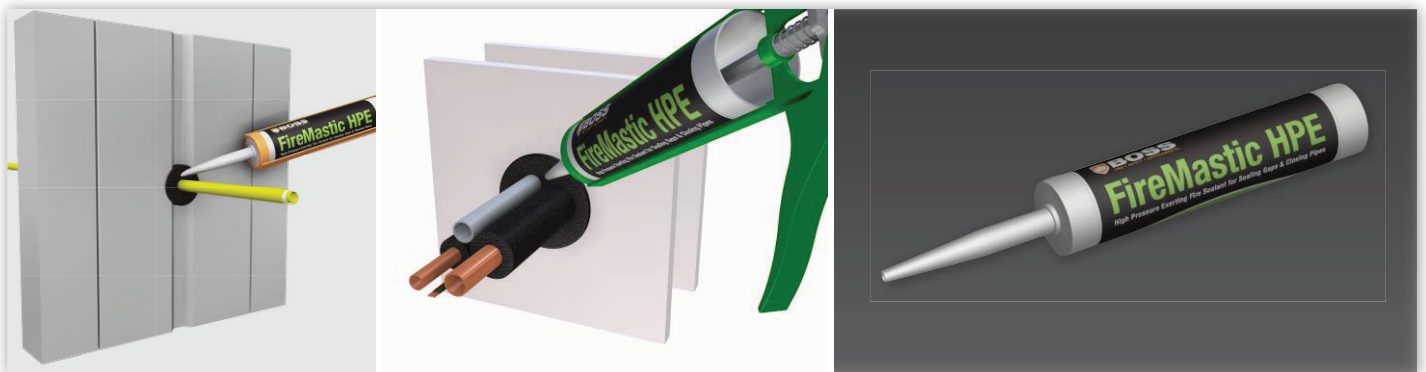


# FireMastic-HPE

## *High Pressure Expanding Mastic*

*Advanced graphite-based intumescent sealant for closing of pipes and protecting penetrations from fire and smoke*

*Approved to AS 1530.4:2014, ISO 6944 and BS/EN 1366*



## *Technical Data Sheet*

## KEY BENEFITS

- Unique, proven high-performance penetration sealant
- High pressure 40x expansion rate
- Closes down plumbing and HVAC pipes
- 2 hours fire resistance on cables and pipes
- Approved to be use on pipe insulation lagging and refrigerant pipe
- Approved on masonry, Hebel, plasterboard and Speedpanel/Speedwall

## INTRODUCTION



**FireMastic-HPE** is a graphite-based, thixotropic, one-part acrylic emulsion that is designed to resist the passage of fire and smoke. Under heat, FireMastic-HPE will expand with enough pressure to close PVC pipes and seal around cables and metal pipes to maintain the integrity and insulation performance of the seal, yet without placing any unnecessary pressure on the building substrate.

FireMastic-HPE is supplied in 310 ml cartridges suitable for caulking via an applicator gun or also available in 600ml foil sausages. It has excellent non-slump properties coupled with the ease of application due to its water-based nature.

The sealant is intended for use in either linear gap seals or service penetrations through walls or floors where fire integrity and insulation needs to be preserved. Under fire conditions the product expands up to 40 times its volume and exerts pressure to the surrounding substrates, leading to closure of the penetration. The integrity and insulation is then maintained by the stability of the remaining product char.

FireMastic-HPE is the leader in its class with the highest expansion rate for an intumescent sealant and tested on the largest pipe sizes.

## PRODUCT APPLICATIONS & ADVANTAGES

- Sealing combustible and non-combustible penetrations.
- Closing down plumbing & HVAC pipes.
- Sealing around metal pipes with insulated lagging remaining on the pipe.
- Sealing of cables, including cable bunches.
- Suitable for use in irregular applications.
- Excellent insulation properties.
- Easy clean up with water and odourless.
- Long life and paintable.
- Provides smoke and gas seal.
- Approved on a wide range of masonry, Hebel/AAC and plasterboard applications.

