

Slabstress

Aston University Car Park



FREYSSINET
SUSTAINABLE TECHNOLOGY

Client

Aston University

Principal Contractor

Carillion

Frame Contractor

C J Haughey

Specialist PT Contractor

Freyssinet

PT Designer

Walsh Associates

Structural Engineer

Structural Engineer Partnership

Value

£65,000



The £215M Aston Student Village scheme has provided 1300 en-suite bedrooms for students of Aston University. As the development was built across the existing sports pitch, it was agreed to provide a new all-weather pitch on the roof of the new at-grade car park.

The facility provides 254 parking spaces below and an astro-turf pitch for student athletics above. Originally, the structure was to be built in steel. However, the construction team was open to ideas to simplify the construction. C J Haughey, in conjunction with Freyssinet, proposed a post-tensioned concrete flat slab alternative.

The redesign had the effect of lightening the structure, allowing the foundations to be remodelled and the concrete slab depth to be reduced. This saved a great deal of material, aiding sustainability and cutting costs considerably. Further savings came from the removal of the steel downstand beams from the soffit. The clear lines of site allowed for a reduction in CCTV cameras and lighting provision.

The structure comprised of a 225mm deep, two-way post-tensioned concrete slab on an 8.2 x 7.2m structural grid. Overall, the deck was 79.2 x 48.0m. The post-tensioning system was the Freyssinet 3, 4 and 5S13 bonded system.

Conor Hanlon, Director of C J Haughey commented "The innovative post-tensioned design illustrates the advantages that concrete holds over steel methods: unparalleled simplicity, cost efficiency and speed. It can clearly be seen that concrete looks set to retain its dominance in the field of car park construction for years to come."

Freyssinet Ltd. Innovation House, Euston Way, Town Centre, Telford, Shropshire, TF3 4LT
Phone +44 (0) 1952 201901 Fax +44 (0) 1952 201753 Email info@freyssinet.co.uk