

PROMATECT®-H Encasements to Steelwork

1. Only general information can be provided in this document. It is recommended that Promat Technical Department is contacted to confirm details that are not covered.
2. The fixing methods are suitable for steel sections up to 686mm deep and 325mm wide. For larger sections and when protecting multiple sections within a single encasement, please consult Promat Technical Department.
3. Where a column box encasement abuts a beam protected with a profiled fire protection system e.g. spray, the column webs should be sealed using PROMATECT®-H.

**Table 1: PROMATECT®-H for Up to 2 hours Fire Rating
in Accordance With the Requirements of BS 476: Part 21 & AS 1530: Part 4**

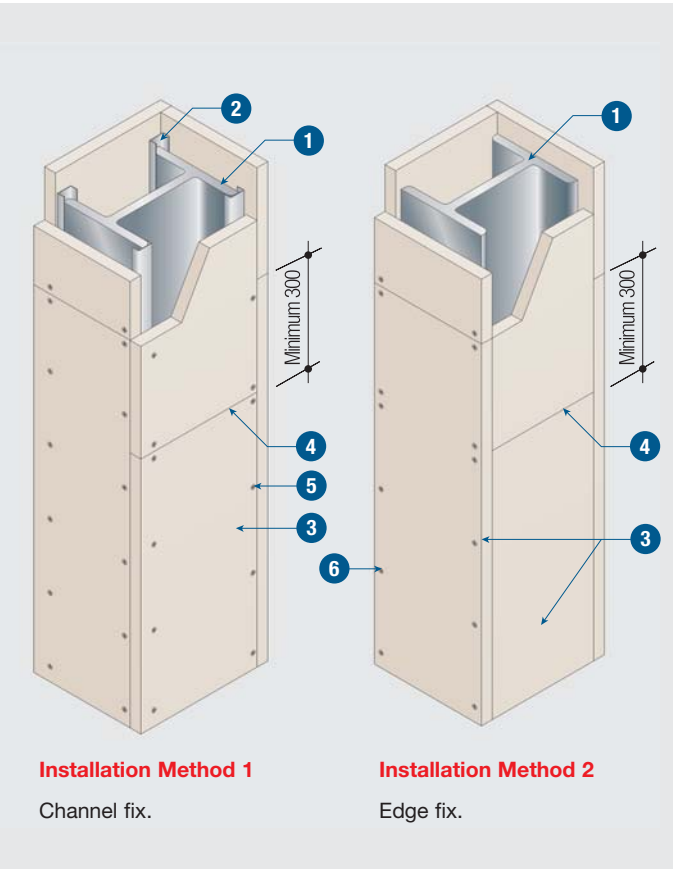
Fire resistance (hours)	Board thickness (mm)																			
	6	9	12	15	18	20	21	24	25	26	27	29	30	31	32	33	34	35	36	37
1/2	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260
1	47	88	156	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260
1½	–	37	56	79	110	136	151	212	238	260	260	260	260	260	260	260	260	260	260	260
2	–	–	34	46	59	70	76	95	103	111	119	139	150	161	174	188	204	221	241	260

Maximum Hp/A section factor (m⁻¹)

**Table 2: PROMATECT®-H for Up to 3 Hours Fire Rating
in Accordance With the Requirements of ASTM E119**

Fire resistance (hours)	Board thickness (mm)								
	8	10	12	15	20	25	30	35	40
1/2	300	300	300	300	300	300	300	300	300
1	89	139	179	239	300	300	300	300	300
1½	60	79	89	139	239	300	300	300	300
2	–	–	60	79	139	219	300	300	300
3	–	–	–	–	60	79	119	159	300

Maximum Hp/A section factor (m⁻¹)

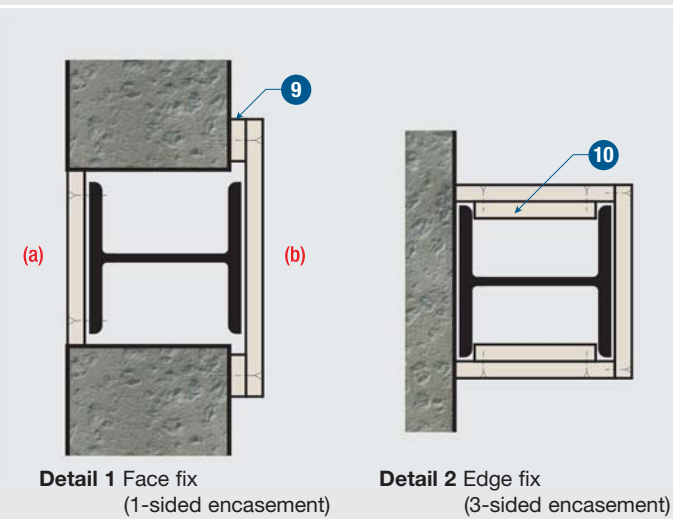


The following provides basic details for the cladding of columns. Depending on the type of board material, the area of usage and any allowance that may be required for movement joints etc, it may be necessary to adopt alternative installation methods. Please consult the Promat Technical Department before commencing installation to ensure the correct fixing methods pertinent to the product and the site conditions will be applied.

