IMAGINATION TECHNOLOGIES

Location: Kings Langley

Client: Imagination Technologies

Frame Contractor: Whelan and Grant

Main Contractor: Miller Construction

Post-tensioning Design: CCL

Post-tensioning Installation: CCL

Year of Completion: 2011

The headquarters of Imagination Technologies were designed to achieve a rating of 'excellent' under the BREEAM system of sustainable buildings.

As a post-tensioning specialist subcontractor, CCL undertook the design of all suspended horizontal floor plates over the three levels of the structure, a total of 6460 m^3, and supplied and installed its XF flat-slab system.

One of the key features of the building was the large spans of 11.5 m. CCL designed a flat-slab solution to emphasise the open and exposed feel, whilst maximising floor-to-ceiling space and creating fair-faced soffits. The original PT slab depth of 380 mm included deflection tolerance, but CCL was able to reduce this to 350 mm throughout the structure whilst maintaining deflection control.

In order to temporarily remove restraint within the structure and allow the PT solution to be implemented, 30-days-delay pour strips were incorporated in the design. The careful design of pour sizes, in conjunction with the requirements of Whelan & Grant, meant the concrete pours could be completed in a single attempt.

A change to the construction programme meant it was necessary to replace a mains generator after commencing construction works on the superstructure. CCL modified the design allowing a section of the building to be left out temporarily and constructed following the installation of the equipment. The building was the first of a three-phase campus development and CCL was awarded phase two after completion of phase one.