Promat

# PROMASEAL® IBS™

## Various Penetration Seals, Seals Of Control Joints & Gaps

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PROMASEAL® IBS™ is a fire resistant, flexible foam strip which, when placed in joints and around service penetrations in floors and walls, will maintain the fire resistance of the separating element. In most instances the addition of PROMASEAL®-A Acrylic Sealant is necessary. On some occasions a non fire resistant sealant can be applied. See the table on page 4 for control joints.

PROMASEAL® IBS™ is a factory made product and can be easily verified as being installed in the correct manner.

PROMASEAL® IBS™ generally is used in lieu of a fire resistant sealant where the specifying authority or certifying body is concerned that the correct depths of sealant or the correct type sealant may not be applied by the contractor.

PROMASEAL® IBS™ accommodates movement in building services, e.g. the expansion or contraction of metal pipes, while maintaining the integrity of the penetration. It can be used for external wall joints in conjunction with an exterior grade sealant.

PROMASEAL® IBS™ is not designed for use in control joints that are designed to accommodate high or ongoing movement.

As a general rule, PROMASEAL® IBS™ should be compressed by approximately 20% when inserted into the joint or gap. This will then accommodate small movements. If movement is an important factor in the choice of product, please refer to details of PROMASEAL® FyreStrip.

## 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 the ceilings, floors, walls and partitions (with an equal or greater fire resistance level) include:

- Up to 120 minutes for electrical cables supported with cable tray through lightweight partitions.
- Up to 120 minutes for bundles of electrical cables through lightweight partitions.
- Metal pipes up to 150mm nominal diameter through concrete floors.
- Up to 60 minutes for metal pipes up to 60mm nominal diameter through steel/timber framed ceilings.
- Up to 120 minutes for metal pipes up to 1500mm nominal diamater through lightweight partitions.
- Fire dampers through floors and walls.
- Fibre reinforced concrete drainage pipes through floors.
- Non combustible insulation through floors and walls.
- Gaps and joints in floors and walls, control joints in lightweight partitions.
- Deflection head joints.

Please consult Promat for more information.

## Dimensions

PROMASEAL® IBS™ is supplied in plastic bags and is ready for use. It is available in the following standard dimensions:

- 16mm diameter square strip
- 22mm diameter square strip
- 29mm diameter square strip
- 38mm diameter square strip
- 50mm x 20mm thick flat strip
- 100mm x 10mm thick flat strip

## Guide to seals of control joints and gaps

### Butt joints

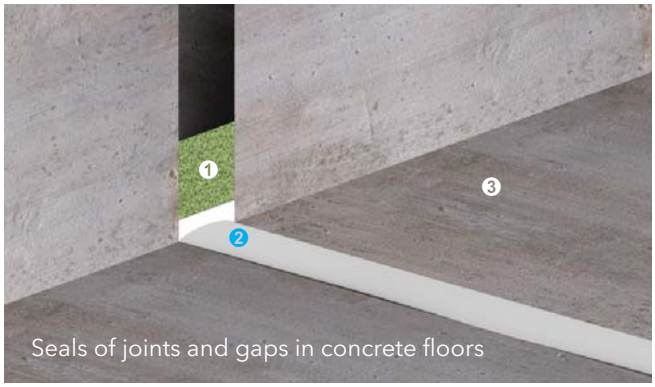
Where joints occur between lengths of PROMASEAL® IBS™ and sealant is not used, the fire resistance of the system can be maintained by applying an additional 50mm long strip of PROMASEAL® IBS™ over the joint on either the exposed or unexposed face. Alternatively, apply PROMASEAL®-A Acrylic Sealant over the butt joint to a depth of 5mm with a minimum of 5mm coverage on either side of the butt joint.