## PHYSICAL PROPERTIES

Description	Aqueous thixotropic paste
Density	1.3g/cm <sup>3</sup>
Colour	Dark Grey
Application temperature	+5°C to 30°C
Expansion onset temperature	120°C - 140°C
Expansion	Up to 40 times
Skin time	15 minutes @ 25°C/50%RH
Shelf life	18 months when unopened
pH	8 - 9
Testing	AS 1530, BS/EN 1366, ISO 6944
V.O.C.	18g/Litre SCAQMD

## INSTALLATION

1. Ensure the opening and any substrate which the product will come into contact with is clean, free from dust and loose particles.



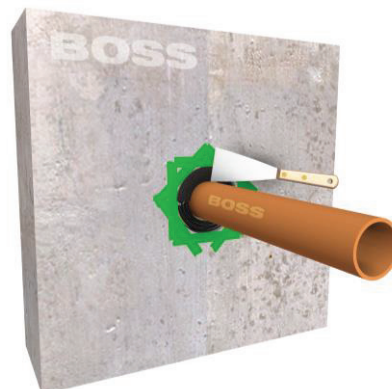
2. Mask the surface of the wall if an aesthetic finish is required. Install the service and pack the aperture with open cell foam backing, to set the required sealant depth on each side in accordance with the test data or application table.



3. Apply the sealant around the service and fill the void to the surface of the wall. Best results are achieved if filling the void is started at the bottom of the void and work upwards.



4. Tool the sealant with a wet pallet knife or trowel, flush with the wall surface. Then remove the masking tape.



5. Label the penetration in accordance with regulatory requirements.



All dimensions and tolerances should be in line with the recommended guidelines as dictated by the relevant test data and assessment documents.

## APPROVED APPLICATIONS

FireMastic-HPE has multiple international fire tests on a wide variety of pipe types, including:

- PVC, HDPE, ABS, PP pipes through floors and walls to BS/EN 1366
- PVC, cPVC, HDPE, PEX and PEX-AL to AS 1530.4
- Cables and cable bundles to AS 1530.4 and BS/EN 1366
- HVAC & Refrigerant pipes and cluster of pipes to both AS 1530.4 and BS/EN 1366

FireMastic-HPE provides solutions for these typical services:

Plumbing pipes, including uPVC, uPVC-DVW, PEX, HDPE

Sprinkler & Pressure pipe, including cPVC / Blazemaster / Spears

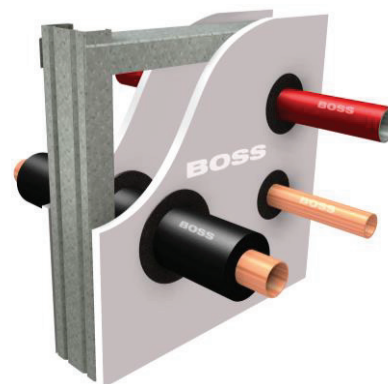


Gas pipes, including PEX-AL & Copper



Steel/Ferrous Pipes

HVAC & Refrigerant Pipes including lagged copper and paircoil. Including 1-sided solutions.



NBN Cable, NBN Conduit, Data Conduit and Fibre Optic Cable. Including 1 sided solutions.

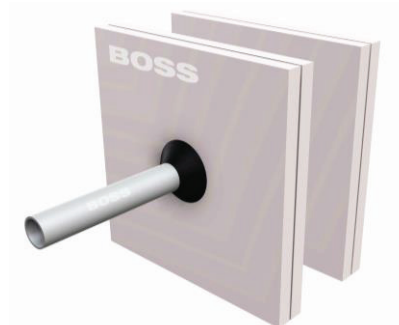
Cables and bunches of cables



Paircoil Clusters of Insulated HVAC Copper Pipes, Conduit and Cables



uPVC Conduits & Pipes



## Refrigerant Pipe Lagging

FireMastic-HPE has been tested on a wide variety of pipe lagging types, including fire rated, flame resistant and also non-rated (fully combustible). These lagging types include nitrile rubber, foam, mineral wool and composite materials in black, grey and white lagging.

Brands of lagging include (but not limited to):

- Roxul
- Armaflex
- Linkaire
- Polyaire
- Arrow
- As well as some generic branded lagging.

FireMastic-HPE has passed fire tests on all these insulation types, with similar results achieved regardless of material, brand or colour. For that reason, when selecting a paircoil type to use, the lagging type, brand or colour is generic to the performance of FireMastic-HPE in a fire situation, and FireMastic-HPE can be used with all the types & brands listed above.

