Slabstress

ASTON UNIVERSITY CAR PARK

Client:	Aston University
Principal Contr:	Carillion
Frame Contractor:	C J Haughey
Specialist PT Contractor:	Freyssinet
PT Designer:	Walsh Associates
Structural Eng:	Structural Eng Partnership

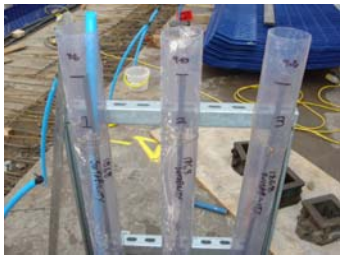
The £215M Aston Student Village scheme has provided 1300 en-suite bedrooms for students of Aston University. As the development was built across the existing sports pitch, it was agreed to provide a new all-weather pitch on the roof of the new at-grade car park.

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, 7 Hollinswood Court, Stafford Park 1
Telford, Shropshire, TF3 3DE
www.freyssinet.co.uk

Tel: **+44 (0) 1952 201901**
Fax: **+44 (0) 1952 201753**
Email: **info@freyssinet.co.uk**