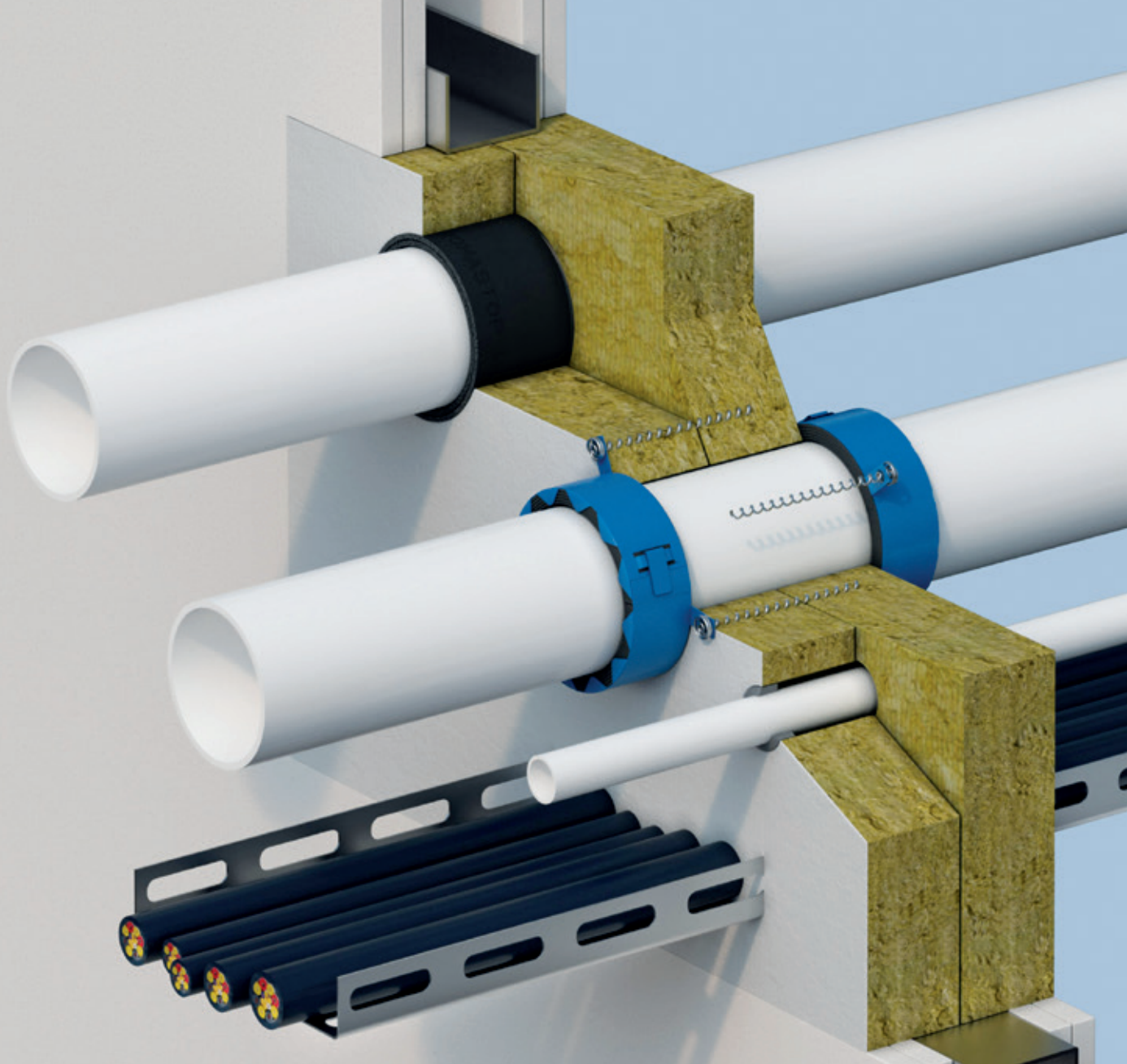


Promat



PROMASEAL®

Firestopping Performance Guide



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INTRODUCTION

The PROMASEAL® range of fire stopping products comprises of a number of sealing solutions.

Systems such as these have a proven track record of sealing the penetrations typically found in buildings during construction projects, such as power cables, plumbing and heating pipes, ventilation ducts, movement joints etc.

Every service passing through fire resistant building elements reacts in a different way in the event of a fire, so there is no single solution or product that will protect all services and the Promat PROMASEAL® range is designed to offer specific protection for a range of penetrating services.

Promat PROMASEAL® products are tested to industry recognised standards, are manufactured using the highest quality materials and are third party accredited under the UL EU and Certifire™ schemes.

Fire stopping products fall into one of the broad categories as follows:

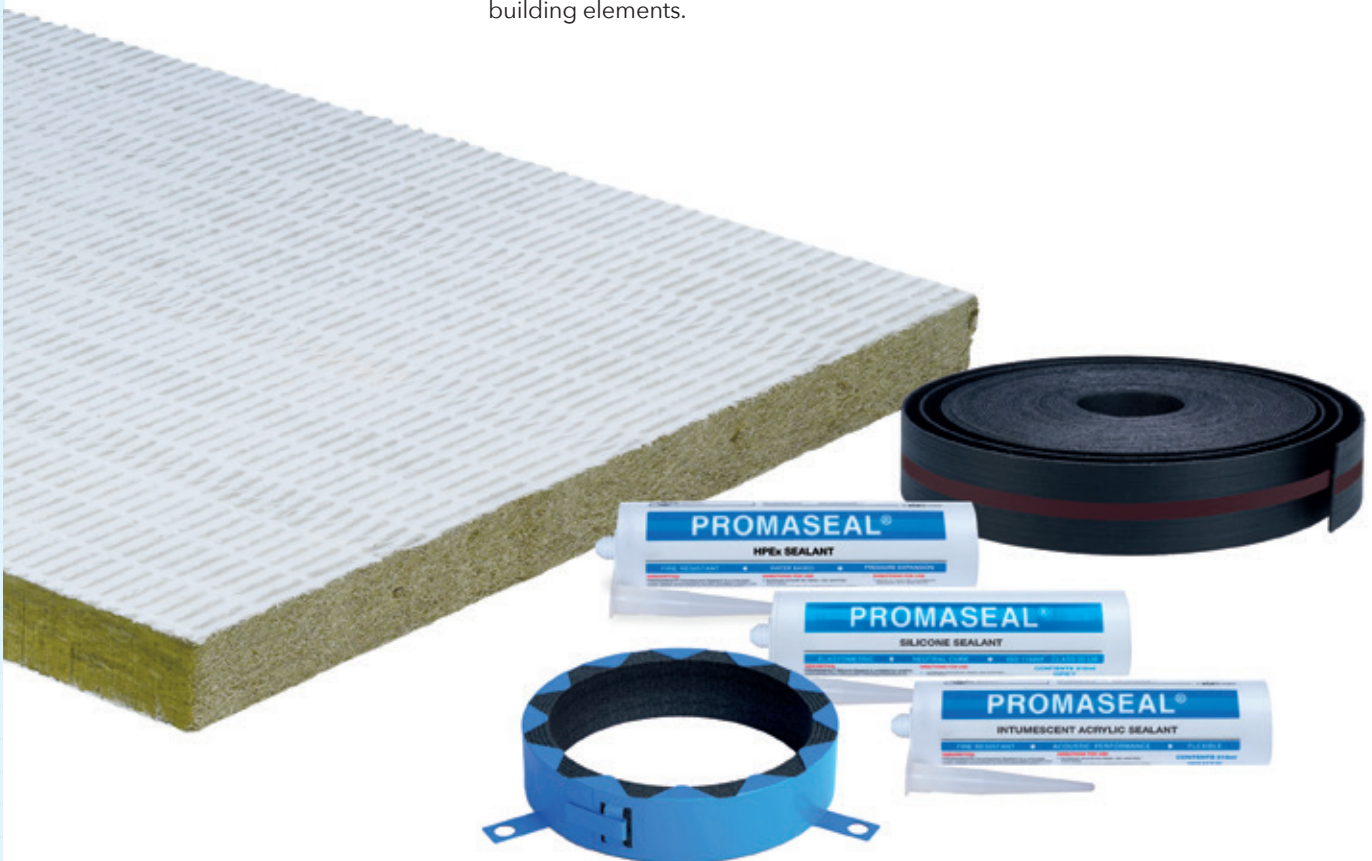
Penetration Seals

Where services pass through a fire rated wall or floor.

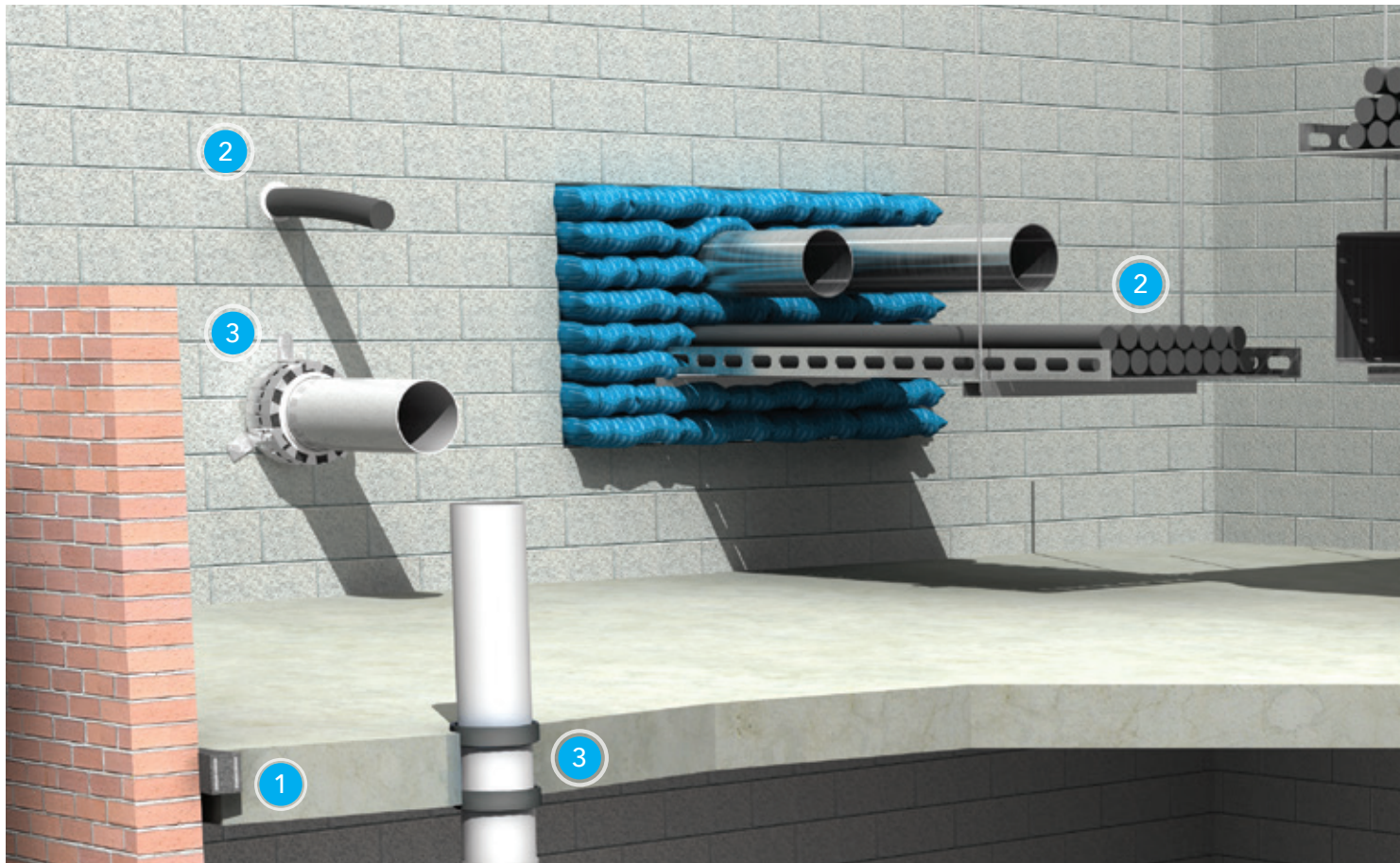
Linear Gap Seals

Where there are gaps in wall and floor constructions and for junctions between building elements.

For further technical information on the entire PROMASEAL® fire stopping range, please visit: www.promat.co.uk/promaseal/

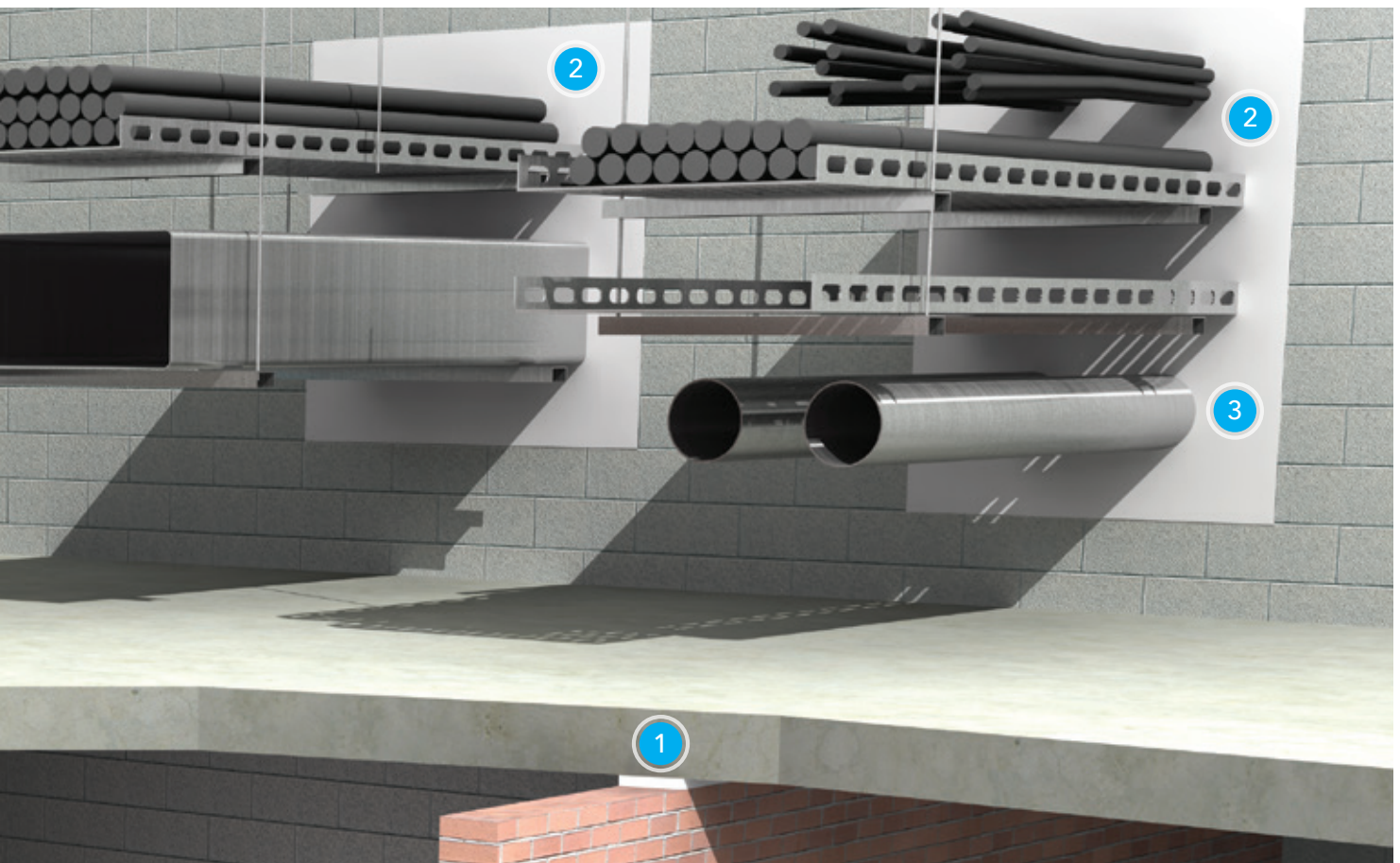


PRODUCT SELECTOR



	1 JOINTS	2 ELECTRICAL CABLES			3 PIPES			MOVEMENT
		Single cables	Bundles	Cable trays	Plastic	Metal	Insulated metal	
PROMASEAL® Intumescent Acrylic Sealant	●	●		●		●		●
PROMASEAL® Silicone Sealant	●							●
PROMASEAL® HPEX Sealant		●	●		●		●	
PROMASEAL® COLLAR					●			
PROMASEAL® WRAP					●		●	
PROMASEAL® Fire Barrier		●	●	●	●*	●	●*	
PROMASEAL® Fire Compound Extra Strength		●	●	●	●*	●	●*	
PROMASEAL® Fire Compound		●	●	●	●*	●	●*	
PROMASEAL® UNICOLLAR					●			
PROMASEAL® Expansion Joint Strip	●							●
PROMASEAL® Fire Pillows		●		●				

* Fitted with suitable closure device.



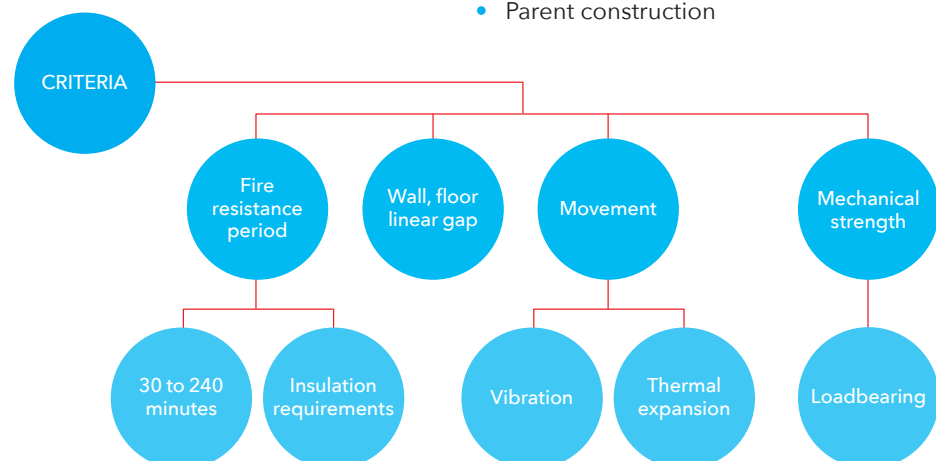
Tested with PROMASEAL® Fire Barrier	PAGE
●	6
	13
●	15
●	22
●	27
	35
	55
	57
	59
	64
	65

Which system(s) to use

As service penetrations can occur in various building elements, there are a number of important criteria that require consideration in determining the appropriate type of sealing system to be used, simplified in the following chart.

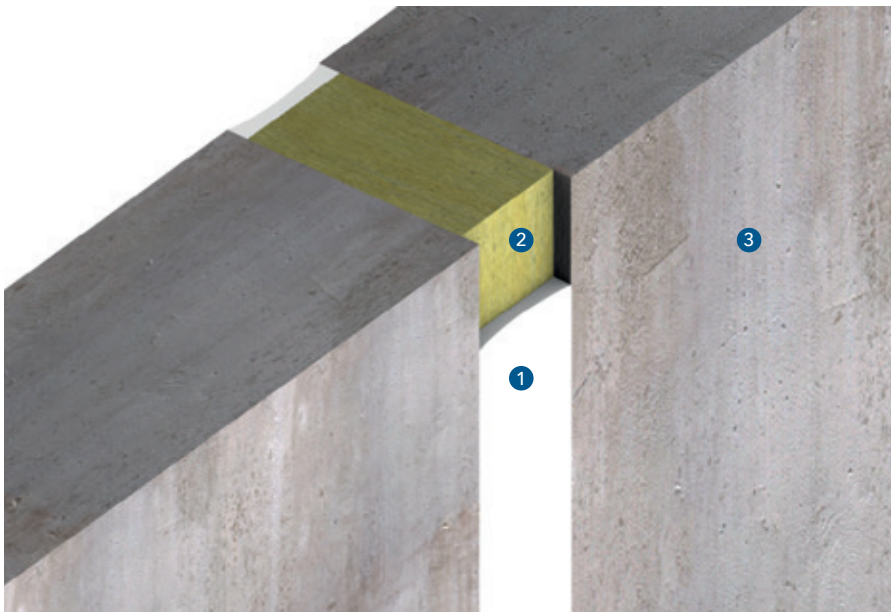
Considerations

- Size of opening
- Penetration services
- Flexibility of seal(s)
- Smoke or gas tightness
- Ambient conditions
- Design life
- Frequency of change to services
- Parent construction





PROMASEAL® Intumescent Acrylic Sealant



Key to Illustrations

(See details 1 to 3)

- ① PROMASEAL® Intumescent Acrylic Sealant
- ② Backfilling material
- ③ Supporting construction
- ④ Mild steel

Introduction

PROMASEAL® Intumescent Acrylic Sealant is an acrylic based sealant that is used to reinstate the fire resistance of wall and floor constructions, in areas around services and to form a linear gap seal where gaps are present within wall and floor constructions.

PROMASEAL® Intumescent Acrylic Sealant has slight intumescent properties that cause it to swell upon heating and can achieve a fire performance of up to 240 minutes.

Fields of application

Linear joints seals in flexible and rigid walls and rigid floor constructions. Penetration seals around steel/copper pipes, electrical cables, cable trays and ladders.

Application instructions

- For good adhesion, the surfaces of the building elements shall be free of any dust or grease and may need to be primed. On good clean, virgin concrete and masonry, no priming required.
- Ensure that the aperture and services in question have been tested with PROMASEAL® Intumescent Acrylic Sealant (see performance tables) and the site conditions are within the application specification.

Technical data and properties

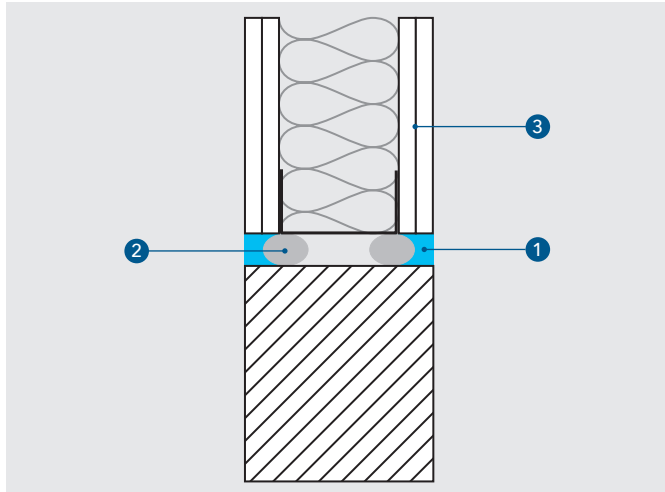
Colour	white or grey
Consistency	paste
Shrinkage	Approx. 12%
Skin over time (23°C, 50% RH)	15 minutes min.
Cure system	Water loss
Movement capabilities	Flexible up to 10%
Application temperature	+5 to +40°C
Airbourne sound insulation (EN 10140)	Rw 38dB
Air permeability (EN 1026) @ 50Pa - 100Pa	0 m³/h/m²

- Services should be supported (via steel angle hangers or channels) not more than 400mm from the surface of the sealing system on both sides of the seal.
- An annular space needs to be present around the service to apply sufficient installation depth.
- Adequate space and accessibility should be provided for applying and tooling the sealant. Mineral wool (density according to specification details) or PE backing rod where required can be used as backing materials (Please see specific installation details for further information).



PROMASEAL® Intumescent Acrylic Sealant - Linear Joint Seals

Detail 1 - Vertical linear joint seal in flexible wall and rigid wall



Description	Technical specification
Wall thickness	≥120mm
Joint width	≤ 20mm
Sealant depth	≥ 12.5mm (both sides)
Backfilling material	PE backing rod
Minimum backing depth	≥20mm
Fire Performance (Tested to EN 1366-4)	E120, EI 120

- Seal ratio to be maximum 2:1 (sealant gap width to depth) unless stated otherwise in performance tables.
- All services and apertures need to be clean and clear of all dust and loose particles. The aperture temperature needs to be at +5°C or above at time of installation.
- The PROMASEAL® Intumescent Acrylic Sealant is either gunned or trowelled into the aperture or between the separating element/elements to a specific depth utilising various backing materials (see specification detail).
- Ensure that the PROMASEAL® Intumescent Acrylic Sealant is installed around all services needed.
- Once compacted, smooth off the PROMASEAL® Intumescent Acrylic Sealant to produce a professional finish.
- Provision should be taken such that the floor joint seals cannot be stepped on, e.g. by covering with wire mesh or floor finishes.

System advantages/customer benefit

- Paintable (water-based)
- Good adhesion to most substrates
- Backing material can be either stonewool (density according to specification details) or PE backing rods
- Tack Free
- Suitable for use in internal applications, at high humidity (>85%)

Approvals

- Certifire approved CF431
- CE Marked
- ETA 15/0571
- ETA 15/0572

Packaging

PROMASEAL® Intumescent Acrylic Sealant is supplied in liquid form contained within 310ml tubes.

Storage requirements

- Store in cool and dry conditions - 3°C to 30°C
- Shelf life for original sealed containers is at least 18 months
- Once opened the container should be used swiftly

Safety instructions

Please refer to the safety data sheet for additional advice

Material Required:

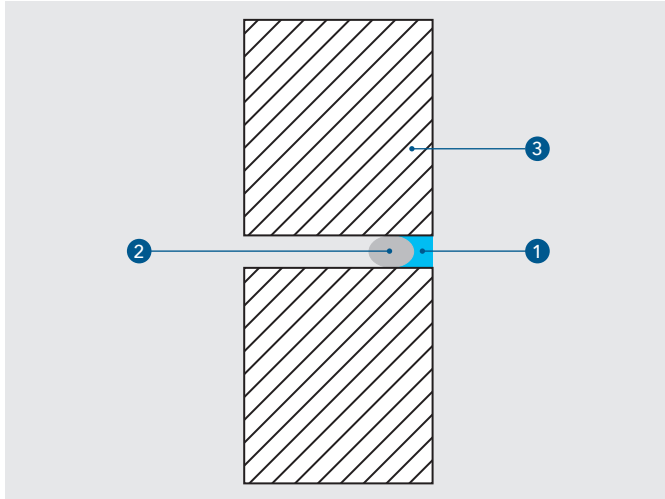
Sealant quantity can be calculated as follows:

$$\text{Total number of cartridges} = \frac{\text{Gap width(mm)} \times \text{depth(mm)} \times \text{length(m)}}{310}$$

(Remember to double the quantity if sealant is required on both sides of the wall/floor)

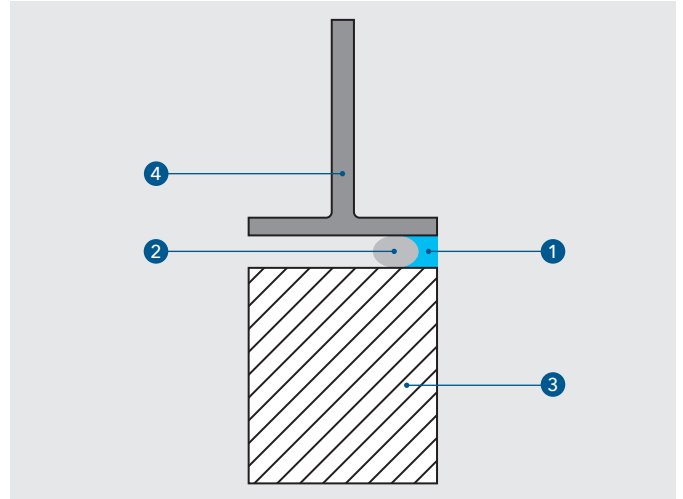
PROMASEAL® Intumescent Acrylic Sealant - Linear Joint Seals

Detail 2 - Vertical linear joint seal in rigid wall



Description	Technical specification
Wall thickness	≥100mm
Joint width	Refer to Table 1
Sealant depth	

Detail 3 - Vertical linear joint seal in rigid wall and steel



Description	Technical specification
Wall thickness	≥100mm
Joint width	Refer to Table 2
Sealant depth	

Table 1: Vertical linear joint seals in rigid wall - EN 1366-4 Approval Matrix

Maximum gap size (mm)	Seal position	Minimum seal depth	Backing material	Minimum backing depth (mm)	Fire resistance (mins)	
					E	EI
20	one side	10	PE backing rod	40	120	30
50		25			50	120

Table 2: Vertical linear joint seals between rigid wall and steel - EN 1366-4 Approval Matrix

Maximum gap size (mm)	Seal position	Minimum seal depth	Backing material	Minimum backing depth (mm)	Fire resistance (mins)	
					E	EI
20	one side	10	PE backing rod	20	120	15
50		25			50	45

NOTE: Additional specifications for the use of PROMASEAL® Intumescent Acrylic sealant are available, as detailed on the following pages.

