

Jaguar Land Rover Case Study

KEY PARTIES:

Architect: *Bennetts Associates*

Contractor: *Laing O'Rourke*

M&E Contractor: *Crown House Technologies*

Consulting Engineers: *Buro Happold*

Ceiling Manufacturer: *Armstrong Ceilings*

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KEY POINTS:

- In 2018, Jaguar Land Rover (JLR) made a decision to expand its engineering facility in Gaydon
- Uponor were selected as part of a stringent tendering process to provide underfloor heating (UFH), thermally active building system (TABS), radiant ceiling panels, passive chilled beams and pre-insulated steel pipe solution.

PRODUCTS USED:

- 10,500m² of Uponor TABS
- 7,500m² of Uponor's underfloor heating solution
- 240m of Wehotherm steel pipe
- 420m² of chilled ceiling panels and 3000m² of Uponor radiant panels



Background

In 2018, Jaguar Land Rover (JLR) made a decision to expand one of its principal engineering centres in Gaydon. This facility houses a design, research and development centre and extensive test track facilities.

Buro Happold (BHE) consulting engineers (full design) were hired to come up with a design for a low heating and cooling strategy for the building. Once this was formulated, a tendering process took place to locate a supplier that could meet the design requirements.

Uponor pitched tender drawings and documentation in line with BHE specifications and were chosen to provide a cost efficient underfloor heating (UFH), thermally active building system (TABS), radiant ceiling panels, passive chilled beams and pre-insulated steel pipe solution.

“The Jaguar Land Rover project was secured via tender and Uponor were able to provide the best solution at the most competitive price. We then went on to design and deliver everything within the agreed timeframe meaning the project remained on budget and on track for its anticipated delivery date.”

Zisis Nikoloudis, Project Specification Engineer at Uponor

BENEFITS:

The benefits of installing each of Uponor's systems are summarised below:

- Pre-insulated steel- this was cut to size and delivered around the contractors' schedule. Fewer joints were required throughout the installation
- Underfloor heating- provides an energy efficient solution, which runs at a lower temperature compared to radiators. From an aesthetic point of view, underfloor heating also provides full design freedom
- TABS- compliant with sustainability certificates for buildings, including LEED, BREEAM and DGNB, adding to the green credentials of all parties involved with the project

Uponor worked closely with the contractors involved to provide technical assistance, ensuring that the products used were fit for purpose.

Uponor Involvement

The project was split into various different phases. The first phase was to install 10,500m² of Uponor TABS in the first and second floor soffit to provide cooling. The TABS was designed to provide the basic cooling loads of the building and any uplifts on top of the basic load is taken by conventional air duct system.

The next stage involved supplying and installing 7,500m² of Uponor's UFH solution. The inslab UFH system operates with low temperature hot water (most areas run at temperatures lower than 45°C), providing exceptional thermal comfort to the main streets of the building, the restaurant area and the Jaguar Design Studio and Showroom.

Finally, 3000m² of Uponor's radiant cooling panels were installed on the second and third floor along with radiant passive chilled beams sourced from Germany. Uponor sourced 392 radiant beams, equating to 420m² of beam surface to ensure that only the most technologically advanced products were being specified on the project.

It's worth noting that 240m of Wehotherm (pre-insulated steel pipework) was also supplied for the mains water distribution.

Uponor Chilled Beams



Uponor Radiant Panels



Uponor TABS



Uponor Underfloor Heating



uponor

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