



PROMASEAL® Grafitex Various Penetration Seals



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PROMASEAL® Grafitex is an intumescent compound unaffected by water and moisture when cured. It is designed to expand and fill the gaps around the penetrating services when exposed to fire and any that may occur at where combustible type services melt or distort.

In general PROMASEAL® Grafitex is used in lieu of a fire resistant sealant where a penetrating service insulated by combustible materials or the service itself is combustible, e.g. uPVC conduits.

It is not applicable for metal services or electrical cables. For these applications, please consult Promat and refer to PROMASEAL®-A Acrylic Sealant, PROMASEAL® IBS™ or PROMASEAL® Mortar.

PROMASEAL® Grafitex is not designed for use in gaps or joints where a high degree of thermal movement is expected.

General application considerations

It is important that the user be aware of the type of services and the dimensions of the gaps that will be left around the services that are to be sealed. Valid supporting evidence that the proposal consists of a tested system may be required. This may vary from country to country, depending upon the way the test results are interpreted and how local regulations are applied.

Applications that have been tested in concrete/masonry floors and walls (with an equal or greater fire resistance level) include:

- Up to 120 minutes for multiple pipe penetrations, i.e. cluster of uPVC pipes of 50mm, 80mm and 100mm nominal diameters through floors.
- Up to 120 minutes for plastic pipes of 19mm nominal diameter insulated with 10mm combustible insulation through walls.
- Up to 120 minutes for XLPE pipes of 32mm nominal diameter through walls.
- Up to 120 minutes for pipes of 19mm nominal diameter with "Kemlag" combustible (thin rubber) insulation through walls.
- Up to 120 minutes for 25mm uPVC conduits of 25mm nominal diameter through walls.
- Up to 120 minutes for conduits of 40mm nominal diameter through floors.
- Up to 240 minutes PPR pipes of 32mm nominal diameter passing through floors.
- Up to 120 minutes for uPVC conduits of 25mm and 40mm nominal diameters through walls.

Please consult Promat for more information.

Installation

Multiple pipes passing through floors

The total cross sectional surface area of the pipes penetrating the floor must be no greater than half of the cross sectional surface area of the opening and no greater than 17500mm². Please refer to table on opposite page.

Steel perforated mesh (4mm holes) 1mm thick must be fixed to the soffit of the floor around the pipes. The mesh should be overlapped onto the floor by a minimum 30mm to allow proper and adequate fixing. Fix to the floor using 25mm long steel anchors at nominal 150mm centres.

PROMASEAL® Grafitex is poured onto the mesh to a depth of 90mm. Any remaining space between the top of the Grafitex and top surface of the floor can be leveled off using PROMASEAL® Mortar or other commercial grade mortar mix.

Metal pipes passing through floors and walls insulated with combustible lagging

PROMASEAL® FlexiWrap is the usually ideal for this application. However, there may be situations that demand the use of PROMASEAL® Grafitex.

Where combustible insulation passes through floors or walls with gaps between the insulation and the surrounding building element, one method of maintaining the compartmentation is to pack PROMASEAL® Grafitex across the full depth of the opening. The minimum allowable gap width is 15mm.

Maximum nominal diameter of metal (steel or copper) pipe is 100mm.

Others

For 19mm metal pipes insulated with combustible insulation, 32mm XLPE pipes and 19mm metal pipes with "Kemlag" insulation, or 25mm uPVC conduits and 40mm uPVC conduits passing through walls.

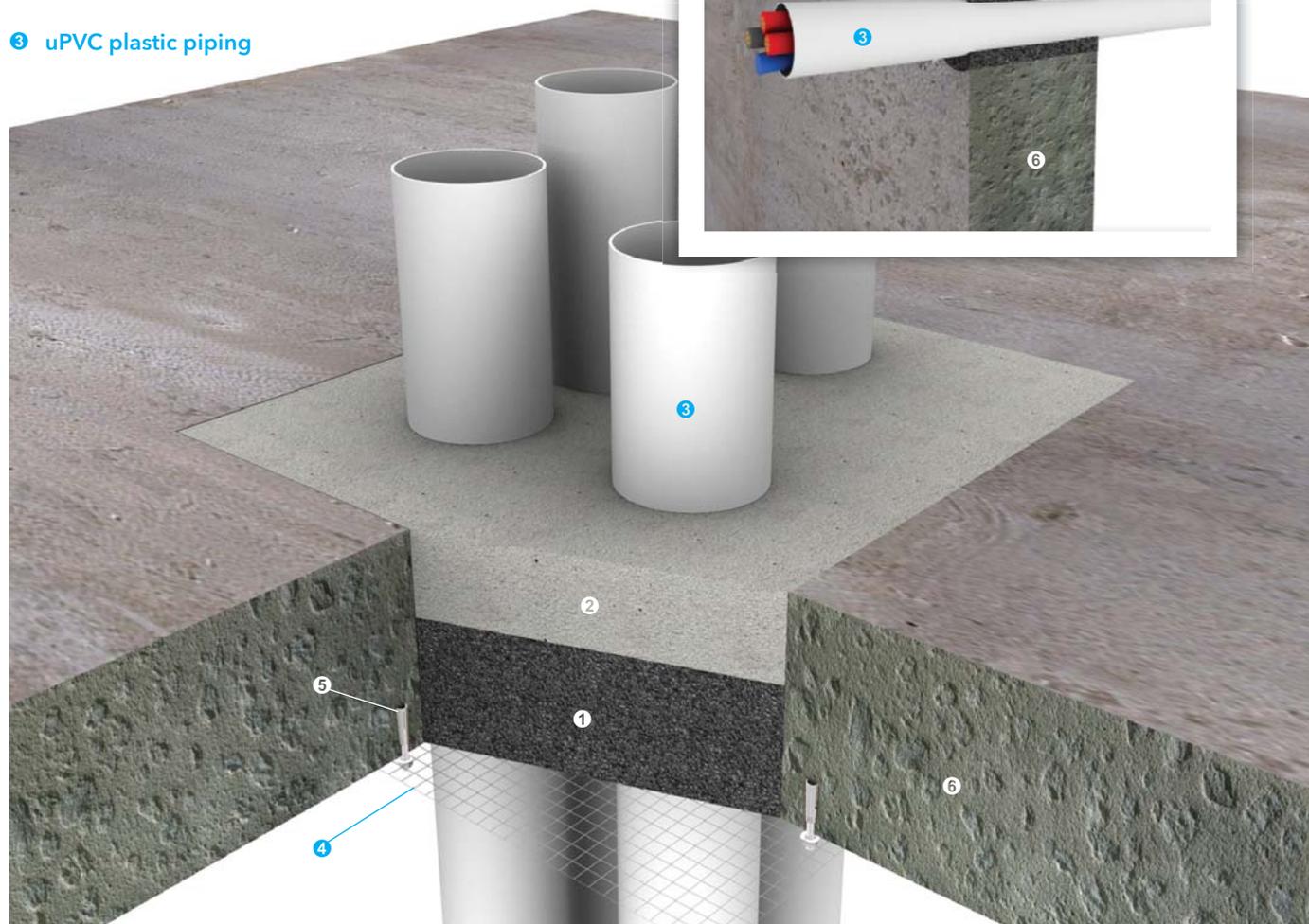
Install PROMASEAL® Grafitex between the insulation or the pipe and the wall to a minimum depth of 32mm on both sides of the wall to a maximum gap width of 10mm.