PROMASEAL® Intumescent Acrylic Sealant

Table 3: PROMASEAL® Intumescent Acrylic Sealant - EN 1366-4 Approval Matrix

Wall installations: Single sided Seals						
Product name		PROMASEAL® Intumescent Acrylic Sealant				
Configuration		Maximum joint width (mm)	Minimum seal depth (mm)	Backing material	Integrity (mins)	Insulation (mins)
Wall Constructions (min 100mm thick)	Autoclaved aerated concrete/ autoclaved aerated concrete	50	25	Polyethylene 50mm diameter	120	60
	Autoclaved aerated concrete/ autoclaved aerated concrete	40	20	Polyethylene 40mm diameter	120	30
	Autoclaved aerated concrete/ autoclaved aerated concrete	30	15	Polyethylene 30mm diameter	120	30
	Autoclaved aerated concrete/ autoclaved aerated concrete	20	10	Polyethylene 40mm diameter	120	30
	Autoclaved aerated concrete/softwood	50	25	Polyethylene 50mm diameter	45	30
	Autoclaved aerated concrete/softwood	40	20	Polyethylene 40mm diameter	30	15
	Autoclaved aerated concrete/softwood	30	15	Polyethylene 30mm diameter	30	15
	Autoclaved aerated concrete/softwood	20	10	Polyethylene 20mm diameter	30	15
	Autoclaved aerated concrete/steel	50	25	Polyethylene 50mm diameter	45	30
	Autoclaved aerated concrete/steel	40	20	Polyethylene 40mm diameter	45	30
	Autoclaved aerated concrete/steel	30	15	Polyethylene 30mm diameter	45	30
	Autoclaved aerated concrete/steel	20	10	Polyethylene 20mm diameter	120	15

Application Technique: On good clean, virgin blockwork, no priming required.

Table 4: PROMASEAL® Intumescent Acrylic Sealant - EN 1366-4 Approval Matrix

Wall installations: Double sided seals						
Product name		PROMASEAL® Intumescent Acrylic Sealant				
Configuration		Maximum joint width (mm)	Minimum seal depth (mm)	Backing material	Integrity (mins)	Insulation (mins)
Wall Constructions (min 120mm thick)	Autoclaved aerated concrete/ autoclaved aerated concrete	20	12.5	Polyethylene: 20mm diameter	120	120
	Drywall/autoclaved aerated concrete					
Wall Constructions (min 100mm thick)	Autoclaved aerated concrete/ autoclaved aerated concrete	20	12.5	Polyethylene: 20mm diameter	120	120

Application Technique: On good clean, virgin blockwork/drywall, no priming required.

Air permeability: EN1026	Pressure (Pa)	Positive pressure (m³/h/m²)	Negative pressure (m³/h/m²)
	50	0	0
	100	0	0
Acoustic Rating: BS EN ISO 10140-3:1995	R _w (C;Ctr) :38(-2;-7) dB		

PROMASEAL® Intumescent Acrylic Sealant

Table 5: PROMASEAL® Intumescent Acrylic Sealant - BS 476 Approval Matrix

Wall and floor installations:- Double sided seals						
Product name		PROMASEAL® Intumescent Acrylic Sealant				
Configuration		Maximum joint width (mm)	Minimum seal depth (mm)	Backing material	Integrity (mins)	Insulation (mins)
Wall Constructions (min 250mm thick)	Autoclaved aerated concrete/ autoclaved aerated concrete	20	10	Polyethylene 30mm diameter	300	300
	Autoclaved aerated concrete/ autoclaved aerated concrete	30	15	Polyethylene 40mm diameter	300	210
	Autoclaved aerated concrete/ autoclaved aerated concrete	40	20	Polyethylene 50mm diameter	300	210
	Autoclaved aerated concrete/ autoclaved aerated concrete	50	25	Polyethylene 60mm diameter	300	210
	Brick/autoclaved aerated concrete	15	10	Polyethylene 20mm diameter	240	0
	Brick/autoclaved aerated concrete	25	10	Polyethylene 30mm diameter	240	30
	Steel/aerated blockwork	30	15	Polyethylene 40mm diameter	300	90
	Steel/aerated blockwork	50	25	Ethafoam 50mm diameter	60	30
	Hardwood/aerated blockwork	50	25	Ethafoam 50mm diameter	60	60
	Softwood/aerated blockwork	25	12	Ethafoam 30mm diameter	30	30
Floor Constructions (min 250mm thick)	Aerated concrete/aerated concrete	20	10	Polyethylene 30mm diameter	300	120
	Aerated concrete/aerated concrete	30	15	Polyethylene 40mm diameter	300	60
	Aerated concrete/aerated concrete	40	20	Polyethylene 50mm diameter	300	60
	Aerated concrete/aerated concrete	50	25	Polyethylene 60mm diameter	300	210
	Softwood/aerated concrete	25	12	Ethafoam 30mm diameter	30	30
	Hardwood/aerated concrete	50	25	Ethafoam 50mm diameter	30	30
	Steel/aerated concrete	50	25	Ethafoam 50mm diameter	60	60

Application Technique: On good clean, virgin blockwork, no priming required.

Note: The concrete floors and concrete/masonry walls must have at least the same fire rating as that required for the seal. Masonry and concrete gaps faces must be within the density range of 760 to 2300kg/m³ and gap faces free from loose or flaking material. Steel gap faces will be in material at least 6mm thick and will be free from dirt, loose rust, grease and other coatings. The steel member will remain free from significant deflection or thermal movement that increases the original gap width by more than 10% when exposed to standardised fire test conditions.

PROMASEAL® Intumescent Acrylic Sealant

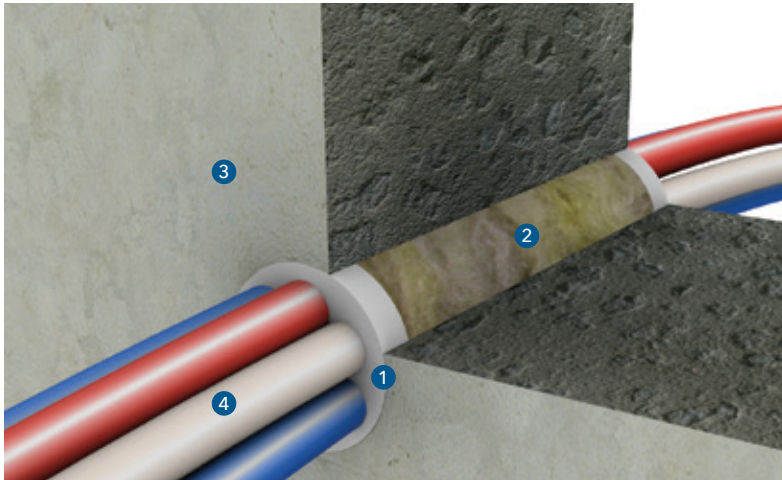
Table 6: PROMASEAL® Intumescent Acrylic Sealant - BS 476 Approval Matrix

Floor installations:- Single sided seals						
Product name		PROMASEAL® Intumescent Acrylic Sealant				
Configuration		Maximum joint width (mm)	Minimum seal depth (mm)	Backing material	Integrity (mins)	Insulation (mins)
Floor Constructions (min 150mm thick)	Autoclaved aerated concrete/ autoclaved aerated concrete	50	25	Polyethylene 50mm diameter	240	90
	Autoclaved aerated concrete/ autoclaved aerated concrete	40	20	Polyethylene 40mm diameter	240	45
	Autoclaved aerated concrete/ autoclaved aerated concrete	30	15	Polyethylene 30mm diameter	240	45
	Autoclaved aerated concrete/ autoclaved aerated concrete	20	10	Polyethylene 40mm diameter	240	45
	Autoclaved aerated concrete/softwood	50	25	Polyethylene 50mm diameter	45	45
	Autoclaved aerated concrete/softwood	40	20	Polyethylene 40mm diameter	30	30
	Autoclaved aerated concrete/softwood	30	15	Polyethylene 30mm diameter	30	30
	Autoclaved aerated concrete/softwood	20	10	Polyethylene 20mm diameter	30	30
	Autoclaved aerated concrete/steel	50	25	Polyethylene 50mm diameter	240	90
	Autoclaved aerated concrete/steel	40	20	Polyethylene 40mm diameter	240	30
	Autoclaved aerated concrete/steel	30	15	Polyethylene 30mm diameter	240	30
	Autoclaved aerated concrete/steel	20	10	Polyethylene 20mm diameter	240	30

Application Technique: On good clean, virgin blockwork, no priming required.

Note: The concrete floors and concrete/masonry walls must have at least the same fire rating as that required for the seal. Masonry and concrete gaps faces must be within the density range of 760 to 2300kg/m³ and gap faces free from loose or flaking material. Steel gap faces will be in material at least 6mm thick and will be free from dirt, loose rust, grease and other coatings. The steel member will remain free from significant deflection or thermal movement that increases the original gap width by more than 10% when exposed to standardised fire test conditions.

PROMASEAL® Intumescent Acrylic Sealant - Penetration Seals



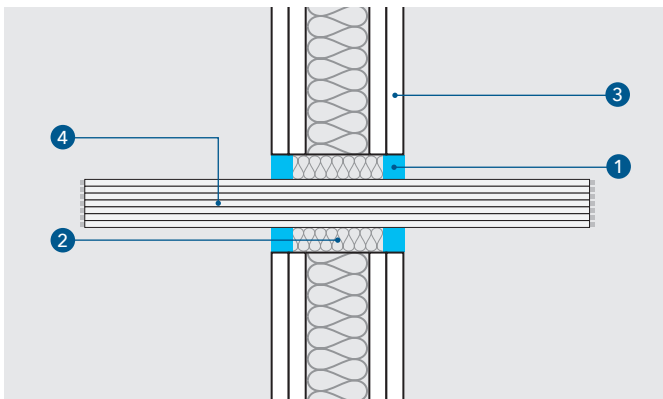
Key to Illustrations

- 1 PROMASEAL® Intumescent Acrylic Sealant
- 2 Backfilling material
- 3 Supporting construction
- 4 Penetrating items (cables, cable tray, steel or copper pipe)

Detail 4/5 - Cable penetration seal in flexible wall

Description	Technical specification
Wall thickness	≥120mm
Sealant depth	≥ 25mm
Seal position	Both sides

Detail 4 - Cable penetration seal in flexible wall



Detail 5 - Pipe penetration seal in flexible wall

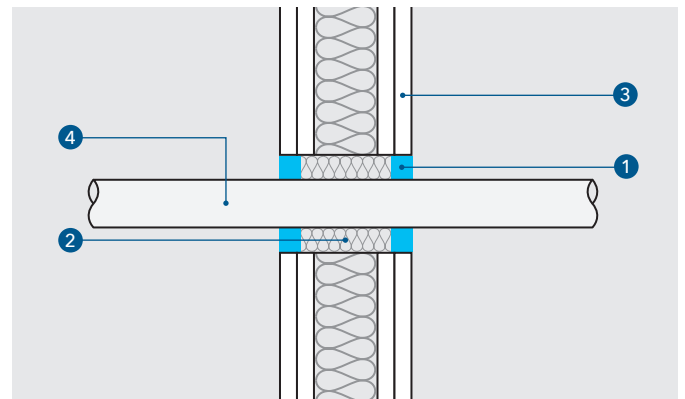


Table 7: Overview of penetrating items passing through flexible wall and rigid walls

Seal size around service(s)	Penetrating services	Backing material	Minimum backing depth (mm)	Service insulation	Fire resistance (mins)	
					E	EI
10mm annular gap	Copper/Steel pipe 15mm Ø, 0.8-7.4mm wall	N/A	N/A	N/A	120	20
	Copper/Steel pipe 40mm Ø, 0.8-14.2mm wall				120	15
	Copper/Steel pipe 40-159mm Ø, 1.8-14.2mm wall				120	0
	Copper/Steel pipe 40mm Ø, 0.8-14.2mm wall				120	90
	Copper/Steel pipe 40-159mm Ø, 1.8-14.2mm wall				120	20
490 x 100 x 25mm deep	Electrical cables up to 21mm	Stone mineral wool 80kg/m ³	70	N/A	120	90
	Electrical cables up to 21mm Ø on perforated steel tray 450 x 50mm					
200 x 100 x 25mm deep	Electrical cables 21-50mm Ø	N/A	N/A	N/A	90	60

*all pipes are classified as C/U



PROMASEAL® Silicone Sealant

Introduction

PROMASEAL® Silicone Sealant is a silicone based sealant used to reinstate the fire resistance performance of linear gap seals within wall and floor constructions. PROMASEAL® Silicone Sealant can achieve a fire performance of up to 240 minutes.

Fields of application

Linear joints seals in rigid wall and floor constructions.

Application instructions

- For good adhesion the surfaces of the building elements shall be free of any dust or grease and may need to be primed. On good clean, virgin concrete & masonry, no priming required.
- Ensure that the aperture and services in question have been tested with PROMASEAL® Silicone Sealant and the site conditions are within the application specification.
- The aperture temperature needs to be at +5°C or above at time of installation.
- The PROMASEAL® Silicone Sealant is either gunned or trowelled into the aperture in or between the separating element/elements to a specific depth utilising various backing materials. See specification details for further information.
- Once compacted, smooth off the PROMASEAL® Silicone Sealant to produce a professional finish.
- Provision should be taken such that the floor joint seals cannot be stepped on, e.g. by covering with wire mesh or floor finishes.

System advantages/customer benefit

- Good adhesion to most substrates
- Backing material can be either stone wool (80kg/m³) or PE backing rods
- Tack free, water & UV resistant
- Good movement allowance (±25%)



Technical data and properties	
Colour	white or grey
Consistency	paste
Shrinkage	Approx. 5%
Movement capabilities	Flexible up to ±25%
Application temperature	+5 to +40°C
Acoustic performance (EN 10140)	R _w 38 dB
Service temperature range	-30°C to +150°C
Cure rate	Approx. 3mm/day at 25°C 50% RH
Exposure category (specified in ETA 026-3)	Type X - suitable for all uses (internal, semi-exposed and exposed)

Approvals

- CertifiRE approval
- CE Marked (ETA 15/0570)

Packaging

PROMASEAL® Silicone Sealant is supplied in liquid form contained within 310ml cartridges.

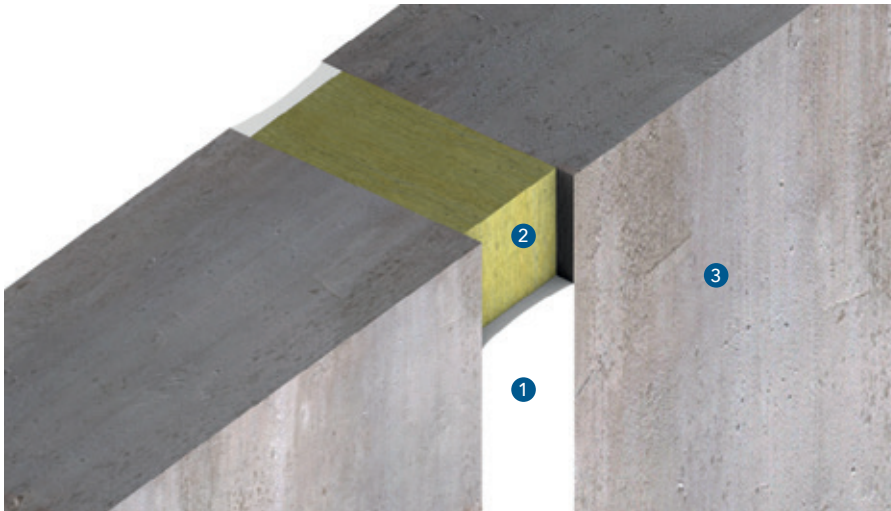
Storage requirements

- Store in cool and dry conditions - 3°C to 30°C
- Shelf life for original sealed containers is at least 12 months
- Once opened the container should be used swiftly

Safety instructions

Please refer to the safety data sheet for additional advice

PROMASEAL® Silicone Sealant



Key to Illustrations

- 1 PROMASEAL® Silicone Sealant
- 2 Backfilling material
- 3 Supporting construction

Table 8: PROMASEAL® Silicone Sealant - tests carried out in accordance with BS EN 1366-4:2006

Wall Installations min.150mm Thick					
Product name		PROMASEAL Silicone Sealant			
Configuration	Max. joint width (mm)	Minimum seal depth (mm)	Seal position	Integrity (mins)	Insulation (mins)
Masonry to Masonry	60	5mm Sealant both faces, backed by stone wool 50mm thick (60kg/m³)	Both Faces	240	240
Masonry to Steel				240	60
Masonry to Hardwood				180	60
Masonry to Softwood				240	180
Masonry to Masonry	50	25mm Sealant both faces, backed by PE backing rod		240	180
Application Technique	For good adhesion the surfaces of the building element shall be free of any dust or grease and be suitably primed.				

Floor Installations min.150mm Thick					
Product name		PROMASEAL Silicone Sealant			
Configuration	Max. joint width (mm)	Minimum seal depth (mm)	Seal position	Integrity (mins)	Insulation (mins)
Masonry to Masonry	60	5mm Sealant unexposed face, backed by stone wool 50mm thick (60kg/m³)	Unexposed face	240	180
Masonry to Steel				90	45
Masonry to Masonry	60	5mm Sealant exposed face, backed by stone wool 50mm thick (60kg/m³)	Exposed face	90	60
Masonry to Steel				120	60
Masonry to Masonry	60	30mm Sealant unexposed face, backed by PE backing rod	Unexposed face	240	60
	12	6mm Sealant unexposed face, backed by PE backing rod		240	120
Application Technique	For good adhesion the surfaces of the building element shall be free of any dust or grease and be suitably primed.				

Note: The concrete floors and/or masonry or concrete walls must be at least 150mm thick and have at least the same fire rating as that required for the penetration seal. Masonry and concrete gap faces must be within the density range of 760 to 2300kg/m³ and gap faces free from loose or flaking material. Steel gap faces will be in material at least 6mm thick and will be free from dirt, loose rust, grease and other coatings. The steel member will remain free from significant deflection or thermal movement that increases the original gap width by more than 10% when exposed to standardised fire test conditions.

PROMASEAL®-HPEX Sealant

Installation

- For good adhesion the surfaces of the building elements shall be free of any dust or grease and may need to be primed. On good clean, virgin concrete and masonry, no priming required.
- Ensure that the aperture and services in question have been tested with PROMASEAL®-HPEX Sealant and that the site conditions are within the application specification. Services to be rigidly supported maximum 400mm from the seal on both sides of the wall or floor
- All services and apertures need to be clean and clear of all dust and loose particles. The aperture temperature needs to be at +5°C or above at time of installation.
- An annular space needs to be present around the service to apply sufficient installation depth.
- The PROMASEAL®-HPEX Sealant is either gunned or towelled into the aperture in or between the separating element/elements to a specific depth, utilising various backing materials (see performance tables).
- Upon installation make sure that the annular gap is fully filled with the PROMASEAL®-HPEX sealant and that it is fully compacted in to the gap. Sealant minimum 25mm deep and 20mm annular.
- Once compacted, smooth off the PROMASEAL®-HPEX Sealant to produce a professional finish.

System advantages / customer benefit

- Tested in rigid walls and floors, flexible walls and in PROMASEAL® Fire Barrier seals.¹
- Tested in accordance with: EN10140-2:2010 (airborne sound insulation) and EN1026:2000 (air permeability).
- Seals elastomeric foam and glass wool insulation
- Paintable (water-based) and odourless
- Air, water tight
- CE marked.

Approval:

- UL-EU-01102-CPR
- CE Marked

Packaging

PROMASEAL®-HPEX Sealant is supplied in 310ml cartridges.

Storage requirements

- Store in cool and dry conditions - +5°C to 25°C
- Shelf life for original sealed containers is at least 18 months
- Once opened the container should be used swiftly.

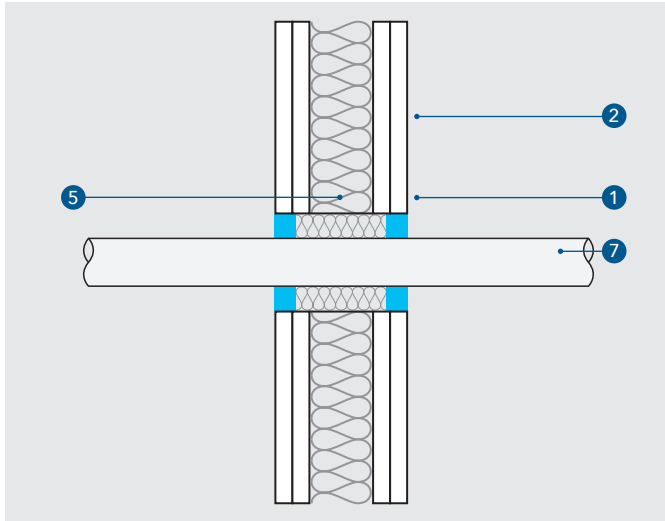
Safety instructions

Please refer to the safety data sheet for additional advice.

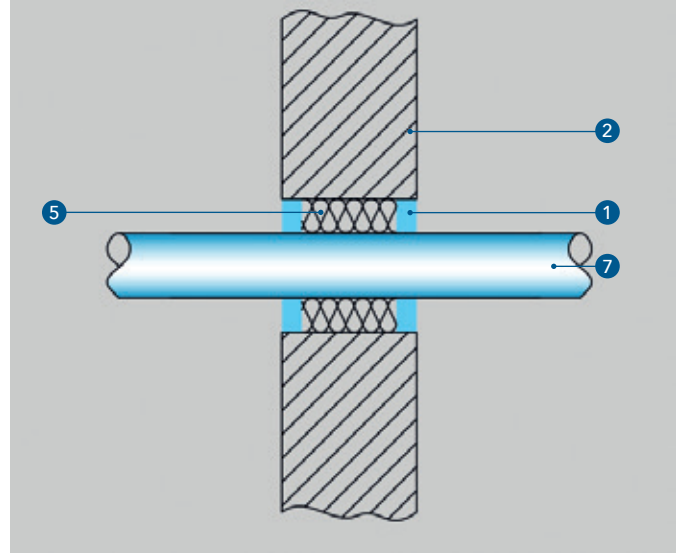
1. See PROMASEAL® Fire Barrier pages for further information.

PROMASEAL®-HPEx Sealant

Detail 6 - Combustible pipe penetrating seal in flexible wall



Detail 7 - Combustible pipe penetrating seal in rigid wall



Detail 6/7 - Combustible pipe in flexible wall and rigid wall

Description	Technical specification
Wall thickness	≥100mm
Annular gap width	20mm
Minimum seal depth	25mm

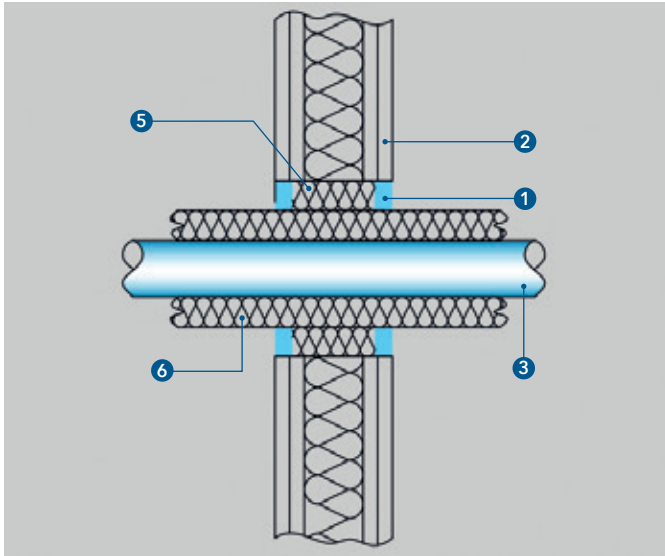
Refer to Table 9: Overview of combustible pipe installation, dimensions and classification for flexible wall and rigid wall.

Table 9: Overview of combustible pipe installation, dimensions and classification for flexible wall and rigid wall

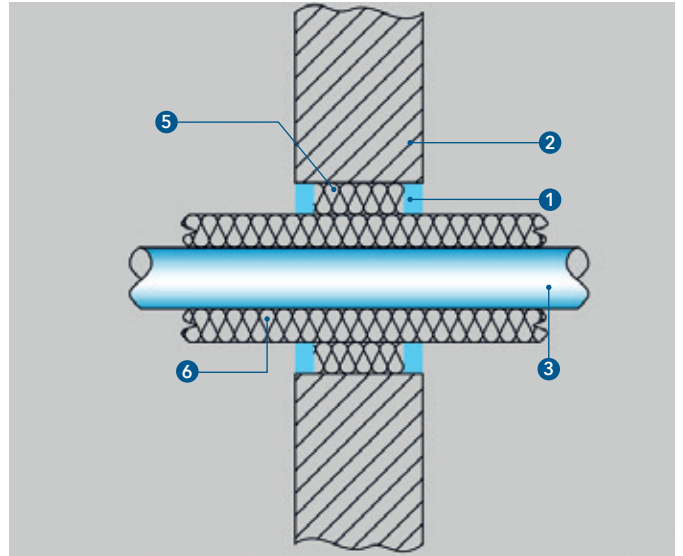
Penetrating Services	Min wall thickness	Annular gap	Min seal depth	Seal position	Backfilling material	Fire resistance (mins)	
						E	EI
40mm diameter PVC pipe with 1.9-3mm wall thickness	120mm	20mm	25mm	Both sides	None	120 U/C	120 U/C
125mm diameter PVC pipe with 4.8-7.4mm wall thickness		26mm			Stone wool 30mm deep and 80kg/m ³		
63mm diameter HDPE pipe with 7.2mm wall thickness		300mm x 100mm (max seal size)			None		
90mm diameter HDPE pipe with 9.2mm wall thickness		12.5mm					
90mm diameter ABS pipe with 6mm wall thickness		12.5mm					
40mm diameter PVC pipe with 1.9mm wall thickness	100mm	20mm				120 C/U	120 C/U
125mm diameter PVC pipe with 9.2mm wall thickness						60 C/U	60 C/U
40mm diameter ABS pipe with 1.9mm wall thickness						120 C/U	120 C/U
40mm diameter HDPP pipe with 2mm wall thickness						120 C/U	120 C/U

PROMASEAL®-HPEX Sealant

Detail 8 - Insulated pipe penetrating seal in flexible wall



Detail 9 - Insulated pipe penetrating seal in rigid wall



Detail 8/9 - Insulated pipe in flexible wall and rigid wall

Description	Technical specification
Wall thickness	≥100mm
Annular gap width	20mm
Minimum seal depth	25mm

Refer to Table 10: Overview of insulated metal pipe installation, dimensions and classification for flexible wall and rigid wall.

Table 10: Overview of insulated metal pipe installation, dimensions and classification for flexible wall and rigid wall

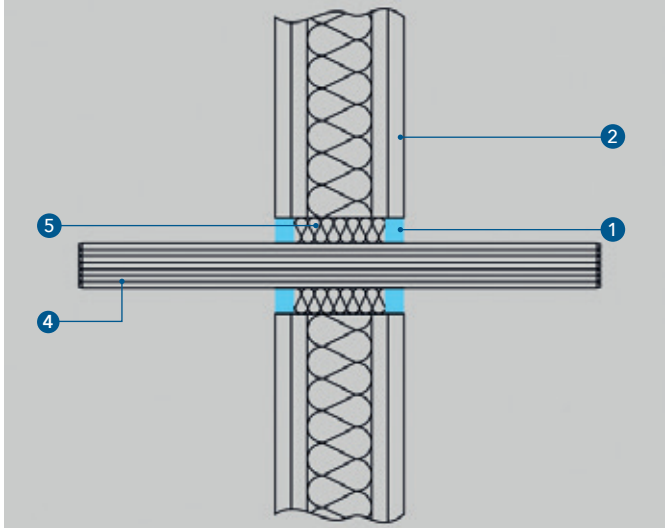
Penetrating Services	Minimum wall thickness	Annular gap	Minimum seal depth	Seal position	Backfilling material	Fire resistance (mins)	
						E	EI
60mm diameter Copper or Steel pipe with 0.8-14.2mm wall thickness and insulated with 32mm Armaflex AF*	120mm	20mm	25mm	Both sides	None	120 U/C	90 U/C
15mm diameter Copper or Steel pipe with 0.8-7mm wall thickness and insulated with 13mm Armaflex AF*		20mm				120 U/C	120 U/C
40mm diameter Copper or Steel pipe with 1.5-14.2mm wall thickness and insulated with 32mm Armaflex AF**	100mm	20mm				120 C/U	30 C/U
40-159mm diameter Copper or Steel pipe with 2.0-14.2mm wall thickness and insulated with 32mm Armaflex AF**							
159mm diameter Copper or Steel pipe with 2.0-14.2mm wall thickness and insulated with 30mm Pipelane SGR glass wool tube (80kg/m ³) **							

*Continuous through seal and full length of the pipe (CS).

