Case study

ROCKWOOL® helps future-proof The Quad student accommodation

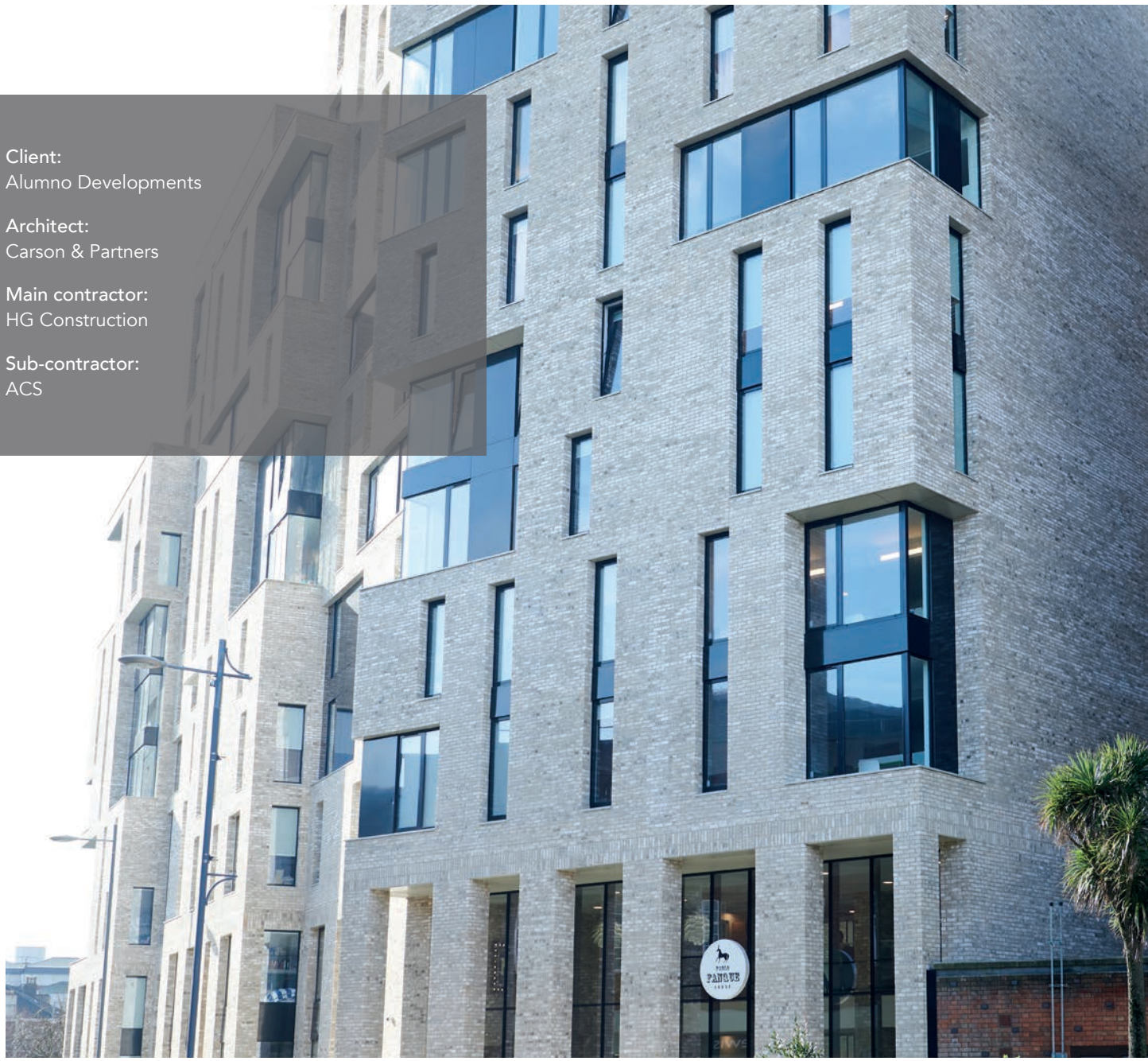
The Quad Student Accommodation, Norwich

Client:
Alumno Developments

Architect:
Carson & Partners

Main contractor:
HG Construction

Sub-contractor:
ACS



ROCKWOOL®

