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Beetham Tower, Birmingham

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It's official; the tower block is back. A symbol of success, confidence and modernity people are once again aspiring to live in tall buildings. There is no doubt that this trend is fuelled by the quality of the new properties being designed and constructed in our cities. Beetham Tower at Birmingham's Holloway Circus shows how modern high-rise living can be achieved.

There are many challenges involved with constructing tall buildings, and this project was no different. The foot-print for Beetham Tower was small and very enclosed, with a car-park, hotel and main road encompassing the site. This allowed for only one crane and no scaffolding, therefore the solution was to employ building methods that weren't heavily crane dependent.

Concrete was chosen, with jumpform used for the core construction and post-tensioned concrete floors following three to four storeys behind. The jumpform technique provided time and cost savings and with post-tensioned floor slabs offering thinner structural floor zones, a further two to three floors can be achieved. The upper floors are typically 225mm thick post-tensioned flat plates. The slabs span between columns and the main core wall, giving a typical bay size of 8.5 x 9m. And, at no extra cost concrete construction can provide excellent performance, thermal mass, air tightness, robustness and minimise vibration and improve security.

The first 19 storeys of the tower contain a 220 bedroom hotel; the final 21 floors are made up of apartments, duplexes and penthouses. The decision to use concrete construction meant that the contractor was able to construct 40 storeys in only 10 months. On the lower level of the tower (the hotel section) construction took five or six days per floor. Once on the upper residential section this was reduced to three and half days, as the design allowed for circular columns, which were cast with disposable cardboard tubes.

This building will be a significant addition to the revitalised Birmingham skyline and with over 65% of the residential properties sold off plan it just goes to show that sometimes bigger is better.

Read more about the construction of Beetham Towers in [Concrete in Buildings](#) - a collection of articles from [Concrete](#) and [Concrete Engineering International](#).

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