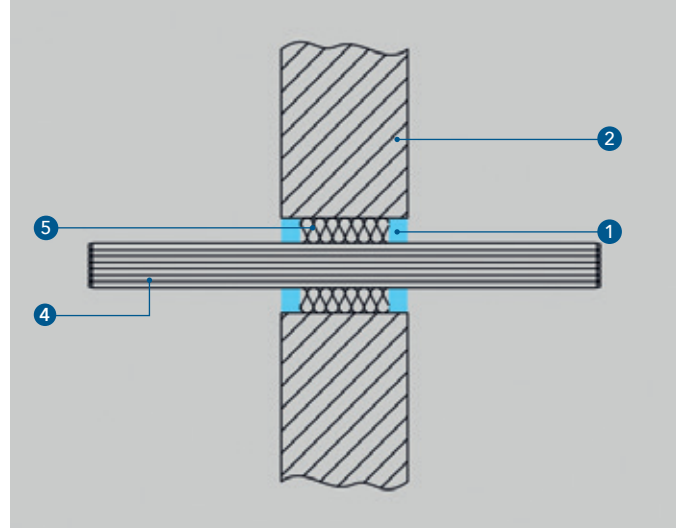
**Continuous through seal and extending minimum 650mm from both faces of the seal (LS).

PROMASEAL®-HPEX Sealant

Detail 10 - Cables penetrating seal in flexible wall



Detail 11 - Cables penetrating seal in rigid wall



Detail 10/11 - Cables in flexible wall and rigid wall

Description	Technical specification
Wall thickness	≥120mm
Annular gap width	20mm
Minimum seal depth	25mm

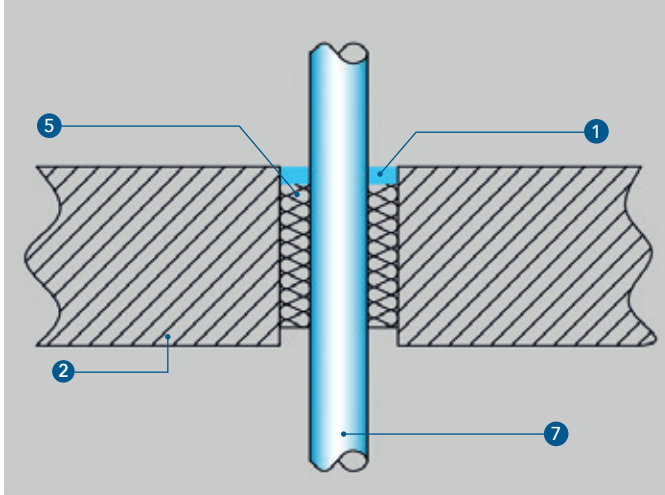
Refer to Table 11: Overview of cable installation, dimensions and classification for flexible wall and rigid wall.

Table 11: Overview of cable installation, dimensions and classification for flexible wall and rigid wall

Penetrating Services	Minimum wall thickness	Annular gap	Minimum seal depth	Seal position	Backfilling material	Fire resistance (mins)	
						E	EI
Electrical cables up to 21mm diameter	120mm	20mm	25mm	Both sides	None	120	120

PROMASEAL®-HPEX Sealant

Detail 12 - Combustible pipe penetrating seal in rigid floor



Detail 12 - Combustible pipe in Rigid floor

Description	Technical specification
Floor thickness	≥150mm
Annular gap width	20mm
Minimum seal depth	25mm

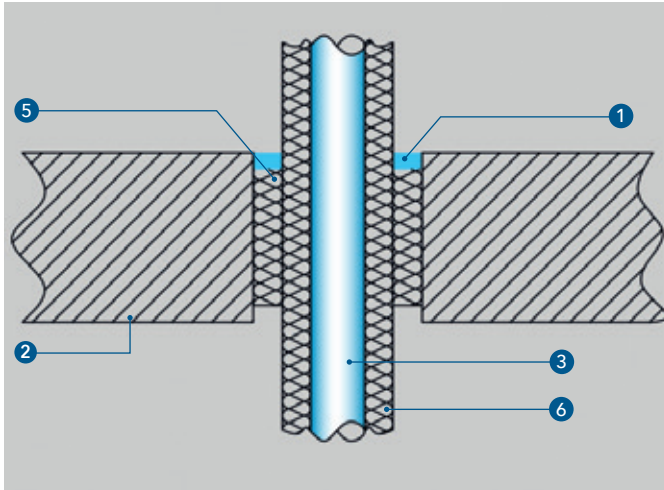
Refer to Table 12: Overview of combustible pipe installation, dimensions and classification for rigid floor.

Table 12: Overview of combustible pipe installation, dimensions and classification for rigid floor

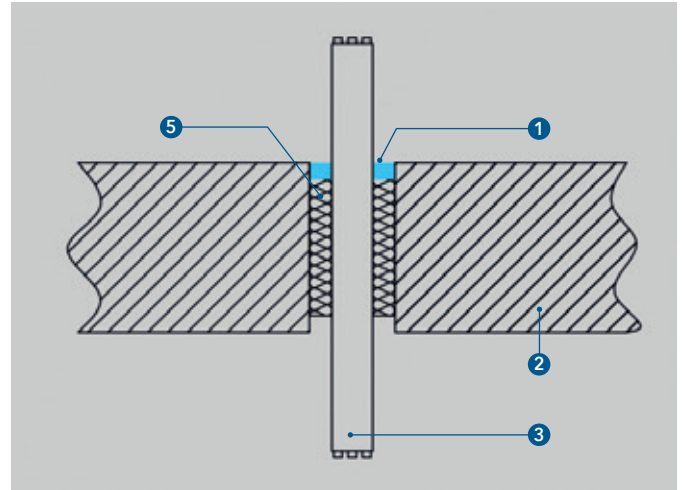
Penetrating Services	Minimum floor thickness	Annular gap	Minimum backing depth	Seal position	Backfilling material	Fire resistance (mins)	
						E	EI
50-110mm diameter PP Pipe with 2.1 to 10.7mm wall thickness	150mm	20mm	25mm	Upper face	Rock fibre mineral wool 100mm deep and 45kg/m ³	30 U/C	30 U/C
50mm diameter PP Pipe with 2.1mm wall thickness						240 U/C	240 U/C
110mm diameter PP Pipe with 10.7mm wall thickness						120 U/C	120 U/C
40-125mm diameter PE Pipe with 4.1 to 11.4mm wall thickness						60 U/C	60 U/C
40mm diameter PE Pipe with 4.1mm wall thickness						240 U/C	240 U/C
125mm diameter PE Pipe with 11.4mm wall thickness						90 U/C	90 U/C
40-114mm diameter PVC Pipe with 2.0 to 8.1mm wall thickness						90 U/C	30 U/C
40mm diameter PVC Pipe with 2.0mm wall thickness						240 U/C	240 U/C
114mm diameter PVC Pipe with 8.1mm wall thickness						120 U/C	120 U/C

PROMASEAL®-HPEX Sealant

Detail 13 - Insulated pipe penetrating seal in rigid floor



Detail 14 - Cables penetrating seal in rigid floor



Detail 13 - Insulated pipe in rigid floor

Description	Technical specification
Floor thickness	≥150mm
Annular gap width	20mm
Minimum seal depth	25mm

Refer to Table 13: Overview of insulated pipe installation, dimensions and classification for rigid floor.

Detail 14 - Cables penetrating seal in rigid floor

Description	Technical specification
Floor thickness	≥150mm
Annular gap width	20mm
Minimum seal depth	25mm

Refer to Table 14: Overview of cable installation, dimensions and classification for rigid floor.

Table 13: Overview of insulated pipe installation, dimensions and classification for rigid floor

Penetrating Services	Minimum floor thickness	Annular gap	Minimum seal depth	Seal position	Backfilling material	Fire resistance (mins)	
						E	EI
41-159mm diameter Copper or Steel pipe with 2.5-14.2mm wall thickness and insulated with 16-32mm Armaflex AF*	150mm	20mm	25mm	Upper face	Rock fibre mineral wool 100mm deep and 45kg/m ³	120 U/C	120 U/C

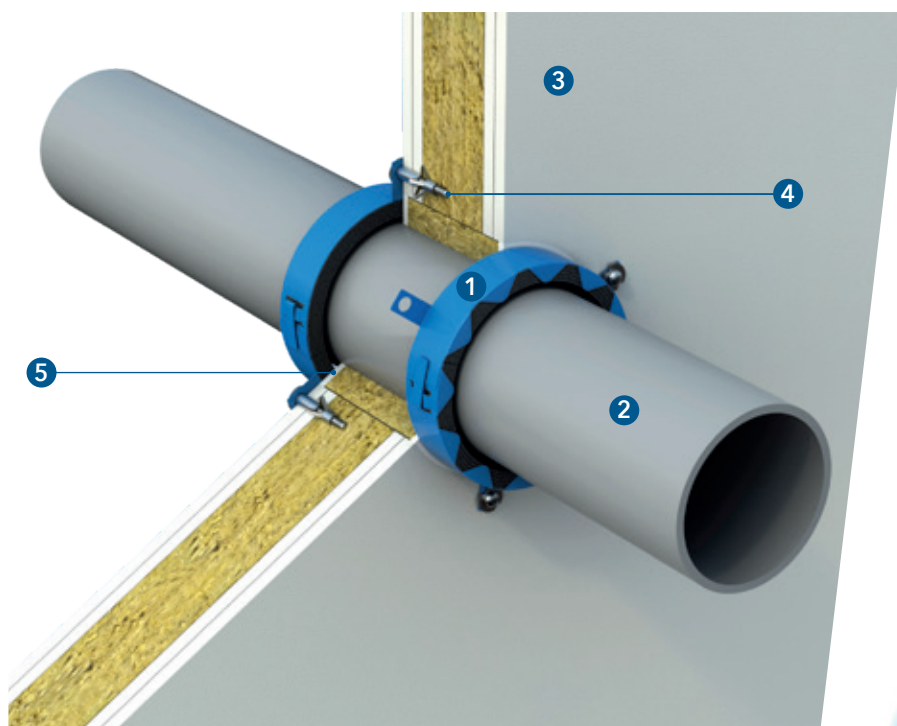
*Continuous through seal and full length of the pipe (CS).

Table 14: Overview of cable installation, dimensions and classification for rigid floor

Penetrating Services	Minimum floor thickness	Annular gap	Minimum seal depth	Seal position	Backfilling material	Fire resistance (mins)	
						E	EI
Electrical cables up to 21mm diameter	150mm	20mm	25mm	Upper face	Rock fibre mineral wool 100mm deep and 45kg/m ³	180	120
Electrical cables 22 to 80mm diameter						120	120
Non-sheathed electrical cables up to 24mm diameter						180	15
Telecoms cables up to 21mm diameter (bundles up to 100mm diameter)						180	20



PROMASEAL® COLLAR



Key to Illustrations

- 1 PROMASEAL® COLLAR
- 2 Combustible pipes
- 3 Supporting construction
- 4 Suitable fixing
- 5 PROMASEAL® Intumescent Acrylic Sealant



General description

PROMASEAL® COLLARS are designed and tested to seal service penetration apertures containing plastic pipes.

They are developed to provide a high volume expansion and pressure seal during a fire. The PROMASEAL® COLLAR offers EI 120 (walls) and EI 240 (floors) tested to EN1366-3, the maximum diameter available being 250mm.

PROMASEAL® COLLAR includes an intumescent component incorporated into a mild steel case to close any gaps and to provide a closure of combustible pipes when heated, to prevent the passage of fire.

Fields of application

- Penetration seals in flexible/rigid walls, in rigid floor constructions and in PROMASEAL® Fire Barrier seals.¹
- Penetration seals around non-metallic pipes.

Technical data and properties

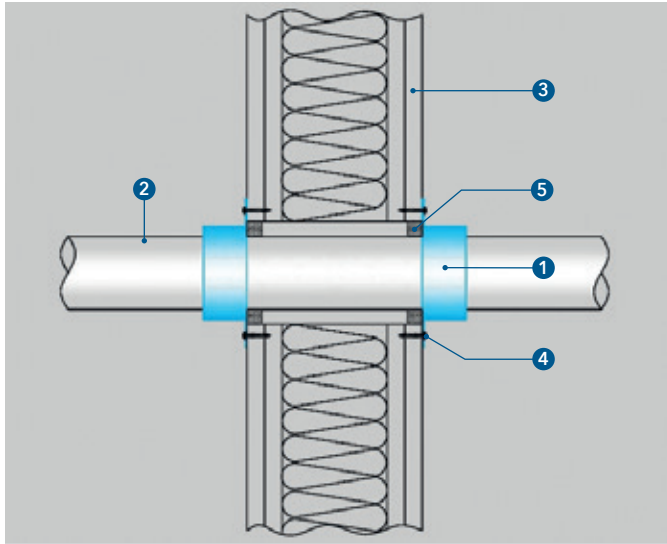
Pipe diameter	Stock sizes: 55mm, 82mm, 110mm, 125mm, 160mm (Other sizes may be available to order, depending on quantity)
Plastic types	PVC, PE, PP
Fire resistance	EI 120 - Rigid, flexible walls EI 240 - Rigid floor (underside)
Expansion rate	20:1
Expansion pressure N/mm ²	1.30
Working temperature	-20°C to +120°C
Durability Classification	Suitable for use in conditions exposed to weather
Appearance	Blue coated steel - 3 fixing tabs

Installation

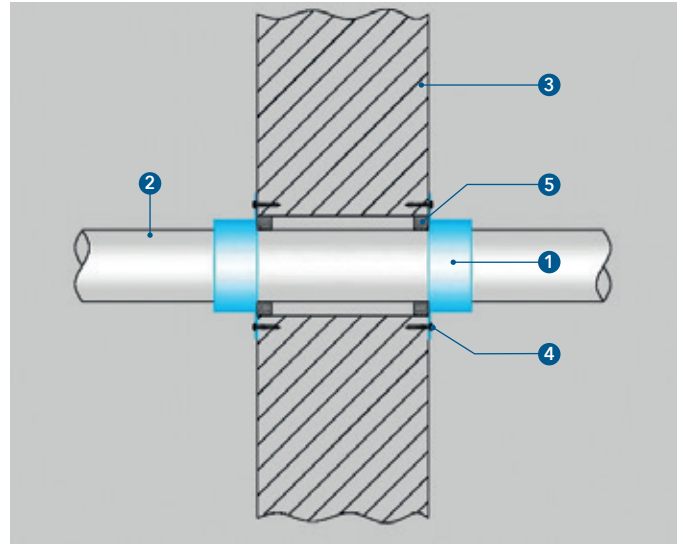
- Ensure that the aperture and services in question have been tested with PROMASEAL® COLLAR and the site conditions are within the application specification. Services to be rigidly supported maximum 400mm from the seal on both sides of the wall or floor
- All services and apertures need to be clean and clear of all dust and loose particles. The aperture temperature needs to be at +5°C or above at time of installation.
- An annular space (max 10mm annular) needs to be present around the service to apply sufficient installation depth of PROMASEAL® Intumescent Acrylic Sealant.

PROMASEAL® COLLARR

Detail 15 - Combustible pipe penetrating seal in flexible wall



Detail 16 - Combustable pipe penetrating seal in rigid wall



Detail 15/16 - Combustible pipe in flexible wall and rigid wall

Description	Technical specification
Wall thickness	≥100mm
Minimum seal depth	≥ 10mm
Sealant position	Both sides
Collar position	Both sides

Refer to Table 15 and 16: Overview of combustable pipe installation, dimensions and classification for flexible wall and rigid wall.

- Upon installation make sure that the annular gap around the pipe is filled with the PROMASEAL® Intumescent Acrylic Sealant.
- Install the PROMASEAL® COLLARR around the pipe and fix the collar to the wall or floor with the recommended fixings.

Fixing Detail

- **Rigid Walls:**
Three no. 35mm x M8 tap-in non-combustible fixings.
- **Rigid Floors:**
Three no 60mm x M6 expanding anchors or three no. 35mm x M8 tap-in non-combustible fixings.
- **Flexible Walls:**
Three no. 70mm x M4 wood screws and penny washers or alternatively three no. 65 x M6 Spider Fixings.

- **Fire Barrier installation:**¹
Three no. 80mm Pig tails.

Packaging

PROMASEAL® COLLARRS are supplied in an assembled form, without fixings. The collar is wrapped around the pipe at the soffit or both faces of walls, depending on application.

Storage requirements

Store in cool and dry conditions.

Safety instructions

Please refer to the safety data sheet for additional advice.

Approval

UL-EU-01103-CPR
CE Marked.

System advantages / customer benefit

- Fire resistance testing in flexible/rigid walls, rigid floors and PROMASEAL® Fire Barrier seals¹
- Halogen free, contains no asbestos, ceramic fibre and is environmentally friendly
- Allows thermal and mechanical movement of pipe
- Not effected by fungus, vermin, rodents or moisture
- Ease of fixing to suit location - 5 fixing types available
- Conditioned to Type X: -20°C to +70°C with accordance with EOTR 024 and ETAG 026
- Can be used with Plastic Pipes – PVC, PP and PE
- Ultra thin design of 30 or 40mm ensures the collars can be installed in the tightest of locations.

1. See PROMASEAL® Fire Barrier specifications for further Information.

PROMASEAL® COLLAR

**Table 15: Overview of combustible pipe installation, dimensions and classification for flexible wall and rigid wall (Detail 15 / Detail 16).
Wall thickness ≥100mm: PROMASEAL® COLLAR installed on both sides of wall**

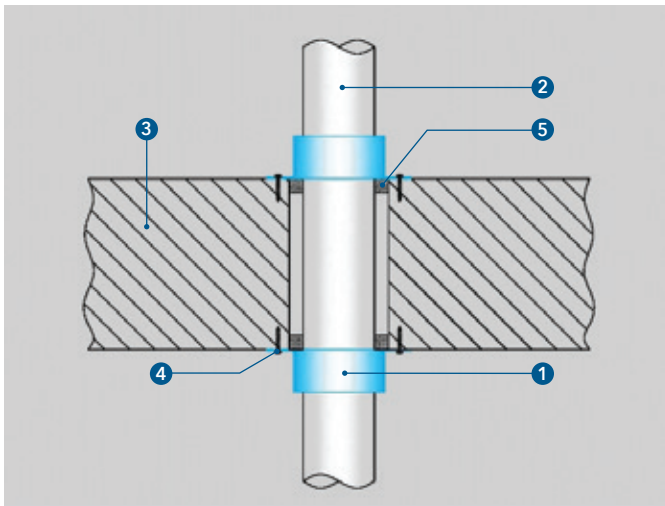
Pipe	Reference	Inlay W x H (mm)	Fire resistance (mins)	
			E	EI
32mm Ø PVC with 1.8mm wall thickness	32mm PROMASEAL® COLLAR	30 x 4	120 U/C	120 U/C
40mm Ø PVC with 1.8mm wall thickness	40mm PROMASEAL® COLLAR			
50mm Ø PVC with 1.8mm wall thickness	50mm PROMASEAL® COLLAR			
55mm Ø PVC with 2.3-3mm wall thickness	55mm PROMASEAL® COLLAR	30 x 6		
63mm Ø PVC with 2.3-3mm wall thickness	63mm PROMASEAL® COLLAR			
75mm Ø PVC with 3.1-4.8mm wall thickness	75mm PROMASEAL® COLLAR	30 x 8		
82mm Ø PVC with 3.1-4.8mm wall thickness	82mm PROMASEAL® COLLAR			
90mm Ø PVC with 4.2-7.4mm wall thickness	90mm PROMASEAL® COLLAR	30 x 10		
100mm Ø PVC with 4.2-7.4mm wall thickness	100mm PROMASEAL® COLLAR			
110mm Ø PVC with 4.2-7.4mm wall thickness	110mm PROMASEAL® COLLAR			
125mm Ø PVC with 6.0mm wall thickness	125mm PROMASEAL® COLLAR	40 x 12		
140mm Ø PVC with 6.1-7.5mm wall thickness	140mm PROMASEAL® COLLAR	40 x 16		
160mm Ø PVC with 6.2-9.5mm wall thickness	160mm PROMASEAL® COLLAR	40 x 18		
32mm Ø PP with 2.9mm wall thickness	32mm PROMASEAL® COLLAR	30 x 4		
40mm Ø PP with 2.9mm wall thickness	40mm PROMASEAL® COLLAR			
50mm Ø PP with 2.9mm wall thickness	50mm PROMASEAL® COLLAR			
55mm Ø PP with 2.9-4.4mm wall thickness	55mm PROMASEAL® COLLAR	30 x 6		
63mm Ø PP with 2.9-4.4mm wall thickness	63mm PROMASEAL® COLLAR			
75mm Ø PP with 2.8-6.7mm wall thickness	75mm PROMASEAL® COLLAR	30 x 8		
82mm Ø PP with 2.8-6.7mm wall thickness	82mm PROMASEAL® COLLAR			
90mm Ø PP with 2.7-10mm wall thickness	90mm PROMASEAL® COLLAR	30 x 10		
100mm Ø PP with 2.7-10mm wall thickness	100mm PROMASEAL® COLLAR			
110mm Ø PP with 2.7-10mm wall thickness	110mm PROMASEAL® COLLAR			
125mm Ø PP with 3.1mm wall thickness	125mm PROMASEAL® COLLAR	40 x 12		
140mm Ø PP with 3.5-8.0mm wall thickness	140mm PROMASEAL® COLLAR	40 x 16		
160mm Ø PP with 4.0-14.5mm wall thickness	160mm PROMASEAL® COLLAR	40 x 18		
32mm Ø PE with 2.9mm wall thickness	32mm PROMASEAL® COLLAR	30 x 4		
40mm Ø PE with 2.9mm wall thickness	40mm PROMASEAL® COLLAR			
50mm Ø PE with 2.9mm wall thickness	50mm PROMASEAL® COLLAR			
55mm Ø PE with 2.9-4.4mm wall thickness	55mm PROMASEAL® COLLAR	30 x 6		
63mm Ø PE with 2.9-4.4mm wall thickness	63mm PROMASEAL® COLLAR			
75mm Ø PE with 2.8-6.7mm wall thickness	75mm PROMASEAL® COLLAR	30 x 8		
82mm Ø PE with 2.8-6.7mm wall thickness	82mm PROMASEAL® COLLAR			
90mm Ø PE with 2.7-10mm wall thickness	90mm PROMASEAL® COLLAR	30 x 10		
100mm Ø PE with 2.7-10mm wall thickness	100mm PROMASEAL® COLLAR			
110mm Ø PE with 2.7-10mm wall thickness	110mm PROMASEAL® COLLAR			
125mm Ø PE with 3.1mm wall thickness	125mm PROMASEAL® COLLAR	40 x 12		
140mm Ø PE with 3.9-5.8mm wall thickness	140mm PROMASEAL® COLLAR	40 x 16		
160mm Ø PE with 4.9-9.5mm wall thickness	160mm PROMASEAL® COLLAR	40 x 18		

PROMASEAL® COLLAR

Table 16: Overview of combustible pipe installation, dimensions and classification for rigid wall only (Detail 16)
Wall thickness ≥100mm: PROMASEAL® COLLAR installed on both sides of wall

Pipe	Reference	Inlay W x H (mm)	Fire resistance (mins)	
			E	EI
110mm Ø PP with 2.7mm wall thickness	110mm PROMASEAL® COLLAR	30 x 10	120 U/U	120 U/U
160mm Ø PP with 4.0mm wall thickness	160mm PROMASEAL® COLLAR	40 x 18		
250mm Ø PP with 6.2mm wall thickness	250mm PROMASEAL® COLLAR	40 x 24	120 U/C	120 U/C

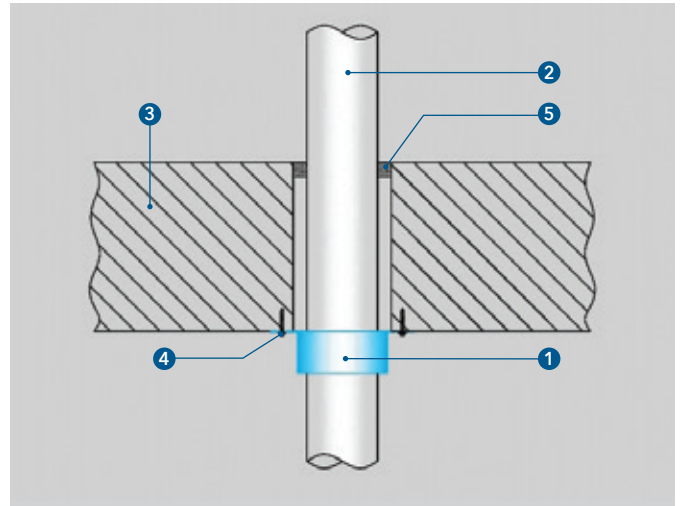
Detail 17 - Combustible pipe penetrating seal in rigid floor



Description	Technical specification
Floor thickness	≥150mm
Minimum seal depth	≥ 10mm
Sealant position	Both sides
Collar position	Both sides

Refer to Table 17: Overview of combustible pipe installation, dimensions and classification for rigid floor (Detail 17)

Detail 18 - Combustible pipe penetrating seal in rigid floor



Description	Technical specification
Floor thickness	≥150mm
Minimum seal depth	≥ 10mm
Sealant position	Upper face of floor
Collar position	Soffit

Refer to Table 18: Overview of combustible pipe installation, dimensions and classification for rigid floor (Detail 18)

Table 17: Overview of combustible pipe installation, dimensions and classification for rigid floor (Detail 17)
Concrete floor thickness ≥150mm: PROMASEAL® COLLAR installed on both sides of floor

Pipe	Reference	WRAP Inlay W x H (mm)	Fire resistance (mins)	
			E	EI
110mm Ø PP with 2.7mm wall thickness	110mm PROMASEAL® COLLAR	30 x 10	120 U/U	120 U/U
160mm Ø PP with 4.0mm wall thickness	160mm PROMASEAL® COLLAR	40 x 16	120 U/C	120 U/C

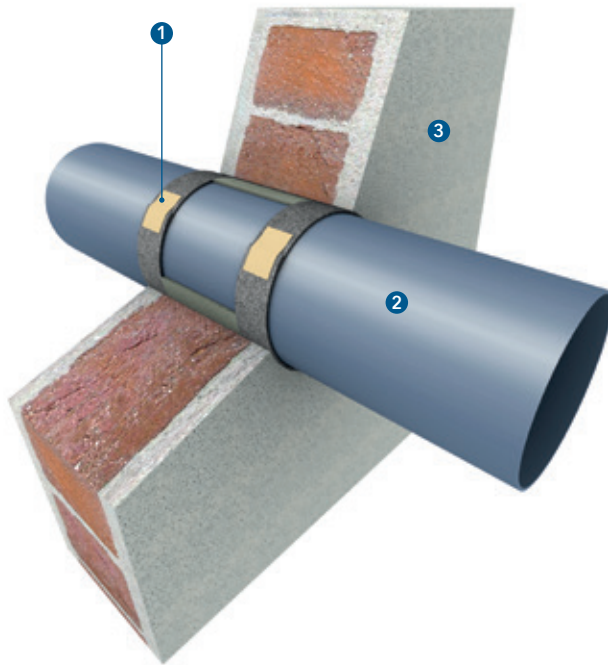
PROMASEAL® COLLAR

Table 18: Overview of combustible pipe installation, dimensions and classification for rigid floor (Detail 18)
Floor thickness ≥150mm: PROMASEAL® COLLAR installed on underside of floor

Pipe	Reference	Inlay W x H (mm)	Fire resistance (mins)	
			E	EI
32mm Ø PVC with 1.8mm wall thickness	32mm PROMASEAL® COLLAR	30 x 4	240 U/C	240 U/C
40mm Ø PVC with 1.8mm wall thickness	40mm PROMASEAL® COLLAR			
50mm Ø PVC with 1.8mm wall thickness	50mm PROMASEAL® COLLAR			
55mm Ø PVC with 2.3-3mm wall thickness	55mm PROMASEAL® COLLAR	30 x 6		
63mm Ø PVC with 2.3-3mm wall thickness	63mm PROMASEAL® COLLAR			
75mm Ø PVC with 3.1-4.8mm wall thickness	75mm PROMASEAL® COLLAR	30 x 8		
82mm Ø PVC with 3.1-4.8mm wall thickness	82mm PROMASEAL® COLLAR			
90mm Ø PVC with 4.2-7.4mm wall thickness	90mm PROMASEAL® COLLAR	30 x 10		
100mm Ø PVC with 4.2-7.4mm wall thickness	100mm PROMASEAL® COLLAR			
110mm Ø PVC with 4.2-7.4mm wall thickness	110mm PROMASEAL® COLLAR			
125mm Ø PVC with 6.0mm wall thickness	125mm PROMASEAL® COLLAR	40 x 12		
140mm Ø PVC with 6.1-7.5mm wall thickness	140mm PROMASEAL® COLLAR	40 x 16		
160mm Ø PVC with 6.2-9.5mm wall thickness	160mm PROMASEAL® COLLAR	40 x 18		
32mm Ø PP with 2.9mm wall thickness	32mm PROMASEAL® COLLAR	30 x 4		
40mm Ø PP with 2.9mm wall thickness	40mm PROMASEAL® COLLAR			
50mm Ø PP with 2.9mm wall thickness	50mm PROMASEAL® COLLAR			
55mm Ø PP with 2.9-4.4mm wall thickness	55mm PROMASEAL® COLLAR	30 x 6		
63mm Ø PP with 2.9-4.4mm wall thickness	63mm PROMASEAL® COLLAR	30 x 6		
75mm Ø PP with 2.8-6.7mm wall thickness	75mm PROMASEAL® COLLAR	30 x 8		
82mm Ø PP with 2.8-6.7mm wall thickness	82mm PROMASEAL® COLLAR			
90mm Ø PP with 2.7-10mm wall thickness	90mm PROMASEAL® COLLAR	30 x 10		
100mm Ø PP with 2.7-10mm wall thickness	100mm PROMASEAL® COLLAR			
110mm Ø PP with 2.7-10mm wall thickness	110mm PROMASEAL® COLLAR			
125mm Ø PP with 3.1mm wall thickness	125mm PROMASEAL® COLLAR	40 x 12		
140mm Ø PP with 3.5-8.0mm wall thickness	140mm PROMASEAL® COLLAR	40 x 16		
160mm Ø PP with 4.0-14.6mm wall thickness	160mm PROMASEAL® COLLAR	40 x 18		
32mm Ø PE with 2.9mm wall thickness	32mm PROMASEAL® COLLAR	30 x 4		
40mm Ø PE with 2.9mm wall thickness	40mm PROMASEAL® COLLAR			
50mm Ø PE with 2.9mm wall thickness	50mm PROMASEAL® COLLAR			
55mm Ø PE with 2.9-4.4mm wall thickness	55mm PROMASEAL® COLLAR	30 x 6		
63mm Ø PE with 2.9-4.4mm wall thickness	63mm PROMASEAL® COLLAR	30 x 8		
75mm Ø PE with 2.8-6.7mm wall thickness	75mm PROMASEAL® COLLAR			
82mm Ø PE with 2.8-6.7mm wall thickness	82mm PROMASEAL® COLLAR	30 x 10		
90mm Ø PE with 2.7-10mm wall thickness	90mm PROMASEAL® COLLAR			
100mm Ø PE with 2.7-10mm wall thickness	100mm PROMASEAL® COLLAR			
110mm Ø PE with 2.7-10mm wall thickness	110mm PROMASEAL® COLLAR	40 x 12		
125mm Ø PE with 3.1mm wall thickness	125mm PROMASEAL® COLLAR			
140mm Ø PE with 3.9-5.8mm wall thickness	140mm PROMASEAL® COLLAR	40 x 16		
160mm Ø PE with 4.9-9.5mm wall thickness	160mm PROMASEAL® COLLAR			



PROMASEAL® WRAP



Key to Illustrations

(see Details 19 to 21)

- 1 PROMASEAL® WRAP
- 2 Plastic pipes
- 3 Flexible/rigid wall or rigid floor
- 4 PROMASEAL® Intumescent Acrylic Sealant



General Description

PROMASEAL® WRAP is designed using graphite intumescent technology and is intended for use to seal service penetration apertures that contain plastic and insulated metal pipes.

