# Promat

# PROMASEAL® Bulkhead Sealer System
## Various Penetration Seals



**Solely for distribution in New Zealand**

PROMASEAL® Bulkhead Sealer System is made using high density mineral wool that is coated with PROMASEAL® Bulkhead Sealer. The coated mineral wool remains in-situ during a fire situation and forms a barrier against the passage of flame, smoke and toxic gases.

The system is the simplest of all fire stopping products to install. It is also one of, if not the most economical product to use. It can be installed in both concrete/masonry floors and walls (with an equal or greater fire resistance level) and has been tested up to 120 minutes with various penetrating applications.

In many buildings, power cables (e.g. information technology and telecommunication services) are continuously added, altered and removed. PROMASEAL® Bulkhead Sealer System enables this process to be carried out with the minimum of mess and inconvenience.

PROMASEAL® Bulkhead Sealer Systems are non loadbearing. It is advisable to place a visible warning sign near all barriers to identify its characteristics/inherent properties, with wording similar as follows:

> WARNING: THIS IS A FIRE RESISTANT BARRIER. DO NOT DISTURB. DO NOT WALK OR PLACE ANY LOADS ON OR AGAINST THE BARRIER. IF THE BARRIER IS DAMAGED CONTACT .......... (name of installer) IMMEDIATELY.

Loadbearing systems are available. Please consult Promat for complete details.

It is important to be aware of the types of services that will pass through the system. There may be a requirement to produce evidence that the relevant services passing through the barrier have been fully and properly subjected to professional fire testing. Applications that have been tested in walls (with an equal or greater fire resistance level) include:

- Electrical cables in bundles or supported with steel cable tray.

- Metal pipes up to 150mm nominal diameter. This would allow for the use of copper, brass or steel pipes of all sizes up to 150mm (subject to local regulations).

- All uPVC pipes up to 100mm nominal diameter in combination with FC type PROMASEAL® Retrofit Collar (square base) or PROMASEAL® Wall Collar. This would allow for the use of the collar on plastic pipes of all sizes up to 100mm (subject to local regulations).

- Other plastic pipes with PROMASEAL® Conduit Collar.

Applications that have been tested in floors (with an equal or greater fire resistance level) include:

- Electrical cables in bundles or supported with steel cable tray.

- Electrical cable ducting or conduit.

- Steel pipes up to 100mm nominal diameter.

## General application considerations

Other components of an integrated Promat fire stopping system can be used around services that penetrate floors or walls through oversize openings too large to be sealed with PROMASEAL®-A Acrylic Sealant, PROMASEAL® IBS™ or PROMASEAL® Pillows.

Where a floor or wall has an oversize opening for the services to pass through, all services are then directed through the opening. This has to be reinstated to maintain the fire resistance of the floor/wall.

Where insulation criteria for services is required, PROMASEAL® Wrap can be installed with the PROMASEAL® Bulkhead Sealer System.

PROMASEAL® Bulkhead Sealer System can be used in power stations and large industrial complexes where cables are carried through service tunnels.

In this industrial category, the use of fire protection is primarily due to the large financial exposure of insurance companies, not only for the building and assets but also the loss of production that could follow an unconfined fire.

Applications are common in hospitals and universities, particularly those that have laboratories. Services are usually directed along corridors, above ceilings and pass through fire resistant barriers above fire doors. It is difficult to reinstate masonry or block work around the services and other systems often prove awkward to install.

For steel or timber framed lightweight partitions, the number of services passing through the opening can mean that the board installer will not be able to reinstate the lining close enough to the services to allow the use of some systems or products. In this type of construction, the PROMASEAL® Bulkhead Sealer System is one of the most economical methods of sealing the opening.