For use of PROMASEAL® Grafitex around 40mm uPVC conduits, the wall must be no greater than 90mm in overall thickness and the gaps between the pipe and the wall a maximum of 15mm. Install the Grafitex to the full depth of the wall or to a minimum of 50mm depth, positioned at the centre of the wall thickness.

On occasions there may not be sufficient space to install an intumescent collar. In some instances, it may be possible to use PROMASEAL® Grafitex. Please consult Promat for more information.

Up to -/240/120 fire resistance in accordance with the requirements of BS 476: Part 20: 1987 and/or AS 1530: Part 4: 2014, depending on applications and types of penetrating elements

- ❶ PROMASEAL® Grafitex
- ❷ PROMASEAL® Mortar
- ❸ uPVC plastic piping



- ❹ Steel perforated mesh 1mm thick with 4mm holes
- ❺ 25mm long steel anchors at nominal 150mm centres
- ❻ Fire resistant concrete/masonry floors or walls

Guide of sectional surface area of pipes

Pipe size (Ø mm)	x 1	x 2	x 3	Holes (mm)	Ø mm ²	mm ²
40	1257	2514	3771	100	7854	10000
50	1964	3928	5892	150	17672	22500
65	3319	6638	9957	200	31416	40000
80	5027	10054	15081	250	49088	62500
100	7854	15708	–	300	70686	90000

Promat provides a wide range of systems for compartmentation, fire resistant air and cable ducts, structural steel protection, fire stopping and partitions. For assistance with any passive fire protection problems, contact the nearest Promat office.

Australia

Promat Australia Pty Ltd

South Australia office

1 Scotland Road
Mile End South, SA 5031
T 1800 PROMAT (776 628)
F +61 (8) 8352 1014

New South Wales office

Unit 1, 175 Briens Road
Northmead, NSW 2152
T 1800 PROMAT (776 628)
F +61 (2) 9630 0258

Victoria office

Suite 205, 198 Harbour Esplanade
Docklands, VIC 3008
T 1800 PROMAT (776 628)
F 1800 334 598

Queensland office

433 Logan Road
Stones Corner, QLD 4120
T 1800 011 376
F 1800 334 598

E mail@promat.com.au

China

Promat Shanghai Ltd

Room 506, Block A, Qi Lin Plaza
13-35 Pan Fu Road
510180 Guangzhou
T +86 (20) 8136 1167
F +86 (20) 8136 1372
E info@promat.com.cn

Etex is a Belgian industrial group that specialises and markets high quality building materials and systems. Founded since 1905 and headquartered in Brussels, Belgium, Etex currently operates in 107 factories and 102 subsidiaries across 42 countries, employs more than 15,000 people and is one of the largest fibre cement producers in the world.

Through its subsidiaries, the group offers an extensive range of products: small and large roofing materials, cladding and building boards, passive fire protection systems.

Etex aims to be a professional, solid partner for all kinds of building projects.

Hong Kong

Promat International (Asia Pacific) Ltd

Room 1010, C.C. Wu Building
302-308 Hennessy Road, Wanchai
T +852 2836 3692
F +852 2834 4313
E promat.hk@etexgroup.com

Malaysia

Promat (Malaysia) Sdn Bhd

Unit 19-02-01, Level 2, Wisma Tune
19 Lorong Dungun, Damansara Heights
50490 Kuala Lumpur
T +60 (3) 2095 5111
F +60 (3) 2095 6111
E info@promat.com.my

Singapore

Promat Building System Pte Ltd

10 Science Park Road, #03-14 The Alpha
Singapore Science Park II
Singapore 117684
T +65 6776 7635
E promat.sg@etexgroup.com

South Korea

Promat International (Asia Pacific) Ltd (Korea Branch Office)

#1104 Dong-a Building
117 Namdaemun-ro, Jung-gu
Seoul 04522
T +82 (70) 7794 8216
F +82 (2) 779 5566
E info@promat-ap.com

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