StoraEnso

Partner of Stora Enso

B&K STRUCTURES

Stephenson Building, Newcastle University
Newcastle upon Tyne, UK

The Stephenson Building is a landmark £70 million GBP redevelopment (£43 million construction value) of a 1951 academic building that has been transformed into a vibrant hub for engineering excellence.

The academic building offers 198,000 sq. ft/ 18,475 m² of new and refurbished facilities - from inclusive learning spaces to multi-purpose teaching laboratories - enabling Newcastle University to nurture cross-disciplinary collaboration and innovative industry partnerships.

Exposing the structure and services was a deliberate architectural choice to inspire future engineering students in an uplifting environment that proudly expresses the building's engineering ethos throughout

The building drives the University's sustainability agenda, ensuring Net Zero Carbon was achieved in operation, and mass timber was selected to significantly reduce the building's embodied carbon.

The design features a complex roof structure of glued-laminated timber (GLT/ glulam) beams and Sylva™ cross-laminated timber (CLT) elements. BKS also provided a composite metal deck towards the rear of the building, which featured multiple roof lights and a large expanse of roof glazing that floods the interior with natural daylight.

Specialist subcontractor B&K Structures was awarded the contract to develop the design, manufacture and erect the structural frame.

Specialist timber engineer, Engenuiti was appointed to design the intricate connections and other timber details. Phase 1, completed in 2023, and has been exceptionally well-received by students, staff and visitors, while Phase 2 was handed over in September 2024.

Key to the client, the architect, and the structural engineer's aspirations was achieving seamless transitions between the engineered timber and the steel columns, fulfilled by our partner B&K Structures (BKS). This was aided by BKS delivering both main elements of the package. Early engagement also ensured the junctions between the main elements were clearly defined prior to installation commencing on site.

Professor Ian Postlethwaite, Head of Engineering at Newcastle University, commented: "The eye-catching building makes a statement about engineering at Newcastle, representing substantial world-leading research, innovation and cutting-edge teaching. The redevelopment will help generate partnerships with industry and support us in addressing the Industrial Strategy Grand Challenges, the Climate Emergency and critical skills shortages."

Carbon footprint of CLT provided by Stora Enso

Manufacturing 25 tonnes CO2e

Transporting 21 tonnes CO2e

Advantages with mass timber

355 tonnes of carbon dioxide removed from the air and stored in the Stephenson Building

533 tonnes CO_2e emissions avoided by using Stora Enso CLT instead of non-renewable construction materials

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View more universities made with Sylva™ by Stora Enso.

National Manufacturing Institute Scotland NMIS

Magdalene College Library

University of Central Lancashire UCLan

University of Natural Resources and Life Sciences (BOKU) - Ilse Wallentin Haus Vienna

UPNA Health Sciences Building Spain

Singapore Management University

Structural Timber Awards Education Project of the Year Shortlisted

Photo credit: ©NORR/Kristen McCluskie

General

Delivery year

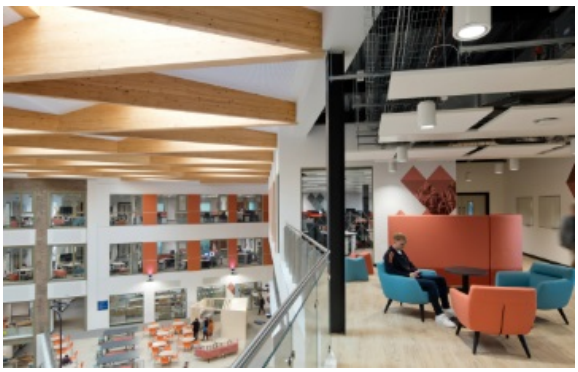
Building type

2022

Education

Area (m²)

18,475



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Products

Products and Services

Sylva™ CLT Floors and Roofs, Sylva™ CLT Walls

Product quality

NVI

Product volume (m³)

466

Team

Partner of Stora Enso

B&K Structures

Developer

Newcastle University

Architect

Architect and lead designer: NORR Consultants Ltd

Structural Engineer

S h e d

MEP Designer

JH Partners ltd

Main contractor

Bowmer and Kirkland

Timber Engineer

Engenuiti

StoraEnso

Others

Construction cost (€)

51,600,000

Total construction development cost (€)

84,000,000