

# Firebreak 66 Intumescent Pressure Sealant

## TECHNICAL DATA SHEET

Firebreak 66 is a one part intumescent acrylic sealant which in fire conditions expands with high pressure to seal openings in fire compartmenting structure when penetrated by plastic pipes, metal pipes with combustible insulation and single or bunched cables.

### Description

Firebreak 66 is a halogen-free, polymer emulsion-based sealant designed to maintain the fire resistance of floor and walls when penetrated by plastic pipes and metal pipes with continuous combustible insulation. Under fire conditions the intumescent filler expands to many times its original thickness exerting pressure on the softening pipe and/or insulation closing the opening with a dense block of fire resistant char that restricts the passage of smoke and fire.

Fire testing has been conducted in conjunction with a range of pipe and cable service penetrations through fire compartmenting floors and walls including 100mm thick flexible (plasterboard) partitions.

### Performance

Firebreak 66 has been tested to the latest European requirements for applications in walls and floors.

- Fire Classification to EN 13501-2 and CE Mark (ETA 21/0205)
- Flexible Walls (stud partitions) or rigid walls (masonry, concrete) of 100mm minimum thickness
- Rigid (concrete) floors of 150mm minimum thickness
- Tested in conjunction with plastic pipes up to 160mm diameter
- Classification: ISO 11600 F 7.5P
- Mechanical and durability testing to EAD 350454-00-1104; Y<sub>2</sub> (-5°/70°C) (internal use with temperature range of -5°C to +70°C and high humidity)
- Sound insulation: Rw up to 57dB (BS EN ISO 10140-2: 2010)



- Zero flame spread when tested to EN ISO 11925-2: 2010 giving Class E classification to EN 13501-1:2007 + A
- VOC Emissions Classification: M1 (highest European classification)
- Third party product certification with UL International (Certificate # UL-EU-00704-CPR)



CE
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2821-CPR-0121
ETA 21/0205
EAD 350454-00-1104

### Plastic pipes in partitions or masonry/concrete walls of minimum thickness 100mm

Seals both sides with stone mineral wool backing (33kg/m<sup>3</sup>) as required

Penetrating service	Minimum seal depth (mm)	Min. annular space (mm)	Fire performance (mins)	
			Integrity (E)	Integrity & insulation (EI)
PVC-U pipe up to 20mm diameter x 1mm wall thickness	30	6	120	120
PVC-U pipe up to 40mm diameter x 1.9–3.0mm wall thickness	30	10	120	120
PVC-U pipe up to 110mm diameter x 1.8mm wall thickness	30	20	120	90
HDPE pipe up to 32mm diameter x 2mm wall thickness	30	10	120	120
HDPE pipe up to 40mm diameter x 2.4–3.7mm wall thickness	30	10	120	120
HDPE pipe up to 75mm diameter x 4.5mm wall thickness	30	15	120	120
HDPE pipe up to 75mm diameter x 4.6–6.8mm wall thickness	30	15	60	60
HDPE pipe up to 110mm diameter x 8.2mm wall thickness	50	25	90	90
HDPE pipe up to 160mm diameter x 10.2mm wall thickness	50	25	90	90
PP pipe up to 50mm diameter x 4.6mm wall thickness	30	15	120	120

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## Plastic pipes in masonry/concrete walls of minimum thickness 150mm

Seals both sides with stone mineral wool backing (33kg/m<sup>3</sup>) as required