### Intermediate joint widths

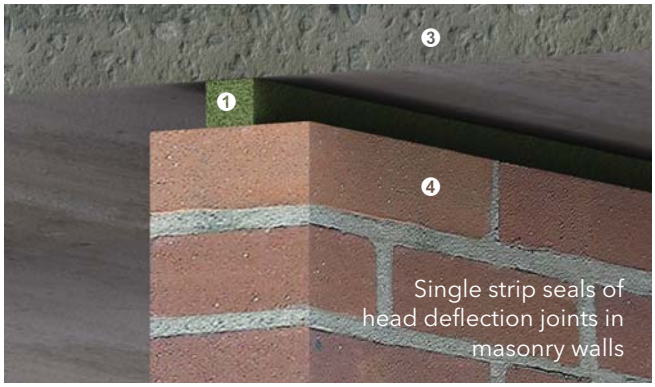
For joint widths that fall between the dimensions in the table on page 4, use the PROMASEAL® IBS™ applicable for the next size up.

### Uneven joint widths

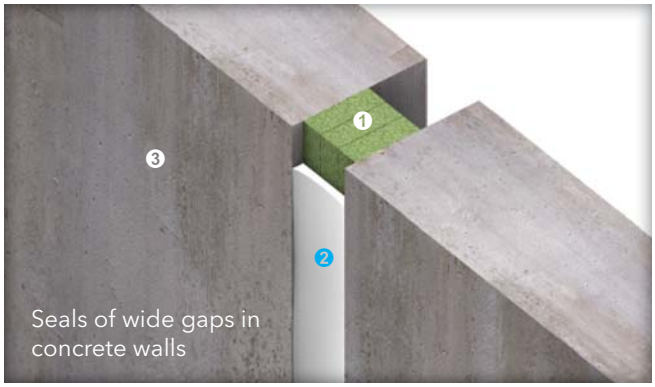
Joints in floors, concrete walls and plasterboard walls are generally even. However, joints in masonry walls and between floor slabs and walls are likely to vary. In these instances it is recommended that wherever possible install the size of PROMASEAL® IBS™ which will accommodate the widest part of the joint. It is also recommended that sealant is applied over the top of the PROMASEAL® IBS™ if there is any likelihood of the uneven surface of the substrates resulting in through gaps between the PROMASEAL® IBS™ and the building element.



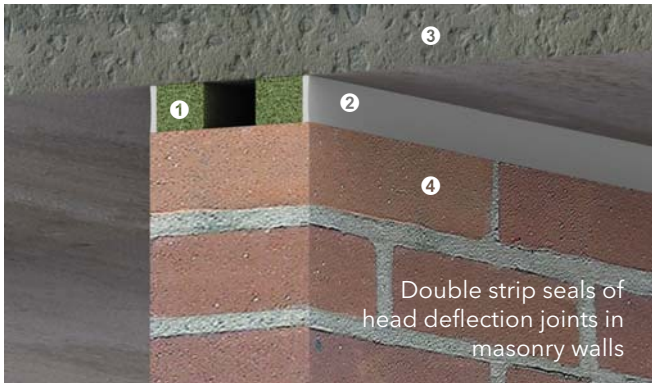
Seals of joints and gaps in concrete floors



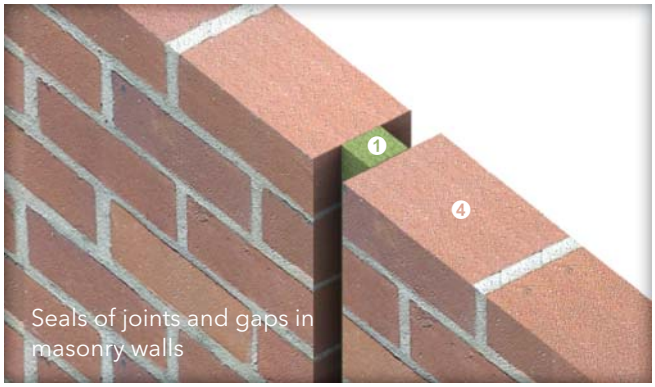
Single strip seals of head deflection joints in masonry walls