PROMASEAL® Bulkhead Sealer System is especially useful under computer flooring or between the top of walls and floor slabs or roofs where services often pass through compartment walls and the cables are always being changed or added. However, it should be clearly noted that the system is not suitable for use where any movement is expected, e.g. deflection of floors or roofs.
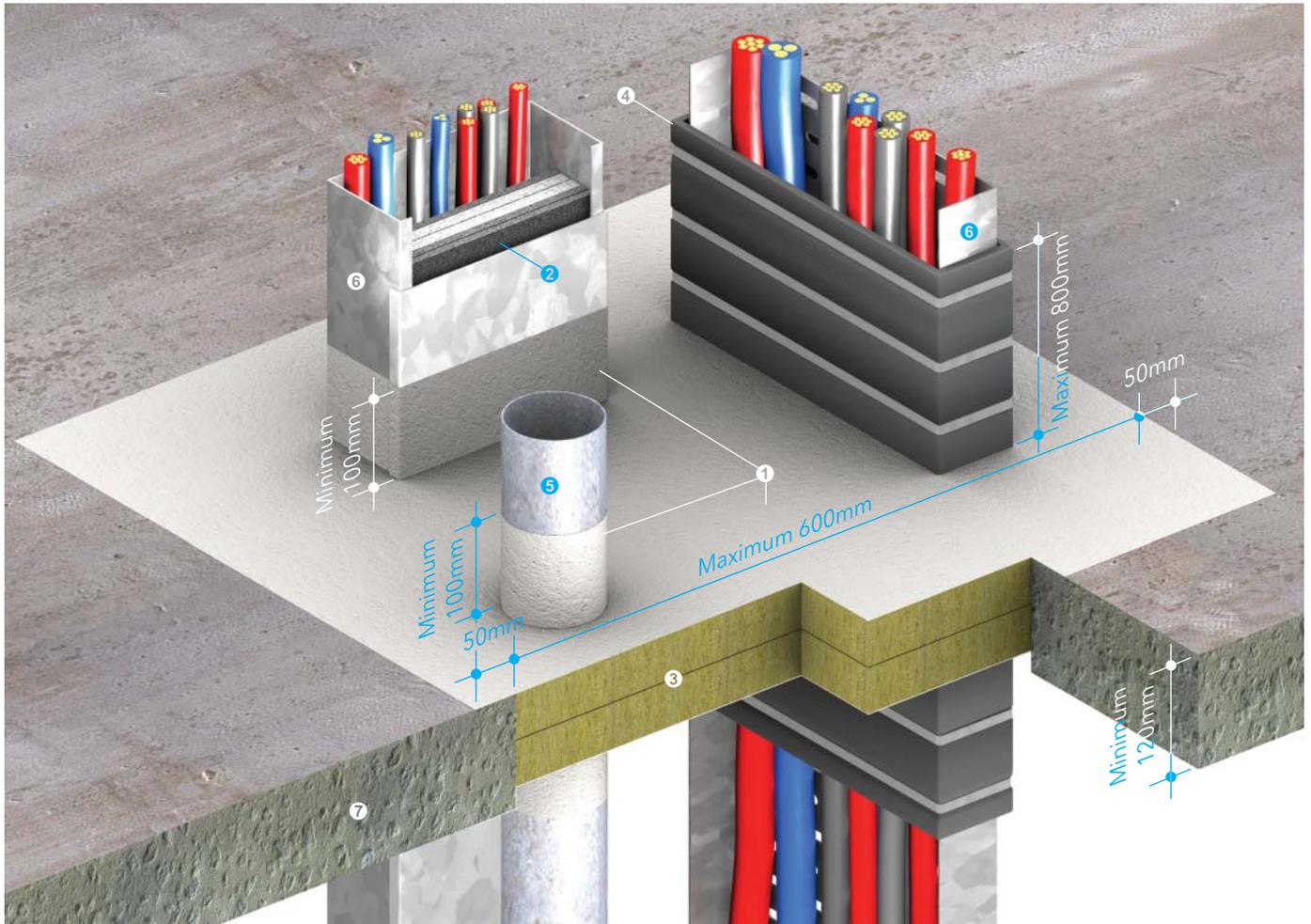
Up to -/120/120 fire resistance in accordance with the requirements of BS 476: Part 20: 1987, BS EN 1366: Part 3: 2009 and/or AS 1530: Part 4: 2005, depending on applications and types of penetrating elements; insulation time is the measured time to insulation failure on surface of the PROMASEAL® Bulkhead Sealer