The project

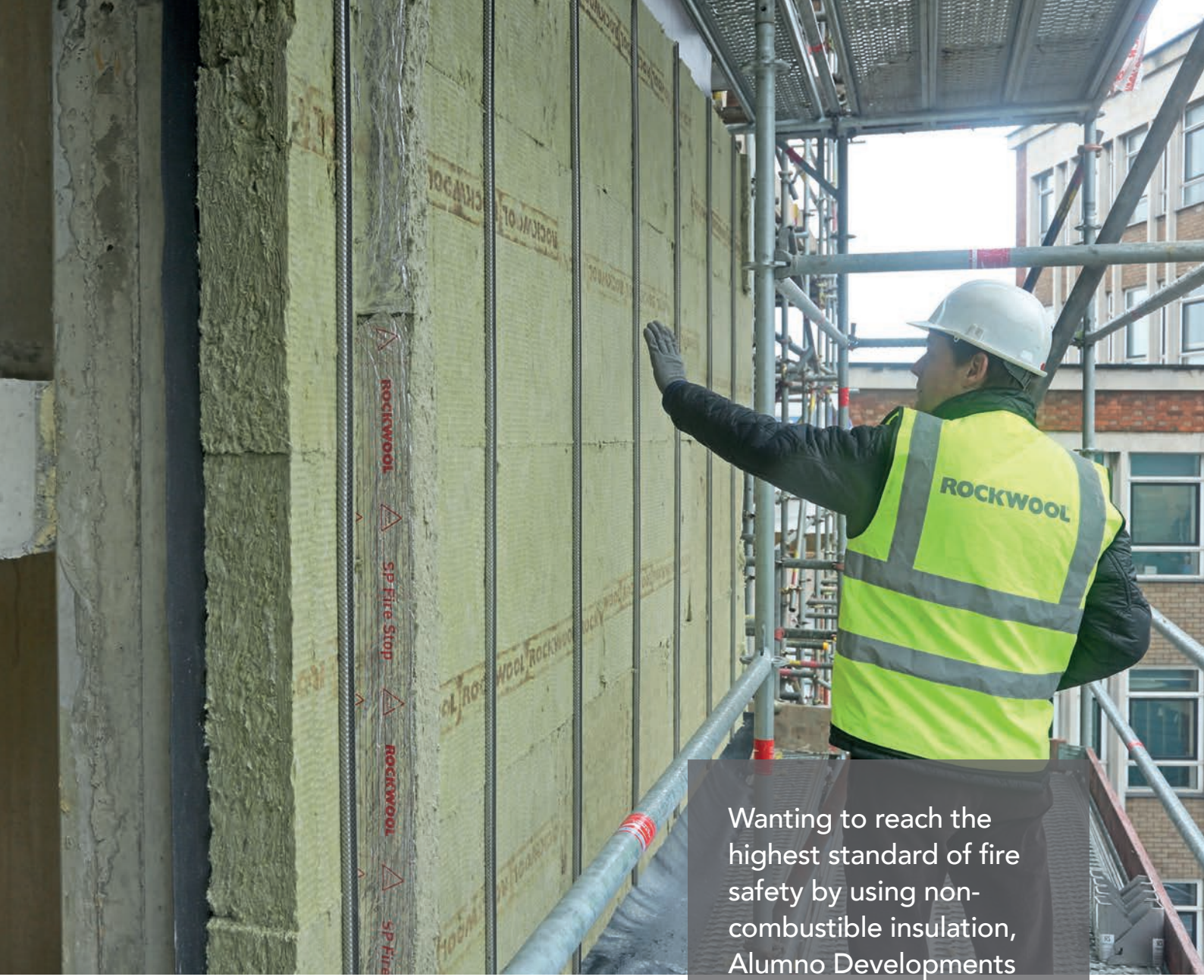
Located on a high-rise island of development in the centre of Norwich, The Quad provides state-of-the-art student accommodation. Prior to construction, the site was home to the local bingo hall but stood vacant for more than two years.