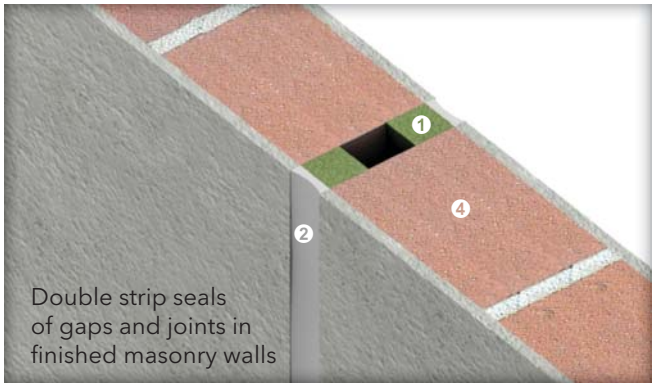
Seals of wide gaps in concrete walls



Double strip seals of head deflection joints in masonry walls

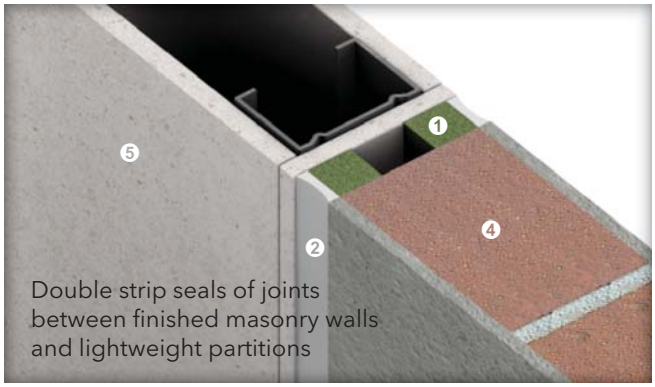


Seals of joints and gaps in masonry walls



Double strip seals of gaps and joints in finished masonry walls

Seals of joints and gaps in finished masonry walls



Double strip seals of joints between finished masonry walls and lightweight partitions

**Up to -/240/240 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® IBS™ dimension in accordance with the table on page 4**

❷ **Joints and gaps filled with PROMASEAL®-A Acrylic Sealant, minimum depth in accordance with the table on page 4**

❸ **Fire resistant concrete floors or walls**

❹ **Fire resistant masonry walls**

❺ **Fire resistant steel/timber framed lightweight partitions**

## Guide to seals of control joints and gaps

**Dimensions of PROMASEAL® IBS™ for seals of control joints and gaps in floors, walls or partitions**

| Configuration | Maximum joint width (mm) | Nominal dimension of IBS™ (mm) | Minimum depth of non fire resistant sealant (mm) | Maximum fire resistance |
|---|---|---|---|---|
| System to non fire exposed side only | 18<br>30<br>35<br>54<br>65 | 22<br>38<br>38<br>60<br>80 | 9 (optional)*<br>12 (optional)*<br>12<br>18<br>20 | -/240/120<br>-/240/120<br>-/240/120<br>-/180/120<br>-/180/120 |
| System to fire exposed side only | 18<br>18<br>35<br>54<br>65 | 22<br>22<br>38<br>60<br>80 | 9 (optional)**<br>12<br>12<br>18<br>20 | -/240/240<br>-/240/240<br>-/240/240<br>-/240/240<br>-/240/240 |
| System to mid depth of element | 18<br>30<br>50 | 22<br>38<br>60 | Not required<br>Not required<br>5 | -/240/120<br>-/180/90<br>-/240/120 |

* If sealant is not used in this application the fire resistance achieved will be -/180/90. For joints up to 30mm wide it is possible to install a 10mm thick PROMASEAL® IBS™ into the joint on the element's side exposed to fire without a sealant coating.

** If sealant is not used in this application the fire resistance achieved will be -/240/180. For joints up to 30mm wide it is possible to install a 12mm thick PROMASEAL® IBS™ from the element's side unexposed to fire without a sealant coating.

The non fire resistant sealant consists of acrylic, silicone or polyurethane based materials. To install PROMASEAL® IBS™, compress and insert into the joints. For gaps up to 30mm, it is possible to install the PROMASEAL® IBS™ in the centre of the depth/thickness of the floor or wall/partition without a sealant fill. The fire reistance achieved depends on the existing fire resistance level of the building element in which the PROMASEAL® IBS™ is installed.

## Installation

The fire resistance achieved with PROMASEAL® IBS™ will vary depending on applications and types of the penetrating element, and the orientation of both application and element. Please consult Promat for the latest fire test approvals.