In some instances, where insulation measured upon the penetrating elements is the required criteria, this time to insulation failure can be substantially shorter, e.g. metal pipes penetrating the floors. If insulation measured upon the penetrating elements is a specified performance criteria, please consult Promat about the use of PROMASEAL® Wrap

❶ PROMASEAL® Bulkhead Sealer coating (or PROMASEAL®-A Acrylic Sealant), with minimum 100mm length of coating on the penetrating elements measured from the openings

❷ PROMASEAL® Electrical Junction Seal (please consult Promat for details)

❸ One layer of PROMASEAL® Bulkhead batten 50mm thick (coated both sides) x minimum 120kg/m³ for up to -/120/60* fire resistance or two layers of PROMASEAL® Bulkhead batten 50mm thick x minimum 120kg/m³ for up to -/120/120 fire resistance

*For performance up to -/120/90, minimum 170mm thick concrete or masonry floors are required.

❹ PROMASEAL® Wrap

❺ Non combustible metal pipes

❻ Electrical cables supported with cable tray or steel trunking

❼ Fire resistant concrete/masonry floors

PROMASEAL®-A Acrylic Sealant (not shown above) should be liberally applied to all joints and contact points between the Bulkhead barrier and items ❹ or ❺ AND between the barrier and the floor

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## Installation

### Double layer system in concrete/masonry floors or walls

Fire resistance performance of the barrier system (not including penetrating services) is up to -/120/120.

All joints between the PROMASEAL® Bulkhead Sealer battens must not be coincident between layers and without cross junctions of butt joints. To apply the sealer system from one side only, it is permissible to seal any small gaps between the batten and penetrating services on the back of the first batten and on the face of the second batten. It is also acceptable to use PROMASEAL®-A Acrylic Sealant.

Ensure that any joints between adjacent batts are staggered by a minimum of 150mm.

To provide a neat appearance once the bulkhead system has been installed, apply masking tape around the perimeter of the opening at a distance of 50mm from the junction of the bulkhead system and the substrate. Coat this junction with nominal 2mm thickness of PROMASEAL® Bulkhead Sealer up to the tape. Once dry, remove the tape for a neat finish.

The installation method detailed above allows for access from one side only. If it is possible to access both faces of the floor/wall, repeat the application of the PROMASEAL® Bulkhead Sealer as above on both faces for a more professional appearance.

In the same manner, with the PROMASEAL® Bulkhead Sealer apply a coat to the whole surface of the barrier and all services that pass through the opening for a distance of 100mm from the face of both sides of the batten. Coat the services over their entire length where they pass through the thickness of the barrier. Seal any small gaps between the batten and penetrating service with PROMASEAL® Bulkhead Sealer or PROMASEAL®-A Acrylic Sealant. If insulation criteria is required install PROMASEAL® Wrap around the services and hold in position with steel straps or pipe clamps at 200mm centres.

### Double layer system in concrete/masonry floors

Fire resistance performance of the barrier system (not including penetrating services) is up to -/120/120.

Maximum width permitted for any floor openings is 600mm, supported on the edges with a concrete ledge of minimum 20mm bearing or a minimum 20mm x 20mm x 1.2mm thick steel angle bolted to the floor at 600mm centres with M8 x 40mm steel anchor bolts.

If the opening exceeds 1500mm in length, the barrier must be supported on transverse joints at maximum 1500mm centres with 50mm x 50mm x 1.2mm thick steel angles fixed back to back. All gaps between the battens and the angle frames must be no greater than 5mm. All joints in the battens must be staggered by minimum 150mm between layers and not be coincident between layers or positioned on the steel angle frames.

Openings up to 300mm of width can be of unlimited length, provided they are supported on the edges with a concrete ledge of minimum 20mm bearing or a minimum 20mm x 20mm x 1.2mm thick steel angle bolted to the floor at 600mm centres with M8 x 40mm steel anchor bolts.

Cut the pre-coated battens to fit the opening. Trim the battens around the services with minimal gaps between services and battens, and seal the cut edges with PROMASEAL® Bulkhead Sealer.

