

Case study

ROCKWOOL® streamlines high-rise building compliance in Manchester

Cambridge Street, Manchester





The project

At the beginning of 2016, CS Developments (Manchester) Limited embarked on developing a new build residential scheme in the heart of Manchester.

Featuring an assortment of two- and three-bedroom apartments, the project was based in a highly accessible Manchester city centre location which had originally been a vacant brownfield site, within walking distance of the city's vibrant economic, civic, culture and leisure hub.

The Cambridge Street development comprised two tall residential towers of 22 and 29 storeys, providing 282 residential flats in total. The apartments aimed to deliver much needed accommodation in a period of projected economic and population growth for Manchester.





The challenge

Although the project's location was one of its biggest selling points, it also acted as a challenge for the construction and design team. Due to the proximity to the city centre, the proposed designs needed to respond to the character and appearance of their surrounding areas.

As well as abiding to the local surroundings, the contractor was looking for a solution that achieved a U-value of $0.18 \text{ W/m}^2\text{K}$ in order to comply with building regulations. In addition to the thermal insulation requirements, the building contractor also placed strong emphasis on sourcing a Euroclass A1 non-combustible product. As part of a high rise development, all products used were to be approved by the Local Authority Building Control (LABC) as an acceptable solution for applications above 18 metres.

The project's cladding system and insulation materials had to conform or exceed the requirement for limited combustibility defined in section B4 of Approved Document B (ADB): 'External Fire Spread - The Requirement'.

Finally, working on a high rise building created several challenges during construction and installation. The materials selected had to withstand external elements, with minimal or no protection, to ensure a smooth and undisturbed installation phase.



The solution

As a high rise building, the project specification placed a lot of emphasis on specifying a Euroclass A1 product to provide an approved fire solution above 18 metres.

ROCKWOOL® RainScreen Duo Slab® was specified to comply with ADB, achieving Euroclass A1 non-combustibility.

Made from stone wool, RainScreen Duo Slab achieved the project's strict technical performance with a U-value, or thermal transmittance, of 0.18 W/m²K.

As well as achieving the project's strict technical provisions, the specified insulation also had to withstand a number of installation requirements. Due to the building scaling over 18 metres, it was essential for the product to withstand inclement weather during installation.

"As a project manager, I have to make many decisions each day, but specifying RainScreen Duo Slab for this multi-million pound project was one of the easiest decisions I had to make. As a new build, high-rise building, we had a strict technical specification to meet, which RainScreen Duo Slab achieved. I am most impressed with the company's streamlined route to fire compliance with Approved Document B, and non-combustible solutions for high rise buildings over 18m."

Pete Cregeen
Project Manager
Renaker Build

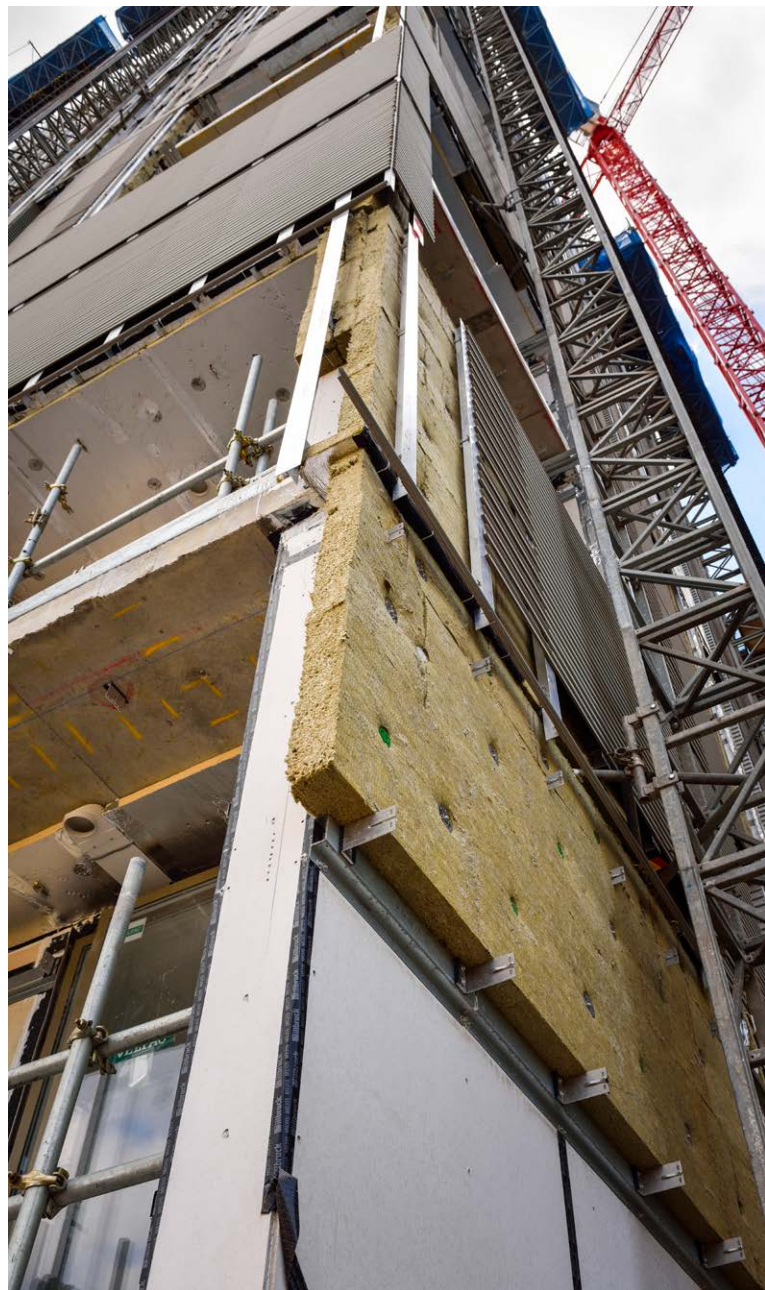


Specifically designed for high rise buildings, the ROCKWOOL RainScreen Duo Slab used featured dual density technology, combining a high density upper layer with a lower density under layer to withstand typical conditions on site. By compressing the primary fleece on to the top 15mm of the insulation, the product can be used, unprotected, in conditions of severe climatic exposure, including strong wind and rain as experienced at high altitudes. The Building Research Establishment successfully tested and approved RainScreen Duo Slab's wind resistance performance, confirming its ability to exceed the maximum UK basic wind speed of 56 m/s.

In addition, the RainScreen Duo Slab required fewer fittings during installation compared to other standard stone wool slabs, minimising installation time. CS Developments (Manchester) Limited installed the product using vertical and staggered horizontal butt slabs. Using tight butt joints, the slabs became seamlessly interwoven upon installation, eliminating any extraneous heat loss. This also prevents water transmission through the insulation layer. In total, 13,000m² of 125mm RainScreen Duo Slab was specified for the project.

"We are delighted with the ease of installation and the speed at which we could erect the building's rainscreen. ROCKWOOL goes beyond supplying the product and provided fantastic support. Designated technicians were regularly on site during the planning stages and were readily available throughout the installation phase to ensure satisfactory product installation. This additional service provided invaluable support for our staff during construction."

Pete Cregeen
Project Manager
Renaker Build



The result

As well as finding a solution to comply with a multi-faceted and strict specification, the unpredictability of the English weather can disrupt the progress of many building constructions.

ROCKWOOL provided Renaker Build with a product that not only achieved every technical requirement, but is able to withstand external elements unprotected, providing a cost-effective overcladding solution in Manchester's city centre.