

Project name, location

White City Shopping Centre, London

Year of completion

2008

Contractor

Multiplex Constructions UK Ltd

Engineer

Waterman Partnership/Robert Bird & Partners



Project description

This £700 million development is expected to create 5000 jobs when it opens in 2008. Total nett lettable area will be approximately 120,000m² comprising, retail, commercial, cinemas and public buildings.

A key part of the development is the creation of public spaces, made possible by placing the car parking underground beneath the footprint of the shopping centre. The two suspended car park levels are formed from 225mm thick post-tensioned slabs on an 8 by 8m grid, and total 74,900m².

Structural Systems are also post-tensioning large areas of the Lower Retail level. This is formed from post-tensioned beams and slabs and in some areas long-span beams are needed to traverse column free spaces below. The largest of these is 3000 x 1800mm deep spanning 24m and containing seven 1906 multi-strand tendons. The loads to be carried on this level include retail, maintenance vehicles and even fire engines. Further work includes the seven storey anchor store in the south east corner of the site, another PT beam and slab structure.

PT tonnage

500t

PT system(s) and size(s)

Bonded flat duct, 5no 12.9mm dia strands and bonded multistrand, 19no 15.7mm dia strands Economy. Thin slabs and shallow beams help maintain headroom below.

Principal benefits of using PT on this project