Coat all exposed edges of the battens with a nominal 2mm thickness of PROMASEAL® Bulkhead Sealer. If there are any gaps that exceed 5mm, plug them with offcuts of PROMASEAL® Bulkhead batten for the thickness of the full batten and coat the exposed faces with PROMASEAL® Bulkhead Sealer.

Before placing the battens in position, apply a nominal 2mm thick film of PROMASEAL® Bulkhead Sealer over the entire mating surface of the exposed edges of the floor and the steel angles.

Apply a bead of PROMASEAL®-A Acrylic Sealant between the floor and the steel angles to seal any surface irregularities.

In the same manner, with the PROMASEAL® Bulkhead Sealer apply a coat to the whole surface of the barrier and all services that pass through the opening for a distance of 100mm from the face of both sides of the batten. Coat the services over their entire length where they pass through the thickness of the barrier. Seal any small gaps between the batten and penetrating service with PROMASEAL® Bulkhead Sealer or PROMASEAL®-A Acrylic Sealant. If a PROMASEAL® Wrap is installed then the services need not be coated. Installation of PROMASEAL® Wrap will help increasing insulation criteria for certain services.

The temperature rise on services exposed to fire is dependent upon type and dimension of each service. Please consult Promat for details.
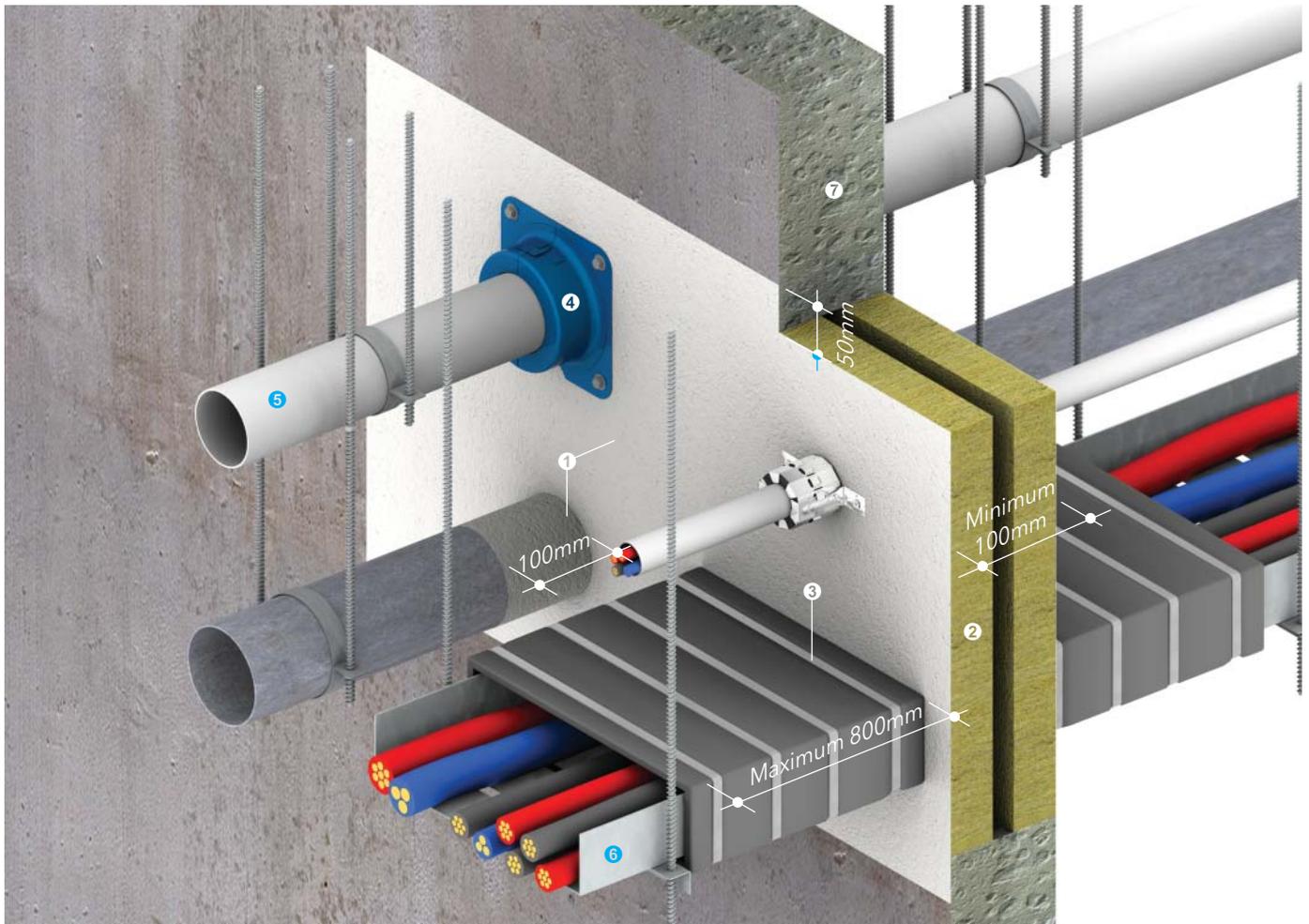
### Single layer system coated on both sides of concrete/masonry floors