Aiming to regenerate the area, Alumno Developments partnered with HG Construction to create a standout building that would bring vibrancy to the area and attract student living.

The development was designed to encourage energy efficiency and sustainable travel, with no cars permitted on site or parked locally (with the exception of vehicles for students with disabilities) and bicycle racks for residents.

Designed to be an inclusive, social space with shared kitchens, communal areas and a courtyard for meeting friends, The Quad also delivers new business space and includes a vibrant courtyard for residents.

The development, which includes five blocks, spans 12 floors and provides 244 student rooms.



Wanting to reach the highest standard of fire safety by using non-combustible insulation, Alumno Developments and HG Construction were determined to push the boundaries and approached ROCKWOOL® to see if the stone wool manufacturer could provide a solution.

The challenge

The brief for The Quad was to create a building that would be future-proof, structurally sound, and fire safe for its occupants. Carson and Partners chose to use an SFS steel structure in conjunction with a masonry façade, but this presented a challenge to the developer and main contractor, as they were required to create a non-combustible façade without changing the predetermined cavities of the building.

Traditionally, brick workers and main contractors revert to foam insulation boards for this construction type due to the requirement of using channel ties, which have not been approved for use with mineral wool. The alternative option - frame cramps - are not easy to install and can add unnecessary time and costs onto a build.

The solution

ROCKWOOL's Technical Specification Manager, Hedley Thompson, worked with ACS to develop a fully tested solution that would allow ROCKWOOL RainScreen Duo Slab® to be used in conjunction with ACS ROCKWOOL Framefix.

