

General description

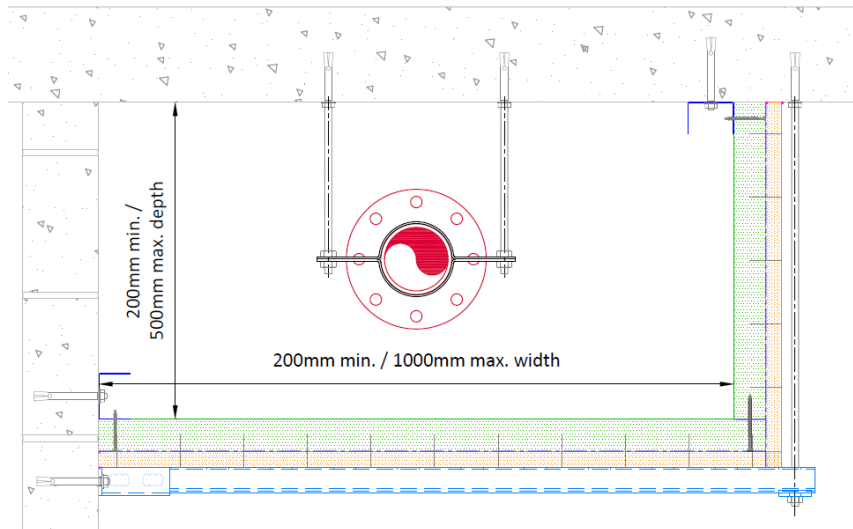
The installation of gas pipes must comply with the current version of the Gas Safety (Installation and Use) Regulations, or equivalent standards in Ireland and Scotland, together with the requirements of Approved Document B (England and Wales), the Technical Handbook (Scotland), or Technical Booklet E (Northern Ireland).

Where pipes pass through compartment walls the fire separation must be maintained, and provision made to prevent gas leakage into any enclosed voids unless natural ventilation is provided at high and low levels. **Gas pipes should be sleeved and vented to atmosphere i.e. pipe in pipe. Gas pipes should be independently supported from the structure.**

PROMATECT®-L500 can be used to form enclosures, in 2 or 3-sided, horizontal or vertical configurations, to maintain the fire separation between compartment walls and floors. Systems are available for up to 120 minutes fire resistance, integrity and insulation, with protection from outside to inside only, subject to the maximum and minimum internal dimensions noted in the diagram at the top of this sheet. The main PROMATECT®-L500 enclosure board thickness is 50mm, with additional 25mm thick PROMATECT®-250 external cover strips at main board joints. **The PROMATECT®-L500 enclosure system will provide fire separation, but is not tested to achieve a gas-tight seal.**

System and components: 2-sided

Galvanised steel c-channels, 50x75x50x1mm thick at each corner abutment to the structure. Where fixing back to the building structure, M10 x 100mm long expansion anchors at maximum 400mm centres must be used.



For horizontal enclosures, supports are required at 1200mm intervals via metal strut C-sections, 41x41x3mm thick. Secured to the supporting horizontal construction using a 41x41x3mm square washer, M12 nut and M12 threaded steel rod. Maximum tensile stress is 6N/mm². C-sections secured to the vertical supporting construction via channel feet for fastening strut channels to concrete, with mechanical expansion anchors of a type suitable for the substrate.

For vertical enclosures, no additional external supports are required.

PROMATECT®-L500 boards, 50mm thick. Boards are fastened to the framing with minimum M4.8 x 65mm self-drilling screws at 300mm centres (to both channels). Boards are fastened to each other at the corners with M6 x 90mm high thread screws at 230mm centres, PROMAT® Glue K84 fire resistant adhesive is applied at board joints.

PROMATECT®-250 external cover strips, 25mm thick x 100mm wide are fixed to the enclosure boards across the joints. PROMAT® Glue K84 fire resistant adhesive is applied to the cover strips, before they're fixed in place using Chisel point staples 50x12.5x1.6mm at maximum 100mm centres on each side of the board joints.

