

ICE ARENA, CARDIFF
KNAUF INSULATION LIMITED



Knauf Insulation has the ability to manufacture bespoke products to cater for a variety of project specifications. As such, the UK's leading insulation manufacturer was approached by Euroclad to develop a tailored insulation solution to meet the acoustic performance criteria of Cardiff's new Ice Arena Wales.

The £16 million ice arena will be part of the £400 million International Sports Village (ISV) and will be home to the Cardiff Devils ice hockey team. The finished scheme will provide a 3,000 seat multi-use arena and separate public skating rink. Therefore, a big emphasis was placed on the acoustic performance of the building, in order to reduce noise pollution for any surrounding buildings and to maintain a comfortable environment for spectators.

Kier Construction worked collaboratively with its Tier One supply chain partners, Massey Cladding Solutions and Euroclad, to develop the roof and walling systems in order to meet the project's demanding acoustic performance requirements.

“With over 3,000 square metres of roof area and over 6,000 metres of mansard roofs and walls, we created a bespoke 135mm build-up and required an insulation product that could be installed on all elevations within this,” commented Gethin Williams, Elite Systems supply chain manager at Euroclad. “Our brief, which was laid out at the start to Knauf Insulation, required a product of single density with a high compressive strength whilst not being too dense, which could interfere with the acoustics. Our strong relationship and continued business development with Knauf Insulation, led us to work with its Technical Support Team to explore a variety of solutions.

“By consultation with Knauf Insulation’s Technical Support Team, a bespoke product was developed, RS105 RocSlab in 104mm thickness. An insulation solution of this thickness was created as it had to fall in line with the 135mm deep spacer system. Additionally, above the spacer system there will be two layers of weatherboard installed and so it was important that the insulation was flush with the spacer.

“It’s been great to work alongside Knauf Insulation and their Technical Support Team on this project, as their knowledge and guidance was critical to developing the right product solution.”

Delivering a thermal conductivity of 0.036 W/mK, this unique product was developed within Euroclad’s timescales ready for a variety of acoustic and thermal testing, managing to meet the stringent project specifications.

Gethin continued: “The overall thickness of the RS105 RocSlab allowed a 16mm reduction in height, weighed less than traditional roofing boards and outperformed the acoustic requirement laid out by the design teams.”

A sequence of acoustic tests were carried out by the main contractor, Kier Construction, in order to establish what materials were required to achieve the performance figures set out at the beginning of the project.

Ray Massey, managing director at Massey Cladding Solutions, commented: “After designing the roof and walling systems, Euroclad supplied us with the insulation materials we required – I was very impressed with the laboratory tested products, as they met our brief accurately.”

