

Project Spotlight



Innovate Construction Bardon, Leicestershire, UK

Design and Construction of 18,500m² Steel Fibre Reinforced Concrete (SFRC) High Tolerance Internal & External Floor Slabs

For the latest application of its market leading industrial flooring technology, Twintec has recently laid the 11,500m² internal flooring to FM1 classification, and 7,000m² of external paving, using joint free, steel fibre reinforced concrete (SFRC) all cast using large pour techniques.

The 180mm internal floor slab is reinforced with 40kg/m³ of advanced fibre technology, AFT 1/50 steel fibres, integrated on site and discharged directly at the concrete workface within the warehouse where 1,900m² of slab was completed on a daily basis.

Darryl Eddy, Director of Twintec - "Our decision to recommend FM1 takes into account that end users and, equally importantly, speculative developers, are increasingly looking for higher quality flooring with greater flexibility of use and the potential to use a variety of racking systems, together with reduced maintenance.

Adopting a Twintec floor has the added benefit of eliminating troublesome contraction joints; this, along with the improved flatness, assists the user greatly by reducing the wear and tear on mechanical handling equipment and the drivers themselves. Twintec floors are designed in-house, and the specification developed in conjunction with the end user or developer. For both parties, our FM1 floors offer significant benefits".

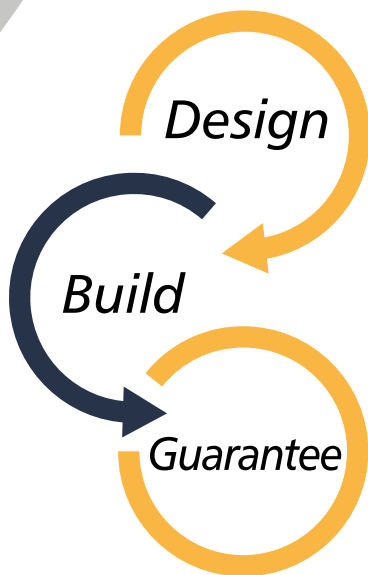
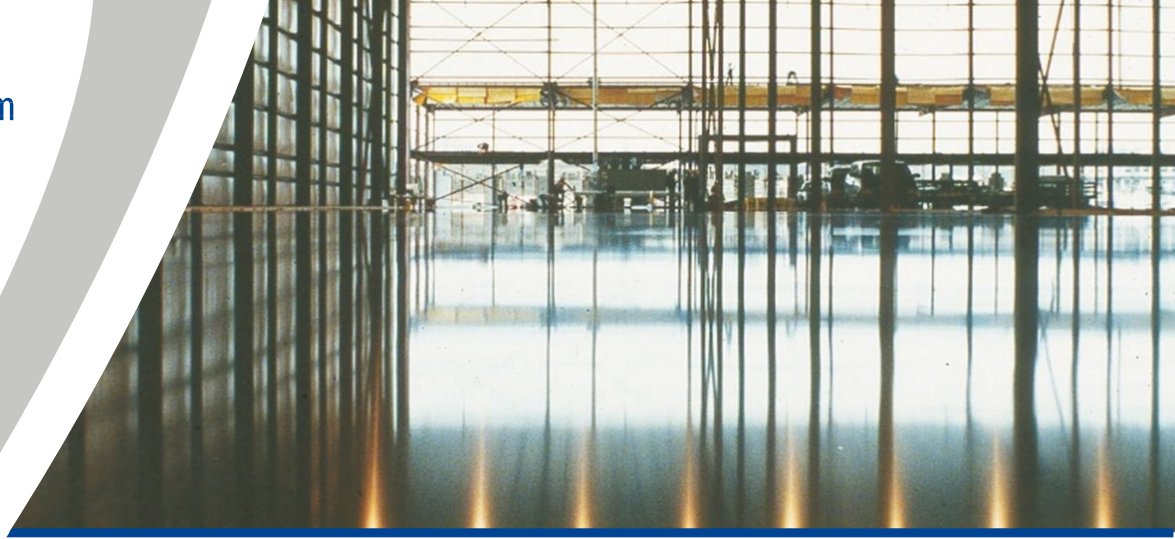
To achieve the FM1 classification of flatness Twintec effectively combines the advantages of rapid laser-screed laying techniques with final completion by highly trained teams who survey and rectify the flatness during the early stages of finishing.

Upon completion of the project, independent UKAS accredited onsite surveying results confirmed that the floor exceeded the FM1 specification. The entire floor area was within 7mm of datum.

Project Data

Application Type:	High Tolerance FM1 Speculative Unit	Fibre Type/s:	AFT 1/50
		Fibre Dosage:	40kg/m ²
		Total Area:	18,500m ²
Main Contractor:	Innovate Construction	Slab Depth:	180mm
		Completion Date:	February 2008
Consultant Engineer:	McBains Cooper		

Project Spotlight



The Twintec Group worldwide annually design and install in excess of 6 million m² of SFRC jointless floor slabs across every continent, providing clients with a sound operating platform for their business. Highlighting end-user needs prior to the construction of a floor slab is crucial. The Twintec team are available at the earliest stages of a project to consider specific client requirements and demands and offer advice on achieving not only best value but also smoother programming and as a result delivering outstanding quality.

This floor bears all the hallmarks of flatness and levelness consistently achieved by Twintec and was made possible by the close working partnership between project managers - Mirus Management Services, contractors - Innovate Construction and in-house designers/consulting engineers - McBains Cooper.

Russell Woodward, Project Manager - Mirus Management Services (acting for the developer) stated: "On this project Twintec's speed of delivery exceeded all our expectations. More importantly, their consistent support and assistance, at every stage, added to the quality of their service. They are certainly setting new standards, which others will find hard to match.

A revised fire corridor, along one complete wall of the facility, called for a significant redesign of the floor and their laying schedule. Twintec's team had no problem in accommodating this revision.

Overall, they are well suited to this type of complicated project, where again they have confirmed that they offer good value industrial flooring. Twintec is alive to the fact that developers are expressing growing concern over sustainability and therefore promote steel fibre floor designs in order to minimise the use of heavy steel bar reinforcement and consequently improve the whole life environmental performance of each facility."

Mr Paul Cowton of McBains Cooper stated: "The ground conditions for this high bay extension can only be described as challenging right from the inception of this project. The combination of natural soils, roughly 50% of the floor area, and improved fill at varying depths called for an innovative soil improvement plan. In conjunction with Twintec, our engineering team determined the use of vibro stone columns in the fill area, with additional columns at extended centres in part of the natural soil area.

Working with Twintec, we were able to confirm that this ground improvement solution was entirely compatible with their ground floor slab design and that it would provide the required FM1 surface tolerance with the minimum number of joints to allow maximum flexibility for future racking layouts."

Contact the Twintec business team for further information:

Tel: + 44 (0)1788 567722 **Email:** mail@twintec.co.uk
21-22 Market Place, Rugby, Warwickshire CV21 3DU