### Metal pipes through cored or existing openings

Fire resistance performance up to -/180/180 with steel mesh guard or up to -/180/- without steel mesh guard.

Please select the correct dimensions of PROMASEAL® IBS™ to suit the gaps around the penetrating pipes. The maximum gap width should not exceed 35mm.

PROMASEAL® IBS™ will always require a coating layer of PROMASEAL®-A Acrylic Sealant.

Please note the following general user guide:

| | |
|---|---|
| For gaps up to 10mm | See PROMASEAL®-A Acrylic Sealant for control joint seals |
| For gaps 10-13mm | 16mm thick PROMASEAL® IBS™ |
| For gaps 13-18 mm | 22mm thick PROMASEAL® IBS™ |
| For gaps 18-24 mm | 29mm thick PROMASEAL® IBS™ |
| For gaps 24-35 mm | 38mm thick PROMASEAL® IBS™ |

Set a 5mm thick PROMASEAL® IBS™ below the surface of the penetrating element. Apply a 10mm thick sealant along the pipe and the taper to 30mm onto the surface of the element.

### Metal pipes through PROMASEAL® Mortar backfill

Fire resistant performance up to -/240/120.

There may be requirements in some instances for the fire seal to accommodate the movement of metal pipes. In these cases, before PROMASEAL® Mortar is installed, wrap the PROMASEAL® IBS™ (cut from a 100mm x 10mm thick flat strip) around the pipes. Hold in place with a wire tie or adhere with PROMASEAL®-A Acrylic Sealant.

It is also prudent to provide some separation between the PROMASEAL® Mortar and any copper pipe to ensure that there will be no chemical reaction between the mortar and the copper.

For floor applications, the PROMASEAL® IBS™ should project some 40mm above the mortarline. Apply PROMASEAL®-A Acrylic Sealant over the PROMASEAL® IBS™ to a depth of 45mm from the mortar and 20mm from the pipe surface. Form a cone shape similar to a volcano.

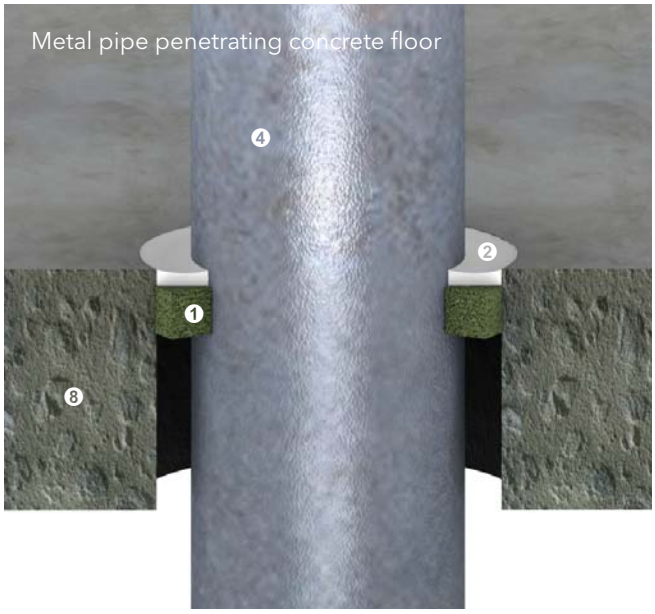
For wall applications, the PROMASEAL® IBS™ is installed to the full thickness of the wall and should remain flush with both sides of the wall.

### Metal pipes through 60 minute fire resistant ceilings with two layer 16mm plasterboard

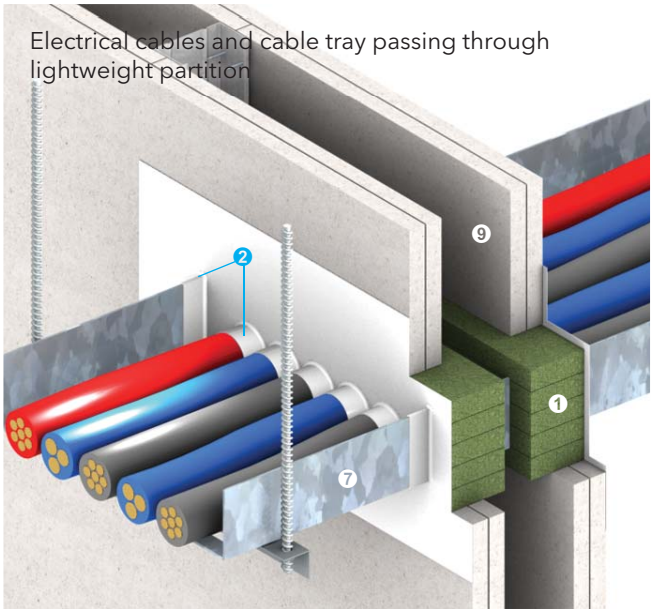
Fire resistant performance up to -/60/60 or -/60/-.