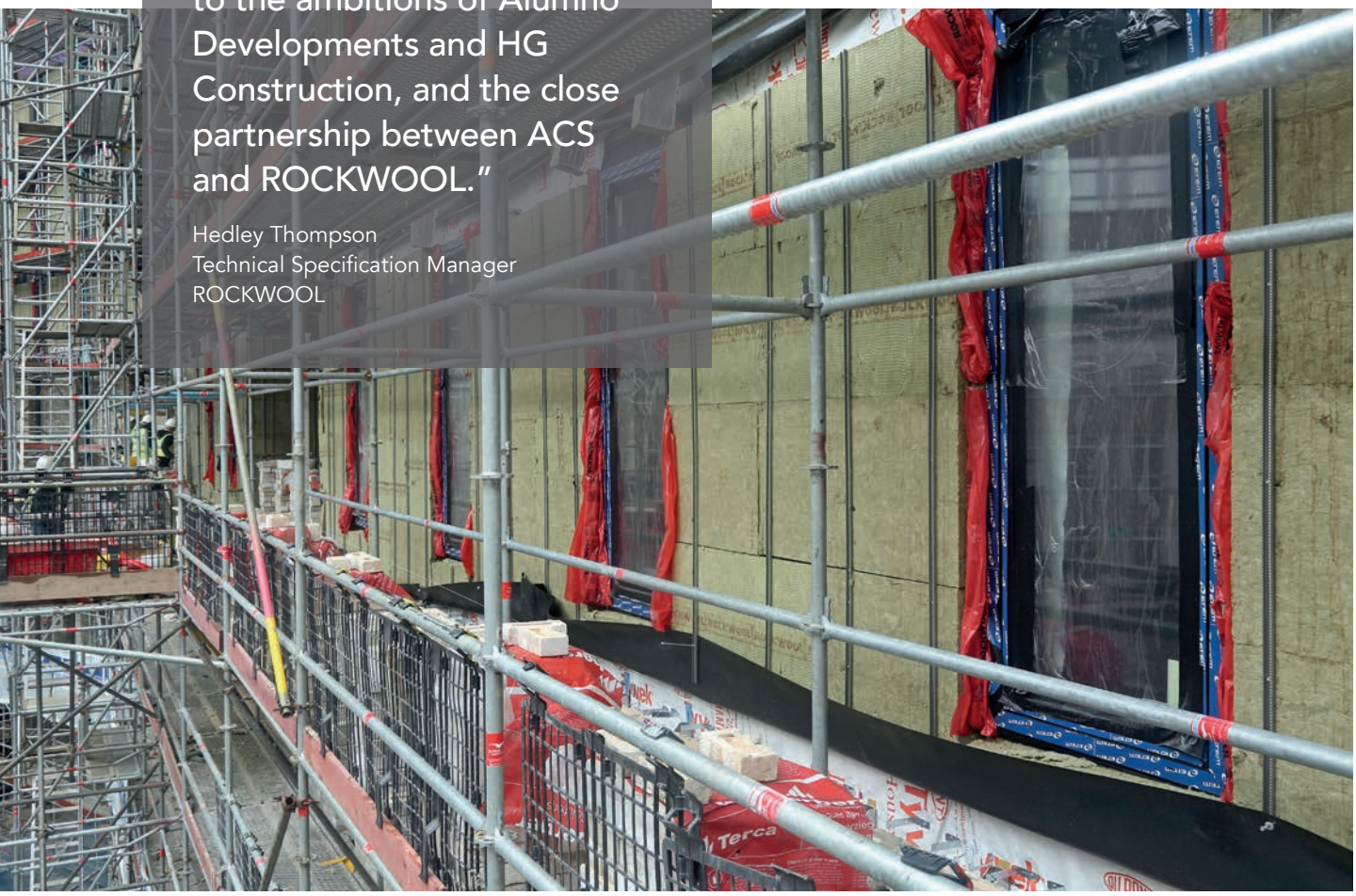
This new development allows a masonry wall to be tied to a light steel frame or other structural element through ROCKWOOL stone wool insulation using a suitable fixing. Composite, high compressive capacity sleeves are used at every fixing position to provide a rigid, high capacity fixing detail. The channel is fixed back to the structure via the pre-punched holes in the channel. Once fixed, ACS 25/15 4000 range ties are position at any point along the channel to suit the coursing of the masonry panel.

> "This is a solution that the industry has needed for some time, and this project is the first site to use the products together. Thanks to the ambitions of Alumno Developments and HG Construction, and the close partnership between ACS and ROCKWOOL."
>
> Hedley Thompson
> Technical Specification Manager
> ROCKWOOL

ROCKWOOL SP FireStop was installed alongside 125mm ROCKWOOL RainScreen Duo Slab.

Specifically designed for high rise buildings, ROCKWOOL RainScreen Duo Slab is a dual density insulation board that is manufactured from volcanic rock and comprises of a robust outer surface and a resilient inner face. ROCKWOOL RainScreen Duo Slab complies with Approved Document B, achieving the highest Euroclass classification: A1.

ROCKWOOL SP Firestop is designed to form an open-state cavity fire barrier within external cladding systems that allow for ventilation and drainage of the cavity under service conditions. The SP Firestop VRB has been tested with ROCKWOOL RainScreen Duo Slab to ASFP TGD 19: "Fire resistance test or 'Open State' cavity barriers, used in the external fabric of buildings". The combination of non-combustible insulation and an effective fire barrier supports fire safe façade systems and aids the design of high rise buildings above 18m.



The result

All parties on this project worked well together to provide a system that will now change the way that masonry façades are insulated in the future.

Choosing ROCKWOOL stone wool insulation for its non-combustible properties allowed Alumno Developments and HG Construction to meet the fire safety element of the brief, but also presented the team with a challenge. Thanks to the close working relationship between these two companies and ROCKWOOL and ACS ability to work together to develop a new solution, The Quad will provide the future students and business residents with a fire safe property.

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