System and components: 3-sided

For horizontal enclosures, galvanised steel c-channels, 40x75x40x1mm thick at each corner of the enclosure. Where fixing the two top channels back to the building structure, M10 x 100mm long expansion anchors at maximum 400mm centres must be used.

Galvanised steel vertical c-channels, 50x75x50x1mm thick at 1200mm centres between top and bottom channels. Fixed to horizontal channels with M4 steel blind rivets.

For vertical enclosures, the above-noted 40x75x40x1mm thick channels are fixed to the supporting vertical construction and the 50x75x50x1mm channels are installed horizontally between the two sets of vertical channels, at the same spacings and using the same fixing method.

All other components and fixing methods are as described for the 2-sided enclosures.

All metal framing and board abutments with the structure should be sealed with a bead of FSi PROMAT PYROCOUSTIC® sealant to maintain the integrity of the enclosure.

Installation guidance

1. PROMATECT-L500® enclosure systems should be continuous. For penetrations through compartment walls and floors, refer to penetration detail on Page 4 of this document.
2. Check that the gas pipe run is suitably supported by steel brackets or hangers. The supporting framework will vary, e.g. with the size of the gas pipe, but will generally mean that vertical pipes should have lateral support brackets at least every 3m, and horizontal pipes should have hangers every 1.2m - details according to prevailing gas regulations. If a vertical enclosure does not rest on the ground at its base, then the base of the enclosure should be supported by a suitable support framework, adequately secured to a nearby structure that has at least the same fire resistance. The framework should be designed such that the stress on each of its members does not exceed 10N/mm².
3. Apply a bead of FSi PROMAT PYROCOUSTIC® sealant to the faces of all framework elements abutting the supporting structures, prior to fixing the steel channels to these structures.
4. Apply PROMAT® Glue K84 adhesive continuously to the edges of one of the PROMATECT®-L500 boards and fix the boards to the frame using M4.8 x 65mm self-drilling screws at 300mm centres. The line of adhesive should be continuous, and located more towards the outer surface of the PROMATECT®-L500, to ensure that little or no excess adhesive is extruded internally when the boards are mated together. Adhesive extruded from joints should be removed by a cutting action to ensure a neat, clean job without spreading adhesive on the board surface.

In general, the width of a joint filled with adhesive should be between 1 & 3mm. Slightly rubbing the two surfaces together when applying the adhesive assists in achieving a good seal.

5. Apply PROMAT® Glue K84 adhesive continuously to the face of the PROMATECT®-250 cover strips and fix these to the PROMATECT®-L500 boards, centred across the board joints, using chisel point staples 50x12.5x1.6mm at maximum 100mm centres on each side of the board joints. Slightly rubbing the two surfaces together when applying the adhesive assists in achieving a good seal.

6. If the enclosure is penetrated by a pipe branch, the PROMATECT®-L500 should be cut to fit tightly around the branch pipe, and any remaining gaps sealed with FSi PROMAT PYROCOUSTIC® sealant. All penetrations should be sealed for their full depth, up to a maximum joint width of 6mm. For gaps wider than 6mm, the gap should be covered with PROMATECT-250® cover strips, carefully bonded and stapled to the main enclosure. Any remaining gaps should be filled with FSi PROMAT PYROCOUSTIC® sealant.

7. Once the main enclosure and external cover strips have been fixed in place for each 1200mm long section, install the necessary external supporting framing and suspension elements to secure the installation to the building structure (for 2-sided horizontal enclosures only).

8. Once the PROMATECT-L500® system is installed, ensure that any remaining gaps in fire-resisting walls, partitions or floors, are sealed with a suitable FSi PROMAT fire stopping system.

9. Refer to the relevant gas authorities to ensure that the appropriate signage is applied for enclosed gas pipes.

Testing and scope of application

Promat recommendation based on tests to EN 1366-5 and LAPI Classification Report Number: 191/C/16-280FR. Classification of PROMATECT®-L500 services enclosures in accordance with EN 13501-2: 2009

Fire resistance classification

Up to EI120 o→i, h_o, v_e

Key to classification:

o→i: Outside to Inside

h_o: Horizontal

v_e: Vertical

Minimum and maximum internal dimensions

200mm minimum width and height,
500mm maximum height/depth,
1000mm maximum width

Format

All PROMATECT®-L500 is supplied in 2500 x 1200mm sheets.