TECHNICAL DATA

- 1 Steel column
- 2 Galvanised steel channel 19mm x 38mm x 19mm x 1.6mm or similar. Leg of each channel is located against inner surface of flange. See Detail 4 below
- 3 PROMATECT®-H board, thickness in accordance with Hp/A-ratio (See Table 1 or 2, first page)
- 4 Horizontal joints are simply butt jointed without cover strips or filler. Joints in adjacent sides to be staggered minimum 300mm. For wide columns, it may be desirable to include a cover strip behind the horizontal joints in the web of the section to provide additional impact resistance
- 5 Self-tapping screws at nominal 200mm centres
- 6 Fixings in accordance with the following table. Care should be taken not to overtighten screws. When edge fixing it is advisable to drill pilot holes, particularly with boards 15mm thick. For further guidance on staple fixing, contact the Promat Technical Department

Board thickness (mm)	Deep threaded screws, preferably with ribbed heads at 200mm centres	Staples at 100mm centres
15	4.0 x 40mm	44/10/1mm
20	4.0 x 55mm	50/10/1mm
25	4.0 x 60mm	50/10/1mm



Detail 1 Face fix (1-sided encasement)

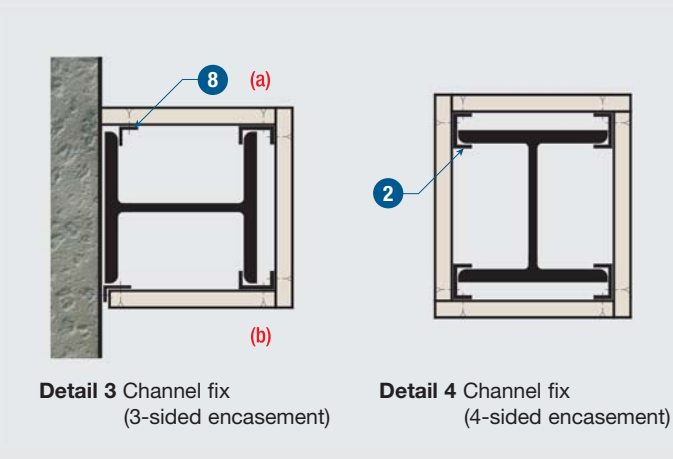
(a) PROMATECT®-H fixed directly to flange. Using two rows of screws at nominal 300mm staggered centres, if acceptable to engineers. Alternatively, (b) overlap wall by at least 50mm and screw with metal plugs to wall at 300mm centres. Spacer strips (9) may be required.

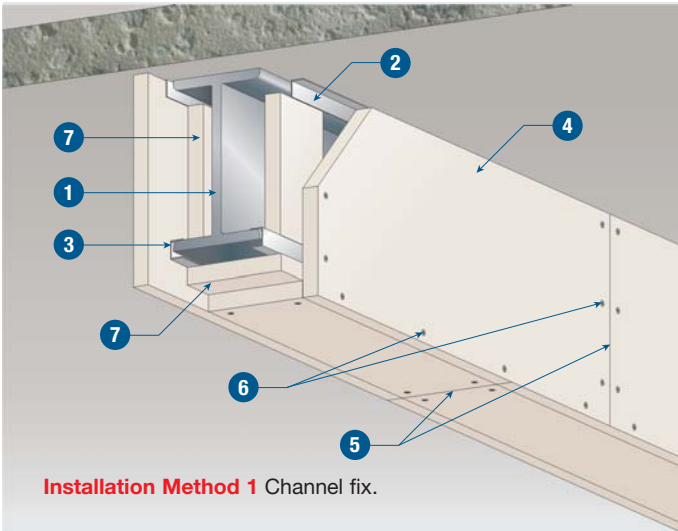
Detail 2 Edge fix (3-sided encasement)

Screw side boards to PROMATECT®-H soldiers (10), 100mm wide x 25mm thick, tightly wedged between the flanges at 1200mm centres.

