

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 Handook (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.

PROMATECT®-L500 can be used to form enclosures, in a number of different configurations, to maintain the fire separation between compartment walls and floors. Systems are available for up to 120 minutes fire resistance, with some solutions providing 240 minutes integrity, subject to maximum internal dimensions. Overall fire performance is determined by the board thickness used – Refer to Table 1, Page 2 for details.

System and components

Steel angles, minimum 30x30x0.7mm for up to 120 minutes fire performance, 50x50x1.2mm for up to 240 minutes fire performance, at each corner of the encasement or abutment to the structure. Where fixing back to the building structure, M6 all-steel anchors at maximum 400mm centres must be used, giving a minimum penetration of 50mm into the substrate.

Steel channel frames, minimum 25mm deep x 50mm wide x 0.7mm thick, at 1220mm maximum centres for spans in excess of 600mm. For two, three and



four sided encasements, the channels are folded at the corners and fastened to themselves using M4 steel self-tapping screws or 5mm steel rivets.

PROMATECT®-L500 boards, thickness as given in Table 1, Page 2. Boards are fastened to the framing with M4 self-tapping screws at nominal 200mm centres, screw length to give a minimum of 10mm penetration through metal framing elements.

PROMATECT®-L500 coverstrips, 75mm wide x encasement thickness, at all board joints that don't coincide with metal framing elements.

Fixings, boards to coverstrips and boards to metal framing, to be in two rows, one at 12mm to 20mm from board edges at either side of the board joints.

For four sided encasements, the enclosure must be independently supported if the pipework is made of combustible plastic materials. For flanged steel pipework, this may also be a requirement, alternatively the metal channel sizes may be adjusted to take into account the flange depth beyond the pipework outer wall dimension, ensuring a tight fit of the channels against the pipework walls.

For all supports for four sided enclosures, the stresses in the hangers must be limited to 10N/mm² for up to 120 minutes, and 6N/mm² for up to 240 minutes.

All metal framing and board abutments with the structure should be sealed with a bead of Promaseal® Intumescent Acrylic sealant to maintain the integrity of the enclosure. All board joints must be bonded with PROMACOL-S® adhesive.

N.B. All structural elements that these services enclosures are fixed back to must be of an equal or greater fire performance to that required of the enclosure itself, as a minimum.

Installation guidance

1. PROMATECT-L500® encasement systems should be continuous, unless penetrating solidly constructed, equally fire rated compartment walls and floors. For further information, refer to penetration detail illustrations on Page 5 of this document.

2. Check that the pipe run is suitably supported by steel brackets or hangers. The supporting framework will vary, e.g. with the size of the 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. If vertical encasements exceed 5m in height, they will generally require additional support for the PROMATECT-L500® encasement at maximum 5m centres.

If a vertical encasement does not rest on the ground at its base, then the base of the encasement 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 the following values:

- 10N/mm² (up to 120 minutes)
- 6N/mm² (up to 240 minutes)

3. Apply a bead of PROMASEAL® Intumescent Acrylic Sealant to the faces of all framework elements abutting the structure, prior to fixing the steel angles back to the supporting structure.

4. Apply PROMACOL-S® adhesive continuously to the edges of one of the PROMATECT-L500® boards and fix the boards to the frame using M4 steel self-tapping screws at nominal 200mm

centres to tightly hold the joints together whilst the adhesive cures. 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 into the ventilation gap when the boards are mated together.

5. 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 before applying the adhesive assists in achieving a good seal.

6. If the encasement is penetrated by steel brackets, or a pipe branch, the PROMATECT-L500® should be cut to fit tightly around the brackets or branch pipe, and any remaining gaps sealed with PROMACOL-S®. All gaps should be sealed for their full depth with PROMASEAL® Intumescent Acrylic Sealant, up to a maximum joint width of 6mm. For gaps wider than 6mm, the gap should be covered with PROMATECT-L500® coverstrips, carefully bonded to the main

encasement. Any remaining gaps should be filled with PROMASEAL® Intumescent Acrylic Sealant.

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

8. 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 WF Assessment Report No: 169597 Issue 6.

Format

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

PROMACOL®-S Adhesive is supplied in 15kg drums.

