: 2021*.

²⁾ Kingspan's judgment based on tests.

³⁾ 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.

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Condition	Ready for use, water based graphite filler
Specific Gravity	1.50 – 1.60
pH	8.00 – 9.50
Reaction to Fire	Class B-s1, d0
Flash Point	None
Expansion Rate	Approx. 1 : 25
Non-sticky	60 minutes
Film Forming	30 minutes
Totally Hardened	3 to 5 days depending on thickness
Durability / Service	Class Z2
Thermal Conduct	0.85 W/mK (+/- 3%) @ 20 mm depth
Storage	12 months stored in unopened cartridges. To be stored in temperatures between 5 °C and 30 °C.
Working Life	25 years
Service Temperature	-15 °C to +75 °C
Application Temperature	+4 °C to +30 °C
Compatibility	Suitable for use with most materials. Should not be used in direct contact with bitumen
Limitations	Should not be used in permanently damp areas or in joints with excessive movement, joints at floor level or joints below the ground
Classification	CE-marked - Sealant for fire rated penetrations class EI 240 depending on application
Colour	Dark grey (may grow darker during curing)
Packaging	Box containing 25 cartridges each 310 ml Box containing 25 foil packed each 300 ml

Air Permeability

Positive Pressure (Pa)	Leakage (m³/h/m²)	Negative Pressure (Pa)	Leakage (m³/h/m²)
25	0.00	25	0.00
50	0.00	50	0.00
100	0.00	100	0.00
200	0.00	200	0.00
300	0.00	300	0.56
450	0.83	450	1.67
600	3.61	600	3.33

Installation

Please refer to the K-Stop® Pressure Exerting Graphite Mastic installation guide, available to download from www.kingspanpassivefireprotection.co.uk.

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