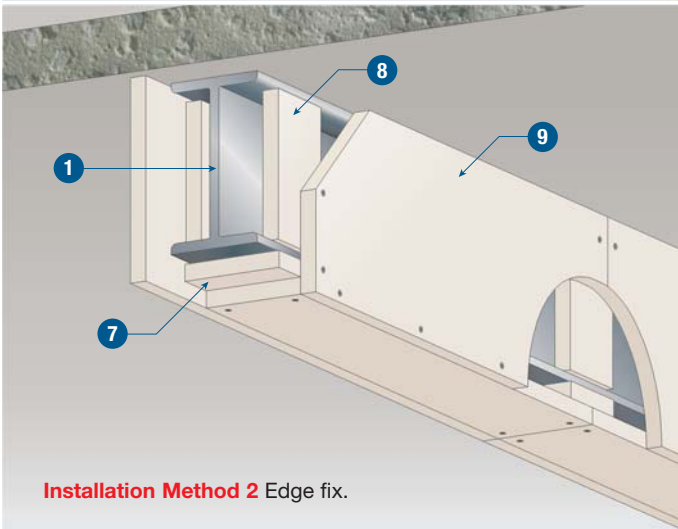
Detail 3 Channel fix (3-sided encasement)

Secure edges of side boards at 200mm centres to continuous galvanised angles (8) fixed either to the flange or to the wall at nominal 500mm centres.

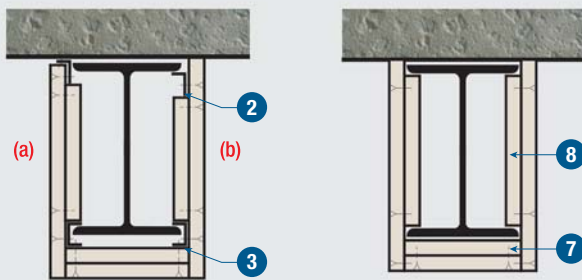




Installation Method 1 Channel fix.



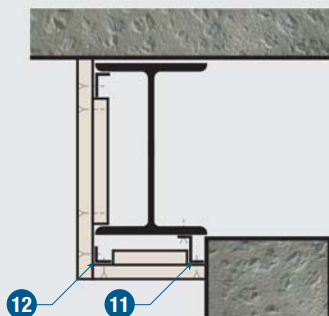
Installation Method 2 Edge fix.



Installation Method 1

Installation Method 2

Detail 1 Cross section through beam encasement



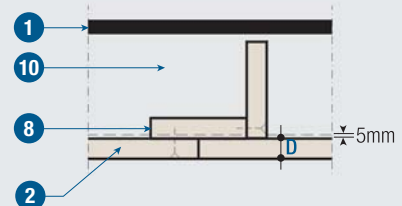
Detail 2 Channel fix (2-sided encasement)

TECHNICAL DATA

- 1 Steel beam
 - 2 Continuous galvanised angle, minimum 32mm x 19mm x 0.9mm or similar, fixed to flange or floor slab at 500mm centres
 - 3 Continuous galvanised channel, 19mm x 38mm x 19mm x 1.6mm or similar, resting on lower flange, mechanical fixing to flange not required
 - 4 PROMATECT®-H board, thickness in accordance with Hp/A-ratio (See Table 1 or 2, first page)
 - 5 Stagger joints in adjacent sides by at least 300mm
 - 6 Screw PROMATECT®-H to angles and channels at 200mm centres and to cover strips at 100mm centres
 - 7 PROMATECT®-H cover strips, 100mm wide x casing thickness, located behind joints. Screw casing to cover strips at 100mm centres or staple fix at 50mm centres
 - 8 PROMATECT®-H soldiers, 100mm wide x 25mm thick, tightly wedged into web at maximum 1200mm centres. Secure casing to soldiers using screws at 100mm centres or staples at 50mm centres
 - 9 Secure side boards to soffit boards using fixings in accordance with the Table below. Care should be taken not to overtighten screws. When screw fixing it is advisable to drill pilot holes, particularly with boards 15mm thick. For further guidance on staple fixing, contact the Promat Technical Department
- | Board thickness (mm) | Deep threaded screws, preferably with ribbed heads at 200mm centres | Staples at 100mm centres |
|----------------------|---|--------------------------|
| 15 | 4.0 x 40mm | 44/10/1mm |
| 20 | 4.0 x 55mm | 50/10/1mm |
| 25 | 4.0 x 60mm | 50/10/1mm |
- 10 For deep beams use nogging and soldier joined to form T section, to which are fixed to the main cladding

Detail 2 Channel fix

To allow differential movement secure soffit board to continuous galvanised top hat or zed section 11 at 200mm centres. Secure section at 500mm centres. A galvanised angle 12 could replace the normal channel 3. If gap between board soffit and wall exceeds 3mm, fill with PROMASEAL® Mastic.



Detail 3 Soldier for deep beams