K-Stop® Intumescent Mastic Plus

Technical Data Sheet

Description

Kingspan K-Stop® Intumescent Mastic Plus is designed to prevent the spread of fire and smoke through joints and openings in fire rated walls and floors including openings formed around building service penetrations. K-Stop® Intumescent Mastic Plus will also maintain the acoustic design performance.

K-Stop® Intumescent Mastic Plus cures when it is subjected to atmospheric conditions, however it will retain a degree of elasticity for joint movement. Under fire exposure, K-Stop® Intumescent Mastic Plus creates a robust fire seal by the formation of a durable intumescent char.

K-Stop® Intumescent Mastic Plus can be used with a suitable filling material, i.e. stone wool, in order to secure 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 the application.

General Properties

- Faster application times and minimal material use due to its ability to achieve high fire ratings and single sided installations.
- Classified for fire sealing all types of constructions such as drywalls, masonry walls, concrete walls, concrete floors and composite floors.
- Classified for fire stopping of service penetrations in cross-laminated timber walls and floors.
- Classified for fire sealing all types of building service penetrations such as cables, cable bundles, cable conduits, steel pipes, copper pipes, composite pipes, PVC pipes, PE pipes, ABS pipes, PP pipes and PEX pipe-in-pipes.
- Classified with commonly used pipe insulations such as stone wool, glass wool, elastomeric, phenolic and PU-foam, both interrupted and continuous through the fire seal
- Classified for fire sealing against timber, steel and aluminium such as door and window frames.
- May be installed in drywalls with or without framing around the opening.
- Available in foil sausages.
- Emissions tested.
- Simple to apply with a smooth surface finish.
- No priming necessary for application to most materials.
- Suitable for most surfaces, including concrete, masonry, steel, gypsum, glass, plastics and most non-porous surfaces.
- Hardens quickly and tack free after 1 hour (the fire performance specification of the joint filler has been derived when the joint filler has been let to cure for a month).
- 24 months storage time (under correct conditions).
- 25 years working life.

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Emission Data (Indoor Air Quality)

Compound	Emission Rate After 4 Weeks
TVOC	< 2 µg/m^3
Formaldehyde	< 3 µg/m^3

Regulation or Protocol	Conclusion
French VOC Regulation	Pass / A+
Italian Regulation (public procurement)	Pass
German AgBB (2021) / ABG (2022)	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
Finnish M Classification	Pass / M1
LEED-EU v4.1 BETA	Pass

K-Stop® Intumescent Mastic Plus has been tested by Eurofins Product Testing A/S; reports available upon request.

Technical Data

Condition	Ready for use, acrylic based filler
Specific Gravity	1.58 – 1.64
Flash Point	None
Reaction to Fire	Class B-s1, d0
Expansion in Fire	1 : 2-3
Non-sticky	Max. 75 minutes
Film Forming	Max. 25 minutes
Totally Hardened	3 to 5 days depending on thickness and temperature
Flexibility	12.5% according to ISO 11600: 2002* (Building construction - Jointing products - Classification and requirements for sealants)
Durability / Service	Z_2 intended for use in internal conditions with humidity classes other than Z_1, excluding temperatures below 0 °C
BWR 3	Use category IA1, S/W3
Thermal Conductivity	0.845 W/mK (+/- 3%) @ 20 mm depth
Storage	24 months stored in unopened cartridges. To be stored in temperatures between 10 °C and 30 °C
Working Life	25 years
Service Temperature	-20 to +70 °C
Application Temperature	+5 to +30 °C
Compatibility	Suitable for use with most materials, but should not be used in direct contact with bituminous materials
Limitations	Should not be used in permanently damp areas or in joints with high movement
Classification	CE marked and UKCA marked - Sealant for fire rated joints and penetrations class EI 240 depending on application
Standard Colours	White
Packaging	Available in 10 ltr tubs Box containing 25 foils / cartridges each 300 / 310 ml Box containing 12 foil packed each 600 ml Pallets 310 ml: 64 boxes per pallet equals 1600 pcs Pallets 600 ml: 91 boxes per pallet equals 1092 pcs

* And all previous editions.

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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[4)]
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.

Air Permeability

Positive Pressure (Pa)	Leakage ($m^3/m^2/h$)	Negative Pressure (Pa)	Leakage ($m^3/m^2/h$)
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	1.11	450	1.67
600	6.94	600	6.11

Installation

Please refer to the K-Stop® Intumescent Mastic Plus installation guide, available to download from **www.kingspanpassivefireprotection.co.uk**.

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Technical Data Sheet to
ETA 23/0797 & ETA 23/0798
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