Fire resistance performance of the barrier system (not including penetrating services) is up to -/120/60 for floors from 120mm to 169mm thick and up to -/120/90 for floors above 170mm thick.

Maximum width permitted for any floor openings is 600mm, supported on the edges with a concrete ledge of minimum 20mm bearing or a minimum 20mm x 20mm x 1.2mm thick steel angle bolted to the floor at 600mm centres with M8 x 40mm steel anchor bolts.

If the opening exceeds 1500mm in length, the barrier must be supported on transverse joints at maximum 1500mm centres with 50mm x 50mm x 1.2mm thick steel angles fixed back to back. All gaps between the battens and the angle frames must be no greater than 5mm. Ensure these gaps in the battens are sealed with PROMASEAL® Bulkhead Sealer or PROMASEAL®-A Acrylic Sealant.

Up to -/120/120 fire resistance in accordance with the requirements of BS 476: Part 20: 1987, BS EN 1366: Part 3: 2009 and/or AS 1530: Part 4: 2005, depending on applications and types of penetrating elements; insulation time is the measured time to insulation failure on surface of the PROMASEAL® Bulkhead Sealer

In some instances, where insulation measured upon the penetrating elements is the required criteria, this time to insulation failure can be substantially shorter, e.g. metal pipes penetrating the walls. If insulation measured upon the penetrating elements is a specified performance criteria, please consult Promat about the use of PROMASEAL® Wrap

❶ PROMASEAL® Bulkhead Sealer coating (or PROMASEAL®-A Acrylic Sealant), with minimum 100mm length of coating on the penetrating elements measured from the openings

❷ One layer of mineral wool 50mm thick x 120kg/m³ for up to -/120/90 fire resistance or two layers of PROMASEAL® Bulkhead batten 50mm thick x minimum 120kg/m³ for up to -/120/120 fire resistance

❸ PROMASEAL® Wrap

❹ PROMASEAL® Retrofit Collar (square base) fixed through the batt with a threaded rod

❺ Non combustible plastic pipes with appropriate support within 300mm from both sides of the Bulkhead barrier

❻ Electrical cables supported with cable tray or steel trunking within 300mm from both sides of the Bulkhead barrier

❼ Fire resistant concrete/masonry walls

PROMASEAL®-A Acrylic Sealant (not shown above) should be liberally applied to all joints and contact points between the Bulkhead barrier and items ❸ or ❺ AND between the barrier and the wall

# Promat

## PROMASEAL®-A ACRYLIC SEALANT
### VARIOUS PENETRATION SEALS AND SEALS OF CONTROL JOINTS & GAPS IN FLOORS, WALLS & PARTITIONS

SB

81.12
82.12

Openings up to 300mm of width can be of unlimited length, provided they are supported on the edges with a concrete ledge of minimum 20mm bearing or a minimum 20mm x 20mm x 1.2mm thick steel angle bolted to the floor at 600mm centres with M8 x 40mm steel anchor bolts.