For pipes up to 100mm nominal diameter with a maximum 15mm aperture, install 50mm x 20mm thick flat PROMASEAL® IBS™ around the pipe to finish flush with the side of the ceiling. Apply PROMASEAL®-A Acrylic Sealant to a depth of 5mm by extending 30mm onto the ceiling surface. It is necessary to install a steel wire cage above the ceiling if insulation criteria is required. Please see the prescribed **metal pipes through cored or existing openings**.

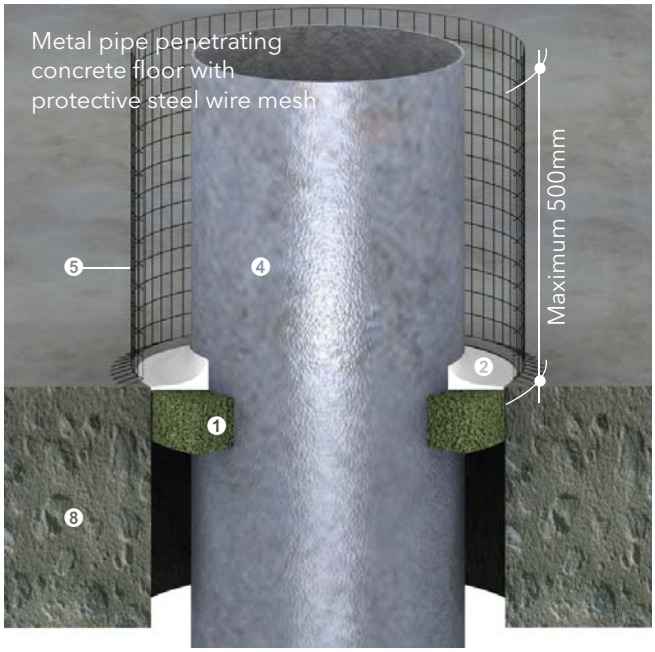
Metal pipe penetrating concrete floor



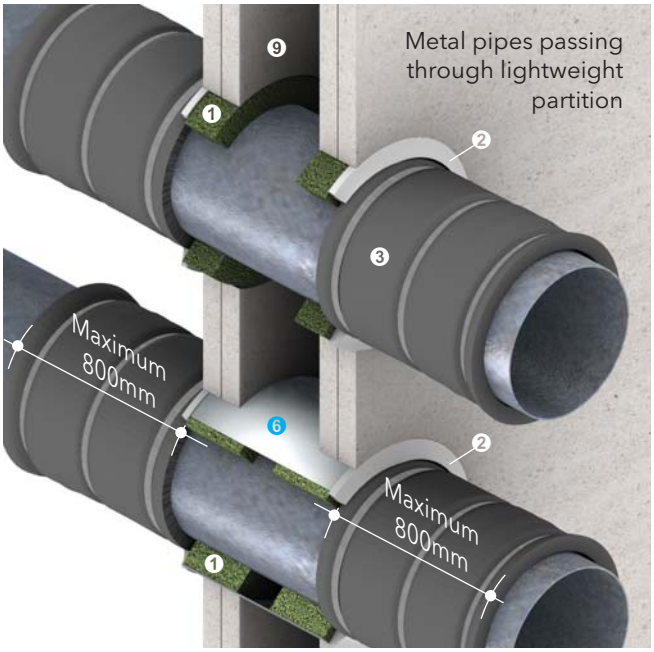

Electrical cables and cable tray passing through lightweight partition




Metal pipe penetrating concrete floor with protective steel wire mesh




Metal pipes passing through lightweight partition




**Up to -/240/240 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**

1. PROMASEAL® IBS™ thickness in accordance with the table on page 4
2. Joints and gaps filled with PROMASEAL®-A Acrylic Sealant, minimum depth in accordance with the table on page 4
3. PROMASEAL® Wrap or PROMASEAL® SupaWrap
4. Non combustible metal pipes*
5. Steel wire mesh to maintain distance from combustible materials where insulation criteria is required (please consult Promat for details)
6. Steel sleeve to close off cavity
7. Electrical cables supported with cable tray or steel trunking
8. Fire resistant concrete floors
9. Fire resistant steel/timber framed lightweight partition

* Use of copper pipes instead might affect the overall fire resistance performance of the penetration seal due to the fact that copper is a high conductor of heat. Please consult Promat for application of PROMASEAL® IBS™ on penetration seals of copper pipes. Alternatively, apply a PROMASEAL® Wrap or mesh guard.

## Installation

### Combustible insulation through floors, walls and partitions

Where insulated pipes pass through openings in floors, walls or partitions, it is essential that any combustible insulation be protected. This can be achieved using fire collars, PROMASEAL® FlexiWrap or PROMASEAL® Grafitex.

If these options are not practical, then the combustible insulation must be replaced with a non combustible insulation for a minimum distance of 400mm on each side of and passing through the floor, wall or partition.

Any gaps no more than 30mm between a floor opening and pipe insulation should be sealed with PROMASEAL® IBS™ compressed into the gap, set approximately 5mm below the floor surface. PROMASEAL®-A Acrylic Sealant is applied over the PROMASEAL® IBS™ to a depth of 20mm and on to the floor surface for minimum overlap of 15mm. A maximum pipe diameter of 75mm with 25mm of insulation applies.

