



Keele University

Full M&E Works – Denise Coates Foundation Building

Project Background

Keele University is a public research university located in Staffordshire, England. It was founded in 1949 and - in 2018 - named 'No. 1 in England for Course Satisfaction' in the Guardian University Guide 2018.

In 2019, J Tomlinson was appointed by principal contractor, Bouygues, to undertake the mechanical and electrical engineering work for Keele University's new, multi-million-pound, state-of-the-art Smart Innovation Hub facility, the Denise Coates Foundation Building, which would house both Keele Business School and incubated companies.

This marks the second project that J Tomlinson has undertaken for the university, the first being a direct appointment as principal contractor managing the refurbishment of the university's Lennard Jones Laboratories.

In line with the University's green ethos, it was critical that the completed building met BREEAM 'Excellent' standards.

Shortly following completion, the building was selected as a 2021 Civic Trust Awards Regional Finalist, recognising the building's universal design excellence.

Client:

Keele University

Sub-contract value:

£2.6m

Duration:

Jan 2019 – August 2019

Summary of works:

- Full M&E works – new build smart innovation hub facility
- BREEAM 'Excellent' project
- BIM Level 2 Design
- 2021 Civic Trust Awards Regional Finalist



J Tomlinson's Approach

The required works spanned the entire three-storey building - including the roof, where the plant was installed, as well as a photovoltaic system.

J Tomlinson commissioned, supplied and installed under-floor heating systems, radiators, ventilation, smoke extract ventilation, cooling to Comms rooms, LED lighting and fully addressable emergency lighting throughout, back up essential generator, power, fire alarms, Security, data and AV system containment and wiring, induction loops, and signage, PV System, roof plant, air handling units, utility supplies, as well as street lighting.

Meeting BREEAM 'Excellent'

The Mechanical, Electrical and Public Health (MEP) systems utilised within the building were highly energy efficient and designed and implemented specifically to help meet the BREEAM 'Excellent' requirements. Renewable energy solutions included LED lighting throughout and Solar PV roof panels. Other elements of energy efficiency included BMS-controlled underfloor heating within the main atrium, heat recovery on all air handling units, occupancy-demand controlled ventilation systems, and energy efficient heating and hot water plant.

To ensure BREEAM requirements were met, J Tomlinson employed a dedicated energy advisor to work with project designers and issue regular updates on the building's thermal model whilst monitoring accrual of BREEAM credit points.

BIM Level 2 Co-ordinated Design

The project was fully co-ordinated using BIM (Building Information Modelling), ensuring the Mechanical, Electrical and Public Health services installed by J Tomlinson fully accommodated the building's complex structure. The use of BIM throughout this project was also instrumental in asset tagging and monitoring for the procurement, replacement, spares and future maintenance requirements.

Project Achievements

- **BREEAM 'EXCELLENT' PROJECT** - The mechanical, electrical and plumbing (MEP) systems utilised installed within building were designed and implemented specifically to help the building meet the BREEAM 'Excellent' standard. The Innovation Hub marks the first Keele University building to achieve this rating
- **BIM LEVEL 2 DESIGN** - The project was fully co-ordinated using BIM (Building Information Modelling), ensuring the mechanical, electrical and plumbing services installed by J Tomlinson fully accommodated the building's complex structure
- **A FLEXIBLE APPROACH –** J Tomlinson met with the client and wider project team on a regular basis throughout the design and construction phase. We were able to flexibly accommodate changes to the original project brief including revisions to ceilings in corridors and various rooms which in turn affected the co-ordination of ventilation, pipework and lighting
- **SECOND PROJECT DELIVERED IN PARTNERSHIP WITH CLIENT** - This marks the second project that J Tomlinson has undertaken for the university; the first being a direct appointment as principal contractor managing the refurbishment of the university's Lennard Jones Laboratories.