Coat the joints between battens with a nominal 2mm thickness of PROMASEAL® Bulkhead Sealer and cover the joint with a 75mm wide batten of PROMASEAL® Bulkhead Sealer System. In such instances, fit the sealer system to allow for the cover strip to finish flush with the floor level.

Cut the pre-coated battens to fit the opening. Trim the battens around the services with minimal gaps between services and battens, and seal the cut edges with PROMASEAL® Bulkhead Sealer.

Coat all exposed edges of the battens with a nominal 2mm thickness of PROMASEAL® Bulkhead Sealer. If there are any gaps that exceed 5mm, plug them with offcuts of PROMASEAL® Bulkhead batten for the thickness of the full batten and coat the exposed faces with PROMASEAL® Bulkhead Sealer.

Before placing the battens in position, apply a nominal 2mm thick film of PROMASEAL® Bulkhead Sealer over the entire mating surface of the exposed edges of the floor and the steel angles.

Coat all services that pass through the opening with PROMASEAL® Bulkhead Sealer at minimum 100mm of distance from the face of both sides of the batten and the entire length of the services which pass through the batten. Seal any small gaps between the batten and penetrating services with PROMASEAL® Bulkhead Sealer.

For a neat appearance, once the bulkhead barrier system has been installed, apply masking tape around the perimeter of the opening at nominal 50mm of distance from the junction of the barrier system and the floor. Coat this junction with nominal 2mm thick PROMASEAL® Bulkhead Sealer up to the tape. Once dry, remove the tape for a neat and professional finish.

The temperature rise on services exposed to fire is dependent upon type and dimension of each service. Please consult Promat for details.

**Double layer system in concrete/masonry walls or lightweight partitions**

Fire resistance performance of the barrier system (not including penetrating services) is up to -/120/120 for walls of minimum 100mm thick.

Maximum height permitted for any wall openings is 1000mm. For openings greater than 500mm high, the width is limited to maximum 1m² of the opening. For openings up to 500mm high, the width is unlimited as long as the wall is structurally sound.

If the opening exceeds 1000mm in height, it must be reduced to either of the dimensions as described using the same construction materials as the wall element.

All joints in the battens must be staggered by minimum 150mm between layers and not be coincident between layers or positioned on the steel angle frames.

For lightweight partitions, the opening must be trimmed all round with the partition framing sections to close the wall cavity.

Cut the pre-coated battens to fit the opening. Each batten is placed in the opening with the coated face exposed and sitting flush with the outer surface of the wall/partition. Trim the battens around the services with minimal gaps between services and battens, and seal the cut edges with PROMASEAL® Bulkhead Sealer.

Coat all exposed edges of the battens with a nominal 2mm thickness of PROMASEAL® Bulkhead Sealer. If there are any gaps that exceed 5mm, plug them with offcuts of PROMASEAL® Bulkhead batten for the thickness of the full batten and coat the exposed faces with PROMASEAL® Bulkhead Sealer.

Before placing the battens in position, apply a nominal 2mm thick film of PROMASEAL® Bulkhead Sealer over the entire mating surface of the exposed edges of the wall/partition.

Coat all services that pass through the opening with PROMASEAL® Bulkhead Sealer at minimum 100mm of distance from the face of both sides of the batten and the entire length of the services which pass through the batten and cavity of the wall/partition. Seal any small gaps between the batten and penetrating services with PROMASEAL® Bulkhead Sealer. If a PROMASEAL® Wrap is installed then the services need not be coated. Installation of PROMASEAL® Wrap will help increasing insulation criteria for certain services.

For a neat appearance, once the bulkhead barrier system has been installed, apply masking tape around the perimeter of the opening at nominal 50mm of distance from the junction of the barrier system and the wall/partition. Coat this junction with nominal 2mm thick PROMASEAL® Bulkhead Sealer up to the tape. Once dry, remove the tape for a neat and professional finish.

The temperature rise on services exposed to fire is dependent upon type and dimension of each service. Please consult Promat for details.

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.

# Promat

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