

# Slabstress

## Whitmore High School New Secondary School, Harrow



Sustainable Technology

**Client:** Harrow Council  
**Principal Contractor:** Kier  
**Structural Engineer:** Curtins  
**Frame Contractor:** Stephensons  
**Post-tensioning Contractor:** Freyssinet Ltd  
**Contract Duration:** March to Sept 2009

In November 2006, the school successfully bid for government money under the Building Schools for the Future funding and was awarded £32 million for a complete rebuild of the school.

The project will provide not just new facilities, modern classrooms and state-of-the-art equipment, but also allows for an extension of the already strong community use of the school in the evenings and at weekends. Harrow Council has made a significant contribution to the facilities originally proposed so that there will be a large sports hall with spectator seating, as well as an extensive main hall and much enhanced dining facilities. External sporting facilities will include a football pitch and a running track

The new 9,550m<sup>2</sup> secondary school building is being constructed in the grounds of the existing school, which is occupied throughout the construction period.

Freyssinet are undertaking the supply and installation of the 3S13 bonded post-tensioning system. The three storey structure has 300mm thick PT slabs. Structurally, some of the areas would have worked at 225mm depth but 300mm had been specified as the minimum depth for acoustic reasons.

The building's footprint resembles a crab's claw and the two main wings are consequently curved. Freyssinet used their 3-strand bonded PT system which fits into a 20mm deep by 46mm wide galvanised steel duct. This is flexible enough to follow the curvature of the slab and proved more economic than adopting unbonded tendons, the conventional way of tackling high lateral curvatures.



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