Penetrating service	Minimum seal depth (mm)	Min. annular space (mm)	Fire performance (mins)	
			Integrity (E)	Integrity & insulation (EI)
PVC-U pipe up to 40mm diameter x 3.0mm wall thickness	40	20	240	240
PVC-U pipe up to 55mm diameter x 2.2mm wall thickness	40	25	180	180
PVC-U pipe up to 160mm diameter x 4mm wall thickness	50	20	90**	60**
HDPE pipe up to 40mm diameter x 3mm wall thickness	40	20	240	240
MLCP* pipe up to 16mm diameter x 2.4mm wall thickness	40	10	180	180
MLCP* pipe up to 20mm diameter x 2.5mm wall thickness	40	7.5	120	120
MLCP* pipe up to 20mm diameter x 2.5mm wall thickness	40	15	180	180
MLCP* pipe up to 25mm diameter x 3.0mm wall thickness	40	15	180	90
MLCP* pipe up to 40mm diameter x 4.0mm wall thickness	40	20	180	15
MLCP* pipe up to 63mm diameter x 6.0mm wall thickness	40	25	60	60

\*Multilayer Composite Pipe (PE-RT/Al/PE-RT).

\*\*100mm minimum wall thickness.

## Metal pipes with continuous combustible foam rubber insulation in masonry/concrete walls of minimum thickness 150mm

Seals both sides with stone mineral wool backing (33kg/m<sup>3</sup>) as required

Penetrating service	Insulation thickness (mm)	Minimum seal depth (mm)	Min. annular space (mm)	Fire performance (mins)	
				Integrity (E)	Integrity & insulation (EI)
Steel pipe up to 89mm Ø x 1.5mm minimum wall thickness	13–25	30	10–15	120	90
Steel pipe up to 115mm Ø x 2mm minimum wall thickness	19–32	30	10–15	120	90
Steel pipe up to 219mm Ø x 7mm minimum wall thickness	40	30	20	120*	120*

\*130mm minimum partition thickness.

## Metal pipes with continuous combustible foam rubber insulation interrupted at seal in masonry/concrete walls of minimum thickness 150mm

Seals both sides with stone mineral wool backing (33kg/m<sup>3</sup>) as required

Penetrating service	Insulation thickness (mm)	Minimum seal depth (mm)	Min. annular space (mm)	Fire performance (mins)	
				Integrity (E)	Integrity & insulation (EI)
Copper/steel pipe up to 35mm Ø x 1.5mm min. wall thickness	None	10	N/A	240	30
Copper/steel pipe up to 35mm Ø x 1.5mm min. wall thickness	25	10	N/A	240	180*
Steel pipe up to 40mm Ø x 3.2mm minimum wall thickness	None	10	N/A	180	20
Steel pipe up to 40mm Ø x 3.2mm minimum wall thickness	25	10	N/A	240	180

\*120 minutes with 500mm local insulation.

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## Cables in masonry/concrete walls of minimum thickness 150mm

Seals both sides with stone mineral wool backing (33kg/m<sup>3</sup>) as required

Penetrating service	Max. opening diameter (mm)	Minimum seal depth (mm)	Min. annular space (mm)	Fire performance (mins)	
				Integrity (E)	Integrity & insulation (EI)
1x HD603.3 cable, 23mm to 27mm diameter	80	10	0	240	240
HD604.5 cables, up to 13mm diameter, single/bunched	80	10	0	240	240
1x HD604.5 cable, 42mm to 45.5mm diameter	80	10	0	240	240

## Plastic pipes in concrete floors of minimum thickness 150mm

Seals both sides with stone mineral wool backing (33kg/m<sup>3</sup>) as required

Penetrating service	Minimum seal depth (mm)	Min. annular space (mm)	Fire performance (mins)	
			Integrity (E)	Integrity & insulation (EI)
PVC-U pipe up to 20mm diameter x 1.5mm wall thickness	20	6	240	240
PVC-U pipe up to 40mm diameter x 1.9mm wall thickness	30	10	240	240
PVC-U pipe up to 50mm diameter x 1.9mm wall thickness	30	15	60	60
PVC-U pipe up to 110mm diameter x 1.8mm wall thickness	40	20	240	240
HDPE pipe up to 20mm diameter x 1mm wall thickness	20	6	240	240
HDPE pipe up to 40mm diameter x 2.4mm wall thickness	30	10	60	60
HDPE pipe up to 75mm diameter x 3.0mm wall thickness	30	15	180	180
HDPE pipe up to 160mm diameter x 9.5mm wall thickness	40	25	120	45
MLCP* pipe up to 16mm diameter x 2.4mm wall thickness	40	10	240	90
MLCP* pipe up to 20mm diameter x 2.5mm wall thickness	40	7.5	120	15
MLCP* pipe up to 20mm diameter x 2.5mm wall thickness	40	15	240	240
MLCP* pipe up to 25mm diameter x 3.0mm wall thickness	40	15	240	20
MLCP* pipe up to 40mm diameter x 4.0mm wall thickness	40	20	90	90