PROMASEAL® Intumescent Acrylic Sealant is supplied in 310ml cartridges, available in grey or white.

Safety instructions

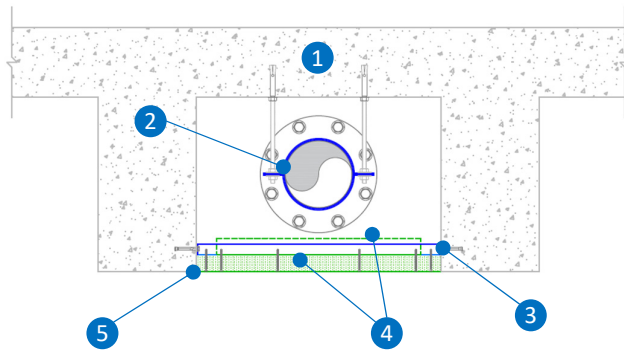
Please refer to the safety data sheets for additional advice:

<https://www.promat.co.uk/en/downloads>

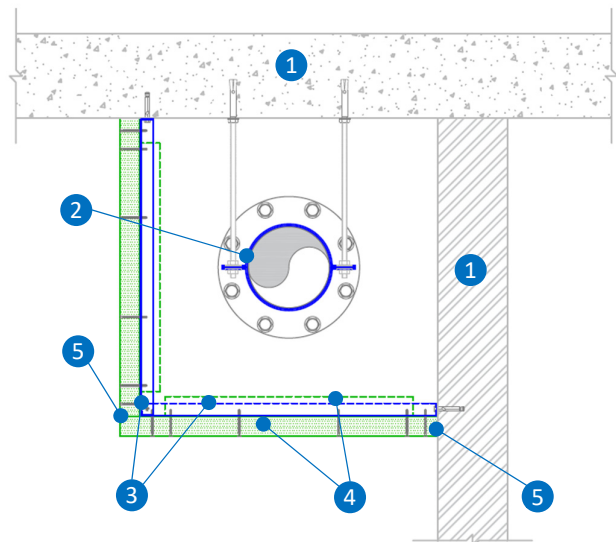
Table 1: PROMATECT®-L500 Board Thicknesses and Maximum Gas Enclosure Dimensions

PROMATECT®-L500 Thickness (mm)	Fire Rating: Stability & Integrity (Minutes)	Fire Rating: Insulation (Minutes)	Maximum Internal Dimensions (mm x mm)
20	120	15	1200 x 1200
25	120	30	1200 x 1200
35	120	60	1200 x 1200
40	120	90	1200 x 1200
50	240	120	1200 x 1200

PROMATECT®-L500 Gas Pipe Enclosure: Single sided configuration.



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

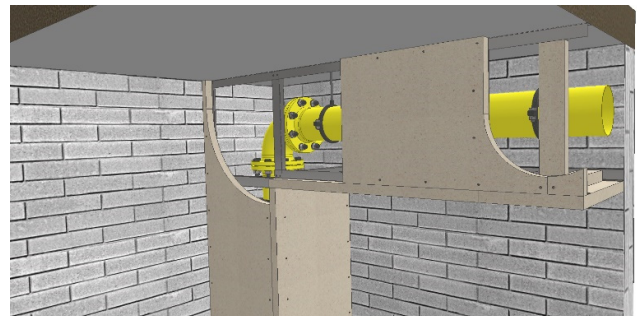
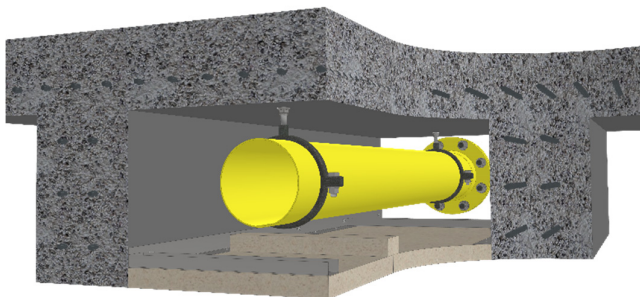


