

Prefabricated Roll-Out Steel Reinforcement for Luton Academies Construction

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Barnfield South Academy and Barnfield West Academy in Luton have been completed and handed over on time, thanks in part to the use of Hy-Ten's (<http://www.hy-ten.co.uk>) rollout steel reinforcement system, Bamtec (http://www.hy-ten.co.uk/pages/bamtec_benefits.htm). This has been used for concrete floor construction enabling main contractor Wates Construction to keep on-track despite dreadful weather.

Wates Construction decided to adopt the Bamtec system for concrete floor reinforcement to make time in the schedule. Academies have high concentrations of mechanical services and unusual design requiring an extended fit-out phase. This reduces the time available to build the basic structure. Winter weather conditions can also cause further delays. Bamtec pre-fabricated 'carpets' of roll-out steel reinforcement were used rather than manually placed re-bar. This saved substantially the time required for steel reinforcement fixing.

Phil Whitby, Wates' construction manager for both academies explained, "Using conventional methods, each floor may take two weeks or more for steel placement before the pour. Bad weather adds to this greatly. Bamtec enabled us to reduce this to typically four days between each pour, taking maximum advantage of the available good weather windows. When we had perfected the method we even completed one pour to pour cycle in less than two days."

Hy-Ten provides contractors with substantial technical support when using the Bamtec system. This includes, where required, a service to apply finite element analysis to the structural engineering specification. By close curtailment of the stress zones around columns it is often possible to reduce the diameter, length or density of re-bar needed and achieve significant steel savings. Hy-ten also have a much wider selection of re-bar available enabling structural requirements to be met more precisely.

The Bamtec system greatly reduces skilled labour needed. There are health and safety advantages too, as the roll-out carpets can be positioned with less back-breaking effort than with individually placed and wired re-bars. Bamtec steel fixers report less back strain and injury.

"Completion of the structural frame and achieving a weather tight building enabled us to get on with the crucial fit-out phase just as the worst of the winter weather broke. The campus was complete and handed over on time, safeguarding and enhancing our reputation with the local authority," concluded Phil Whitby.

The new Barnfield Academy buildings provide students and the community with a first rate environment and new learning opportunities. The academies have gone from strength to strength since being taken over by the Barnfield Federation in 2007.

In addition to moving into the vibrant new buildings, GCSE results on both sites have more than tripled and they are now judged 'outstanding' and 'good' by Ofsted. The Barnfield Federation is led by Barnfield College; an Ofsted rated 'outstanding' further education college that also has Beacon status.

More Information

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High resolution images are on the web at www.ainsmag.co.uk/hy246/4799hy1a-bamtec.htm