All PROMATECT®-250 is supplied in 2500 x 1200mm sheets.

PROMAT® Glue K84 Adhesive is supplied in 15kg drums.

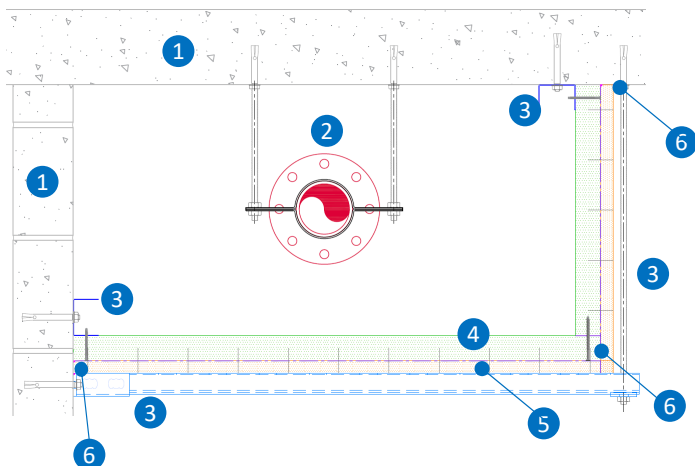
FSi PROMAT PYROCOUSTIC® sealant is supplied in 310ml cartridges - 25 cartridges per box & 600ml foils - 15 foil packs per box, available in grey or white.

Safety instructions

Please refer to the safety data sheets for additional advice:

<https://www.promat.co.uk/en/downloads>
<https://fsilttd.com/product/pyrocoustic-sealant/>

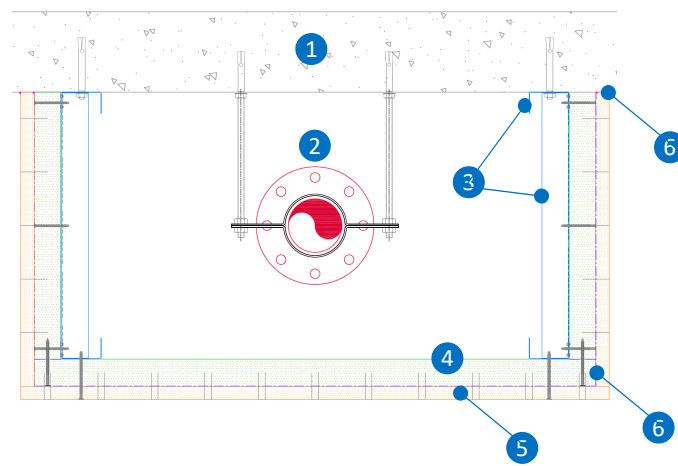
PROMATECT®-L500 Gas Pipe Enclosure: Two sided configuration (Horizontal).



KEY

- 1 Solid, load-bearing structure of equal or greater fire performance (wall & floor slab or two walls) - Concrete floor minimum 150mm thick, minimum 650kg/m³ density and/or Concrete or masonry wall minimum 120mm thick, minimum 650kg/m³ density.
- 2 Gas pipe, adequately supported - See "General description", Page 1
- 3 Lightweight metal channel, framing and supports - See "System and components" Page 1
- 4 PROMATECT®-L500 boards – 50mm thick, maximum length 1200mm
- 5 PROMATECT®-250 cover strips – 25mm thick x 100mm wide
- 6 FSi PROMAT PYROCOUSTIC® sealant at abutments with structure & PROMAT® Glue K84 adhesive at board joints and between enclosure and cover strips - See "Installation guidance"

