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WEST VILLAGE

CASE STUDY

Project

West Village

Location

Leeds

Client

Bruntwood SciTech

Products

- Permavoid²
- Aquadrain
- Permavoid Permatex Capillary Geotextile
- Polysync

Located in the heart of Leeds city centre is Bruntwood SciTech's West Village – a new office space that brings together innovation, flexibility and environmental responsibility.

The space was created as part of a redevelopment project, transforming the building into an environmentally friendly haven for its residents.

Polypipe Civils & Green Urbanisation's involvement in the project began in 2021. In the three years following, the CGU team worked alongside The Environmental Protection Group (EPG) to bring Bruntwood SciTech's vision to life, working on the building's extension to create a roof terrace that features an innovative smart blue-green roof system, comprised of Polypipe CGU's Polysync, Permavoid, Permavoid Permatex Capillary Geotextile and Aquadrain products.

Nicholas Wright, Polypipe CGU's Business Development Director for Specification, said: "The vision for this project was to create something that was clean, inviting, inspirational and emphasised wellness, as well as incorporating an educational element – like our previous project with Bruntwood SciTech, the Bloc roof in Manchester, did.

"Blue-green roofs bring a number of benefits – ranging from environmental and wellbeing to commercial.

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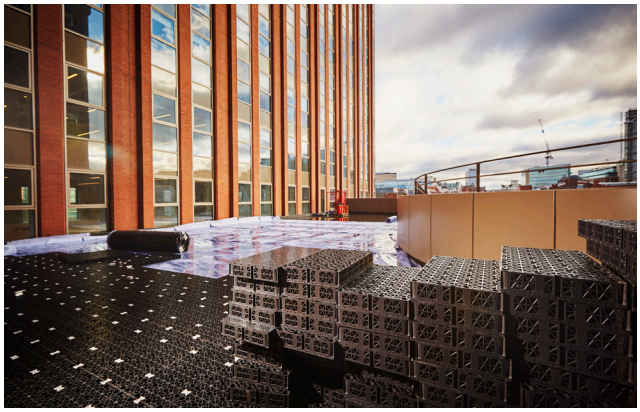
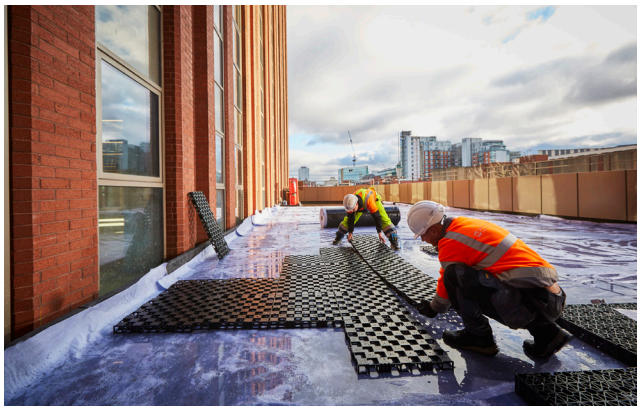
"For example, blue-green roofs create attractive green spaces in urban areas that wouldn't usually be available – like in Leeds, a dense urban environment. The trees and vegetation in these green spaces can help to filter airborne impurities and pollutants in the air, generally improving air quality, as well as the health and wellbeing of the community. Plus, on the biodiversity front, blue-green roofs help to create quality habitats, allowing ecosystems to thrive.



"Blue-green roofs also help to mitigate the heat island effect, where cities are warmer than surrounding rural areas."



George Hudman, Flood Risk and Sustainable Water Management Engineer at EPG, said: "With it being a new build, we should essentially have had complete control of the levels and such but, because it was an extension connected to the existing building, we were limited with the existing thresholds, so that was the number one concern throughout the project – and it's the reason we opted to not use standard passive irrigation for this project."

Instead, Polysync was the ideal fit. A ground-breaking solution that uses attenuation technology and real-time weather forecasting, Polysync is a unique cloud-based system that helps to mitigate the effects of extreme weather events, and create smart, sustainable urban drainage. Controlled and monitored remotely online via a smartphone, tablet or computer, the system combines monitoring sensors, remote valve operation technologies and cloud computing software to provide adaptive irrigation, creating the ideal conditions for plant life, while maximising water usage efficiently, helping to future-proof drainage systems.

"As we worked through our process, we gained more information about the surfacing and levels. One significant change, for example, was the introduction of ramps to raise the building's thresholds so that it wouldn't flood," George continued.

"It was a new project, a new building, but I'd almost class it as a retrofit because there are so many details you have to tie in with and, because you were so limited with the thresholds, you're obviously limited to what you can actually do on the roof, so there were some tweaks when we got to the final stages of design into installation, and that's really where the real-time collaboration flourished. We were able to sit on calls, with the Polypipe team on site with the installers, and me changing the drawings on the computer as we were discussing it, which worked really well, and the installation went smoothly."

Matthew Morten, Building Surveying Director at Bruntwood SciTech, said: "The Polysync blue-green roof at West Village is a key sustainable element of the West Village redevelopment project, ensuring that significantly less rainwater reaches the Leeds drainage infrastructure, especially during periods of heavy rainfall. Rainwater is stored on our fourth-floor roof terrace and is used to water our multiple green walls - only once all green walls are watered and rainfall has stopped does the Polysync system consider releasing rainwater into the Leeds drainage infrastructure. Plus, excess rainwater in the roof is always released ahead of forecasted heavy rainfall.

"The green element of our blue-green roof works with our vertical external Hyvert green walls and stepped terrace extension, which have been designed to provide a stepped exit up and out of the West Village courtyard and support city dwelling wildlife such as bees and birds."

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