

**FR5000 insulation board  
specified for modern  
university sciences  
complex**

**IMPORTANT: On 1 September 2017, this product (among others) was temporarily suspended while we investigate the results of recent tests (Parts 6 and 7 of British Standard 476). In addition, we have recently identified a compliance issue relating to our calculation and testing of the declared lambda value of products in the 4000 and 5000 ranges and the Crown-Bond and Crown-Fix products within the Crown Flat Roofing range. Materials relating to this product are for information only.**

**Client:**

The University of Sunderland

**Celotex Solution:**

FR5000

**Application:**

Rainscreen Cladding



The University of Sunderland invested over £7 million on Hope Street Xchange, its new centre for enterprise and innovation. The new centre includes workshops and office space, meeting rooms and conference spaces. The project involved the refurbishment of a Grade II listed building and part new-build to provide modern, well-equipped facilities for innovative businesses, start-ups and visitors who want to be situated in the heart of the city centre and close to the University's city campus.

**Project requirements for Rainscreen Cladding**

Clugston construction were appointed as main contractors for Hope Street Xchange and worked closely with local contractor, Teams Roofing to install the rainscreen cladding.

Specifying the appropriate rainscreen cladding system for the Sciences Complex was imperative to the project's success, with thermal and structural considerations playing a crucial role throughout the decision making process. The client required a long-lasting, energy-efficient solution, that met the exact aesthetic standards for the building's external facade.

A transparent and collaborative approach was required by both Clugston Construction and Teams Roofing in order to ensure these key components were delivered.

## The specification of FR5000

After careful consideration, Teams Roofing specified 11-12 vertical metres of Celotex' insulation board FR5000 across the project, primarily due to its lambda of 0.021 W/mK and impressive U-Value calculation compared to typical insulation boards. The innovative product, manufactured from rigid polyisocyanurate (PIR), prevents moisture build-up and would successfully future-proof the energy performance of the refurbished building.

Celotex FR5000 also has Class 0 fire performance in accordance with BS 467, and achieves A+ rating when compared to the BRE guide.

Initially, mineral wool was specified for the rainscreen cladding. However, after assessing the project and weighing out the options, a decision was made to use Celotex FR5000 due to it producing a much better U-value calculation, whilst also being available in a thinner option. Achieving the same U-value performance with a mineral wool solution would have required a much thicker design. In addition, Celotex FR5000 is manufactured from a rigid PIR option, which, compared to mineral wool, presented advantages when it came to handling and installing the rainscreen cladding on site.

## Visual benefits of cladding material

A variety of materials were carefully considered for the external cladding, which had to enhance the building's visual appeal whilst complementing the architecture and use of materials across the city campus estate.

After seeing the cladding material used in a similar project environment, the planners recommended a natural sandstone cladding called 'Fletcher Bank' for its aesthetics and durability.

The grey colour of Fletcher Bank, along with the veining that cuts through the middle of the sandstone, made this the perfect visual choice for the University. Furthermore, Fletcher Bank's high-quality finish harmonises with the existing surroundings on Sunderland campus, ensuring that the centre complements the local area.

## Achievements

The specification of Celotex FR5000 ensured long-term efficiency and cost-effectiveness in the long term for the University, having been designed with high levels of insulation, the client will benefit from reduced running costs and lower levels of carbon emissions.

Not only was the rainscreen cladding exceptionally easy to install, but the external cladding material helped to carefully integrate the new sciences complex with existing building designs, meeting and exceeding the projects' aesthetic requirements.

The newly transformed student campus now boasts a range of modern facilities, and the project has and will continue to enhance the experience for the University's community. Constructed as a central hub within the city centre, this campus is not only an exceptional learning environment for students, but also part of the fabric of Sunderland city centre for the local community.

The proactive approach from each team involved ensured that client-focused project solutions were achieved to a high quality and with excellent value for money.

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