PROMATECT® -250 Beam Encasement with Vertical Movement Allowance

Introduction

The following construction gives examples of fixing methods which should be adopted where a steel beam, protected with PROMATECT® -250, requires modification to include a vertical movement allowance to a fire rated wall or partition system.

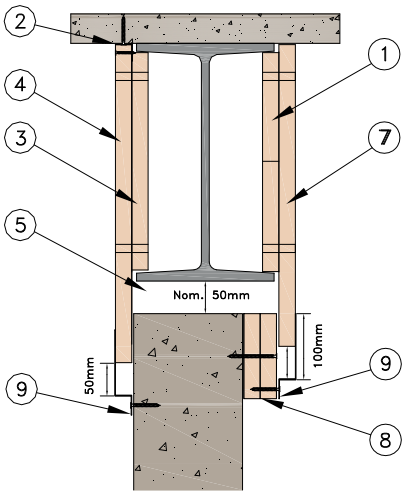

Figure 1.

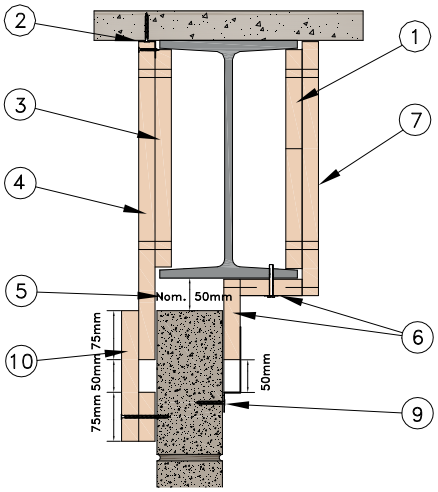

Figure 2.

Construction:

1) PROMATECT® -250 soldiers, 120mm wide behind side board joints at 1250mm centres. For ease of installation, soldier divided in half with a sloping 5mm cut to allow two parts to be tapped together.
2) 25mm x 25mm x 0.7mm thick continuous galvanised steel angle, fixed to soffit using minimum M4 screws into metal plugs at 500mm maximum centres.
3) PROMATECT® -250 fillets, 120mm wide positioned behind side board joints at 1250mm centres.
4) PROMATECT® -250 side boards, long enough to overlap the face of the wall/ partition by at least 75mm, fixed to continuous angle using steel drywall screws at 200mm nominal centres. Refer to Certifire CF422 for further details
5) Movement allowance, 50mm between the top of the wall/partition and the bottom flange of beam. The head of the wall should be restrained to prevent lateral movement relative to the beam.
6) "Angle shaped" strip of PROMATECT® -250 board (two strips stapled together) fixed to underside of lower beam flange with M4 steel screws with large steel washers, or with HILTI shot fired nails at 200mm centres. One leg should overlap the face of the wall/ partition by at least 75mm.
7) PROMATECT® -250 side boards, fixed to the soldiers using 50mm long x 12.5mm wide x 1.6mm thick staples at 150mm centres. In the case of Figure 1, the side board should over lap the face of the wall/ partition by at least 75mm.

   Note: It is essential that appropriate lateral restraint is provided between the wall/partition and the beam.

8) **Alternative to (6)** Strips of PROMATECT® -250 board fastened to the face of the wall/ partition with minimum M4 steel screws into metal plugs at 200mm maximum centres (Figure 2).
9) Continuous steel Z-section, minimum 30mm x board thickness x minimum 100mm x 1.2mm thick, fastened to the wall or partition with M4 steel screws into metal plugs at 400mm maximum centres
10) **Alternative to (9)** Two strips of PROMATECT® -250, stapled together, fastened to the wall/ partition with minimum M4 steel screws into metal plugs at 200mm maximum centres.

Please note that these fixing recommendations are suitable for beams up to 400mm deep. Alternative fixing details will be required for deeper beams (contact Promat UK Technical Services for further details).

Fire Performance: The following thickness of PROMATECT®-250 both sides of a beam, will achieve the indicated fire separation across the wall (compartmentation), to fire insulation for average temperature rise of 140°C, or maximum temperature rise 180°C.

12mm thick = 60minutes	15mm thick = 90 minutes
20mm thick = 120 minutes	25mm thick = 150 minutes

Note: Thicker board may be required to provide the required period of fire protection to the steelwork in terms of the loadbearing capacity of BS476: Part 21:1987

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