This may not be the case with other competitor brands of expanding sealants, as lesser performing products will require the flame retarding properties of fire rated lagging (eg. FR Armaflex) to assist in the overall FRL of the pipe penetration seal. More information on this can be gained by contacting FlameStop Technical Services Team.

## SPECIFICATION

### 60min Wall Systems

Service	Seal / Service Size	Wall Type	Seal Size	FRL
PEX Plumbing Pipes	20mm Ø	Plasterboard AAC/Hebel Masonry Concrete Block Min. wall thickness 90mm	20mm annular x 13mm deep	-/60/60
NBN Fibre Optic Data Cable	5mm Ø Approved NBN Cable	Plasterboard AAC/Hebel Masonry Concrete Block Min. wall thickness 90mm	1-side only 20mm Volcano Fillet (either direction)	-/60/60
HVAC Paircoil, PVC Drain and Cable Cluster	Copper paircoil 6.35mm and 9.52mm with insulation. 1.5mm <sup>2</sup> 2C+E TPS cable 16mm dia PVC flexi conduit	1hour plasterboard cavity wall. All services clustered together, installed from one side into wall cavity. Sealed from one side only.	80mm dia hole 13mm deep 1 side only (either direction)	-/60/60
HVAC Paircoil, PVC Drain and Cable Cluster	10mm & 15mm Paircoil (NON-RATED Lagging) 16mm corrugated PVC drain 2C+E TPS Cable 1.5mm <sup>2</sup> 2-C Data cable	Plasterboard AAC/Hebel Masonry Concrete Block Min. wall thickness 90mm	2 <sup>nd</sup> layer plasterboard build up 150x150mm with FireMastic-HPE seal 20mm x 26mm deep	-/60/60
HVAC Paircoil, PVC Drain and Cable Cluster	10mm & 15mm Paircoil (NON-RATED Lagging) 16mm corrugated PVC drain 2C+E TPS Cable 1.5mm <sup>2</sup> 2-C Data cable	Plasterboard AAC/Hebel Masonry Concrete Block Min. wall thickness 90mm	BOSS MaxiCollar surface mounted around services and infilled with FireMastic-HPE	-/60/60

### 60min Wall Systems Continued

Service	Seal / Service Size	Wall Type	Seal Size	FRL
Cable Bunches	2C+E TPS 2.5mm <sup>2</sup> bunches of up to 8 cables in a single hole 70mm Ø	Plasterboard AAC/Hebel Masonry Concrete Block Min. wall thickness 90mm	Fill annular gap between cables and minimum 70mm Ø hole, 13mm deep	-/60/60
uPVC – DWV Plumbing Pipes	20mm Ø 25mm Ø	Plasterboard AAC/Hebel Masonry Concrete Block Min. wall thickness 124mm	Surface seal only 20mm x 20mm Volcano Fillet (zero annular gap)	-/60/60