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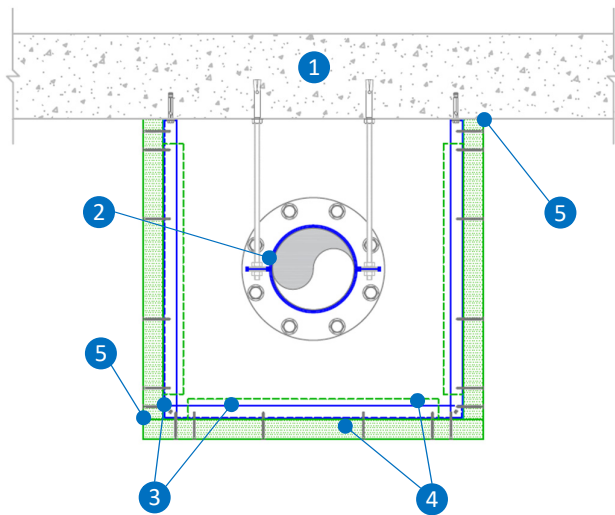
- ① Solid, load-bearing structure of equal or greater fire performance
- ② Gas pipe, adequately supported – See “Installation guidance” Note 2, Page 1
- ③ Lightweight metal angle and channel framing – See “System and components” Page 1
- ④ PROMATECT®-L500 boards and coverstrips – See Table 1, Page 2 for thickness
- ⑤ PROMACOL®-S Adhesive & PROMASEAL® Intumescent Acrylic Sealant at board joints and abutments with structure - See “Installation guidance”

KEY

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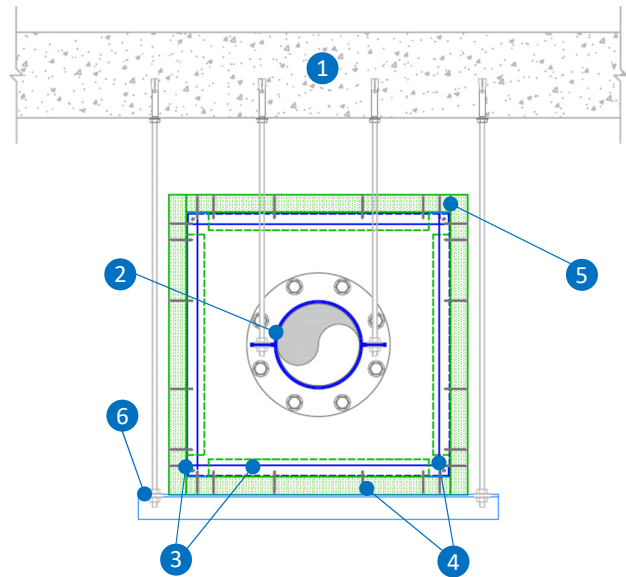
PROMATECT®-L500 Gas Pipe Enclosure: Three sided configuration.



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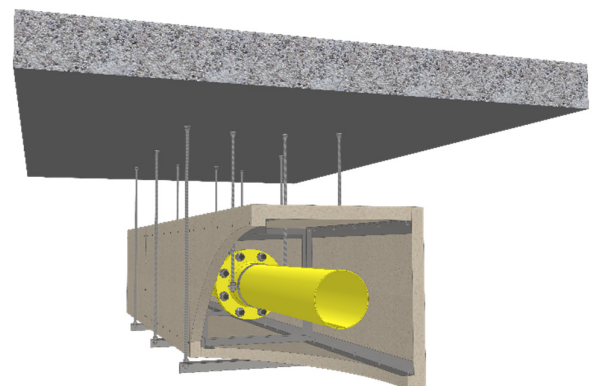
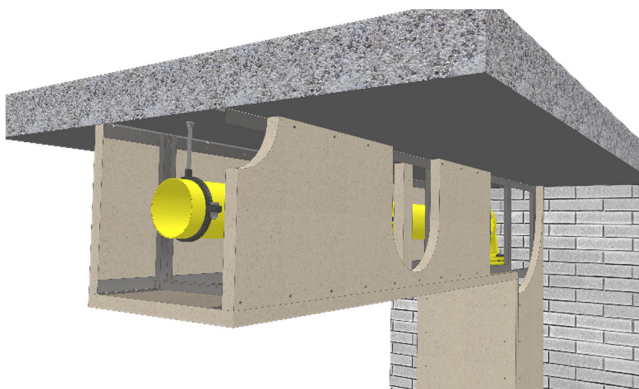
- 1** Solid, load-bearing structure of equal or greater fire performance
- 2** Gas pipe, adequately supported – See “Installation guidance” Note 2, Page 1
- 3** Lightweight metal angle and channel framing – See “System and components” Page 1
- 4** PROMATECT®-L500 boards and coverstrips – See Table 1, Page 2 for thickness
- 5** PROMACOL®-S Adhesive & PROMASEAL® Intumescent Acrylic Sealant at board joints and abutments with structure - See “Installation guidance”