For walls and partitions, apply the removal of the insulation and reinstatement using non combustible insulation. The maximum gap between the insulation and wall is 10mm. Insert 22mm thick PROMASEAL® IBS™ into this gap, set approximately 10mm from the wall surface and apply PROMASEAL®-A Acrylic Sealant to a depth of 20mm and extend onto the surface of the element to give minimum 10mm overlap on the element.

### Fibre cement pipes through concrete/masonry floors

Any gap between the opening in the floor and the pipe should be no more than 30mm and should be sealed with PROMASEAL® IBS™ compressed into the gap and set approximately 5mm below the surface of the floor. PROMASEAL®-A Acrylic Sealant to be applied over the PROMASEAL® IBS™ to a depth of 20mm and onto the surface of the floor for a minimum overlap of 15mm. The maximum pipe diameter approved is 450mm.

For this application, only fibre cement pipes that have been shown to pass a fire test of the same duration as required for the seal, and not suffer from explosive delamination of cracking can be used.

### Electrical cables supported with cable tray through lightweight partitoons

Fire resistance performance up to -/120/-.

Install 50mm x 20mm thick PROMASEAL® IBS™ on both sides of the partition with the IBS™ flush to the surface of the partition. The maximum opening dimension is 1520mm wide x 95mm high. The IBS™ will compress by approximately 20% when in place.

Apply a nominal 3mm film of PROMASEAL®-A Acrylic Sealant over the PROMASEAL® IBS™ and extend it approximately 30mm onto the surface of the partition. The sealant is extended 10mm out along the length of the electrical cables.

### Bundles of electrical cables through lightweight partitions

Fire resistance performance up to -/180/180.

Electrical cables should, as well as is possible, be evenly spread along the width of the opening within the structure. PROMASEAL® IBS™ should be positioned either side of the cables so that they are sandwiched between two layers of 50mm x 20mm thick PROMASEAL® IBS™ with the PROMASEAL® IBS™ being on both sides of the partition and finishing flush with the partition surface.

Apply a nominal thickness of 3mm film of PROMASEAL®-A Acrylic Sealant over the PROMASEAL® IBS™ and extend some 30mm onto the surface of the partition. The sealant is extended 10mm out along the length of the electrical cables.

