StoraEnso

University College London UCL PEARL London, UK

Partner of Stora Enso

B&K STRUCTURES

Welcome to PEARL (Person-Environment-Activity Research Laboratory). A unique facility developed by the University College of London (UCL) to explore how people interact with their environment. In this large scale, 4 000 m and 10 m high facility life-sized environments are created like a railway station, high street, town square etc. – under controlled conditions so they can research how people interact with the built environment and other people.

A steel structure with a 40m clear span houses a mass timber 'building within a building', a two storey 62.2 x 11.8m mass timber ‘Groove’ building with office and laboratory space.

Within the steel portal frame building is a two storey cross laminated timber (CLT) and glued laminated timber (GLT/glulam) structure called 'The Groove' provides student labs and office space.

The CLT was manufactured and supplied by Stora Enso and the glulam was supplied by Stora Enso. Our partner B&K Structures engineered, installed this engineered timber structure with a high degree of accuracy, shortening the critical path and helping earn academic acclaim plus a BREEAM ‘Outstanding’ rating.

The interior laboratory is black, while the background sound level and reverberation are very low – core aspects of the building’s design – intended to desensitise people’s awareness of ‘being in a building’.

The package included some 592m³ of engineered timber from sustainable sources with a 100% PEFC-certified full chain of custody. This delivered maximum points at MAT03 under the 2018 version of BREEAM, while sequestering 379 tonnes of CO_2e.

Thanks to Stora Enso's responsible forestry management and sourcing standards, it can be shown that all of the timber used was replaced by new growth in just 8 minutes 34 seconds.

Far faster than traditional construction with its wet trades, the erection time of the mass timber Groove building was just 13% of that required for a conventional timber frame structure.

Overall, this solution ensured the cost-effective completion of a complex, energy efficient building which secured the UK’s first ‘Outstanding’ award under the 2018 BREEAM requirements.

StoraEnso

- Best Net Zero Project Award - Building Awards 2022
- BREEAM 'Outstanding'
- Longlisted in the Sustainable Building Category - Dezeen Awards 2022
- Shortlisted in the Education category and for the Environmental Sustainability Prize - New London Awards 2022

Photo credit: B&K Structures

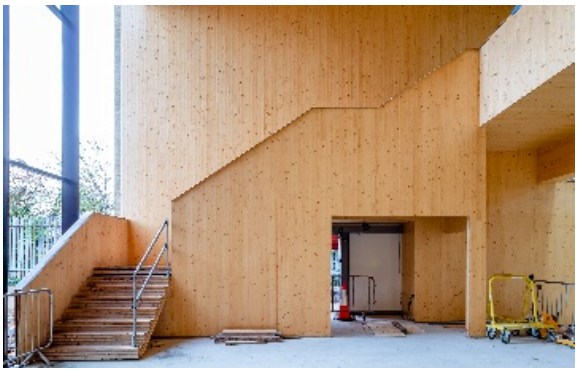

Photo credit: B&K Structures

General

Delivery year

2019

Building type

Education

StoraEnso

Area (m²)

4,450

Storeys

2

Photo credit: B&K Structures

Photo credit: B&K Structures

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Products

Products and Services

Sylva™ CLT Floors and Roofs, Sylva™ GLT Beams and Columns

Product quality

CLT - NVI (non-visual on both sides), INV (industrial visual + non-visual) and VI (visual + non-visual)

Product volume (m³)

592

Team

Partner of Stora Enso

B&K Structures

Architect

Penoyre & Prasad

Structural Engineer

Specialist Timber Subcontractor (Design & Build) – B&K Structures
Engenuiti

MEP Designer

Santec

Main contractor

VolkerFitzpatrick

Specialist Timber Subcontractor

Specialist Timber Subcontractor (Design & Build) – B&K Structures