The wrap is supplied as a 25m long x 2mm thick intumescent strip, that is intended to be cut to size on site.

Developed to provide a high volume expansion and pressure seal during a fire, PROMASEAL® WRAP provides up to 120 minutes fire protection (EI 120) tested to EN 1366-3, with maximum pipe diameter of 250mm.

The ultra-thin design of PROMASEAL® WRAP ensures that it can be installed in the tightest of locations.

Fields of application

- Penetration seals in flexible walls, in rigid wall and floor constructions and installed in PROMASEAL® Fire Barrier seals.¹
- Penetration seals around non-metallic pipes and insulated metal pipes.

Technical data and properties

Pipe diameter	Up to 250mm
Pipe types	HDPE, PE, PP and PVC
Width (nominal)	40mm
Insulation	Phenolic, elastomeric, glass and stone wool
Thickness (nominal)	2mm per layer. Typically 2mm total thickness for pipe diameter up to 32mm. 10mm total thickness (5 layers) for pipe diameter up to 200mm
Density	Approximately 1.2 g/cm ³
Volume expansion at 450°C	Approximately 25 times
Expansion pressure N/mm ²	Up to max 1.30
Fire resistance	Up to EI 120 as per EN 1366-3: 2009 and EN 13501-2

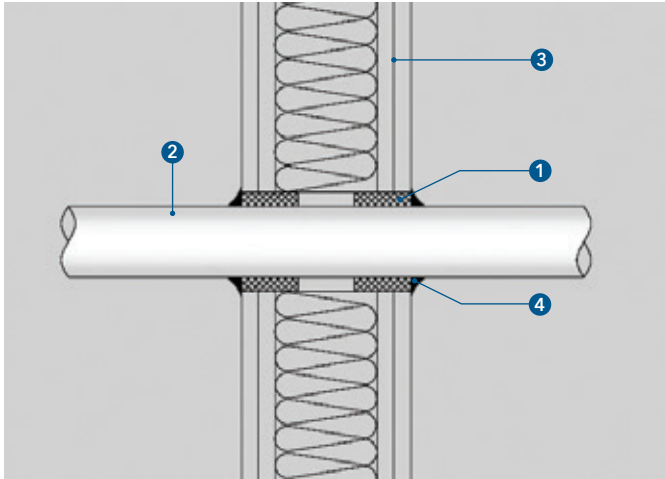
Installation

- Ensure that the service penetration has been tested with the PROMASEAL® WRAP (see performance tables) and that the site conditions are within the application specification.
- Services to be rigidly supported maximum 400mm from the seal on both sides of the wall and on the upper side of the floor.
- All services need to be clean and clear of all dust and loose particles. The aperture temperature needs to be at +5C or above at time of installation.
- An annular space needs to be present around the service to enable the PROMASEAL® WRAP to be applied at sufficient installation depth.

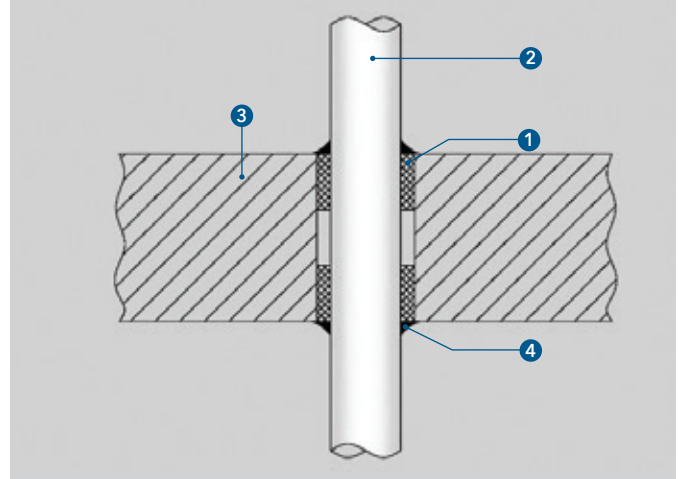
¹ See PROMASEAL® Fire Barrier specifications for further information.

PROMASEAL® WRAP

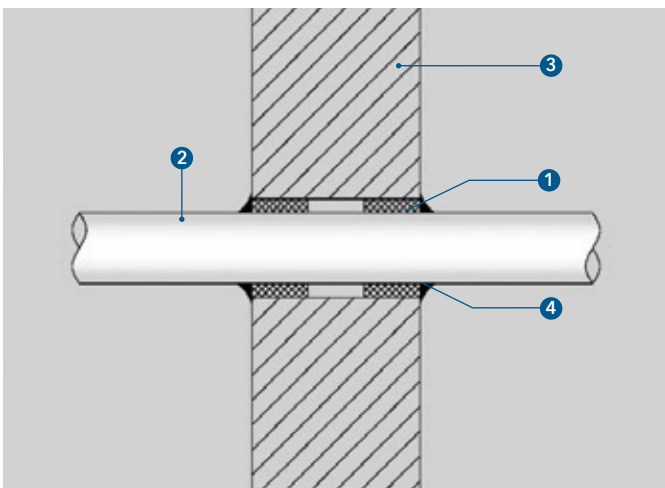
Detail 19 - Combustible pipe penetrating seal in flexible wall



Detail 21 - Combustible pipe penetrating seal in floor



Detail 20 - Combustible pipe penetrating seal in rigid wall



Detail 19/20 - Combustible pipe in flexible wall and rigid wall

Description	Technical specification
Wall thickness	≥100mm
Sealant position	Both sides
PROMASEAL® WRAP position	Both sides. Wrap recessed 5mm from the face of the wall

Detail 21 - Combustible pipe in rigid floor

Description	Technical specification
Floor thickness	≥150mm
Sealant position	Both sides
PROMASEAL® WRAP position	Both sides. Wrap recessed 5mm from the face of the floor

- Ensure that the wraps are installed in positions as shown in performance tables and Certification.
- Measure correct length of PROMASEAL® WRAP (according to the pipe size and number of layers required) and wrap around the pipe. Ensure that the mesh side of the wrap is facing away from the penetrating service and that the wrap is held in place using tape.
- PROMASEAL® WRAP to be installed slightly recessed (max 5mm) from the face of the wall or floor and the annulus filled with PROMASEAL® Intumescent Acrylic Sealant.
- Once compacted, smooth off the sealant to produce a professional surface.

System advantages / customer benefit

- Fire resistance testing in rigid and flexible walls, rigid floors and PROMASEAL® Fire Barrier¹
- Based on a thermoplastic composite and is non-toxic
- Contains no asbestos, ceramic or mineral fibres.
- Halogen free, resists fungi and vermin
- Can be used with Plastic Pipes - HDPE, PE, PP and PVC
- Can be used in areas of high humidity.

Approval

UL-EU-01104-CPR
CE Marked

Packaging

PROMASEAL® WRAP is supplied in 25 metre long, 40mm wide roll.

Storage requirements

Store in cool and dry conditions

Safety instructions

Please refer to the Safety Data Sheet for additional advice.

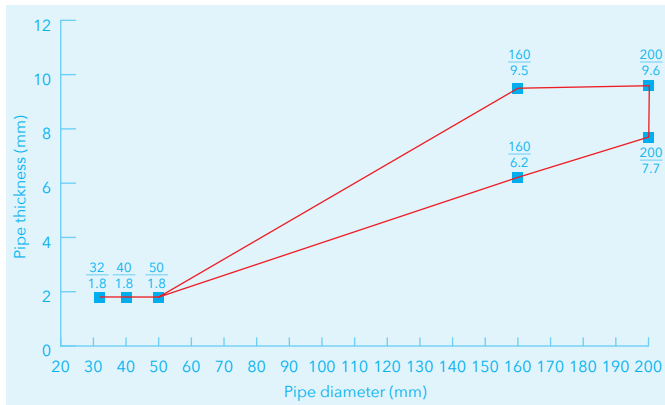
¹ See PROMASEAL® Fire Barrier specifications for further information.

PROMASEAL® WRAP

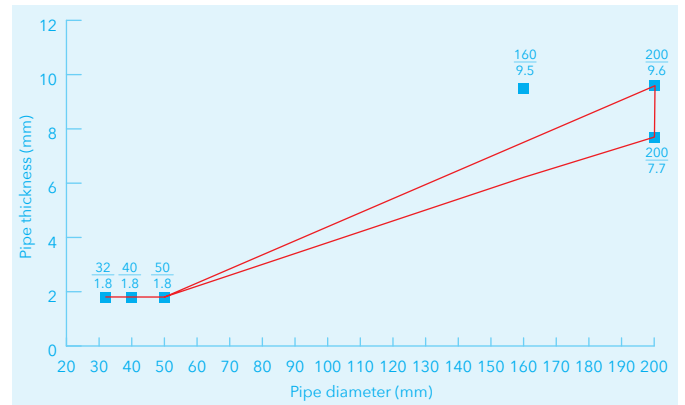
Table 19: Overview of PVC pipe installation, dimensions and classification for flexible wall and rigid wall

Pipe	Minimum wall thickness (mm)	Reference	WRAP Inlay W x T (mm)	Annular gap seal of PROMASEAL® Intumescent Acrylic Sealant (mm)	Fire resistance (mins)	
					E	EI
32mm Ø PVC with 1.8mm wall thickness	100	25m roll PROMASEAL® WRAP	40 x 2 (1 layer) to both faces of the wall	4 (to both faces of wall)	120 U/C	120 U/C
40mm Ø PVC with 1.8mm wall thickness						
50mm Ø PVC with 1.8mm wall thickness						
160mm Ø PVC with 6.2mm wall thickness			40 x 8 (4 layers) to both faces of the wall	10 (to both faces of wall)	90 U/C	90 U/C
160mm Ø PVC with 9.5mm wall thickness			40 x 10 (5 layers) to both faces of the wall	12 (to both faces of wall)	120 U/C	120 U/C
200mm Ø PVC with 7.7mm wall thickness						
200mm Ø PVC with 9.6mm wall thickness						

Graph 1: Plastic pipes PVC according to EN 1452, U/C, wall ≥ 100mm - EI 90



Graph 2: Plastic pipes PVC according to EN 1452, U/C, wall ≥ 100mm - EI 120

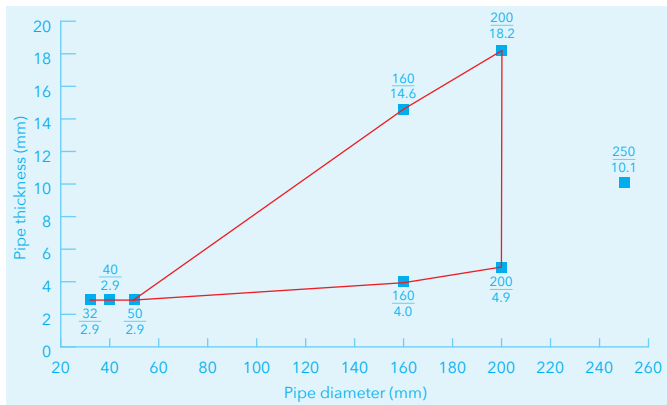


PROMASEAL® WRAP

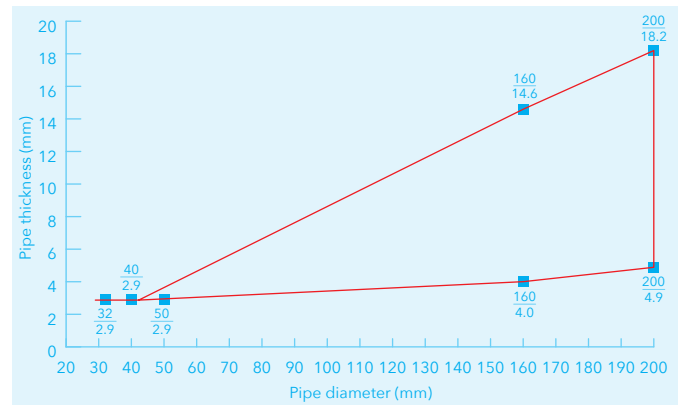
Table 20: Overview of PP pipe installation, dimensions and classification for flexible wall and rigid wall

Pipe	Minimum wall thickness (mm)	Reference	WRAP Inlay W x T (mm)	Annular gap seal of PROMASEAL® Intumescent Acrylic Sealant (mm)	Fire resistance (mins)	
					E	EI
32mm Ø PP with 2.9mm wall thickness	100	25m roll PROMASEAL® WRAP	40 x 2 (1 layer) to both faces of the wall	4 (to both faces of wall)	120 U/C	120 U/C
40mm Ø PP with 2.9mm wall thickness						
50mm Ø PP with 2.9mm wall thickness						
160mm Ø PP with 4.0mm wall thickness			40 x 8 (4 layers) to both faces of the wall	10 (to both faces of wall)	120 U/C	90 U/C
160mm Ø PP with 14.6mm wall thickness					120 U/C	120 U/C
200mm Ø PP with 4.9mm wall thickness			40 x 10 (5 layers) to both faces of the wall	12 (to both faces of wall)	120 U/C	90 U/C
200mm Ø PP with 18.2mm wall thickness					120 U/C	120 U/C
250mm Ø PP with 10.1mm wall thickness			40 x 12 (6 layers) to both faces of the wall	14 (to both faces of wall)	120 U/C	20 U/C

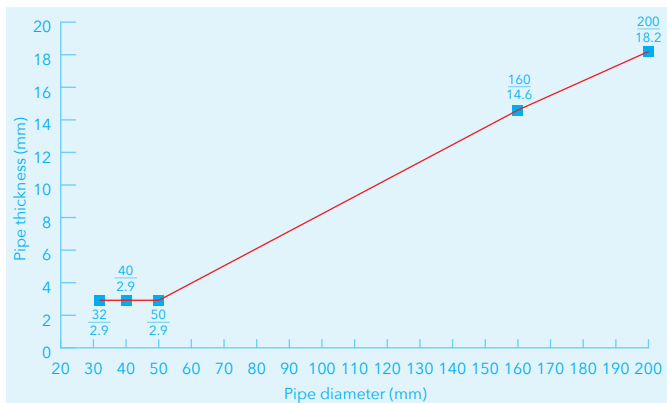
Graph 3: Plastic pipes PP according to EN 1451, wall ≥ 100mm - E 120, EI 20



Graph 5: Plastic pipes PP according to EN 1451, wall ≥ 100mm - E 120, EI 90



Graph 4: Plastic pipes PP according to EN 1451, U/C, wall ≥ 100mm - EI 120

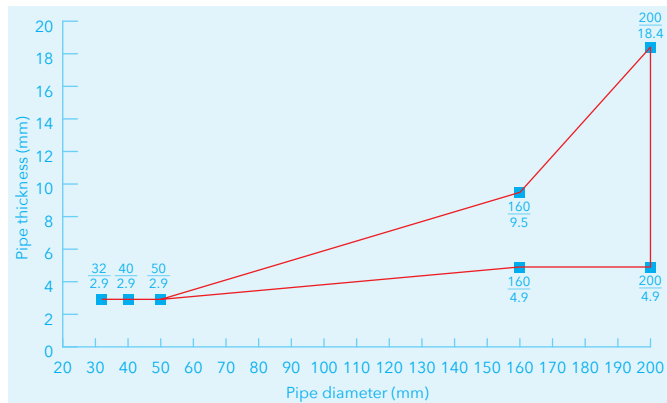


PROMASEAL® WRAP

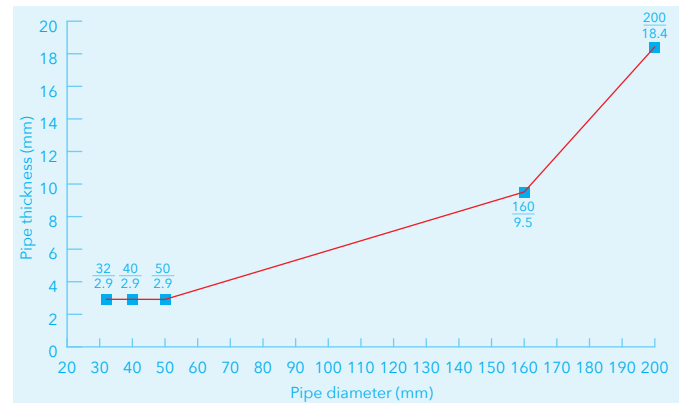
Table 21: Overview of HDPE pipe installation, dimensions and classification for flexible wall and rigid wall

Pipe	Minimum wall thickness (mm)	Reference	WRAP Inlay W x T (mm)	Annular gap seal of PROMASEAL® Intumescent Acrylic Sealant (mm)	Fire resistance (mins)	
					E	EI
32mm Ø HDPE with 2.9mm wall thickness	100	25m roll PROMASEAL® WRAP	40 x 2 (1 layer) to both faces of the wall	4 (to both faces of wall)	120 U/C	120 U/C
40mm Ø HDPE with 2.9mm wall thickness						
50mm Ø HDPE with 2.9mm wall thickness						
160mm Ø HDPE with 4.9mm wall thickness			40 x 8 (4 layers) to both faces of the wall	10 (to both faces of wall)	15 U/C	15 U/C
160mm Ø HDPE with 9.5mm wall thickness					90 U/C	90 U/C
200mm Ø HDPE with 4.9mm wall thickness					15 U/C	15 U/C
200mm Ø HDPE with 18.4mm wall thickness					40 x 10 (5 layers) to both faces of the wall	12 (to both faces of wall)

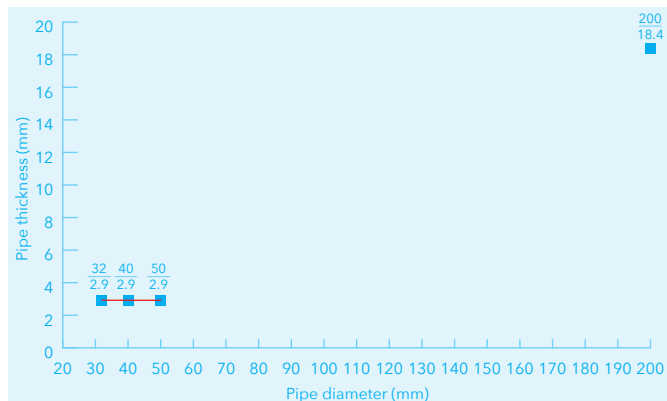
Graph 6: Plastic pipes PE according to EN ISO 15494, wall ≥ 100mm - EI 15



Graph 8: Plastic pipes PE according to EN ISO 15494, wall ≥ 100mm - EI 90



Graph 7: Plastic Pipes PE according to EN ISO 15494, U/C, wall ≥ 100mm - EI 120

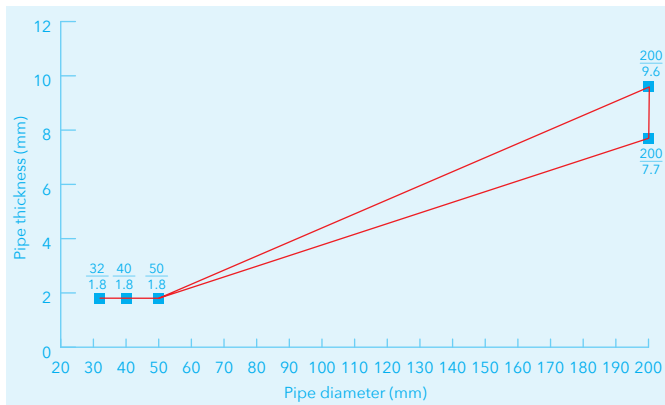


PROMASEAL® WRAP

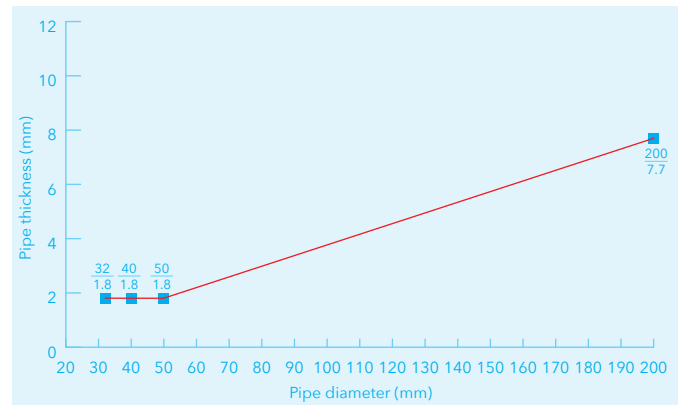
Table 22: Overview of PVC pipe installation, dimensions and classification for rigid floor

Pipe	Minimum floor thickness (mm)	Reference	WRAP Inlay W x T (mm)	Annular gap seal of PROMASEAL® Acrylic Sealant (mm)	Fire resistance (mins)	
					E	EI
32mm Ø PVC with 1.8mm wall thickness	150	25m roll PROMASEAL® WRAP	40 x 4 (2 layers) to both faces of the floor	4 (to both faces of floor)	120 U/C	120 U/C
40mm Ø PVC with 1.8mm wall thickness						
50mm Ø PVC with 1.8mm wall thickness						
200mm Ø PVC with 7.7mm wall thickness	150	25m roll PROMASEAL® WRAP	40 x 10 (5 layers) to both faces of the floor	12 (to both faces of floor)	120 U/C	90 U/C
200mm Ø PVC with 7.7mm - 9.6mm wall thickness					60 U/C	60 U/C

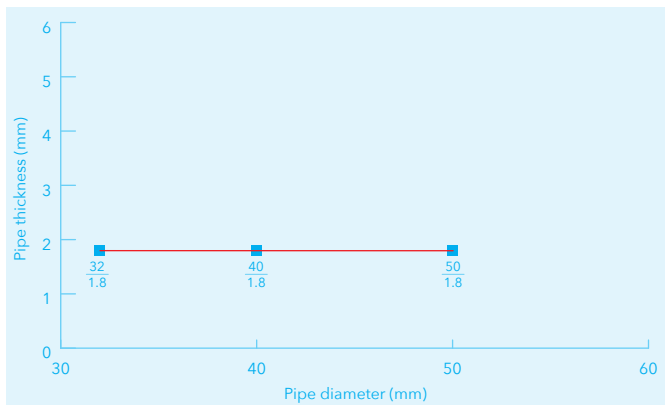
Graph 9: Plastic Pipes PVC according to EN 1452, U/C, Floor ≥ 150mm - EI 60



Graph 11: Plastic pipes PVC according to EN 1452, U/C, Floor ≥ 150mm - E 120, EI 90



Graph 10: Plastic pipes PVC according to EN 1452, U/C, Floor ≥ 150mm - EI 120

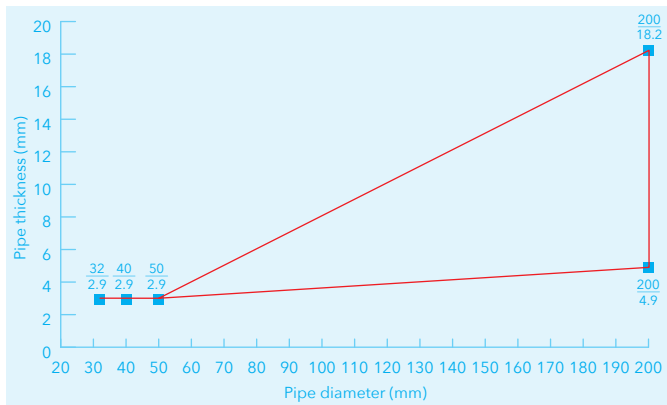


PROMASEAL® WRAP

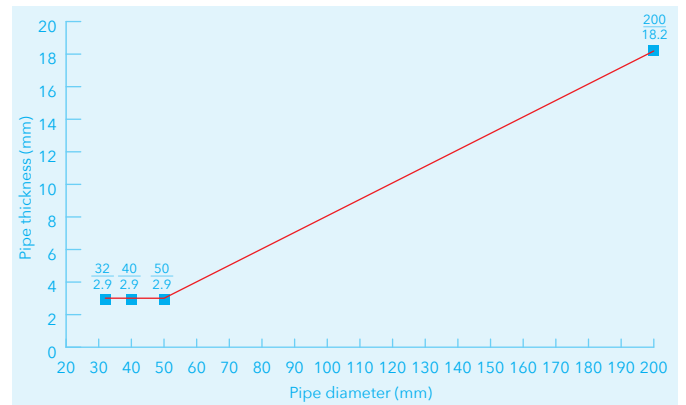
Table 23: Overview of PP pipe installation, dimensions and classification for rigid floor

Pipe	Minimum floor thickness (mm)	Reference	WRAP Inlay W x T (mm)	Annular gap seal of PROMASEAL® Acrylic Sealant (mm)	Fire resistance (mins)	
					E	EI
32mm Ø PP with 2.9mm wall thickness	150	25m roll PROMASEAL® WRAP	40 x 4 (2 layers) to both faces of the floor	4 (to both faces of floor)	120 U/C	120 U/C
40mm Ø PP with 2.9mm wall thickness						
50mm Ø PP with 2.9mm wall thickness						
200mm Ø PP with 4.9mm wall thickness	150	25m roll PROMASEAL® WRAP	40 x 10 (5 layers) to both faces of the floor	12 (to both faces of floor)	20 U/C	15 U/C
200mm Ø PP with 18.2mm wall thickness					120 U/C	90 U/C

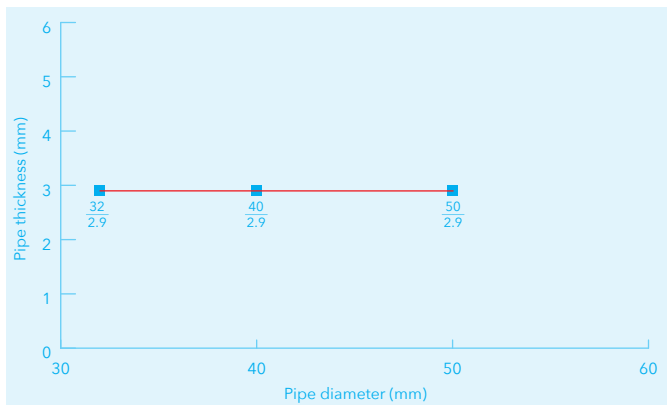
Graph 12: Plastic pipes PP according to EN 1451, U/C, Floor ≥ 150mm - E 20, EI 15