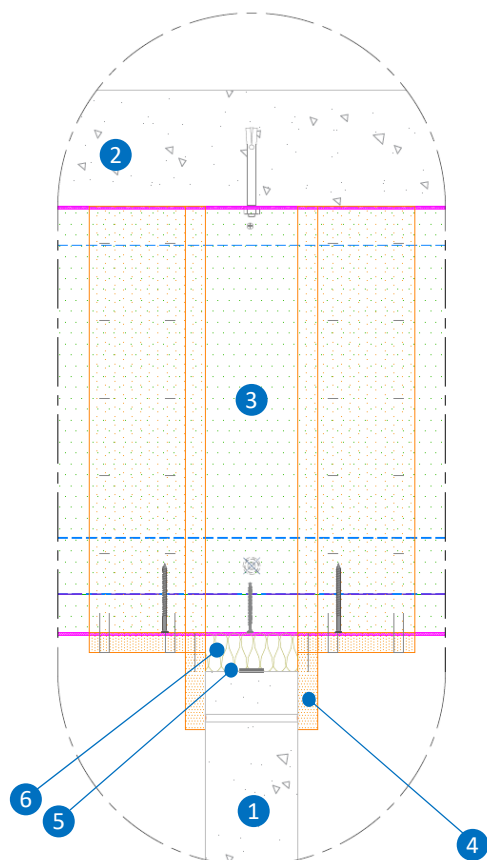
PROMATECT®-L500 Gas Pipe Enclosure: Three sided configuration (Horizontal).



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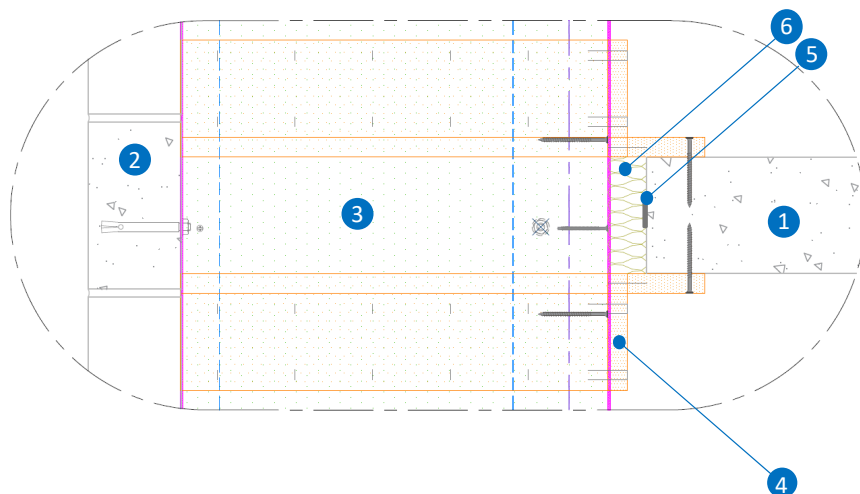
PROMATECT®-L500 Gas Pipe Enclosure: Penetration through wall.



KEY

- 1 Concrete or masonry wall minimum 120mm thick, minimum 650kg/m³ density
- 2 Concrete floor minimum 150mm thick, minimum 650kg/m³ density
- 3 Gas Pipe Enclosure – 2 or 3-sided (2-sided shown)
- 4 25mm thick Promat PROMATECT®-250 L-shaped collars, 125mm x 150mm wide, edge stapled at corners and stapled to enclosure boards around the penetration
- 5 PROMASEAL®-PL Strip Intumescent self-adhesive strip 30x1.8mm thick, at the centre of the wall opening
- 6 Fill **maximum 50mm gaps** between enclosure and compartment wall with minimum 80kg/m³ rock wool insulation

PROMATECT®-L500 Gas Pipe Enclosure: Penetration through floor.



KEY

- 1 Concrete floor minimum 150mm thick, minimum 650kg/m³ density
- 2 Concrete or masonry wall minimum 120mm thick, minimum 650kg/m³ density.
- 3 Gas Pipe Enclosure – 2 or 3-sided (2-sided shown)
- 4 25mm thick Promat PROMATECT®-250 L-shaped collars, 125mm x 150mm wide, edge stapled at corners and stapled to enclosure boards around the penetration. M6 x 90mm concrete screws at maximum 230mm centres to fix collars to slab
- 5 PROMASEAL®-PL Strip Intumescent self-adhesive strip 30x1.8mm thick, at the centre of the floor opening
- 6 Fill **maximum 50mm gaps** between enclosure and compartment wall with minimum 80kg/m³ rock wool insulation