\*Multilayer Composite Pipe (PE-RT/Al/PE-RT).

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## Metal pipes with continuous combustible foam rubber insulation in concrete floors of minimum thickness 150mm

Seals both sides with stone mineral wool backing (33kg/m<sup>3</sup>) as required

Penetrating service	Insulation thickness (mm)	Minimum seal depth (mm)	Min. annular space (mm)	Fire performance (mins)	
				Integrity (E)	Integrity & insulation (EI)
Steel pipe up to 89mm Ø x 1.5mm minimum wall thickness	13	40/20*	10	120	120
Steel pipe up to 219mm Ø x 7mm minimum wall thickness	40	40/20*	20	120	90

\*bottom/top.

## Metal pipes with and without continuous combustible foam rubber insulation interrupted at seal in concrete floors of minimum thickness 150mm

Seals both sides with stone mineral wool backing (33kg/m<sup>3</sup>) as required

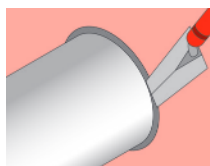
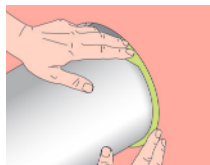
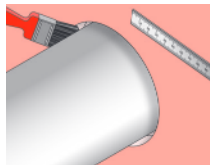
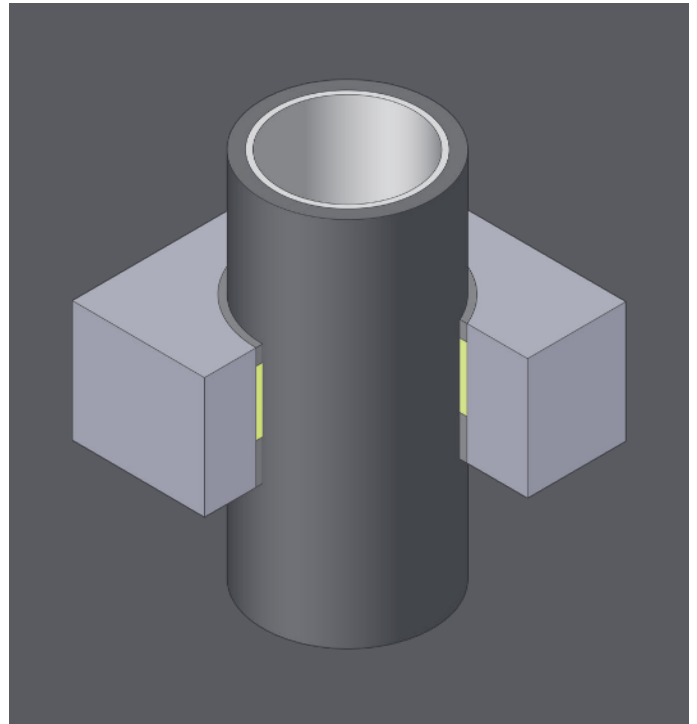
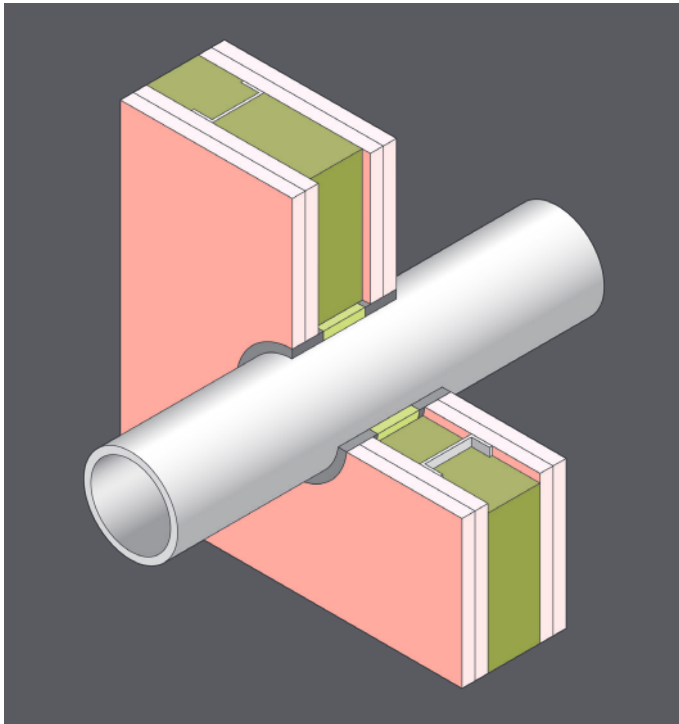
Penetrating service	Insulation thickness (mm)	Minimum seal depth (mm)	Min. annular space (mm)	Fire performance (mins)	
				Integrity (E)	Integrity & insulation (EI)
Steel pipe up to 40mm Ø x 3.2mm minimum wall thickness	None	10	N/A	240	60
Steel pipe up to 40mm Ø x 3.2mm minimum wall thickness	30	10	N/A	240	240