### 120min Wall Systems

Service	Seal / Service Size	Wall Type	Seal Size	FRL
Copper pipes with insulated lagging	Pipe size 15mm – 60mm dia Lagging up to 124mm dia	Plasterboard	20 x 25mm deep	-/120/120
Steel pipes and insulated lagging	Pipe size 15mm – 60mm dia Lagging up to 124mm dia	Plasterboard	20 x 25mm deep	-/120/120
Copper pipes – uninsulated	15mm up to 60mm dia	Plasterboard	20 x 24mm deep	-/120/0*
Steel pipes – uninsulated	15mm up to 60mm dia	Plasterboard	15 x 24mm deep 20 x 24mm deep	-/120/0*
Paircoil Cluster of twin insulated copper pipes and 6-core cable	Pipes – clustered together, 10mm/15mm Hole size 100mm dia	Plasterboard	Fill remaining void of hole 25mm deep	-/120/120
Paircoil Cluster of twin insulated copper pipes, PVC conduit, TPS power cable & Fig 8 data cable	Pipes – clustered together, Paircoil 10mm/15mm dia PVC drain 2.5mm <sup>2</sup> 2C – E TPS 1.0mm <sup>2</sup> Fig 8 data cable Hole size 125mm dia Ø	Plasterboard	Fill remaining void of hole 25mm deep	-/120/120
NBN 'P23' Data uPVC conduit	Standard NBN conduit 23mm ID Hole size 25mm dia	Plasterboard	20 x 20mm fillet Surface seal only	-/120/120
uPVC Conduit & Pipe	20mm and 25mm Ø Hole size 20mm and 25mm (ie no annular gap)	Plasterboard	20 x 20mm fillet Surface seal only	-/120/120
cPVC BlazeMaster/Spears Pipe	Pipe size 32mm ID – 40mm OD Hole size 60mm dia	Plasterboard	20mm annular gap 25mm deep seal	-/120/120
PEX	Pipe size 20mm Ø Hole size 60mm	Plasterboard	20mm annular gap 25mm deep seal	-/120/120
PEX-AL plumbing and gas pipe	Pipe size 20mm Ø Hole size 60mm	Plasterboard	20mm annular gap 25mm deep seal	-/120/120
Copper pipes with Armaflex and insulated lagging	Pipe size 15mm – 60mm dia Lagging up to 124mm dia	Masonry	15 x 24mm deep 20 x 24mm deep	-/120/120
Steel pipes with Armaflex and insulated lagging	Pipe size 15mm – 60mm dia Lagging up to 124mm dia	Masonry	15 x 24mm deep 20 x 24mm deep	-/120/120
Copper pipes – uninsulated	15mm up to 60mm dia	Masonry	15 x 24mm deep 20 x 24mm deep	-/120/0*
Steel pipes – uninsulated	15mm up to 60mm dia	Masonry	15 x 24mm deep 20 x 24mm deep	-/120/0*
Copper pipes with Armaflex and insulated lagging	Pipe size 15mm – 60mm dia Lagging up to 124mm dia	Aerated Concrete Block (Hebel)	15 x 24mm deep 20 x 24mm deep	-/120/120

### 120min Wall Systems Continued

Service	Seal / Service Size	Wall Type	Seal Size	FRL
Copper pipes with Armaflex and insulated lagging	Pipe size 15mm – 60mm dia Lagging up to 124mm dia	Aerated Concrete Block (Hebel)	15 x 24mm deep 20 x 24mm deep	-/120/120
Copper pipes – uninsulated	15mm up to 60mm dia	Aerated Concrete Block (Hebel)	15 x 24mm deep 20 x 24mm deep	-/120/0*
Steel pipes – uninsulated	15mm up to 60mm dia	Aerated Concrete Block (Hebel)	15 x 24mm deep 20 x 24mm deep	-/120/0*
Linear Joint Seals	Up to 20mm wide Up to 120mm deep	Masonry to masonry Concrete to concrete Plasterboard-plasterboard Any combination above	20mm wide 25mm deep	-/120/120
Cables bundled and insulated with: PVC EPR/PO XLPE/EVA	Bundled of 10 or less sheathed up to 5mm x 1.5mm <sup>2</sup> Pairs up to 1mm x 95mm <sup>2</sup> A1, A2, A3 or B cables	Plasterboard Masonry Concrete Block Hebel	Fill available void to 25mm deep	-/120/120

\*uninsulated metal pipe penetrations generally not required to have insulation criteria, as per BCA C3.15

### SAFETY CAUTION

As FireMastic-HPE contains graphite to provide its high performance intumescence, it is therefore highly conductive of electricity. Extreme caution is needed to ensure FireMastic-HPE does not come into contact with live current or electrically charged equipment as electric shock may occur. When using FireMastic-HPE to firestop around power cables, check to make sure that the cables' insulation is free from defects.

### LIMITATION

BOSS Fire & Safety Pty Ltd has provided the above technical information in good faith and to be best of its knowledge. This information was deemed to be correct at the time of publication.

Should any data come to BOSS Fire & Safety's attention relating to the fire resistance or performance of the product described, BOSS Fire & Safety reserve the right to amend this report.

BOSS Fire & Safety strive to constantly improve and developed products so this information may change without notice.

### FURTHER TECHNICAL INFORMATION

For additional technical information on the performance of FireMastic-HPE or other BOSS products please contact our Technical Services team  
[www.flamestop.com.au](http://www.flamestop.com.au)