

## Project Spotlight



### Tesco Distribution Centre Livingston, Scotland, UK

#### Design and Construction of 250,000m<sup>2</sup> Steel Fibre Reinforced Concrete (SFRC) Internal & External Floor Slabs

**The UK's largest ever Steel Fibre Reinforced Concrete (SFRC) industrial flooring project has recently been completed by Twintec. This prestigious project followed the Twintec tried and tested D-B-G (Design, Build, Guarantee) formula and was constructed by a highly skilled and experienced workforce, who placed almost 50,000m<sup>3</sup> of concrete incorporating 2,000 tonnes of steel fibres to produce 250,000m<sup>2</sup> of flooring and paving. The total project value was in excess of £7 million.**

**Internal Floor Slabs** - Jointless SFRC (Steel Fibre Reinforced Concrete) floor slabs were designed and constructed in the Ambient, Chilled and Freezer warehouses as well as the Vehicle Maintenance Unit and Resource Recovery Unit to meet the requirements of Tesco for efficiency and longevity. Additionally, the mining history in this area of Scotland required the Ambient warehouse slab to be fully suspended on driven precast concrete piles.

All of the internal floor slabs were specified as FM2 Special (TR34 3rd edition) and the survey results were outstanding; the tolerance has been verified by independent floor survey specialists and UKAS accredited Face Consultants.

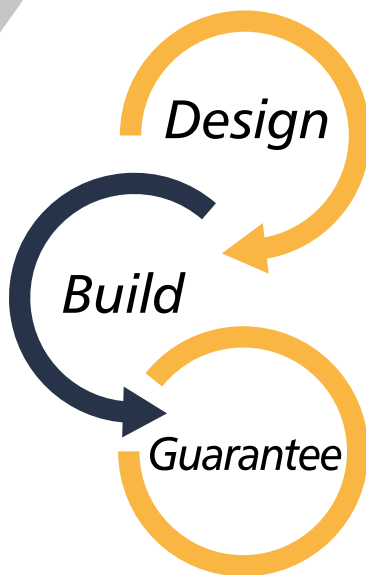
**External Paving** - Utilising a Twintec jointless SFRC design, the team were able to achieve a 75% reduction in the amount of joints required and therefore reduced risk of joint breakdown and associated costs and disruption.

The external paving was also carefully constructed to an intricate pattern of falls resulting in reduced risk of standing water. The technical complexity of the external pavements required a strong interface and flexible working relationship between all trades on site.

#### Project Data

Application Type:	Distribution Centre	Concrete Supplier:	Twintec / Sitebatch Technologies
Main Contractor:	Taylor Woodrow Construction	Fibre Type/s:	AFT 1/50
Consultant Engineer:	W.A. Fairhurst & Partners	Total Area:	250,000m <sup>2</sup>
		Completion Date:	October 2007

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The Twintec Group worldwide annually design and install in excess of 6 million m<sup>2</sup> 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.

**Concrete** - The lack of locally available concrete in large volumes, together with the need for guaranteed delivery rate and consistent quality of product, was a major issue that required a radical solution on this huge project. Twintec, therefore, chose to produce the concrete themselves, with batching carried out by a partner company, Sitebatch Technologies, using a continuous mixing plant which was capable of outputs of up to 70m<sup>3</sup>/hour. This provided Twintec with total control over the entire process, from specification of mix design, through to selection and procurement of aggregates and onto batching and delivery. The delivery rate (in excess of 600m<sup>3</sup> of concrete per day) to the work face also made it the ideal solution for the fast track nature of the works.

### Major Project Experience

Projects such as this demonstrate the real and many benefits of involving Twintec Industrial Flooring early in the contract process.

Numerous flooring solutions were considered and Twintec was able to offer input to the design team relating to interfaces with piling, pre-cast perimeter, groundworks and cladding packages.

Highlighting the end-user needs prior to the construction of a floor slab for warehouses and distribution centres is crucial and many operators agree that this is the most critical aspect of the construction process.

Early identification of specific client requirements regarding product storage systems, likely vehicle types and movements is essential when considering suitable flooring solutions at design stage.

This contributes greatly to achieving not only best value but also to smoother programming and improved quality.

Contact the Twintec business team for further information:

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