



Principal Tower

Contractor: Careys Civil Engineering

CONSTRUCT Awards 2019 Winner

Category: Projects over £2.5m Award



Careys constructed the core and structural columns of the Principal Tower. They made use of an innovative jumpform system that covered the entire building floorplate, enabling the structural columns to be jumped at the same time as the core. Each 25-minute lift covered 3.14m, with a concrete pour of approx. 70m³ for the core walls and 30m³ for the columns. The system also reduced crane usage, resulting in lower costs and freeing up time for others in the supply chain.

The reason behind Careys redesigning and modifying a new jumpform system was to make it compliant with UK regulations, capable of handling the UK's weather conditions and able to operate in the congested city centre site without unduly affecting the adjoining buildings and offices. These adaptations included:

- Fire and first aid points set in optimal locations
- A streamlined and spacious layout with ample storage area that created a cleaner, tidier more organised workspace
- 3D visualisation depictions of the jump form rig and system, including detailed methodology, sequence of assembly, steel rebar fixing, concreting, jacking and disassembly of the form panels in clear and concise cycles
- Safe access, egress and evacuation of potential injured personnel from the rig procedures

These modifications resulted in a remarkably quiet, calm, controlled, orderly and safe working environment.

Using the latest BIM planning techniques, Careys overcame challenging site conditions including an extremely tight site, and the presence of existing Network Rail lines. The innovative jumpform system provided time savings of 10 weeks from the construction programme.

In a first for UK high-rise construction, Careys implemented the installation of optical fibre cables within the concrete columns and walls.

