CLIMATE INNOVATION DISTRICT – LEEDS

200 Low-Energy Homes On A Brownfield Site

Project: Leeds Climate Innovation District

Location: Leeds, England

Company: Future System Group Ltd, MEDITE SMARTPLY

Sector: Private Housing

Technology: Timber Frame

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The Leeds Climate Innovation District is a residential development in Leeds delivered by STA member Future System Group, a sustainable property developer focused on low-carbon urban regeneration. Built on a brownfield site, the project includes 200 homes designed to meet Passivhaus principles, supporting high levels of energy efficiency and reduced operational carbon.

Timber construction formed the basis of the development's building system, using prefabricated structural panels designed to deliver strong airtightness and vapour control performance. To support this approach, Future System Group incorporated SMARTPLY AIRTIGHT and SMARTPLY SURE STEP DB panels manufactured by STA member MEDITE SMARTPLY. These engineered OSB panels were integrated into the timber frame assemblies to improve durability, simplify installation and ensure consistent airtightness across the building envelope.

SMARTPLY AIRTIGHT panels combine structural strength with integrated vapour control and an air barrier, removing the need for separate membranes within the wall and ceiling assemblies. SMARTPLY SURE STEP DB panels were used for floor decking, providing a durable and low-slip surface during construction while supporting airtight floor assemblies. Together, the products helped the homes achieve airtightness levels of 0.6 air changes per hour (ACH), the highest performance levels recorded across Future System Group's developments.

Projects such as the Leeds Climate Innovation District demonstrate how timber frame construction, combined with high-performance engineered timber panels, can support the delivery of low-energy housing at scale. The development highlights the role of timber systems in meeting modern sustainability targets while enabling consistent build quality and efficient construction programmes.