Graph 14: Plastic pipes PP according to EN 1451, U/C, Floor ≥ 150mm - E 120, EI 90



Graph 13: Plastic pipes PP according to EN 1451, U/C, Floor ≥ 150mm - EI 120

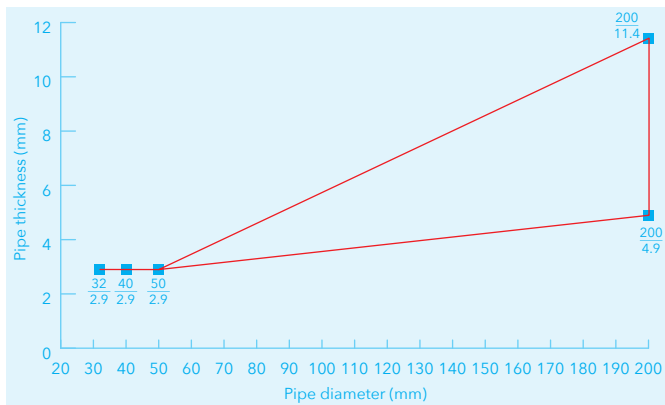


PROMASEAL® WRAP

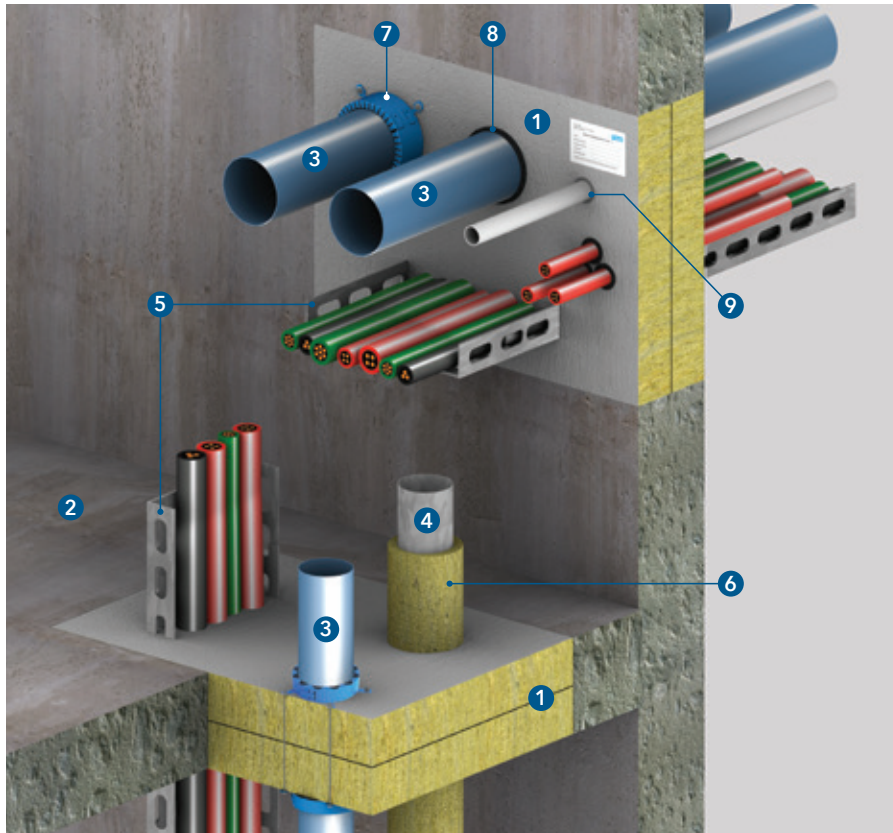
Table 24: Overview of HDPE pipe installation, dimensions and classification for rigid floor

Pipe	Minimum floor thickness (mm)	Reference	WRAP Inlay W x T (mm)	Annular gap seal of PROMASEAL® Acrylic Sealant (mm)	Fire resistance (mins)	
					E	EI
32mm Ø HDPE with 2.9mm wall thickness	150	25m roll PROMASEAL® WRAP	40 x 4 (2 layers) to both faces of the floor	4 (to both faces of floor)	120 U/C	120 U/C
40mm Ø HDPE with 2.9mm wall thickness						
50mm Ø HDPE with 2.9mm wall thickness						
200mm Ø HDPE with 4.9mm wall thickness			40 x 10 (5 layers) to both faces of the floor	12 (to both faces of floor)		
200mm Ø HDPE with 11.4mm wall thickness						

Graph 15: Plastic pipes HDPE according to EN 1519, U/C, floor ≥ 150mm - EI 120



PROMASEAL® Fire Barrier

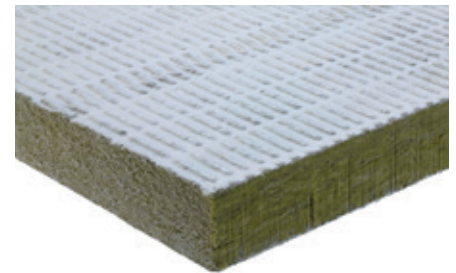


Key to Illustrations

- 1 PROMASEAL® Fire Barrier
- 2 Supporting construction
- 3 Combustible pipe
- 4 Non-combustible pipe
- 5 Steel cable trays / cables
- 6 Insulation
- 7 PROMASEAL® COLLAR
- 8 PROMASEAL® WRAP
- 9 PROMASEAL®-HPEX Sealant

Approval

UL-EU-01105-CPR



Technical data and properties

Dimensions:	1200mm x 600mm x 50mm
Fire resistance:	Up to 120 minutes (tested to BS EN 1366-3) Up to 240 minutes (tested to BS 476 Part 20)
Air permeability: BS EN 1026	100Pa 1.8/1.4 m ³ /h/m ²
Acoustic Performance: BS EN ISO 10140-2	R _w 41dB (double layer)

General description

PROMASEAL® Fire Barrier is a 50mm thick coated mineral wool slab used to reinstate the fire resistance performance of wall and floor constructions, where there are apertures for the penetration of single and multiple services.

The PROMASEAL® Fire Barrier is cut to size and friction fitted into the aperture and around existing services, using either PROMASEAL® Fire Barrier coating or Intumescent Acrylic sealant to seal all edges, joints, junctions and around all services (see Installation details for further information).

Fields of application

- M&E service penetration seals in flexible and rigid walls and rigid floor constructions.

Installation

- Ensure that the aperture and services in question have been tested with PROMASEAL® Fire Barrier and that the site conditions are within the application specification.
- Services to be rigidly supported maximum 400mm from the seal on both sides of the wall or floor (unless stated otherwise in specification).
- For good adhesion, the surfaces of the building elements must be free of any dust or grease and may need to be primed.

- On good, clean virgin concrete and masonry, no priming is required.
- All services and apertures need to be clean and free from all dust and loose particles. The aperture temperature must be at 5°C or above at the time of installation.
- If installing PROMASEAL® Fire Barrier in to a drywall partition (flexible wall) the aperture must be formed from track sections and lined with a layer of 12.5mm thick Type F gypsum board.
- Measure the size of the opening and the relevant size and positioning of the services, draw details onto the PROMASEAL® Fire Barrier and cut to size using a suitable saw.
- PROMASEAL® Fire Barrier coating or Intumescent Acrylic sealant should be used to point in Fire Barrier slabs and all service penetrations (unless stated otherwise in specification).

PROMASEAL® Fire Barrier

Installation - Friction fit:

- Using a trowel or pallet knife, apply a thick layer of PROMASEAL® Fire Barrier coating or Intumescent Acrylic Sealant to all areas of contact around the opening and services, ensuring that the coating/sealant is applied to the edges of the opening and the cut edges of the Fire Barrier.
- Fit the cut PROMASEAL® Fire Barrier into the opening, ensuring a tight friction fit and push the Fire Barrier firmly into the opening using the flat of the hand.
- Continue the above procedure with all cut pieces, ensuring that a layer of sealant/coating is applied to all areas of contact between the pieces. The seal should be made up from as few pieces of PROMASEAL® Fire Barrier as possible.
- Any small gaps in the seal should be tightly packed with off-cuts and coated with PROMASEAL® Intumescent Acrylic sealant or Fire

Barrier coating, ensuring that all board joints are also sealed.

Installation – Pattress Fit:

- On installation, ensure that the PROMASEAL® Fire Barrier has minimum 100mm overlap to the structure and that it is fixed to the substrate with the required fixings, dependant on substrate. Fixings to be at corners and at maximum 300mm centres.
- Coat the edges of the PROMASEAL® Fire Barrier with PROMASEAL® Acrylic Sealant or Fire Barrier coating, to ensure that all edges of the Fire Barrier and board joints / joints with service penetrations are adequately sealed.

- Suitable for indoor use without additional environmental protection
- Life expectancy of over 25 years
- Tested as a system with PROMASEAL® WRAP, COLLAR, and -HPEX Sealant.

Packaging

PROMASEAL® Fire Barrier is supplied and packed in polythene bag with standard size of 1200mm x 600mm x 50mm.

Safety instructions

Please refer to the safety data sheet for additional advice.

Please note, PROMASEAL® Fire Barrier is not suitable to support load and must not be walked on.

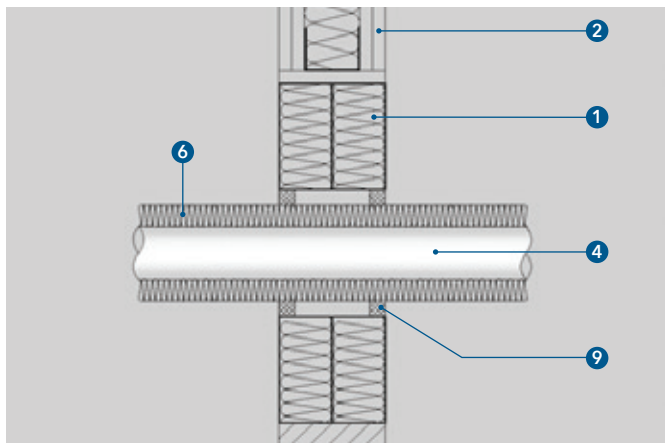
System advantages/customer benefit

- Fire resistance testing in walls and rigid floors
- Air permeability and acoustic test data available

Storage requirements

Store in cool and dry conditions.

Detail 22 - Non-combustible insulated pipe penetrating seal in flexible and rigid wall



Detail 22 - Non-combustible insulated metal pipe in flexible wall and rigid wall

Description	Technical specification
Wall thickness	≥100mm
Maximum seal size	≤1200mm high x 730mm wide
Seal position	Central
Minimum seal depth	2 layers of 50mm thick PROMASEAL® Fire Barrier
Annular gap (space between the pipe insulation to PROMASEAL® Fire Barrier)	20mm
Seal depth (PROMASEAL®-HPEX Sealant)	25mm on both face

Refer to Table 25: Overview of insulated metal pipe installation, dimensions and classification in flexible wall and rigid wall.

Table 25: Overview of insulated metal pipe installation, dimensions and classification in flexible wall and rigid wall.

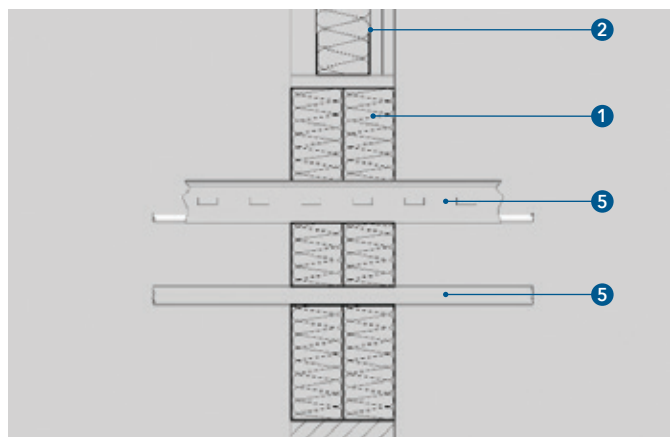
Services	Fire resistance (mins)	
	E	EI
Steel or Copper pipe 40mm Ø and 1.5 - 14.2mm wall thickness / 20mm thick foil faced glass wool insulation (min. 80 kg/m³)*	90	60
Steel or Copper pipe 40 - 159mm Ø and 2.3 - 14.2mm wall thickness / 30mm thick foil faced glass wool insulation (min. 80 kg/m³)*	60	60
Steel pipe 40mm Ø and 1.5 - 14.2mm wall thickness / 20mm thick foil faced glass wool insulation (min. 80 kg/m³)*	90	60
Steel pipe 40 - 159mm Ø and 2.3 - 14.2mm wall thickness / 30mm thick foil faced glass wool insulation (min. 80 kg/m³)*	60	60

Pipe end condition C/U (capped/uncapped).

*Continuous through seal and full length of the pipe.

PROMASEAL® Fire Barrier

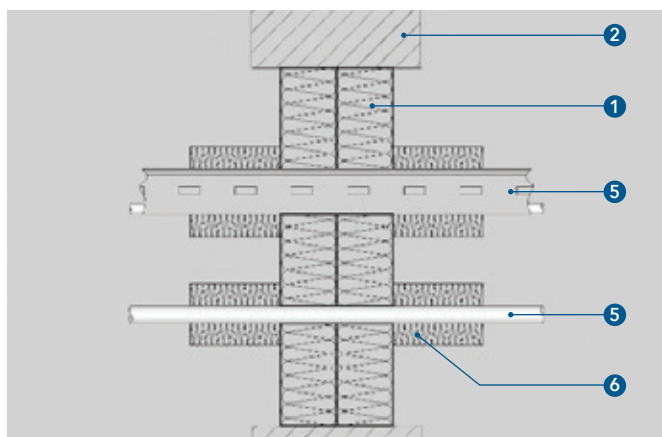
Detail 23 - Steel cable tray / Cables and conduits penetrating seal in flexible and rigid wall



Description	Technical specification
Wall thickness	≥100mm
Maximum seal size	≤1200mm (h) x 730mm (w)
Seal position	Central
Minimum seal depth	2 layers of 50mm thick PROMASEAL® Fire Barrier

Refer to Table 26: Overview of steel cable tray / cables and conduits installation, dimensions and classification in flexible wall and rigid wall.

Detail 24 - Steel cable tray / Cables and conduits penetrating seal in rigid wall



Description	Technical specification
Wall thickness	≥150mm
Maximum seal size	≤1200mm high x 730mm wide
Seal position	Central
Minimum seal depth	2 layers of 50mm thick PROMASEAL®-Fire Barrier

Refer to Table 27: Overview of steel cable tray / cables and conduits installation, dimensions and classification in rigid wall.

Table 26: Overview of steel cable tray / cables and conduits installation, dimensions and classification in flexible wall and rigid wall

Services / Insulation	Fire resistance (mins)	
	E	EI
Electrical cables up to 21mm Ø	60	60
Electrical cables 22-80mm Ø	60	45
Steel cable trays and ladders	60	60
Telecommunication cables up to 21mm Ø and in a bundle of up to 100mm Ø	60	60
Unsheathed electrical cables up to 17mm Ø	60	30
Unsheathed electrical cables 18-24mm Ø	60	15
Steel or Copper conduits up to 16mm Ø	60	15
Plastic conduits up to 16mm Ø	60	60

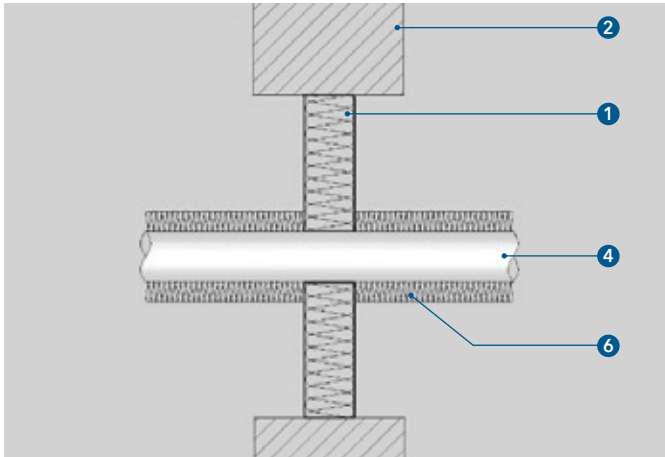
Table 27: Overview of steel cable tray / cables and conduits installation, dimensions and classification in rigid wall

Services / Insulation	Fire resistance (mins)	
	E	EI
Electrical cables up to 21mm Ø insulated with 40mm thick, 45kg/m ³ stone wool insulation*	120	120
Electrical cables 22-80mm Ø insulated with 40mm thick, 45kg/m ³ stone wool insulation*	120	90
Steel cable trays and ladders insulated with 40mm thick, 45kg/m ³ stone wool insulation*	120	120
Telecommunication cables up to 21mm Ø and in a bundle of up to 100mm Ø insulated with 40mm thick, 45kg/m ³ stone wool insulation*	120	120
Unsheathed electrical cables up to 24mm Ø insulated with 40mm thick, 45kg/m ³ stone wool insulation*	120	120

*Interrupted at the seal and extending 200mm from both faces of the seal.

PROMASEAL® Fire Barrier

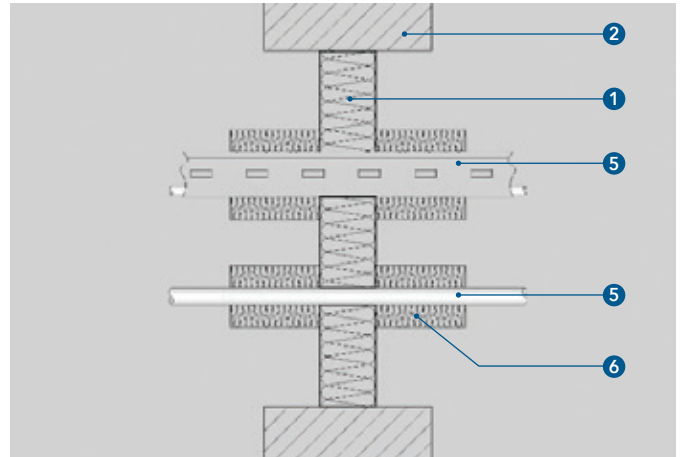
Detail 25 - Insulated metal pipe penetrating seal in rigid wall



Description	Technical specification
Wall thickness	≥150mm
Maximum seal size	≤600mm high x 600mm wide
Seal position	Any position within wall thickness
Minimum seal depth	50mm thick PROMASEAL® Fire Barrier

Refer to Table 28: Overview of insulated metal pipe installation, dimensions and classification in rigid wall.

Detail 26 - Steel cable tray/Cables and conduits penetrating seal in rigid wall



Description	Technical specification
Wall thickness	≥150mm
Maximum seal size	≤600mm high x 600mm wide
Seal position	Central
Minimum seal depth	50mm thick PROMASEAL® Fire Barrier

Refer to Table 29: Overview of steel cable tray / cables and conduits installation, dimensions and classification in rigid wall.

Table 28: Overview of insulated metal pipe installation, dimensions and classification in rigid wall

Services / Insulation	Fire resistance (mins)	
	E	EI
Steel or Copper pipe 108mm Ø and 1.5 - 14.2mm wall thickness / 40mm thick stone wool insulation (min 140kg/m³) **	60	45

Pipe end condition C/U (capped/uncapped)

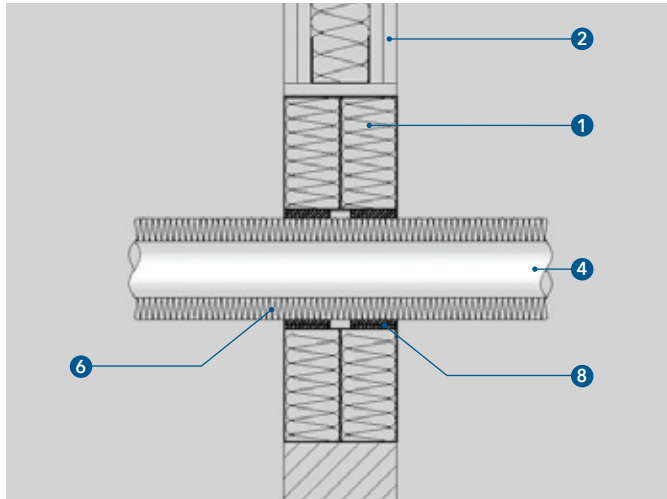
**Insulation interrupted at the seal and running the full length of the pipe.

Table 29: Overview of steel cable tray / cables and conduits installation, dimensions and classification in rigid wall

Services / Insulation	Fire resistance (mins)	
	E	EI
Electrical cables up to 80mm Ø insulated with 6mm thick ceramic fibre insulation min. 300mm long	60	60
Steel cable trays and ladders insulated with 6mm thick ceramic fibre insulation min. 300mm long		
Telecommunication cables up to 21mm Ø and in a bundle of up to 100mm Ø insulated with 6mm thick ceramic fibre insulation min. 300mm long		
Unsheathed electric cables up to 24mm Ø insulated with 6mm thick ceramic fibre insulation min. 300 long		

PROMASEAL® Fire Barrier

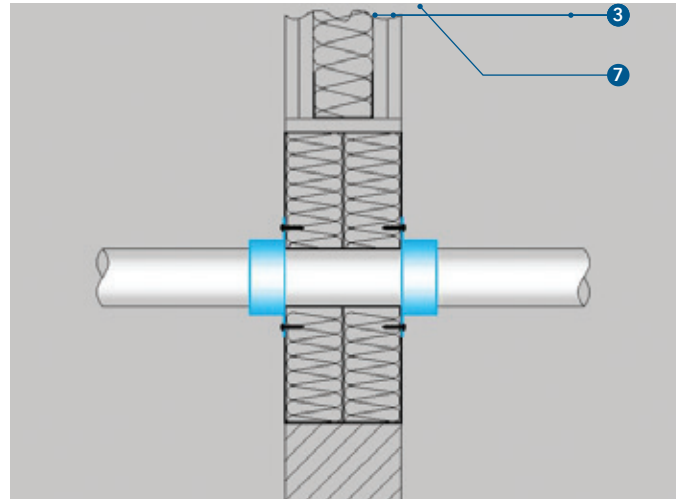
Detail 27 - Insulated metal pipe penetrating seal in flexible and rigid wall



Description	Technical specification
Wall thickness	≥100mm
Maximum seal size	≤1200mm high x 750mm wide
Seal position	Central
Minimum seal depth	2 layers of 50mm thick PROMASEAL® Fire Barrier
Pipe wrap (PROMASEAL® WRAP)	2 layers 2mm thick x 40mm wide
Pipe wrap position	Both faces

Refer to Table 30: Overview of insulated metal pipe installation, dimensions and classification in flexible wall and rigid wall.

Detail 28 - Combustible pipe penetrating seal in flexible and rigid wall



Description	Technical specification
Wall thickness	≥100mm
Maximum seal size	≤1200mm high x 730mm wide
Seal position	Central
Minimum seal depth	2 layers of 50mm thick PROMASEAL® Fire Barrier

Refer to Table 31: Overview of combustible pipe installation, dimensions and classification in flexible wall and rigid wall.

Table 30: Overview of insulated metal pipe installation, dimensions and classification in flexible wall and rigid wall

Services / Insulation*	Fire resistance (mins)	
	E	EI
Steel or copper pipe 42 - 159mm Ø, 1.2mm - 14.2mm wall thickness / 13mm - 25mm thick K Flex ST Insulation	120	60
Steel or copper pipe 42mm Ø, 1mm - 14.2mm wall thickness / 13mm - 25mm thick K Flex ST Insulation	120	90
Steel or copper pipe 42 - 108mm Ø, 1.2mm - 14.2mm wall thickness / 25mm - 40mm thick Kingspan Kooltherm FM Insulation	120	60
Steel or copper pipe 42mm Ø, 1mm - 14.2mm wall thickness / 25mm - 40mm thick Kingspan Kooltherm FM Insulation	120	90
Steel or copper pipe 42mm Ø, 1.2mm - 14.2mm wall thickness / 50mm thick glassfibre insulation	120	90

PROMASEAL® WRAP to be recessed slightly (max. 5mm) from the exposed face of the PROMASEAL® Fire Barrier and sealed over using PROMASEAL® Intumescent Acrylic Sealant.
Pipe end condition C/U (capped/uncapped).

*Insulation continuous through seal and running full length of pipe.

PROMASEAL® Fire Barrier

Table 31: Overview of combustible pipe installation, dimensions and classification in flexible wall and rigid wall

Services*	PROMASEAL® COLLAR** reference	Fire resistance (mins.)	
		E	EI
PVC Pipe 32mm Ø, 1.8mm wall thickness	32mm	120	120
PVC Pipe 40mm Ø, 1.8mm wall thickness	40mm		
PVC Pipe 50mm Ø, 1.8mm wall thickness	50mm		
PVC Pipe 55mm Ø, 1.8-2.3mm wall thickness	55mm		
PVC Pipe 63mm Ø, 2.3-3mm wall thickness	63mm		
PVC Pipe 75mm Ø, 3.1-4.8mm wall thickness	75mm		
PVC Pipe 82mm Ø, 3.1-4.8mm wall thickness	82mm		
PVC Pipe 90mm Ø, 4.2-7.4mm wall thickness	90mm		
PVC Pipe 100mm Ø, 4.2-7.4mm wall thickness	100mm		
PVC Pipe 110mm Ø, 4.2-7.4mm wall thickness	110mm		
PVC Pipe 125mm Ø, 6mm wall thickness	125mm		
PVC Pipe 140mm Ø, 6.1-7.5mm wall thickness	140mm		
PVC Pipe 160mm Ø, 6.2-9.5mm wall thickness	160mm		
PP Pipe 32mm Ø, 2.9mm wall thickness	32mm		
PP Pipe 40mm Ø, 2.9mm wall thickness	40mm		
PP Pipe 50mm Ø, 2.9mm wall thickness	50mm		
PP Pipe 55mm Ø, 2.9-4.4mm wall thickness	55mm		
PP Pipe 63mm Ø, 2.9-4.4mm wall thickness	63mm		
PP Pipe 75mm Ø, 2.8-6.7mm wall thickness	75mm		
PP Pipe 82mm Ø, 2.8-6.7mm wall thickness	82mm		
PP Pipe 90mm Ø, 2.7-10mm wall thickness	90mm		
PP Pipe 100mm Ø, 2.7-10mm wall thickness	100mm		
PP Pipe 110mm Ø, 2.7-10mm wall thickness	110mm		
PP Pipe 125mm Ø, 3.1mm wall thickness	125mm		
PP Pipe 140mm Ø, 3.5-8mm wall thickness	140mm		
PP Pipe 160mm Ø, 4-14.6mm wall thickness	160mm		
PE Pipe 32mm Ø, 2.9mm wall thickness	32mm		
PE Pipe 40mm Ø, 2.9mm wall thickness	40mm		
PE Pipe 50mm Ø, 2.9mm wall thickness	50mm		
PE Pipe 55mm Ø, 2.9-4.4mm wall thickness	55mm		
PE Pipe 63mm Ø, 2.9-4.4mm wall thickness	63mm		
PE Pipe 75mm Ø, 2.8-6.7mm wall thickness	75mm		
PE Pipe 82mm Ø, 2.8-6.7mm wall thickness	82mm		
PE Pipe 90mm Ø, 2.7-10mm wall thickness	90mm		
PE Pipe 100mm Ø, 2.7-10mm wall thickness	100mm		
PE Pipe 110mm Ø, 2.7-10mm wall thickness	110mm		
PE Pipe 125mm Ø, 3.1mm wall thickness	125mm		
PE Pipe 140mm Ø, 3.9-5.8mm wall thickness	140mm		
PE Pipe 160mm Ø, 4.9-9.5mm wall thickness	160mm		

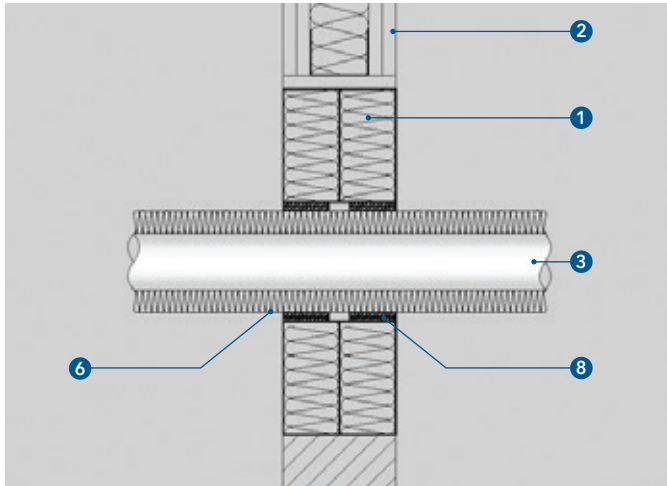
Pipe end condition U/C (uncapped/capped).

*Penetrations positioned with minimum 0mm distance between services and minimum 50mm to the edge of seal.