## Cables in masonry/concrete walls of minimum thickness 150mm

Seals both sides with stone mineral wool backing (33kg/m<sup>3</sup>) as required

Penetrating service	Max. opening diameter (mm)	Minimum seal depth (mm)	Min. annular space (mm)	Fire performance (mins)	
				Integrity (E)	Integrity & insulation (EI)
1x HD603.3 cable, 23mm to 27mm diameter	80	10	0	240	240
HD604.5 cables, up to 13mm diameter, single/bunched	80	10	0	240	90
1x HD604.5 cable, 42mm to 45.5mm diameter	80	10	0	240	90

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### Other Properties

- Colour: Grey
- Specific gravity: 1.30 –1.40
- Skinning time: (23°C/50%RH): 15–30 mins
- Cure time: (23°C/50%RH): 3mm/24hrs (depending on gap size and situation)
- Activation temperature: Approx. 150°C
- Expansion Factor (ASTM E2786-10): 19:1

### Installation

- Ensure contact surfaces are clean, dry and dust free
- Apply between 5°C and 40°C
- Check that the minimum required annular space is available around the service
- Where required pack loose stone mineral wool tightly around the penetrating service whilst allowing for the subsequent application of the specified minimum depth of Firebreak 66
- Gun the Firebreak 66 so as to fully fill the opening around the penetrating service
- Using a wet spatula carefully tool the sealant to form a flat surface flush with the plane of the surface of the wall, ceiling soffit or floor finish
- Repeat the procedure on the opposite side of the wall/floor
- Clean tools after use using soap and warm water

### End use conditions

Firebreak 66 is intended for internal use and has been subjected to EN mechanical and durability testing to support use across a wide temperature range of -5°C to +70°C and in high humidity conditions

### Maintenance

No routine maintenance is required although periodic inspection for possible damage is recommended. All penetrations seals which are subsequently modified should be made good using Firebreak 66.

### Supply, packaging and usage

Firebreak 66 is normally supplied in 310ml cartridges or 600ml foil packs. It can also be supplied in 5, 10, 15 or 19 litre tubs to order.

### Storage

It is recommended to store in dry conditions between 5°C and 35°C.

### Shelf life

12 months when stored under recommended storage conditions.

### Health and safety

Please refer to safety data sheet before use.

Since the product is applied under circumstances beyond our control, Neutron Fire Technologies Limited 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.

