

A Modular Case Study

THE CRESCENT

PLYMOUTH, DEVON, UK



PROJECT CHALLENGES

Achieve 120 mins fire protection to a point loaded modular steel frame building system



Tallest modular building undertaken



8 month timescale



Image courtesy of Jefferson Sheard Architects

SECTOR: Student accommodation

PROJECT VALUE: £18m

CLIENT: Pickstock Group

ARCHITECT: Jeffersons Heard

OFFSITE PARTNER: Elements Europe

FINISHED: July 2017



BACKGROUND

The 348 bedroom scheme consists of two blocks – a 13 storey and a ten storey building.

Our brief was to provide a lining solution to support Elements Europe’s point loaded modular steel frame building system which could deliver 120 minutes of fire protection with an internal lining board of no more than 30mm thick so that space and acoustic performance were not compromised.

A traditional approach to achieving this fire performance would have been a wall lining thickness of 40-50mm of fire rated gypsum plasterboard.

“Building for the future generation”

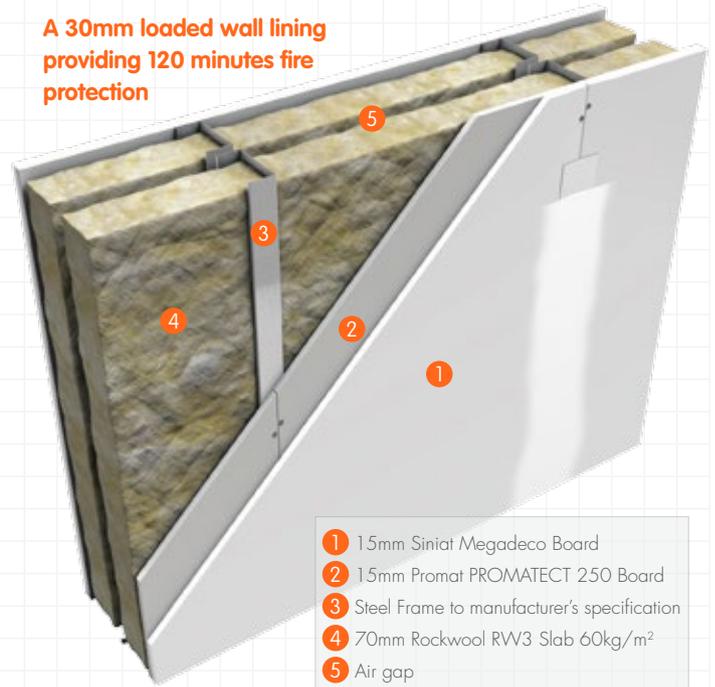
SOLUTION

Working in partnership with Elements Europe’s design team, Siniat and Promat developed a bespoke solution which combines an outer layer of 15mm Megadeco board over a single layer of 15mm PROMATECT 250.

This system not only provides 120 minutes of fire protection to British Standard BS 476-21, but it has also been independently verified to provide this same duration of fire protection to the loaded steel sections in the wall, making it a highly versatile option for both line loaded and point loaded construction.

Each sheet was manufactured to size so it could be installed straight into the modules, reducing installation times in the customer’s factory, and cutting down waste. Megadeco has the added benefit of being pre-sealed, which means a stage was taken out of the decorating process, further improving installation times.

A 30mm loaded wall lining providing 120 minutes fire protection



- 1 1.5mm Siniat Megadeco Board
- 2 1.5mm Promat PROMATECT 250 Board
- 3 Steel Frame to manufacturer's specification
- 4 70mm Rockwool RW3 Slab 60kg/m²
- 5 Air gap



“I have been really impressed with the technical support I’ve received from Siniat and Promat.

The Megadeco and PROMATECT 250 solution is unique, and has helped us maximise floor space in the student bedrooms without compromising on performance. It also means less materials and less installation times in our factory.

It has met our requirement for loaded fire protection of 120 mins, whilst maintaining acoustic and duty ratings. An added bonus is that this solution can provide 120 mins fire protection to both loaded hot rolled steel sections as well as Line Loaded steel sections.

We have to keep looking for these innovations as they can make a real difference to our competitiveness.”

Simon Underwood, Managing Director, Elements Europe Ltd.

PRODUCTS IN THIS SYSTEM:



Megadeco



Promat

PROMATECT 250