**PROMASEAL® COLLAR is fixed with 80mm long spiral screw (steel).

PROMASEAL® Fire Barrier

Detail 29 - Combustible insulated pipe penetrating seal in flexible and rigid wall



Description	Technical specification
Wall thickness	≥100mm
Maximum seal size	≤1200mm high x 730mm wide
Seal position	Central
Minimum seal depth	2 layers of 50mm thick PROMASEAL®-Fire Barrier
Pipe wrap (PROMASEAL® WRAP)	Refer to Table 32
Pipe wrap position	Both faces

Refer to Table 32: Overview of combustibly insulated pipe installation, dimensions and classification in flexible wall and rigid wall.

Table 32: Overview of combustibly insulated pipe installation, dimensions and classification in flexible wall and rigid wall

Services* / Insulation**	PROMASEAL® WRAP reference	Fire resistance (mins)	
		E	EI
PVC Pipe 40mm Ø, 1.9mm wall thickness. 25mm thick Kingspan Kooltherm FM insulation	3 x 2mm thickness (3 layers)	120	90
PVC Pipe 40mm Ø, 3mm wall thickness. 15mm thick Kingspan Kooltherm FM insulation	3 x 2mm thickness (3 layers)		
PVC Pipe 110mm Ø, 4.2mm wall thickness. 25mm thick Kingspan Kooltherm FM insulation	5 x 2mm thickness (5 layers)	120	120
PVC Pipe 110mm Ø, 6.6mm wall thickness. 20mm thick Kingspan Kooltherm FM insulation	5 x 2mm thickness (5 layers)	120	90
PVC Pipe 40mm Ø, 1.9mm wall thickness. 32mm thick Armaflex Class 0	3 x 2mm thickness (3 layers)		
PVC Pipe 40mm Ø, 3mm wall thickness. 9mm thick Armaflex Class 0	3 x 2mm thickness (3 layers)		
PVC Pipe 110mm Ø, 4.2mm wall thickness. 32mm thick Armaflex Class 0	5 x 2mm thickness (5 layers)	120	120
PVC Pipe 110mm Ø, 6.6mm wall thickness. 13mm thick Armaflex Class 0	5 x 2mm thickness (5 layers)	120	90

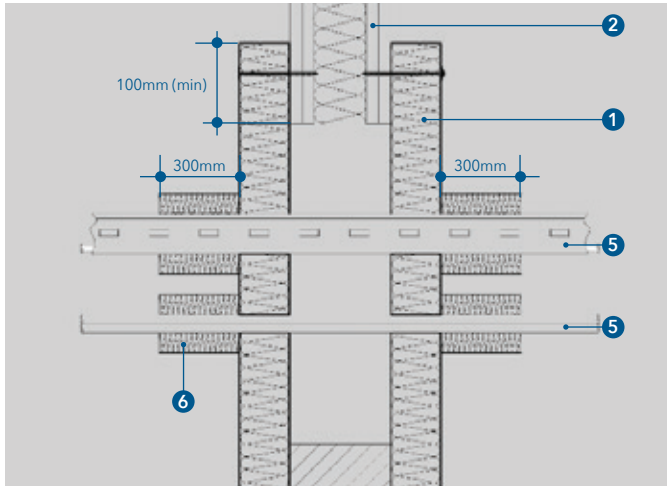
PROMASEAL® WRAP to be recessed slightly (max. 5mm) from the exposed face of the PROMASEAL® Fire Barrier and sealed over using PROMASEAL® Intumescent Acrylic Sealant. Pipe end condition U/C (uncapped/capped).

*Penetrations positioned with minimum 0mm distance between services and minimum 50mm to the edge of seal.

**Continuous insulation through seal and full length of the pipe.

PROMASEAL® Fire Barrier

Detail 30 - Steel cable tray / Cables and conduits penetrating seal in flexible and rigid wall



Description	Technical specification
Wall thickness	≥100mm
Maximum aperture size	≤1200mm high x 750mm wide
Seal position	Pattress at both faces of the wall
Minimum seal depth	50mm thick of PROMASEAL® Fire Barrier

Refer to Table 33: Overview of steel cable tray / cables installation, dimensions and classification in flexible wall and rigid wall.

Table 33: Overview of steel cable tray / cables installation, dimensions and classification in flexible wall and rigid wall

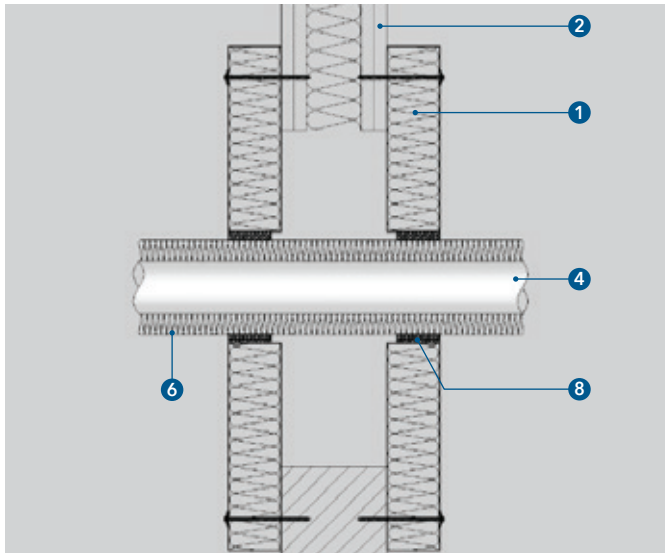
Services	Fire resistance (mins)	
	E	EI
Electrical cables up to 80mm Ø	120	120
Steel cable trays and ladders		
Telecommunication cables up to 21mm diameter and in a bundle of up to 100mm diameter		
Unsheathed electrical cables up to 24mm Ø		
Plastic conduits up to 16mm Ø		

Note: Pattress installation of PROMASEAL® Fire Barrier. The Batts are installed in horizontal rows and fixed on minimum two vertical edges. Overlap of batts to substrate min 100mm. Batts mechanically fixed to substrate with min 6mm x 80mm steel screws and steel retaining washer. Fixings installed at corners and at maximum 300mm centres. All edges of PROMASEAL® Fire Barrier to be coated with PROMASEAL® Fire Barrier Coating or PROMASEAL® Intumescent Acrylic Sealant (see installation details on page 35).

Cables and cable trays wrapped with a single layer of 40mm thick, 45kg/m³ stone wool insulation. Insulation interrupted at the seal and extending min. 300mm from both faces of the seal (L/I 300mm).

PROMASEAL® Fire Barrier

Detail 31 - Insulated metal pipe penetrating seal in flexible and rigid wall



Description	Technical specification
Wall thickness	≥100mm
Maximum aperture size	≤1200mm high x 750mm wide
Seal position	Pattress at both faces of the wall
Minimum seal depth	50mm thick PROMASEAL® Fire Barrier

Refer to Table 34: Overview of Insulated metal pipe installation, dimensions and classification in flexible wall and rigid wall

Table 34: Overview of Insulated metal pipe installation, dimensions and classification in flexible wall and rigid wall

Services / Insulation*	PROMASEAL® WRAP reference	Fire resistance (mins)	
		E	EI
Steel or Copper Pipe 42-159mm Ø, 1.2mm wall thickness. 13-25mm thick K Flex ST Insulation	2 x 2mm thickness (2 layers)	120	60
Steel or Copper Pipe 42-159mm Ø, 1.2 - 14.2mm wall thickness. 25mm thick K Flex ST Insulation	2 x 2mm thickness (2 layers)	120	90
Steel or Copper Pipe 42mm Ø, 1 - 14.2mm wall thickness. 13-25mm thick K Flex ST Insulation	2 x 2mm thickness (2 layers)	120	120
Steel or Copper Pipe 42-108mm Ø, 1.2 - 14.2mm wall thickness. 25-40mm thick Kingspan Kooltherm FM insulation	2 x 2mm thickness (2 layers)	120	90
Steel or Copper Pipe 42mm Ø, 1-14.2mm wall thickness. 25-40mm thick Kingspan Kooltherm FM insulation	2 x 2mm thickness (2 layers)	120	120
Steel or Copper Pipe 42mm Ø, 1.2-14.2mm wall thickness. 50mm glass fibre insulation minimum 30 kg/m ³	2 x 2mm thickness (2 layers)	120	90

Pipe end condition C/U (capped/uncapped).

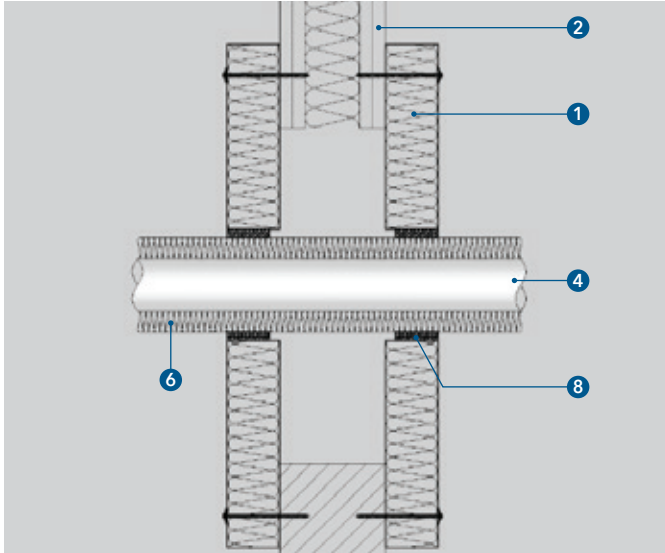
*Insulation continuous through seal and full length of the pipe.

Note: Pattress installation of PROMASEAL® Fire Barrier. The Batts are installed in horizontal rows and fixed on minimum two vertical edges. Overlap of batts to substrate min 100mm. Batts mechanically fixed to substrate with min 6mm x 80mm steel screws and steel retaining washer. Fixings installed at corners and at maximum 300mm centres. All edges of PROMASEAL® Fire Barrier to be coated with PROMASEAL® Fire Barrier Coating or PROMASEAL® Intumescent Acrylic Sealant (see installation details on page 35).

2 x 2mm thick layers of PROMASEAL® WRAP installed both sides of the substrate within the pattress installation. PROMASEAL® WRAP to be recessed slightly (max. 5mm) from the exposed face of the fire barrier and sealed over using PROMASEAL® Intumescent Acrylic Sealant.

PROMASEAL® Fire Barrier

Detail 32 - Insulated metal pipe penetrating seal in flexible and rigid wall



Description	Technical specification
Wall thickness	≥100mm
Maximum aperture size	≤600mm high x 600mm wide
Seal position	Pattress at both faces of the wall
Minimum seal depth	50mm thick PROMASEAL® Fire Barrier

Refer to Table 35: Overview of Insulated metal pipe installation, dimensions and classification in flexible wall and rigid wall.

Table 35: Overview of Insulated metal pipe installation, dimensions and classification in flexible wall and rigid wall.

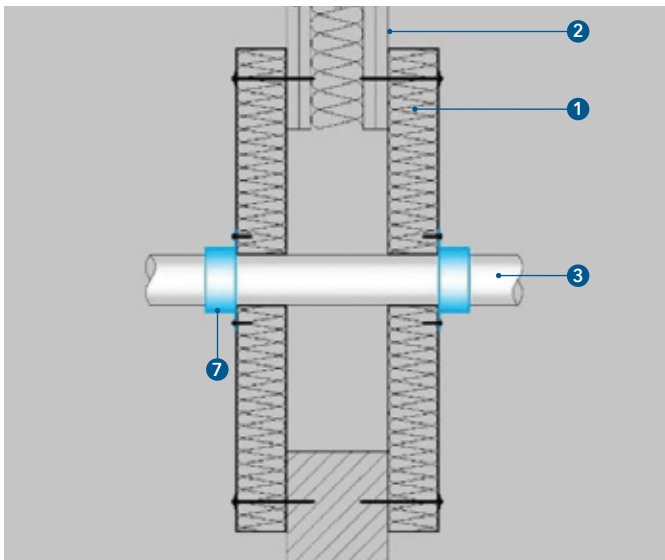
Services / Insulation*	PROMASEAL® WRAP reference	Fire resistance (mins)	
		E	EI
Steel or Copper Pipe 42-159mm Ø, 1.2mm - 14.2mm wall thickness. 25mm thick foil faced glassfibre insulation min. 30kg/m ³	2 x 2mm thickness (2 layers)	120	90
Steel or Copper Pipe 42mm Ø, 1mm - 14.2mm wall thickness. 25mm thick foil faced glassfibre insulation min. 30kg/m ³	2 x 2mm thickness (2 layers)	120	120

Pipe end condition C/U (capped/uncapped).

*Continuous insulation through seal and full length of the pipe

Note: Pattress installation of PROMASEAL® Fire Barrier. The Batts are installed in horizontal rows and fixed on minimum two vertical edges. Overlap of batts to substrate min 100mm. Batts mechanically fixed to substrate with min 6mm x 80mm steel screws and steel retaining washer. Fixings installed at corners and at maximum 300mm centres. All edges of PROMASEAL® Fire Barrier to be coated with PROMASEAL® Fire Barrier Coating or PROMASEAL® Intumescent Acrylic Sealant (see installation details on page 35).

Detail 33 - Combustible pipe penetrating seal in flexible and rigid wall



Description	Technical specification
Wall thickness	≥100mm
Maximum aperture size	≤1200mm high x 730mm wide
Seal position	Pattress at both faces of the wall
Minimum seal depth	50mm thick PROMASEAL® Fire Barrier

Refer to Table 36: Overview of combustible pipe installation, dimensions and classification in flexible wall and rigid wall

PROMASEAL® Fire Barrier

Table 36: Overview of combustible pipe installation, dimensions and classification in flexible wall and rigid wall

Services*	PROMASEAL®-COLLAR** reference	Fire resistance (mins.)	
		E	EI
PVC Pipe 32mm Ø, 1.8mm wall thickness	32mm	120	120
PVC Pipe 40mm Ø, 1.8mm wall thickness	40mm		
PVC Pipe 50mm Ø, 1.8mm wall thickness	50mm		
PVC Pipe 55mm Ø, 1.8-2.3mm wall thickness	55mm		
PVC Pipe 63mm Ø, 2.3-3mm wall thickness	63mm		
PVC Pipe 75mm Ø, 3.1-4.8mm wall thickness	75mm		
PVC Pipe 82mm Ø, 3.1-4.8mm wall thickness	82mm		
PVC Pipe 90mm Ø, 4.2-7.4mm wall thickness	90mm		
PVC Pipe 100mm Ø, 4.2-7.4mm wall thickness	100mm		
PVC Pipe 110mm Ø, 4.2-7.4mm wall thickness	110mm		
PVC Pipe 125mm Ø, 6mm wall thickness	125mm		
PVC Pipe 140mm Ø, 6.1-7.5mm wall thickness	140mm		
PVC Pipe 160mm Ø, 6.2-9.5mm wall thickness	160mm		
PP Pipe 32mm Ø, 2.9mm wall thickness	32mm		
PP Pipe 40mm Ø, 2.9mm wall thickness	40mm		
PP Pipe 50mm Ø, 2.9mm wall thickness	50mm		
PP Pipe 55mm Ø, 2.9-4.4mm wall thickness	55mm		
PP Pipe 63mm Ø, 2.9-4.4mm wall thickness	63mm		
PP Pipe 75mm Ø, 2.8-6.7mm wall thickness	75mm		
PP Pipe 82mm Ø, 2.8-6.7mm wall thickness	82mm		
PP Pipe 90mm Ø, 2.7-10mm wall thickness	90mm		
PP Pipe 100mm Ø, 2.7-10mm wall thickness	100mm		
PP Pipe 110mm Ø, 2.7-10mm wall thickness	110mm		
PP Pipe 125mm Ø, 3.1mm wall thickness	125mm		
PP Pipe 140mm Ø, 3.5-8mm wall thickness	140mm		
PP Pipe 160mm Ø, 4-14.6mm wall thickness	160mm		
PE Pipe 32mm Ø, 2.9mm wall thickness	32mm		
PE Pipe 40mm Ø, 2.9mm wall thickness	40mm		
PE Pipe 50mm Ø, 2.9mm wall thickness	50mm		
PE Pipe 55mm Ø, 2.9-4.4mm wall thickness	55mm		
PE Pipe 63mm Ø, 2.9-4.4mm wall thickness	63mm		
PE Pipe 75mm Ø, 2.8-6.7mm wall thickness	75mm		
PE Pipe 82mm Ø, 2.8-6.7mm wall thickness	82mm		
PE Pipe 90mm Ø, 2.7-10mm wall thickness	90mm		
PE Pipe 100mm Ø, 2.7-10mm wall thickness	100mm		
PE Pipe 110mm Ø, 2.7-10mm wall thickness	110mm		
PE Pipe 125mm Ø, 3.1mm wall thickness	125mm		
PE Pipe 140mm Ø, 3.9-5.8mm wall thickness	140mm		
PE Pipe 160mm Ø, 4.9-9.5mm wall thickness	160mm		

Pipe end condition U/C (uncapped/capped).

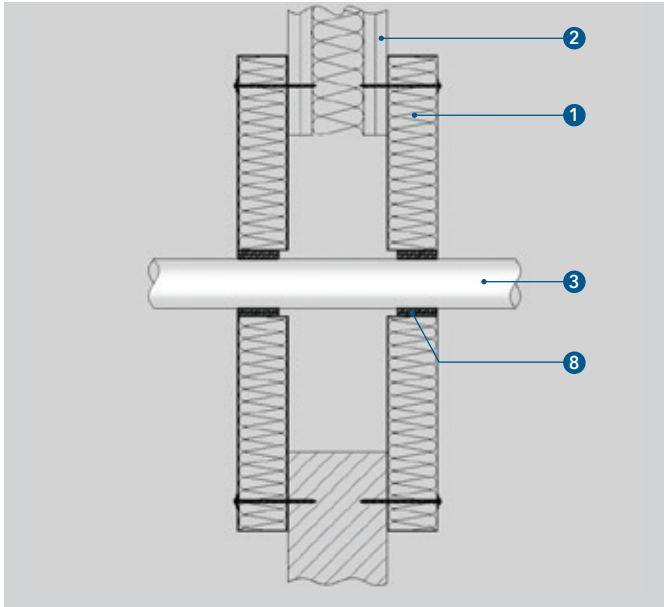
*Penetrations positioned with minimum 0mm distance between services and minimum 50mm to the edge of seal.

**PROMASEAL® COLLAR is fixed with 80mm long pig tail screw (steel).

Note: Collars secured both faces of the substrate utilising 80mm long pig tail screw through to the PROMASEAL® Fire Barrier Pattress installation of PROMASEAL® Fire Barrier. The Batts are installed in horizontal rows and fixed on minimum two vertical edges. Overlap of batts to substrate min. 100mm. Batts mechanically fixed to substrate with min. 6mm x 80mm steel screws and steel retaining washer. Fixings installed at corners and at maximum 300mm centres. All edges of PROMASEAL® Fire Barrier to be coated with PROMASEAL® Fire Barrier Coating or PROMASEAL® Intumescent Acrylic Sealant (see installation details on page 35).

PROMASEAL® Fire Barrier

Detail 34 - Combustible pipe penetrating seal in flexible and rigid wall

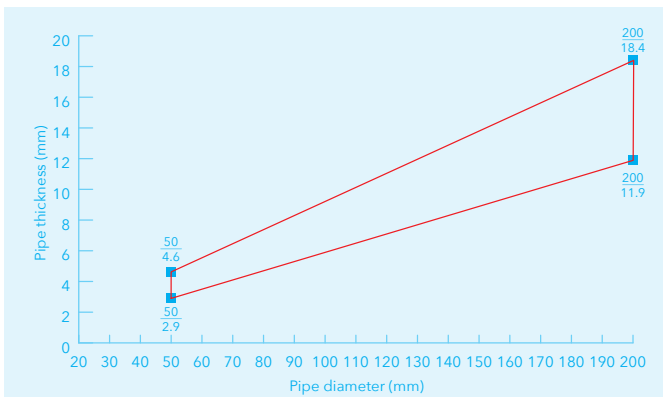


Description	Technical specification
Wall thickness	≥100mm
Maximum aperture size	≤600mm high x 600mm wide
Seal position	Pattress at both faces of the wall
Minimum seal depth	50mm thick PROMASEAL® Fire Barrier

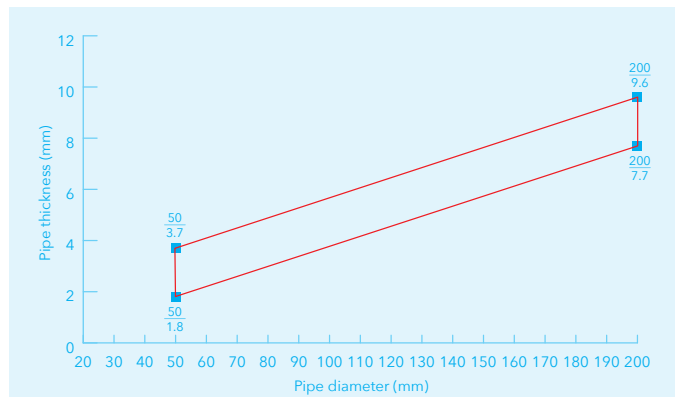
Table 37: PROMASEAL® WRAP reference based on pipe Ø

Pipe Ø	PROMASEAL® WRAP
32mm - 50mm Ø	40mm (W) x 2mm (T) ie. 1 layer
51mm - 82mm Ø	40mm (W) x 4mm (T) ie. 2 layers
83mm - 115mm Ø	40mm (W) x 6mm (T) ie. 3 layers
116mm - 160mm Ø	40mm (W) x 8mm (T) ie. 4 layers
161mm - 200mm Ø	40mm (W) x 10mm (T) ie. 5 layers
201mm - 250mm Ø	40mm (W) x 12mm (T) ie. 6 layers

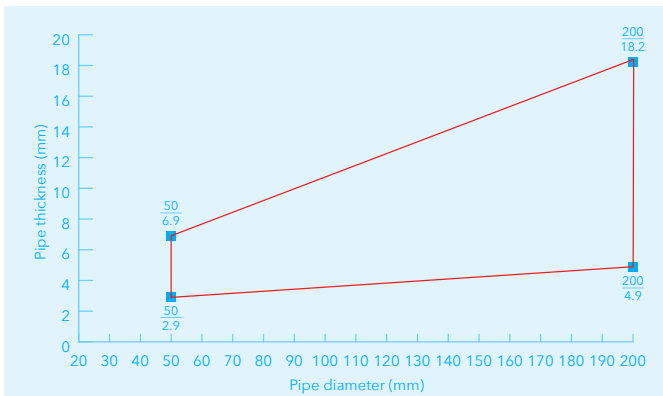
Graph 16: PE pipes - EI 60 U/C



Graph 18: PVC pipes - EI 60 U/C



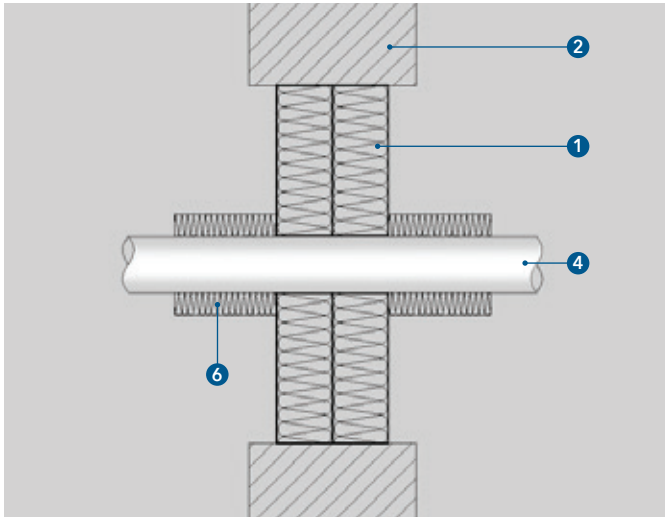
Graph 17: PP pipes - EI 60 U/C



Note: Wrap secured internally within both faces of the PROMASEAL® Fire Barrier. PROMASEAL® WRAP recessed slightly (max. 5mm) from the exposed surface of the fire barrier and sealed over using PROMASEAL® Intumescent Acrylic Sealant. Pattress installation of PROMASEAL® Fire Barrier. The Batts are installed in horizontal rows and fixed on minimum two vertical edges. Overlap of batts to substrate min 100mm. Batts mechanically fixed to substrate with min 6mm x 80mm steel screws and steel retaining washer. Fixings installed at corners and at maximum 300mm centres. All edges of PROMASEAL® Fire Barrier to be coated with PROMASEAL® Fire Barrier Coating or PROMASEAL® Intumescent Acrylic Sealant (see installation details on page 35). Minimum 0mm separation between services and minimum 50mm to the edges of seal.

PROMASEAL® Fire Barrier

Detail 35 - Non-combustible pipe penetrating seal in rigid wall



Description	Technical specification
Wall thickness	≥150mm
Maximum aperture size	≤1100mm high x 750mm wide
Seal position	Central
Minimum seal depth	2 layers of 50mm thick PROMASEAL® Fire Barrier

Refer to Table 38: Overview of non-combustible pipe installation, dimensions and classification in rigid wall.

Table 38: Overview of non-combustible pipe installation, dimensions and classification in rigid wall

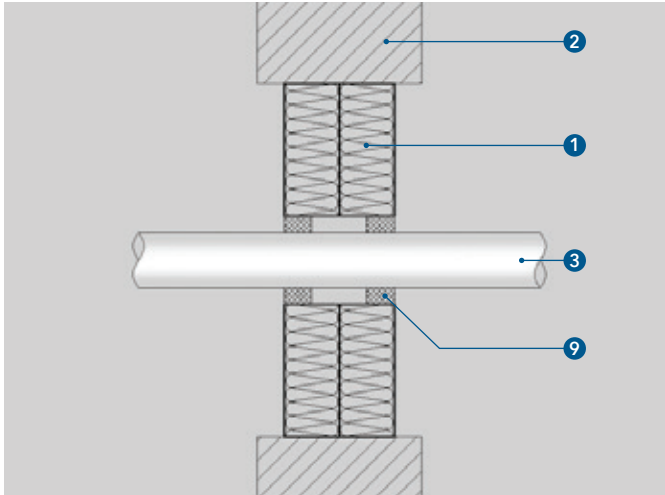
Services / Insulation	Fire resistance (mins)	
	E	EI
Steel or Copper Pipe 42mm Ø, 1.2mm - 14.2mm wall thickness*	120	60
Steel or Copper Pipe 42mm - 159mm Ø, 2mm - 14.2mm wall thickness*	120	30

*Steel or copper pipe wrapped with a single layer of 40mm thick, 40kg/m³ stone wool (L/I 300mm).

Insulation interrupted at the seal and extending 300mm from both faces of the seal.
Pipe end condition C/U (capped/uncapped).

PROMASEAL® Fire Barrier

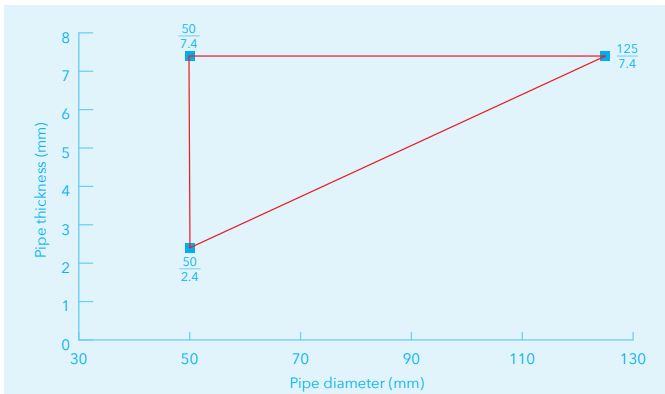
Detail 36 - Combustible pipe penetrating seal in rigid wall



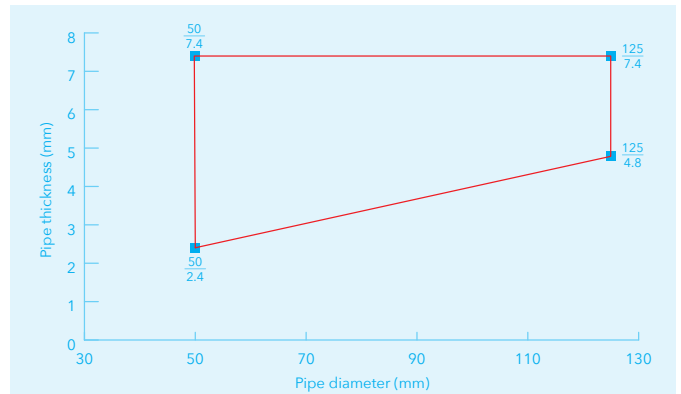
Description	Technical specification
Wall thickness	≥150mm
Maximum seal size	≤1100mm high x 750mm wide
Seal position	Central
Minimum seal depth	2 layers of 50mm thick PROMASEAL® Fire Barrier
Annular gap (space between the pipe to PROMASEAL® Fire Barrier)	20mm
Seal depth (PROMASEAL®-HPEX Sealant)	25mm at both face

Refer to graph below for pipe specification, size and fire rating.

