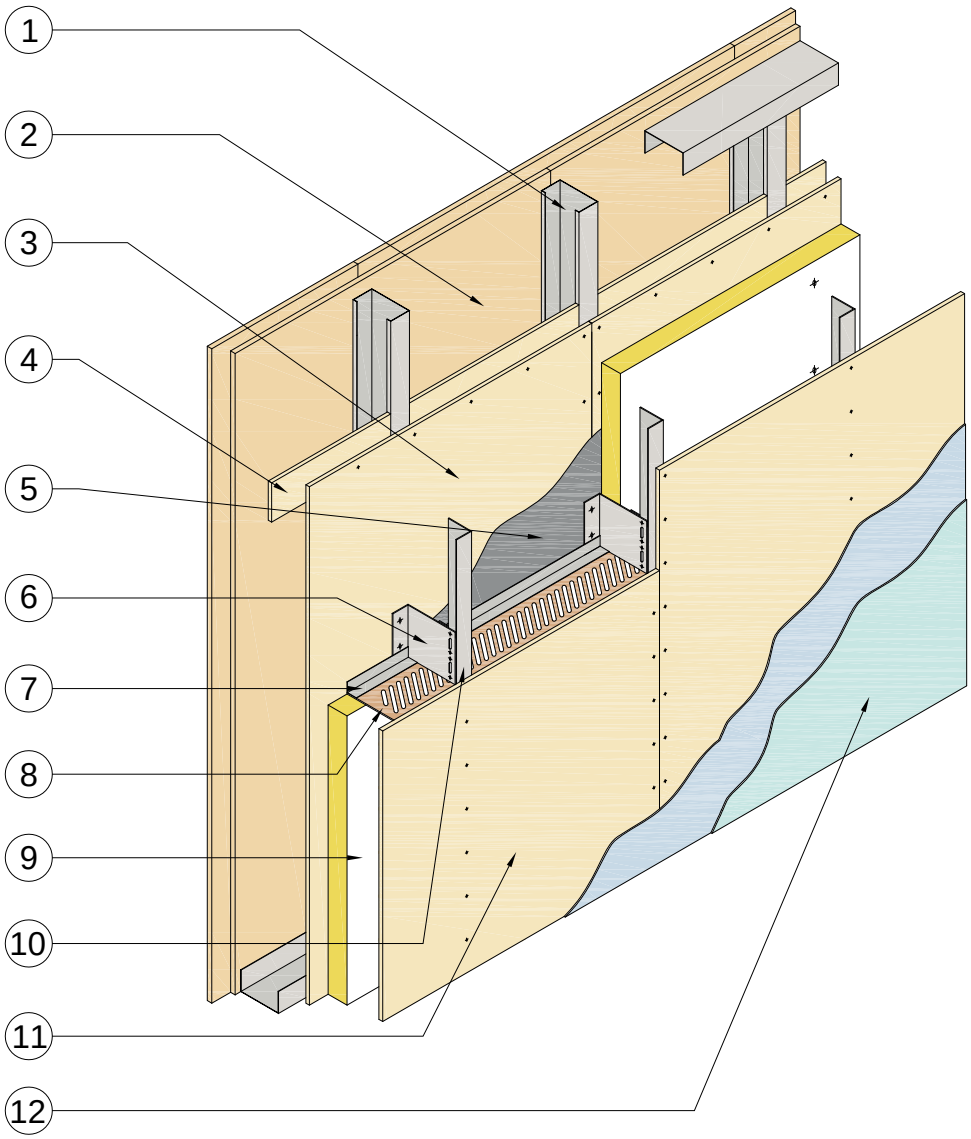
Fully Insulated Rainscreen Cladding System (EI 60) (Fire From Inside Face)

Introduction

The principle of overcladding with a rainscreen offers a simple means of keeping water out of buildings in modern engineered constructions. The two fundamental requirements, of a careful design that ventilates the cavity to dissipate the energy of driven rainwater; and the need to provide properly designed drainage paths to collect and direct the water away from the cavity, can conflict with the need to provide for fire resistance of the construction as required within the building regulation.

The following construction provides 60 minutes fire integrity and insulation to fire from the inside face of the wall when tested in accordance with the requirements of BS 476 Part 22-1987, whilst maintaining the cavity ventilation requirements



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Construction:

1. The supporting wall frame consists of Metsec C section (minimum 100 x 50 x 1.2mm) studs at 600mm centres, with Metsec 100 x 60 x 1.2mm C section channel at head and base.

2. Two layers of 12.5mm plasterboard fastened to face of studs on internal side of construction with all joints staggered. First layer (with vapour barrier) fixed to studs using 25mm drywall screws and second layer fixed using 32mm drywall screws at 200mm centres. Second board taped and jointed and all joints feathered out minimum 50mm either side of joint.

3. 9mm Promatect® HD fixed to external side of studs using 25mm drywall screws at 200mm centres.

4. 100mm wide Promatect® HD internal cover strips at horizontal joints fixed using 32mm drywall screws.

5. Breather membrane may be required (dependant on advice from manufacturers of insulation system).

6. External rainscreen system supported by Eurofox bracket system (XFOX brackets) fixed to the Metsec studs at every 600mm stud position using EJOT fixings. Specification for the system is dependant upon the specific application (contact Eurofox for further advice).

7. 25 x 25 x 0.8mm galvanised angle. The angle is fastened to studs through the Promatect® HD layer using 32mm self-drilling TEK screws.

8. Promaseal® RSB ventilated cavity barrier, fastened between the Eurofox brackets. Promaseal® RSB (100mm wide) fastened to the supporting angle using 4mm steel rivets at 150mm centres. The Promaseal® RSB abuts the external cladding.

9. Kingspan Kooltherm K15 foil faced phenolic insulation panels 50mm thick, installed between, and butting up to, the Eurofox brackets and the Promaseal® RSB cavity barriers on the external side of the construction. Insulation is fastened to the Metsec frame (through Promatect® HD layer) using Ejot fixings as recommended by Kingspan. All joints taped using Venture 1524cw tape.

10. Eurofox angle (60mm x 40mm) fixed to brackets to support external cladding board.

11. 10mm Promatect® B fixed to angle on external side of construction using 32mm drywall screws at 200mm centres vertically. Closer fixing centres may be required dependant on specified wind loading for construction.

12. Decorative paint or polymeric render system will be required on external side of Promatect® B boards.

Specifications for fixings and support framework are as tested and are the minimum acceptable to allow period of fire protection to be achieved.

Increased number of fixings or thickness of steelwork may be required to suit load requirements and location.

All components to be fitted in accordance with the recommendations of the system manufacturers.

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