PROMATECT®-L500 Gas Pipe Enclosure: Four sided configuration.

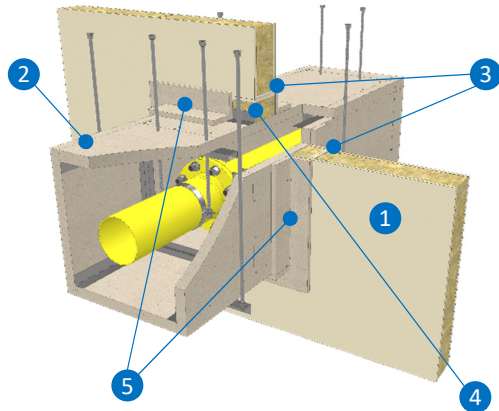


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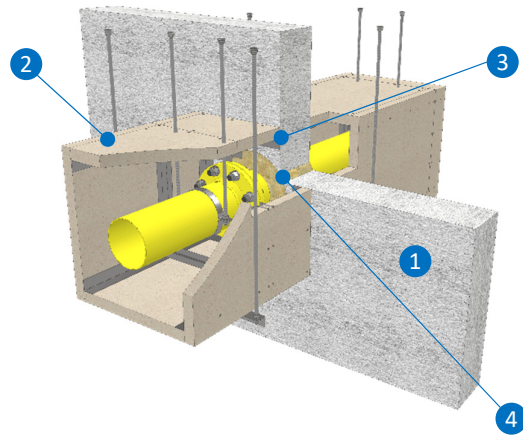
- 1** Solid, load-bearing structure of equal or greater fire performance
- 2** Gas pipe, adequately supported – See “Installation guidance” Note 2, Page 1
- 3** Lightweight metal angle and channel framing – See “System and components” Page 1
- 4** PROMATECT®-L500 boards and coverstrips – See Table 1, Page 2 for thickness
- 5** PROMACOL®-S Adhesive & PROMASEAL® Intumescent Acrylic Sealant at board joints and abutments with structure - See “Installation guidance”
- 6** Independent support for services enclosure – See “System and components” & “Installation guidance” Note 2, Page 1



PROMATECT®-L500 Gas Pipe Enclosure: Penetration through flexible, non fire rated wall/partition.



PROMATECT®-L500 Gas Pipe Enclosure: Penetration through solid, fire rated wall.



KEY

- 1** Flexible, non fire rated wall/partition
- 2** Gas Pipe Enclosure – 1, 2, 3 or 4-sided
- 3** Letterboxed opening in partition – lined with partition studs and facing boards. Gaps between Gas Pipe Enclosure and wall/partition tightly packed with rock wool insulation
- 4** Lightweight metal angle – See “System and components” Page 1 – screw fixed to Gas Pipe Enclosure on both sides of penetration
- 5** PROMATECT®-L500 collar minimum 120mm wide x enclosure thickness, screw fixed to Item 4 above on both sides of penetration

KEY

- 1** Solid, fire rated wall of equal or greater fire performance
- 2** Gas Pipe Enclosure – 1, 2, 3 or 4-sided
- 3** Lightweight metal angle – See “System and components” Page 1 – screw fixed to Gas Pipe Enclosure and wall on both sides of penetration
- 4** Gap between Gas Pipe and wall tightly packed with rock wool insulation

Note: The same details apply to 1, 2 and 3-sided vertical Gas Pipe Enclosure penetrations through flexible and solid floor constructions.