### Fire dampers through concrete/masonry walls and lightweight partitions

Fire resistance performance up to -/120/- for openings up to 900mm x 600mm in concrete/masonry walls or lightweight partitions.

The fire dampers are sealed in walls using PROMASEAL® IBS™ inserted into a gap around the damper of maximum 30mm and minimum 15mm wide. The IBS™ is set 5mm in from the face of the wall and must be compressed no less than 20% of its diameter, e.g. for a 30mm gap use 38mm thick IBS™.

Apply PROMASEAL®-A Acrylic Sealant over the PROMASEAL® IBS™ to finish flush with the element surface. Steel angles are then placed over the sealant as part of the damper installation.

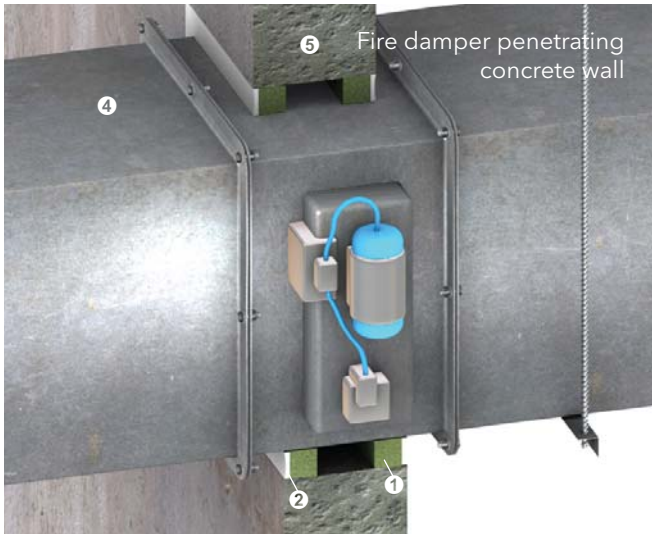
The fire resistance performance of the sealing system is up to 120 minutes for concrete/masonry walls and lightweight partitions, provided that the building elements has an equal or greater fire resistance level as the fire dampers.

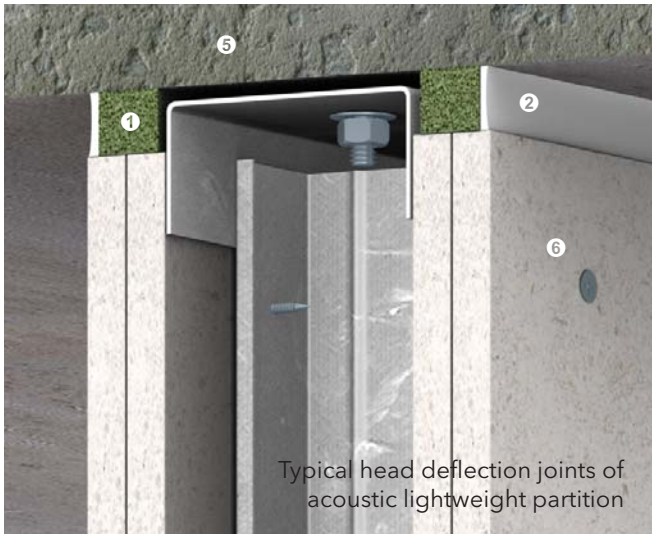
The fire dampers must always be installed exactly in accordance with their tested method. Consultation with the relevant damper manufacturer should always take place to ensure that dampers are fully and properly installed. Incorrect installation and sealing of dampers to the substrate will result in premature failure of the fire resistant sealing system.

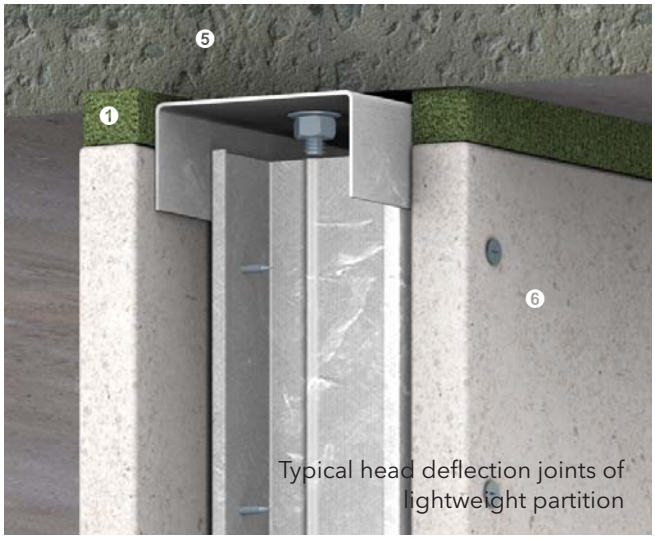
## Insulation criteria on various penetration seals