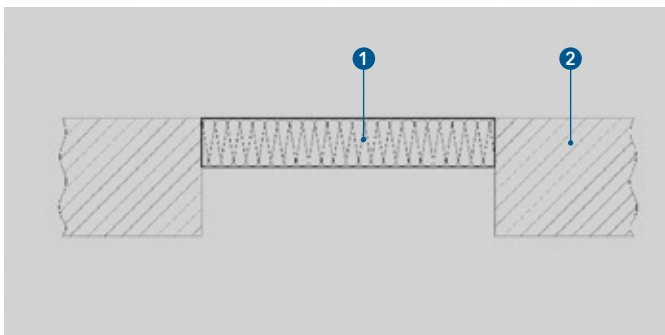
Graph 19: PVC pipes - EI 120 U/C



Graph 20: PVC pipes - E 120, EI 90 U/C



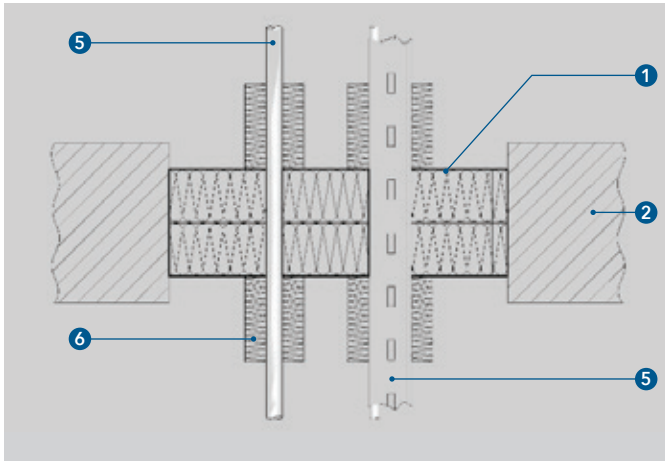
Detail 37 - Blank seal in rigid floor



Description	Technical specification
Floor thickness	≥150mm
Maximum seal size	≤1600mm x 700mm
Seal position	Flush to top of floor
Minimum seal depth	50mm thick PROMASEAL® Fire Barrier
Fire resistance (mins.)	E 60 / EI 60

PROMASEAL® Fire Barrier

Detail 38 - Steel cable tray/cables and conduits penetrating seal in rigid floor



Description	Technical specification
Floor thickness	≥150mm
Maximum aperture size	≤1100mm x 700mm
Seal position	Central
Minimum seal depth	2 layers of 50mm thick of PROMASEAL® Fire Barrier

Refer to Table 39: Overview of steel cable tray / cables installation, dimensions and classification in rigid floor.

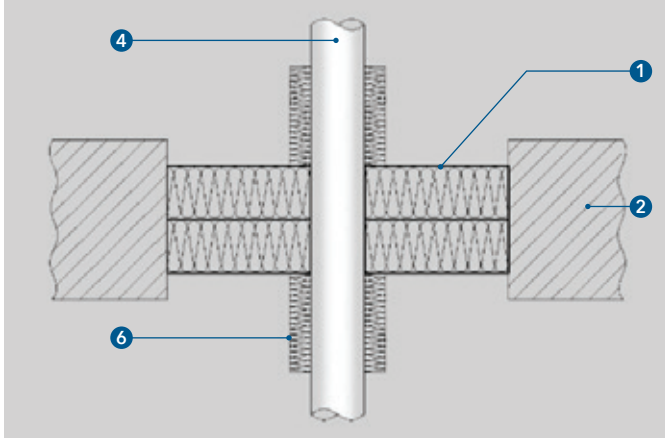
Table 39: Overview of steel cable tray / cables installation, dimensions and classification in rigid floor

Services / Insulation	Fire resistance (mins)	
	E	EI
Electrical cables up to 80mm Ø*	60	60
Steel cable Trays and Ladders*		
Telecommunication cables up to 21mm Ø and in a bundle of up to 100mm Ø*		
Unsheathed electrical cables up to 17mm to 24mm Ø*		
Steel or Copper Conduits up to 16mm Ø*		
Plastic conduit up to 16mm Ø*		

*Cables, steel cable trays and conduits wrapped with a single layer of 40mm thick, 40kg/m³ Stonewool, insulation interrupted at the seal and extending 300mm from both faces of the seal (L/I 300mm).

PROMASEAL® Fire Barrier

Detail 39 - Non-combustible pipe penetrating seal in rigid floor



Description	Technical specification
Floor thickness	≥150mm
Maximum aperture size	≤1100mm x 700mm
Seal position	Central
Minimum seal depth	2 layers of 50mm thick of PROMASEAL® Fire Barrier

Refer to Table 40: Overview of metal pipe installation, dimensions and classification in rigid floor.

Table 40: Overview of metal pipe installation, dimensions and classification in rigid floor

Services / Insulation	Fire resistance (mins)	
	E	EI
Steel or Copper Pipe 42mm Ø, 1.2mm - 14.2mm wall thickness*	120	120
Steel or Copper Pipe 42mm - 159mm Ø, 2mm - 14.2mm wall thickness*	120	30

Pipe end condition C/U (capped/uncapped).

*Steel or copper pipe wrapped with a single layer of 40mm thick, 40kg/m³ stone wool insulation interrupted at the seal and extending 300mm from both faces of the seal (L/I 300mm).

Note: See pages 51 and 54 for additional Fire Barrier specifications, tested to BS 476 Part 20 test methods.

PROMASEAL® Fire Barrier

PROMASEAL® Fire Barrier - Approval Matrix: Up to 60 Minute Walls (BS476: Part 20:1987)

Product Name:	PROMASEAL® Fire Barrier		
Coating / DFT:	PROMASEAL® Fire Barrier Coating/1mm		
Density:	140 kg/m ³ minimum		
Barrier	Service	Integrity	Insulation
Single layer (50mm)	Cable Ladder (340mm wide by 100mm high max.)	60 minutes	60 minutes
	Cables up to 26mm diameter	60 minutes	N/A
	Steel pipes up to 60mm diameter	60 minutes	30 minutes
	PVC pipes up to 110mm diameter*	60 minutes	N/A
	Steel ducts (445mm wide by 445mm high max.)	60 minutes	N/A

*PVC pipes must be used in conjunction with PROMASEAL® Pipewraps (60mm wide) over sealed with ablative coating.

Maximum aperture:	2880mm high by 2400mm/2400mm high by 2880mm wide (maximum area 6.91m ²). Multiple apertures must be separated by a minimum of 400mm in drywalls and 240mm in concrete/masonry constructions.
Walls	The walls shall be a minimum of 66mm thick. The minimum density for the concrete or brick of the wall is 780kg/m ³ and for walls made of concrete blocks is 600kg/m ³ . Partition drywalls will comprise at least 1 layer of minimum 12.5mm thick Type 'F' gypsum board on each side of minimum 70mm by 32mm steel studs. Supalux steel stud drywalls as specified in Certificate of Approval CF420A will comprise at least 1 layer of minimum 9mm thick Supalux board on each side of minimum 48mm by 35mm steel studs. For further details of this construction CF420A should be consulted. All concrete, masonry or drywalls shall have at least the same fire rating as that required for the barrier.
Application Technique:	Concrete/masonry walls: Board joints and the board to aperture junction is sealed with PROMASEAL® Intumescent Acrylic Sealant or PROMASEAL® Fire Barrier Coating. Apertures for penetrating items are to be tightly fitting and be sealed with PROMASEAL® Intumescent Acrylic Sealant or PROMASEAL® Fire Barrier Coating and must be separated by at least 400mm. Gypsum Drywalls: As above and additionally the aperture must be formed from track sections and be lined with a layer of 12.5mm thick Type 'F' gypsum board. Supalux Drywalls: As above and Apertures must be formed from track sections and be lined with a layer of minimum 9mm thick Supalux board.
Service Coat-Back:	Not required
Service Support Requirements:	Services should be rigidly supported via steel angles, hangers or channels, not further than 500mm from the surface of the sealing system on both faces.

PROMASEAL® Fire Barrier

PROMASEAL® Fire Barrier - Approval Matrix: Up to 120 Minute Walls (BS476: Part 20:1987)

Product Name:	PROMASEAL® Fire Barrier		
Coating / DFT:	PROMASEAL® Fire Barrier Coating/1mm		
Density:	140 kg/m ³ minimum		
Barrier	Service	Integrity	Insulation
Single layer (50mm)	Cable Ladder (340mm wide by 100mm high max.)	120 minutes	60 minutes
	Cables up to 26mm diameter	120 minutes	N/A
	Steel pipes up to 60mm diameter	120 minutes	N/A
	PVC pipes up to 110mm diameter*	60 minutes	N/A
	Steel ducts (445mm wide by 445mm high max.)	120 minutes	N/A
Double layer (100mm)	Cable Ladder (340mm wide by 100mm high max.)	120 minutes	60 minutes
	Cables up to 26mm diameter	120 minutes	60 minutes
	Steel pipes up to 60mm diameter	120 minutes	30 minutes
	PVC pipes up to 110mm diameter*	60 minutes	N/A
	Steel ducts (445mm wide by 445mm high max.)	120 minutes	N/A

*PVC pipes must be used in conjunction with PROMASEAL® Pipewraps (60mm wide) over sealed with ablative coating.

Maximum aperture:	2400mm high by 1200mm (120 minutes integrity performance) 2880mm high by 1440mm (60 minutes integrity performance) Multiple apertures must be separated by a minimum of 400mm in drywalls and 240mm in concrete/ masonry constructions.
Walls	The walls shall be a minimum of 130mm thick. The minimum density for the concrete or brick of the wall is 780kg/m ³ and for walls made of concrete blocks is 600kg/m ³ . Partition drywalls will comprise at least 2 layers of 15mm thick Type 'F' gypsum boards on each side of minimum 70mm by 32mm steel studs. All concrete, masonry or drywalls shall have at least the same fire rating as that required for the barrier.
Application Technique:	Concrete/masonry walls: Board joints and the board to aperture junction is sealed with PROMASEAL® Intumescent Acrylic Sealant or PROMASEAL® Fire Barrier Coating. Apertures for penetrating items are to be tightly fitting and be sealed with PROMASEAL® Intumescent Acrylic Sealant or PROMASEAL® Fire Barrier Coating and must be separated by at least 400mm. Drywalls: As above and additionally the aperture must be formed from track sections and be lined with two layers of 15mm thick Type 'F' gypsum boards.
Service Coat-Back:	Not required.
Service Support Requirements:	Services should be rigidly supported via steel angles, hangers or channels, not further than 500mm from the surface of the sealing system on both faces.

PROMASEAL® Fire Barrier

PROMASEAL® Fire Barrier - Approval Matrix: Up to 240 Minute Walls (BS476: Part 20:1987)

Product Name:	PROMASEAL® Fire Barrier		
Coating / DFT:	PROMASEAL® Fire Barrier Coating/1mm		
Density:	140 kg/m ³ minimum		
Barrier	Service	Integrity	Insulation
Single layer (50mm)	Cable Ladder (340mm wide by 100mm high max.)	240 minutes	N/A
	Cables up to 20mm diameter	240 minutes	N/A
	Areas of seal without services	240 minutes	60 minutes
Double layer (100mm)	Cable Ladder (340mm wide by 100mm high max.)	240 minutes	60 minutes
	Cables up to 20mm diameter	240 minutes	60 minutes
	Areas of seal without services	240 minutes	240 minutes
Maximum aperture:	1000mm high and 660mm wide subject to a maximum area of 0.6m ² . Multiple apertures must be separated by a minimum of 240mm in concrete/masonry constructions.		
Walls	The walls shall be a minimum of 140mm thick. The minimum density for the concrete or brick of the wall is 780kg/m ³ and for walls made of concrete blocks is 600kg/m ³ . All concrete or masonry walls shall have at least the same fire rating as that required for the barrier.		
Application Technique:	Concrete/masonry walls: Board joints and the board to aperture junction is sealed with PROMASEAL® Intumescent Acrylic Sealant or PROMASEAL® Fire Barrier Coating. Apertures for penetrating items are to be tightly fitting and be sealed with PROMASEAL® Intumescent Acrylic Sealant or PROMASEAL® Fire Barrier Coating and must be separated by at least 240mm.		
Service Coat-Back:	Not required.		
Service Support Requirements:	Services should be rigidly supported via steel angles, hangars or channels, not further than 500mm from the surface of the sealing system on both faces.		

PROMASEAL® Fire Barrier

PROMASEAL® Fire Barrier - Approval Matrix: Up to 120 Minute Floors (BS476: Part 20:1987)

Product Name:	PROMASEAL® Fire Barrier		
Coating / DFT:	PROMASEAL® Fire Barrier Coating/1mm		
Density:	140 kg/m ³ minimum		
Barrier	Service	Integrity	Insulation
Double layer (100mm)	Cable Ladder (340mm wide by 100mm high max.)	120 minutes	60 minutes
	Cables up to 20mm diameter	120 minutes	60 minutes
	Areas of seal without services	120 minutes	120 minutes
Maximum aperture:	1200mm long and 600mm wide subject to a maximum area of 0.72m ² . Multiple apertures must be separated by a minimum of 240mm in concrete constructions.		
Floors	The floors shall be a minimum of 115mm thick. The minimum density for the concrete floor is 780kg/m ³ . All concrete floors shall have at least the same fire rating as that required for the barrier.		
Application Technique:	Concrete floors: Board joints and the board to aperture junction is sealed with PROMASEAL® Intumescent Acrylic Sealant or PROMASEAL® Fire Barrier Coating. Apertures for penetrating items are to be tightly fitting and be sealed with PROMASEAL® Intumescent Acrylic Sealant or PROMASEAL® Fire Barrier Coating and must be separated by at least 240mm.		
Service Coat-Back:	Not required		
Service Support Requirements:	Services should be rigidly supported via steel angles, hangars or channels, not further than 500mm from the surface of the sealing system on both faces.		



PROMASEAL® Fire Compound Extra Strength

General description

PROMASEAL® Fire Compound Extra Strength is a gypsum based mortar material, used to reinstate the fire resistance performance of floor constructions where they have been provided with apertures for the penetrations of multiple services.

PROMASEAL® Fire Compound Extra Strength is supplied as a dry material, and is mixed with water to the required ratio prior to installation.

PROMASEAL® Fire Compound Extra Strength when mixed is self-supporting in a floor to spans of 1800mm. Temporary non-combustible shuttering is required to support the wet weight of the PROMASEAL® Fire Compound Extra Strength. The seal is high strength, non-combustible and is load bearing.

Fields of application

All types of M & E Service penetration seals in rigid walls and floor construction. Suitable for internal use (Exposure category Z₁)

System advantages / customer benefit

- Fire resistance testing in walls, rigid floors.
- Rapid setting, zero shrinkage formulation - can be used as pourable or trowel grade, gas tight seals.
- Excellent workability ranging from stiff to pourable mix.
- Good load bearing performance in floor seals.
- Can be used to fireseal around damper assemblies (according to specific details from damper manufacturer).

Application instructions

- Ensure that the aperture and services in question have been tested with PROMASEAL® Fire Compound Extra strength and the site conditions are within the application specification.
- For good adhesion, the surfaces of the building elements should be free of dust or grease and may need

Technical data and properties

Colour	light grey free flowing powder
Density (wet cast)	1750 - 1900Kg/m ³
Density (oven dry)	1450 - 1600Kg/m ³
Loadbearing	2.5k N/m ² UDL*
Fire resistance	EI 120 / E120 and 240mins EN1366
Classification	EN13501:2
Acoustic performance Rw (C;Ctr)	50 (-1;-4)
Max unsupported span	1800mm
Expansion on setting (%)	0.1

*Promat Promaseal Fire Compound Extra Strength is intended to support temporary loading (eg foot traffic) and not permanent loading

to be primed. On good, clean virgin concrete & masonry, no priming is required.

- All services and apertures need to be clean and clear of all dust and loose particles. The aperture temperature needs to be at +5 deg C or above at time of installation.
- Upon installation make sure that you install the PROMASEAL® Fire Compound Extra Strength to the recommended ratio for the aperture you are installing. Make sure that you fill the full depth in a single pour to create a solid structure, as building up the seal in several layers with individual layers being allowed to set, will result in a weak, laminated structure with reduced loadbearing performance.
- PROMASEAL® Fire Compound Extra Strength can be mixed preferably by mechanical paddle or manually if required. Measure out the correct amount of clean water into a clean container to achieve the desired consistency.
- Gradually add the PROMASEAL® Fire Compound Extra Strength stirring continually. Continue mixing until the PROMASEAL® Fire Compound Extra Strength is mixed to a smooth even consistency.

PROMASEAL® Fire Compound Extra Strength: WATER RATIO

Compound	Water (by volume)
Pourable Mix ratio	3-3.5:1
Trowelable Mix ratio	4:1



Storage requirements

- Store in cool and dry conditions.
- Expected shelf life at least 6 months.
- Any spillage should be wiped up with a damp cloth before setting occurs as it may stain pipes and services.
- Mix only enough material sufficient for use within the recommended pot life (20-30 minutes).
- Pot life and set times will be reduced for lower content and higher temperatures.
- Installation should not be carried out when temperatures are above 35°C.
- Setting times are normally between 30 and 90 minutes. **Warning:** Do not attempt to extend working time by remixing with additional water once the mortar has started to set, as this will interfere with the setting process.

PROMASEAL® Fire Compound Extra Strength

- Always mix in clean buckets. Using dirty buckets, in particular containing remains of compound from earlier mixes may reduce working time.
- Fit damming board/shuttering to bottom of opening. Damming materials must be able to support the wet weight of the compound under pouring conditions. Pour PROMASEAL® Fire Compound Extra Strength to the required minimum 100mm thickness.
- Once filled smooth off the PROMASEAL® Fire Compound Extra Strength to produce a professional finish.

Yield

Approximately 6 x 20kg bags per m² at 100mm thickness.

Health and Safety

Safety Data Sheets are available from www.promat.co.uk.

Packaging

- 20kg bags.

Technical Information

Refer to Promat Product Datasheet for further information.

Table 41: Fire Performance

		Depth of seal (mm)	Integrity (mins)	Insulation (mins)
Cables and Pipework	Through floors (EN 1366-3)	100	240	231
Ductwork Dampers	Through floors (BS 476 Part:20)	90	240	225
	Through walls (BS 476 Part:20)	82	240	164

Table 42: Loadbearing Capacity at 48 hours

	Span of seal (mm)	Span/depth ratio (100mm deep floor seal)	Tensile failure pressure (kN/m ²) (one way spanning)	Safe working load (kN/m ²)*
Un-reinforced floor seal, mix ratio 3:1	900	9:1	30	10
	1200	12:1	25	8
	1500	15:1	15	5

*Safe working load of the floor seal is taken as one third of the tensile failure pressure. Safe working load is for temporary foot traffic not permanent loading.

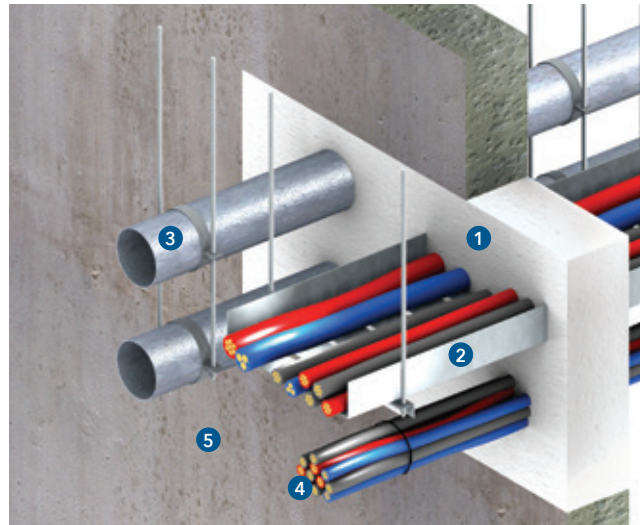
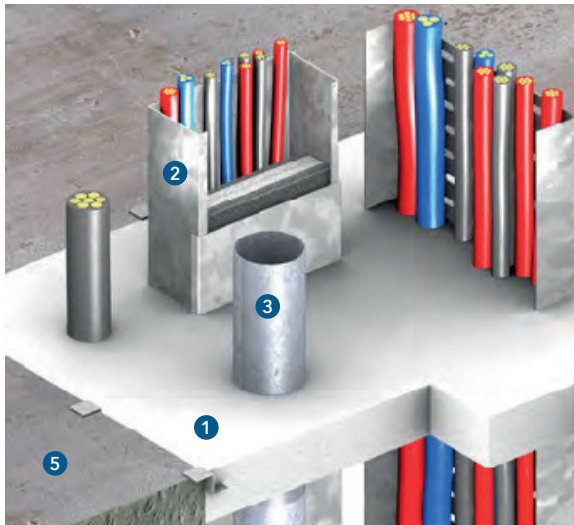
Table 43: Strength Performance

Flexural strength Frupture at 28 days	Compound: Water ratio 3:1	5.2N/mm ²
Compressive strength at 28 days	Compound: Water ratio 3:1 - pourable	14.0 N/mm ²

* Compound: water ratio by volume



PROMASEAL® Fire Compound



Introduction

Promat PROMASEAL® Fire Compound is a white powder, which is mixed with water to the required consistency for installation. When set, Promat PROMASEAL® Fire Compound becomes a hard material with a white matt finish.

The actual surface finish of the set product is dependent upon treatment at the time of application.

Applications

- Promat PROMASEAL® Fire Compound is used to provide a fire seal around service penetrations in walls and floors. The formless nature of the fire compound prior to setting allows it to be introduced between services and so create a complete void free seal, including around bunches of cables. Promat PROMASEAL® Fire Compound is also ideal for use around pipes and ducts where these penetrate compartment or separating walls or floors.
- Even when fully cured Promat PROMASEAL® Fire Compound permits the provision of additional or replacement services without the need to replace the complete installation, yet still retaining its strength properties. Acoustic data is available on this product, please contact the Promat Technical Services team.

Installation

- Promat PROMASEAL® Fire Compound is mixed with water to the required consistency. The powder should always be added to the water to ensure complete wetting. As a guide, in wall applications a stiffer mix is required, thus it is suggested that a mixing ratio of 2 parts Promat PROMASEAL® Fire Compound to 1 part water (by volume) be used. Where a pouring grade is required it is suggested that the ratio should be 3 parts Promat PROMASEAL® Fire Compound to 2 parts water (by volume).
- When movement of the services is expected it is good practice to point around the services with Promat PROMASEAL® Silicone Sealant. After setting, additional penetrations for services can be formed with normal hand tools. Redundant apertures can be readily filled with additional PROMASEAL® Fire Compound.

Loadbearing Systems

Temporary foot traffic to maximum of 1.5kN/m² can be applied to Promat PROMASEAL® Fire Compound, with additional reinforcement as required. Alternatively, use Promat PROMASEAL® Fire Compound Extra Strength.

Please contact the Promat Technical Services team for further information.

Key to Illustrations

- 1 PROMASEAL® Fire Compound
- 2 Electrical cables and cable tray
- 3 Metal pipe
- 4 Telecommunication cables
- 5 Wall elements or floor slabs

Note: Maximum size of opening - Walls and floors 1.2m x 1.2m (non loadbearing).

PROMASEAL® Fire Compound

Table 44: PROMASEAL® Fire Compound - BS 476: Part 20: 1987 Approval Matrix

Penetrating Services				Fire Rating (min)		
		Maximum Aperture Dimension (mm)	Minimum Seal Depth (mm)		Integrity (mins)	Insulation (mins)
			Loadbearing	Non-loadbearing		
Walls or floors	No service	1200	100	75	120	120
		1200	150	100	240	240
	Cables or Trunking or Dampers or Pipes ** (<60mm dia)	1200	100	75	120	0*
		1200	150	100	240	0*
Maximum Opening Area:	1.44m ² with a maximum service loading of 25% within each penetration seal					
Wall Thickness:	The floors and walls shall be a minimum of 100mm thick. The minimum density for the concrete of the floor or wall is 780kg/m ³ and for walls made of concrete blocks is 600kg/m ³ .					
Application Technique:	Floors:	Temporary or permanent shuttering will be required. In all instances where the span of the Promat PROMASEAL® Fire Compound exceeds 600mm, additional reinforcement e.g. re-bars will be necessary. For the floor seals fitted with reinforcement, the bars shall be 12mm diameter at 150mm centres. They shall be positioned at mid-thickness and supported at their ends on steel angles, typically 30mm x 30mm x 1.2mm thick, which are fastened to the concrete floor with all steel expanding anchors, at maximum 500mm centres.				
	Walls:	Promat PROMASEAL® Fire Compound should be progressively built up in order to avoid slumping. Usually a single shuttering board is used.				
Service Support Requirements:	In all cases the services shall be supported adjacent to either face of the penetration seal at maximum 250mm.					

*Depends upon the service. Performance not evaluated by this approval

**Plastic pipes must be fitted with suitable fire protective collars or wraps.

Note: The concrete floors and/or masonry or concrete walls shall be at least as thick as the sealing system as shown in the Approval matrix and have at least the same fire rating as that required for the penetration seal. The services which may be fitted through the seals are electrical cables of various sizes from communication cables to power cables. The cables may be mounted in steel trunking or conduits. If fitted in trunking, the inside of the trunking around the cables must be filled with Promat PROMASEAL® Fire Compound where it passes through the seal. Other services which may be fitted through the seals are steel, copper or plastic pipes. Plastic pipes must be fitted with intumescent closing devices, or similar, which have been shown by certification in the required orientation to be suitable for use with this type of penetration sealing system and suitable for the fire rating specified.

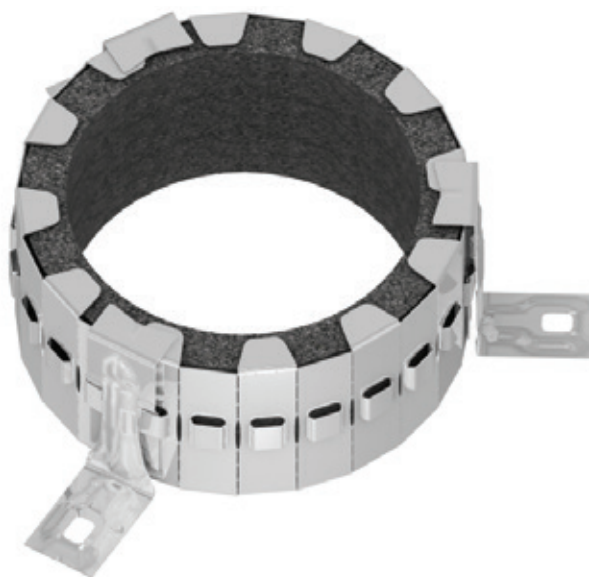
PROMASEAL® UniCollar®

Introduction

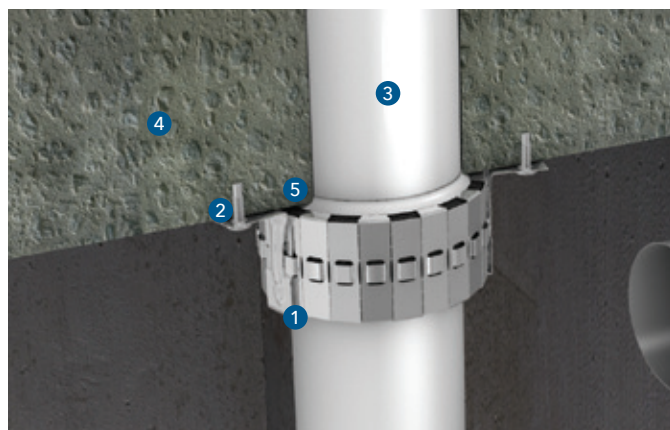
Promat PROMASEAL® UniCollar® is a patented method of protecting plastic pipes which pass through fire rated walls and floors. The system is supplied in a boxed continuous strip, 2250mm long, which is simply cut to length on site, and attached to the wall or floor using clips (supplied), and suitable screws, bolts and anchors, as necessary.

Application

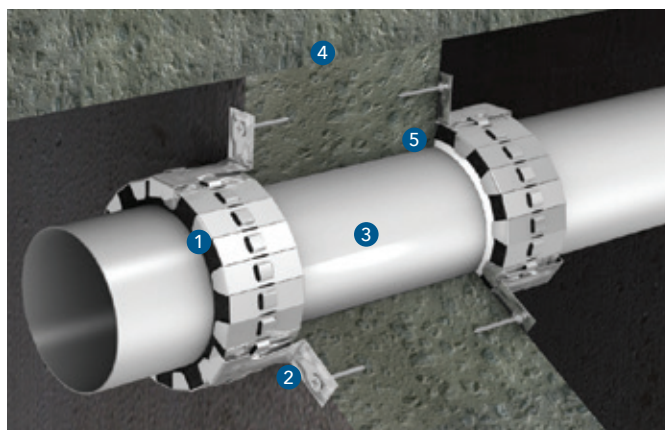
PROMASEAL® UniCollar® is used to maintain the fire resistance of walls or floors when they are penetrated by combustible pipework made from uPVC, HDPE, PP and many other materials.



