



Photography: Hundven Clements



Photography: Scott Brownrigg



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Bauder Helps CABI Commit to a More Sustainable World

Chris Lee, Single Ply Product Manager at Bauder, explains how a combination of single ply waterproofing and a green roof was the ideal solution for CABI's new corporate office.



The Centre for Agricultural and Biosciences International (CABI) is an inter-governmental, not-for-profit organisation. Its purpose is to improve people's lives worldwide by providing information and applying scientific expertise to solve problems in agriculture and the environment.

The completion of CABI's new state-of-the-art corporate office in Wallingford, Oxfordshire, builds upon its commitment to sustainability, with its innovative design leaving less of a carbon footprint amidst a landscape rich in biodiversity.

Demonstrating striking architecture by Scott Brownrigg

Architects, the building provides a modern, comfortable, and efficient working environment with a number of facilities available for use by the local community.

When it came to designing the roof, CABI's commitment to encouraging biodiversity and protecting the environment was a key design driver. The sustainability expertise and technical support from the Bauder team, coupled with the company's comprehensive guarantee package, meant we could create a solution that made a statement, whilst also blending into the surrounding countryside.

The roof slopes downward and fully integrates with the landscape; an aesthetically pleasing design, though not without its challenges. At some points, the curve of the roof reaches a pitch of over 30 degrees, meaning careful consideration had to be given to not only the type of waterproofing system and green roof finish, but also to safe installation.

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Firstly, we had to ensure that the roofing contractors could safely install the Bauder system to the required standard, even with the extreme pitch. To meet this challenge, retaining battens were used where the pitch was at its steepest. When fixing the battens to the metal deck, there had to be a sufficient bond to the deck to ensure they were fully secure. With the deck exposed below, mechanical fasteners needed to be used sparingly so that they were not seen.

Efficient Drainage

To achieve efficient drainage while taking into consideration the shape of the roof, BauderPIR FA Insulation was specified. This insulation is lightweight, cost effective and easy to install. Its low thermal conductivity allows for this particular insulation to be thinner compared to other insulants, and the layout scheme was also designed to produce minimal waste.

On top of this, our lightweight and flexible Thermofol PVC waterproofing system was specified. This single ply membrane has a high-grade virgin polymer formulation. The PVC formulation ensures the system is resistant to micro-organism attacks and has passed the FLL resistance to root penetration (EN 13948), making it well suited to receive a green roof.

The curve of the roof also had to be factored into the fixing of the sedum blanket. Retention strips were added to the design to hold the sedum in place securely and prevent any slippage.

The living roof itself consists of the BauderGREEN XF 301 Sedum Blanket. This is a mature vegetation blanket, sown with eleven different species of sedums. As the sedum adjusts to the building's location, the plants most suited to the climate will flourish and blend the roof naturally into the surroundings, which was part of CABI's brief.

As the sedum blanket is intended for application directly over the waterproofing system, there is no need for a secondary substrate

growing medium; this makes it the lightest self-contained sedum blanket system available.

The curve of the roof also had to be factored into the fixing of the sedum blanket. Retention strips were added to the design to hold the sedum in place securely and prevent any slippage. These were spaced at 1m intervals to ensure a strong and secure install. Going forward, the maintenance of the roof will be facilitated by the access walkways and safety systems that remain in-situ,

providing safe access for watering, fertilisation, and general maintenance. Additionally, rooflights were incorporated to provide natural top light, reducing the demand for electric lighting and helping to lower the site's CO₂ emissions.

Since completion in 2020, the project has won various awards, including Building Project of the Year under £10 million at the Constructing Excellence SECBE Awards 2021, and Project of the Year at the OxPropFest Awards 2021. It was also a finalist at the UK Roofing Awards 2021 in the Green Roof category.

It's been fantastic to see the project being recognised for its commitment to sustainability, and we are incredibly proud of having been a part of its journey.



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