Where insulation criteria is required but not obtained with the PROMASEAL® IBS™ sealing systems, a steel mesh sleeve (alternatively use PROMASEAL® Wrap or PROMASEAL® SupaWrap) should be installed around the pipe. The steel mesh should consist of a 20mm x 20mm x 1mm thick steel wire mesh set approximately 100mm from the service and extending some 500mm along the service from the wall or floor.

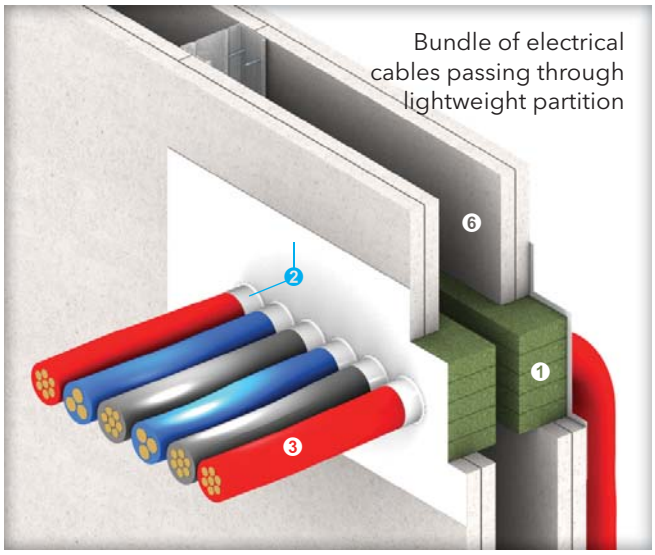
Please consult Promat for more information.








**Up to -/240/240 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**

1. **PROMASEAL® IBS™ thickness in accordance with the table on page 4**
2. **Joints and gaps filled with PROMASEAL®-A Acrylic Sealant, minimum thickness in accordance with the table on page 4**
3. **Electrical cables**
4. **Fire dampers or steel ventilation ducts with appropriate support**
5. **Fire resistant concrete floors or walls**
6. **Fire resistant steel/timber framed lightweight ceilings or partitions**

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.

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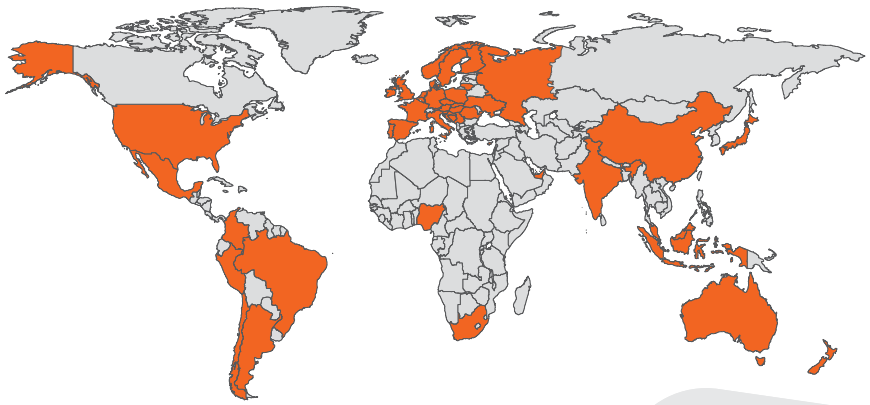
Etex is a Belgian industrial group that specialises and markets high quality building materials and systems. Founded since 1905 and headquartered in Brussels, Belgium, Etex currently operates in 107 factories and 102 subsidiaries across 42 countries, employs more than 15,000 people and is one of the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





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