The Passive Fire Protection Handbook

Chapter 7: Penetration Seals - Promat PROMASEAL® Pipewrap

PRODUCT DESCRIPTION

Promat PROMASEAL® Pipewrap consists of water resistant sleeve around a flexible intumescent core.

APPLICATIONS

Promat PROMASEAL® Pipewrap prevents the passage of smoke, toxic gases and fire through gaps in compartment walls and floors caused by the collapse and/or melting of combustible services in the event of fire.

Promat PROMASEAL® Pipewrap is used to maintain the fire resistance of walls and floors when they are penetrated by combustible pipework such as PVC drainage pipes, and can also be used around groups of cables.

FIRE PERFORMANCE

Promat PROMASEAL® Pipewrap has been successfully tested and assessed in floor and wall constructions for 240 minutes fire resistance. Tests were carried out in accordance with the procedures of BS 476: Part 20: 1987.

ADVANTAGES

- Fire tested up to 240 minutes
- Easy to install
- Flexible
- Water resistant
- Range of sizes
- Use in restricted location when pipe collars are impractical
- No additional components required
- Lightweight
- Non-corrosive
- Abrasion resistant
- No mechanical fixing
- Rot and vermin resistant
- Allows small movement of pipe within wall or floor

INSTALLATION

General

Promat PROMASEAL® Pipewrap is always installed within walls or floors into a prepared opening.

The Promat PROMASEAL® Pipewrap is wrapped around the pipe to be protected and secured tightly in position by means of adhesive tab. It is then slid along the pipe until it is contained within the prepared opening. The Promat PROMASEAL® Pipewrap is grouted into position using Promat PROMASEAL® Fire Compound.

A single Promat PROMASEAL® Pipewrap should be fixed in the anticipated fire side of the wall or floor. Any cavity around the Promat PROMASEAL® Pipewrap should be filled with Promat PROMASEAL® Fire Compound.

When there is a risk of fire from both sides, two wraps should be used to allow the intumescent material to be flush with each face of the wall or floor. Normally, one can assume that a floor will only require to resist fire from below, and therefore will require one wrap.

As each wrap is 60mm wide, only one wrap is required for walls or floors 100mm thick, even if there is risk of fire from both sides. Normally, walls and floors of this thickness will only provide 60 minutes fire resistance.

DELIVERY FORM

Promat PROMASEAL® Pipewrap is available in a range of sizes to suit all commonly used plastic pipes up to 160mm diameter.

The four standard sizes are as follows:-

55mm (all pipes up to 55mm internal diameter)
82mm (all pipes up to 82mm internal diameter)
110mm (all pipes up to 110mm internal diameter)
160mm (all pipes up to 160mm internal diameter)

Each wrap is 60mm wide.

A safety data sheet is available from the Promat Technical Services Department and, as with any other materials, should be read before working with the product. The product is not classified as a dangerous substance and so no special provisions are required regarding the carriage and disposal of the product to landfill. This can be placed in an on-site skip with other general building waste which should be disposed of by a registered contractor.

Table 7j Promat PROMASEAL® Pipewrap - Approval Matrix

PVC Pipe Size	Wrap size	Wall/Floor Thickness	Integrity	Insulation
55mm Ø by 4.0mm wall thickness	60 by 6mm	100mm	60 minutes	N/A
82mm Ø by 4.0mm wall thickness	60 by 9.5 mm or 60 by 6.0mm (wall only)	100mm	60 minutes	N/A
110mm Ø by 4.0mm wall thickness	60 by 12 mm* or 60 by 9.5mm (wall only)	100mm	60 minutes	N/A
160mm Ø by 4.5mm wall thickness	100 by 11.4mm*	100mm	60 minutes	N/A
55mm Ø by 4.0mm wall thickness	60 by 6mm	150mm	240 minutes	180 minutes
63mm Ø by 3.2mm wall thickness	60 by 3.5mm	150mm	180 minutes	180 minutes
82 mm Ø by 4.0mm wall thickness	60 by 9.5mm or 60 by 6.0mm (wall only)	150mm	240 minutes	180 minutes
110mm by 3.2mm wall thickness	60 by 6mm	150mm	180 minutes	180 minutes
110mm by 4.0mm wall thickness	60 by 12mm* or 60 by 9.5mm (wall only)	150mm	240 minutes	N/A
160mm Ø by 4.5mm wall thickness	100 by 11.4 mm*	150mm	240 minutes	N/A
MDPE Pipe Size	**Wrap size**	**Wall/Floor Thickness**	**Integrity**	**Insulation**
63mm Ø by 6.5mm wall thickness	60 by 3.5mm	150mm	240 minutes	240 minutes
90mm Ø by 9mm wall thickness	60 by 6mm	150mm	240 minutes	240 minutes
HDPE Pipe Size	**Wrap size**	**Wall/Floor Thickness**	**Integrity**	**Insulation**
110mm Ø by 7mm wall thickness	60 by 6mm	150mm	240 minutes	240 minutes
ABS Pipe Size	**Wrap size**	**Wall/Floor Thickness**	**Integrity**	**Insulation**
160mm Ø by 10.5mm wall thickness	60 by 6mm + 60 by 3.5mm (Floor only)	150mm	240 minutes	240 minutes
* can be inserted within a multi-filament woven reinforced sock if desired for ease of installation.				
Maximum Aperture:	183mm Ø			
Walls/Floors	The walls and floors shall be a minimum of 100 mm thick for periods of up to 60 minutes integrity performance and 150 mm thick for periods of up to 240 minutes integrity. 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, masonry or drywalls shall have at least the same fire rating as that required for the barrier.			
Application Technique:	Concrete/masonry walls and floors: The Promat PROMASEAL® Pipewrap is wrapped around the pipe and secured tightly with the adhesive tab. The wrap is then slid along the pipe into the wall or floor aperture and grouted into position using Promat PROMASEAL® Fire Compound.			
Service Coat-Back	Not required			
Service Support Requirements:	Services should be rigidly supported via steel angles, hangers or channels, not further than 500 mm from the surface of the sealing system on both faces.			

NOTE:
The concrete floors and masonry or concrete walls shall be at least 100mm thick 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 PVC MDPE, HDPE and ABS pipes of various sizes, as detailed within the above Approval Matrix.