Floor penetration



Wall penetration



Installation

- PROMASEAL® UniCollar® comes in a boxed strip. Each box of Promat PROMASEAL® UniCollar® comprises of a 2250mm strip (150 segments) plus clips. Table 45 on page 60 shows the suggested length of strip required for each size pipe and how many casing segments to use.
- The strip of PROMASEAL® UniCollar® is then fixed into place around the plastic pipe with metal restraining brackets (supplied) which are bolted or screwed into the surrounding surface.

- If fixing to drywall partition (minimum 120 minute partition specification) fix bracket to partition boards using coarse thread drywall screws (40 x 10mm).

Fire Rating

Up to 240 minutes fire rating, integrity in accordance with the criteria of BS 476: Part 20: 1987.

Key to Illustrations

- PROMASEAL® UniCollar®
- Attachment with suitable anchor fixing
- Plastic piping, e.g. HDPE, uPVC or PP
- Concrete wall, floor or fire rated partitions
- PROMASEAL® Sealant to act as a seal against the passage of cold smoke (not required for fire performance if the movement of cold smoke is not being considered).

PROMASEAL® UniCollar®

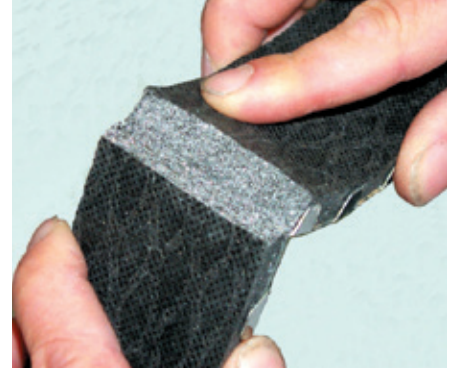
PROMASEAL® UniCollar® installation



Step 1 - Measure collar circumference



Step 2 - Cut collar to length



Step 3 - Snap collar



Step 4 - Shape collar appropriately



Step 5 - Fit collar around pipe



Step 6 - Secure collar in place

Table 45: Suggested length of strip required for each size pipe and how many casing segments to use

Nominal pipe size (mm)	43	50	55	63	69	75	83	90	110	114	125	140	160	200
Casing segments	15	17	18	20	21	22	24	25	29	30	33	36	40	49
Approximate collars per box	10	8	8	7	7	6	6	6	5	5	4	4	3	3
No. of brackets per collar for floor applications	2	2	2	2	2	3	3	3	3	3	4	5	5	5
No. of brackets per collar for wall applications	2	2	2	2	2	3	3	3	3	3	3	5	5	5

Table 46: For HDPE pipes penetrating a 2 hour fire rated plasterboard partition protected by one Unicollar on each side

Nom. Pipe Size (mm)	Wall Thickness (mm)	Collar Type	Loadbearing Capacity	Integrity (min)	Insulation (min)
40	3.0	UC40	N/A	180	180
50	3.0	UC50	N/A	240	180
63	3.0	UC63	N/A	180	180
90	3.5	UC90	N/A	240	180
110*	5.0	UC110	N/A	120	120
200	7	UC200	N/A	120	90

*The penetration was protected by only one UniCollar on the exposed side only

PROMASEAL® UniCollar®

Table 47: For uPVC pipes penetrating a 2 hour fire rated plasterboard partition protected by one UniCollar on each side

Nom. Pipe Size (mm)	Wall Thickness (mm)	Collar Type	Loadbearing Capacity	Integrity (min)	Insulation (min)
40	2.4	UC40	N/A	120	120
50	2.5	UC50	N/A	240	120
65	3.0	UC65	N/A	240	120
80	3.2	UC80	N/A	120	120
100	3.7	UC100	N/A	180	120
150	4.0	UC150	N/A	120	90

Table 48: For HDPE pipes penetrating a 120mm thick concrete floor slab protected by one UniCollar on the exposed face

Nom. Pipe Size (mm)	Wall Thickness (mm)	Collar Type	Loadbearing Capacity	Integrity (min)	Insulation (min)
40	3.5	UC40	N/A	240	180
56	3.5	UC56	N/A	240	180
63	3.0	UC63	N/A	240	180
75	4.0	UC75	N/A	240	180
90	3.5	UC90	N/A	240	180
110	5.0	UC110	N/A	240	180
125	4.9	UC125	N/A	120	90
150	6.2	UC150	N/A	120	90
150**	6.2	UC150	N/A	240	180
200	6.2	UC200	N/A	120	120
200*	6.2	UC200	N/A	180	120

*The pipe was capped on both exposed and unexposed sides.

**The penetration was protected by two UniCollars, both fitted on the exposed side.

Table 49: For uPVC pipes penetrating a 120mm thick concrete floor slab protected by one UniCollar on the exposed face

Nom. Pipe Size (mm)	Wall Thickness (mm)	Collar Type	Loadbearing Capacity	Integrity (min)	Insulation (min)
40	2.2	UC40	N/A	240 (120)*	240 (120)*
50	2.7	UC50	N/A	240 (120)*	180 (120)*
65	2.8	UC65	N/A	120 (120)*	120 (120)*
80	3.2	UC80	N/A	120 (120)*	120 (120)*
100	3.2	UC100	N/A	240 (120)*	180 (120)*
150	4.2	UC150	N/A	180	120

*The integrity and insulation performance in bracket is for penetration with a pipe joiner fitting included within the collar.

PROMASEAL® UniCollar®

Table 50: For PP pipes penetrating a 120mm thick concrete floor slab protected by one UniCollar on the exposed face

Nom. Pipe Size (mm)	Wall Thickness (mm)	Collar Type	Loadbearing Capacity	Integrity (min)	Insulation (min)
110	5.0	UC110	N/A	240	240

Table 51: For HDPE pipes penetrating a 150mm thick concrete floor slab protected by one UniCollar on the exposed face

Nom. Pipe Size (mm)	Wall Thickness (mm)	Collar Type	Loadbearing Capacity	Integrity (min)	Insulation (min)
40	3.5	UC40	N/A	240	180
56	3.5	UC56	N/A	240	180
63	3.0	UC63	N/A	240	180
75	4.0	UC75	N/A	240	180
90	3.5	UC90	N/A	240	180
110	5.0	UC110	N/A	240	180
125	4.9	UC125	N/A	120	90
150	6.2	UC150	N/A	120	90
150**	6.2	UC150	N/A	240	180
200	6.2	UC200	N/A	120	120
200*	6.2	UC200	N/A	180	120

*The pipe was capped on both exposed and unexposed sides.

**The penetration was protected by two UniCollars, both fitted on the exposed side.

Table 52: For uPVC pipes penetrating a 150mm thick concrete floor slab protected by one UniCollar on the exposed face

Nom. Pipe Size (mm)	Wall Thickness (mm)	Collar Type	Loadbearing Capacity	Integrity (min)	Insulation (min)
40	2.2	UC40	N/A	240 (120)*	240 (120)*
50	2.7	UC50	N/A	240 (120)*	180 (120)*
65	2.8	UC65	N/A	120 (120)*	120 (120)*
80	3.2	UC80	N/A	120 (120)*	120 (120)*
100	3.2	UC100	N/A	240 (120)*	180 (120)*
150	4.2	UC150	N/A	180	180

*The integrity and insulation performance in bracket is for penetration with a pipe joiner fitting included within the collar.

PROMASEAL® UniCollar®

Table 53: For HDPE pipes penetrating a 170mm thick concrete floor slab protected by one UniCollar on the exposed face

Nom. Pipe Size (mm)	Wall Thickness (mm)	Collar Type	Loadbearing Capacity	Integrity (min)	Insulation (min)
40	3.5	UC40	N/A	240	240
56	3.5	UC56	N/A	240	240
63	3.0	UC63	N/A	240	180
75	4.0	UC75	N/A	240	240
90	3.5	UC90	N/A	240	180
110	5.0	UC110	N/A	240	240
125	4.9	UC125	N/A	120	90
150	6.2	UC150	N/A	120	90
150**	6.2	UC150	N/A	240	180
200	6.2	UC200	N/A	120	120
200*	6.2	UC200	N/A	180	120

*The pipe was capped on both exposed and unexposed sides.

**The penetration was protected by two UniCollars, both fitted on the exposed side.

Table 54: For uPVC pipes penetrating a 170mm thick concrete floor slab protected by one UniCollar on the exposed face

Nom. Pipe Size (mm)	Wall Thickness (mm)	Collar Type	Loadbearing Capacity	Integrity (min)	Insulation (min)
40	2.2	UC40	N/A	240 (120)*	240 (120)*
50	2.7	UC50	N/A	240 (120)*	180 (120)*
65	2.8	UC65	N/A	120 (120)*	120 (120)*
80	3.2	UC80	N/A	120 (120)*	120 (120)*
100	3.2	UC100	N/A	240 (120)*	240 (120)*
150	4.2	UC150	N/A	180	180

*The integrity and insulation performance in bracket is for penetration with a pipe joiner fitting included within the collar.



APPROVED: CF560

PROMASEAL® Expansion Joint Strip

Introduction

Promat PROMASEAL® Expansion Joint Strips are highly compressible, flexible, fire resistant seals which are used where movement joints are formed in the structure of a building.

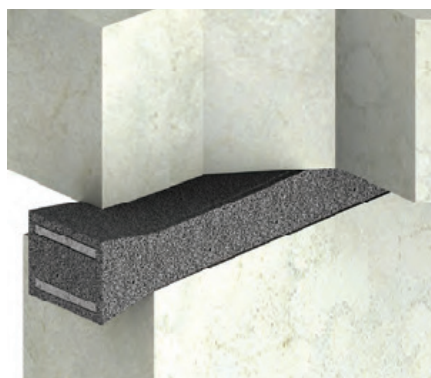
PROMASEAL® Expansion Joint Strips consist of layers of intumescent material bonded to Class 0 foam and have been successfully fire tested and assessed to provide up to 120 minutes in joints in walls and floors.

Applications

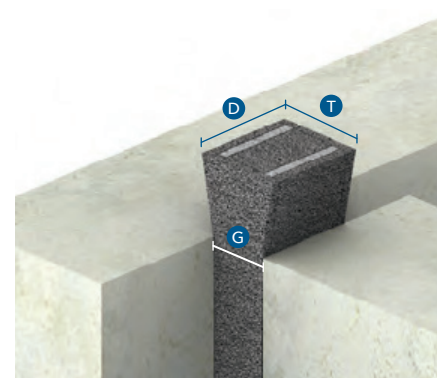
PROMASEAL® Expansion Joint Strips are ideal for sealing movement joints at junctions between compartment walls and floors and within walls and floors. Their flexibility makes them suitable for use in a variety of configurations.

Installation

- The strip dimension is determined by the minimum and maximum positions of the joint width expected during the life of the building. The strip width **T** should not be less than the maximum expected joint width **G**. The strip depth **D** is a function of the joint width and the fire resistance period.
- The appropriate size of PROMASEAL® Expansion Joint Strip is simply compressed between fingers and thumb until it can be inserted into the required gap. For up to 120 minutes fire resistance only one strip is required. The strip must be centrally located in the wall or floor joint. In cold conditions it is advisable to store in a warm atmosphere immediately prior to installation as this improves compressibility. The strip may readily be cut to suit a particular length.



Sealing movement joints at junctions for walls and floors



Sealing movement joints at junction for walls

- When more than one length of PROMASEAL® Expansion Joint Strip is required in a joint, ensure the two pieces are butted tight together and there is no gap between the adjoining ends.
- At the ends of each joint, ensure the strip is fitted tight to the adjoining surface. For situations not covered by the table below, please consult the Promat Technical Services team.

Table 55: PROMASEAL® Expansion Joint Strip sizes for blockwork/masonry/concrete (aerated or normal) wall and floor installations (minimum 150mm thick)
Tested in accordance with the criteria of BS476: Part 20: 1987.

Strip size	Maximum joint width in mm G	Minimum strip width in mm T	Minimum seal depth in mm D	Number of Intumescent Strips	Number/width of foam strips (mm)	Integrity (mins)
4009053	10	12	12	1	1x10	120
4009055	20	29	12	2	1x25	120
4009039	25	32	20	2	1x30	120
4009040	35	53	20	3	2x25	120
4009041	50	61	35	3	1x25 + 1x30	120
4009042	75	90	50	4	1x25 + 2x30	120
4009043	100	126	100	5	4x30	120
4009044	120	147	125	6	2x25 + 3x30	120
4009045	150	170	100	7	4x25 + 2x30	120

Application Technique: Compressed into gap/joint such that the multi-layers/banding are visible.

Note: The block/masonry/concrete walls and floors shall be at least 150mm thick and have at least the same fire rating as that required for the penetration seal. Block/masonry and concrete gap faces will be within the density range of 450 to 2300kg/m³ and gap faces will be free from loose or flaking material.

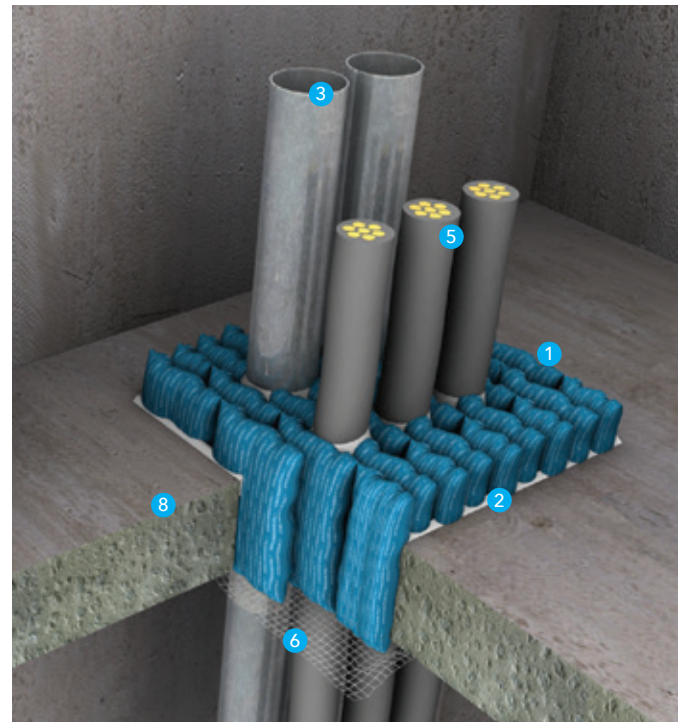


APPROVED: CF427

Promat PROMASEAL® Fire Pillows



Wall penetration



Floor penetration

Introduction

Promat PROMASEAL Fire pillows can not only provide permanent fire protection but they are particularly useful when only temporary fire protection is required.

PROMASEAL Fire Pillows have been successfully fire tested for up to 120 minutes.

The Fire Pillows are used to maintain the fire resistance of walls and floors where openings for services are located, and are typically installed around cables which need to be regularly altered.

PROMASEAL® Fire Pillows consist of strong, flexible, water resistant coated woven bags filled with intumescent materials. The Fire pillows will react and expand in a fire situation to seal even the smallest of gaps, providing up to 120 minutes fire integrity performance in walls and floors.

The maximum area of wall or floor opening, that can be sealed using PROMASEAL® Fire Pillows, is 1m², with maximum dimensions of 1m x 1m.

See Fire Pillows Approval Matrix (Table 55) for the fire resistance period and depth of Fire Pillows required.

PROMASEAL® Fire Pillows are available in three sizes:

- Large (330mm long x 200mm wide x 45mm thickness)
- Small (330mm long x 200mm wide x 25mm thickness)
- Finger (330mm long x 50mm wide x 20mm thickness).

For guidance on the quantity of fire pillows required to fill an opening, please refer to Table 56 (small pillow) and Table 57 (large pillow) on page 68.

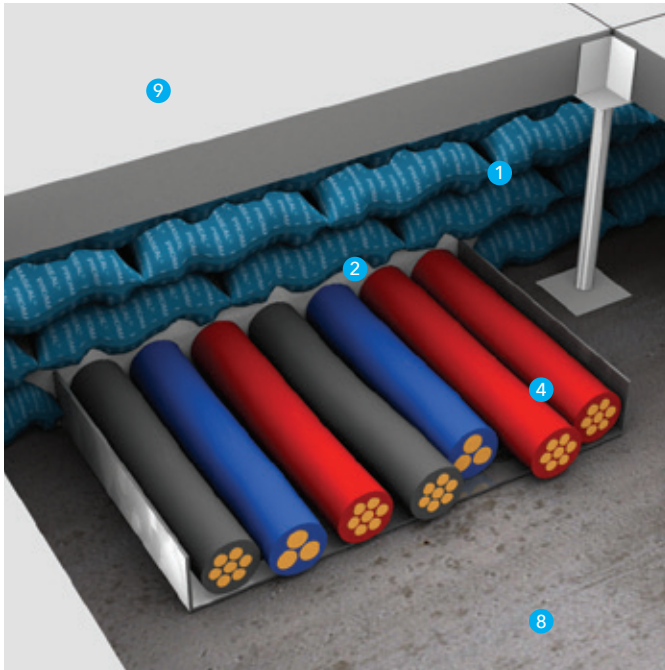
Installation

PROMASEAL® Fire Pillows are normally installed by laying in courses to completely fill the gaps around penetrations. Where required to form adequate overlap, the smaller sized pillow, 330mm x 200mm x 25mm, may be used at ends of layers of pillows. Where, for example, non-combustible pipes or cables penetrate the PROMASEAL® Fire Pillows installation, care should be taken to ensure that a good seal is formed around the penetrations by use of smaller PROMASEAL® Fire Pillows compressed into the gaps.

When installing the final layer of PROMASEAL® Fire Pillows it is advisable to insert it between the previous two layers by pulling it into position using the flap located at one end of each pillow. This provides a tighter seal than trying to insert the final layer as the outermost layer.

Note: To ensure a smoke tight construction, any visible gaps between pillows and all services passing through the pillows should be sealed with PROMASEAL® Intumescent Acrylic Sealant. For semi-permanent installation, enclose with steel wire mesh or seal with PROMASEAL® Intumescent Acrylic Sealant. For further details, please contact the Promat Technical Services team.

PROMASEAL® Fire Pillows



Removable barrier below raised access floor

Key to Illustrations

- 1 PROMASEAL® Pillows.
- 2 Gap seal with PROMASEAL® Intumescent Acrylic Sealant.
- 3 Steel pipes.
- 4 Electrical cables and cable tray.
- 5 Telecommunication cables.
- 6 Steel wire mesh to support pillows in a horizontal orientation.
- 7 Concrete/masonry wall.
- 8 Concrete floor slab.
- 9 Fire resistant raised access floor system.

Installation Instructions - wall penetrations:

Shake the PROMASEAL® Fire Pillows to ensure an even distribution of materials within the bags. Lay the Fire Pillows into the opening, with the shorter dimension of the pillow (pillow width) across the width of the opening, so that the pillows are laid in a brick-coursework type layout (ie stretcher bond) with minimum 50mm overlap of the pillows between layers.

The PROMASEAL® Fire Pillows must be packed tightly into the opening around the service penetrations. Small Fire Pillows or Finger Fire Pillows may be inserted to fill any smaller holes and to pack gaps within cable trays or trunking.

Walls must be minimum 100mm thick for 60 minutes fire resistance, or minimum 200mm thick for 90 or 120 minutes fire resistance. The wall must have at least the same fire resistance as that required by the penetration seal. The minimum density for concrete walls is 780kg/m³, and 600kg/m³ for walls made of concrete blocks.

Installation Instructions - floor penetrations:

Mechanically fix a supporting steel mesh (50mm square with 5mm wires) into the soffit of the floor slab for the PROMASEAL® Fire Pillows to be laid into. Alternatively the sides of the mesh can be returned up the vertical sides of the floor opening, and fixed into the sides of the floor opening or the top of the floor slab.

The mesh must be fixed with M6 expanding steel anchors with 50mm steel washers, at 200mm nominal centres. The steel mesh is locally cut away for the passage of services, but must be continuous around each penetration.

A second alternative is for the mesh to be supported with minimum 2mm diameter steel wire at 200mm nominal centres around the perimeter of the floor opening. The wires are securely twisted around the mesh and fastened to the sides of the opening or top of the slab using M6 expanding steel anchors, as detailed above.

Shake the PROMASEAL® Fire Pillows to ensure an even distribution of materials within the bags. Place the Fire Pillows vertically into the opening with the shorter dimension of the pillow (pillow width) across the width of the opening, so that the pillows are laid in a brick-coursework type layout, with minimum 50mm overlap of the pillows between layers.

The PROMASEAL® Fire Pillows must be packed tightly into the opening around the service penetrations. Small Fire Pillows or Finger Fire Pillows may be inserted to fill any smaller holes and to pack gaps within cable trays or trunking.

Floors must be minimum 100mm thick for 60 minutes fire resistance, or minimum 150mm thick for 90 or 120 minutes fire resistance. The floor must have at least the same fire resistance as that required by the penetration seal. The minimum density for concrete floor is 780kg/m³.

PROMASEAL® Fire Pillows

Installation Instructions - general:

- It is essential that the fire pillows be correctly replaced after new services have been installed.
- Small but visible gaps, such as gaps between penetrations and pillows, can be sealed using PROMASEAL® Intumescent Acrylic Sealant as required to ensure that a cold smoke seal is achieved, if required.
- A warning label should be applied to the completed seal to notify that the Fire Pillows form a fire rated barrier, and that they should not be disturbed.
- PROMASEAL® Fire Pillow, wall and floor seals, are non-loadbearing.

Service penetrations

PROMASEAL® Fire Pillows are installed around electrical cables and non-combustible service penetrations. Cables should be mounted in steel cable trays or ladders, or mounted in steel trunking or conduits. Note: the inside of the trunking or conduit must be packed with PROMASEAL® Finger Fire Pillows for the depth of the seal.

Other services which may be fitted through the seals are steel or copper pipes and steel ducts fitted with steel dampers.

The dampers must have been shown by test to be suitable for this type of penetration seal installation and for the required fire resistance and orientation.

All penetrating services must be supported not further than 500mm from the face of the seal on each side of the seal so that the weight of any penetration is not taken by the PROMASEAL® Fire Pillows. Services should be supported via steel angles, hangers or channels.

Table 56: PROMASEAL® Fire Pillow - BS 476: Part 20: 1987 Approval Matrix

Orientation	Services	Integrity/Insulation	Minimum required pillow thickness for fire resistance period			
			30 minutes	60 minutes	90 minutes	120 minutes
Floor	No	Integrity and Insulation	150mm	150mm	200mm	200mm
	Yes	Integrity and Insulation	150mm	200mm	250mm	300mm
	Yes	Integrity only	150mm	150mm	200mm	200mm
Wall	No	Integrity and Insulation	150mm	180mm	250mm	300mm
	Yes	Integrity and Insulation	150mm	200mm	250mm	300mm
	Yes	Integrity only	180mm	180mm	250mm	300mm
Penetrating services	Cable ladders and communication cables					
Maximum aperture	1000mm by 1000mm					
Floor/Wall thickness	The floors and walls shall be a minimum of 100mm thick for periods of up to 60 minutes fire resistance and 150mm (floor) and 200mm (wall) thick for periods of 90 minutes and 120 minutes fire resistance. The minimum density for the concrete of the floor or wall is 780kg/m ³ and for walls made of concrete blocks is 600kg/m ³ . The concrete walls and floors must have at least the same fire rating as that required for the penetration seal.					
Application technique	Floors	Steel mesh (50mm square with 5mm wire) is mechanically fixed either to the soffit of the floor or within the reveal of the aperture via vertical returns at the edges of the mesh. The fire pillows are tightly packed into the opening and around the services.				
	Walls	The fire pillows are tightly packed into the opening and around the services (no mesh is required).				
Service coat-back	Not required					
Service support requirements	Services should be rigidly supported via steel angles, hangers or channels, not further than 500mm from the surface of the sealing system on both faces.					

PROMASEAL® Fire Pillows

Table 57: Small Fire Pillow usage (330mm length x 200mm width x 25mm thickness pillows)

Width (mm)	Seal type	Length (mm)					
		100	300	500	700	900	1000
200	Wall	3	9	14	20	26	28
	Floor	3	7	12	17	22	24
400	Wall	6	17	28	40	51	56
	Floor	5	15	24	34	43	48
600	Wall	9	26	42	59	76	84
	Floor	7	22	36	51	65	72
800	Wall	12	34	56	79	101	112
	Floor	10	29	48	67	87	96
1000	Wall	14	42	70	98	126	140
	Floor	12	36	60	84	108	120

Table 58: Large Fire Pillow usage (330mm length x 200mm width x 45mm thickness pillows)

Width (mm)	Seal type	Length (mm)					
		100	300	500	700	900	1000
200	Wall	2	5	8	11	13	15
	Floor	2	4	6	9	11	12
400	Wall	3	9	15	21	26	29
	Floor	3	7	12	17	22	24
600	Wall	5	13	22	31	39	44
	Floor	4	11	18	25	33	36
800	Wall	6	18	29	41	52	58
	Floor	5	15	24	34	43	48
1000	Wall	8	22	36	51	65	72
	Floor	6	18	30	42	54	60

EN STANDARD CLASSIFICATION INFORMATION AND GLOSSARY OF TERMS

Pipe insulation according to EN 1366-3: 2009

	Sustained	Interrupted
Continued	<p>Example CS (Continued Sustained)</p>	<p>Example CI (Continued Interrupted)</p>
Local	<p>Example LS (Local Sustained)</p>	<p>Example LI (Local Interrupted)</p>
KEY		

The table above shows the possible arrangement of pipe insulation according to EN 1366-3.

Configuration of pipe end according to EN 1366-3: 2009

Test condition	Pipe and configuration		Type of pipes
	Oriented inside (in furnace)	Oriented outside (outside the furnace)	
U/U	Uncapped	Uncapped	Plastic: rainwater, ventilated sewage (drainage channel)
U/C	Uncapped	Capped	Plastic: unventilated sewage; gas; drinking water, water for heating; (supply channel); metal: non-fire resistant suspension/coupling systems
C/U	Capped	Uncapped	Metal: fire-resistant suspension/coupling systems
C/C	Capped	Capped	–

It is important to ensure that sealing systems have been tested with appropriate pipe end conditions. The conditions the pipe and sealing system must endure in a fire situation depend on whether one or both ends of the pipe are sealed in practice, as pressures and the flow of hot gases will vary depending on whether the pipe is ventilated or not.

For metal pipes

		Tested			
		U/U	C/U	U/C	C/C
Covered	U/U	Y	N	N	N
	C/U	Y	Y	Y	N
	U/C	Y	N	Y	N
	C/C	Y	Y	Y	Y

For plastic pipes

		Tested			
		U/U	C/U	U/C	C/C
Covered	U/U	Y	N	N	N
	C/U	Y	Y	N	N
	U/C	Y	Y	Y	N
	C/C	Y	Y	Y	Y

Y = Acceptable N = Not acceptable

There are rules that determine which tested end configurations are valid for additional pipe end situations.

Terms	
UL Listing	UL certifies, validates, tests, inspects and audits. The UL Mark is the most common Certification Mark in the United States and Europe. If a product carries one of these marks, it means UL found that the representative product samples met UL's requirements.
Flexible Walls	A standard wall used for the fire testing of penetration seals comprising of steel stud, Type F gypsum boards, with or without mineral/stone wool in the cavity, with an overall depth and make up appropriate to the required fire resistance. Refer to ASFP Advisory Note 15: ASFP position on the Interchangeability of Supporting Construction for Firestopping for alternative wall systems.
Rigid Walls	A wall made of aerated concrete blocks, lightweight concrete or high density concrete and a thickness appropriate to the required fire resistance classification. Masonry/concrete walls to have minimum density of 850 kg/m ³ (for concrete or brick) and 650kg/m ³ (for aerated concrete blocks) and must be suitable to provide, as a minimum, the same fire resistance as is required by the fire seal.
Rigid Floors	A floor made of aerated concrete slabs, lightweight concrete or high density concrete and a thickness appropriate to the required fire resistance classification. Masonry/concrete floor to have minimum density of 850 kg/m ³ (for concrete or brick) and 650kg/m ³ (for aerated concrete slabs) and must be suitable to provide, as a minimum, the same fire resistance as is required by the fire seal.
EN 1366-3 EN 1366-4	Fire Resistance tests for service installations. Penetration seals. Fire Resistance tests for service installations. Linear joint seals.
EN 13501-1 EN 13501-2	Reaction to Fire Classification. Resistance to Fire Classification.
BS 476	Pt 20: Fire tests on building materials and structures. Method for determination of the fire resistance of elements of construction (general).Pt 22: Fire tests on building materials and structures. Methods for determination of the contribution of components to the fire resistance of a structure.

Supplement markings	Denomination / Characteristics / Requirements
E	Integrity (ignition of cotton pad, cracks and opening occurrence of sustained flaming on unexposed side)
I (I1, I2)	Thermal insulation (average temperature rise, maximum temperature rise)
U	Pipe end configuration (uncapped)
C	Pipe end configuration (capped)

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