



Project Spotlight

Ikea Distribution Warehouse, DWC, Dubai, UAE

Design & construction of 104,000m² internal steel fibre reinforced concrete (SFRC) ground bearing 'jointless' floor slab

A major project designed and constructed by global flooring specialists Twintec is the 104,000m² SFRC large panel 'jointless' floor slab for the new Ikea Distribution Centre, located in Dubai World Central region of Dubai, United Arab Emirates.

The new DC will enable Ikea to service stores more efficiently across the GCC, Northern Africa and Asia.

Like the Ikea concept, Twintec combines function, quality, design and value to produce SFRC 'jointless' floor slabs for clients worldwide and is at the forefront of design innovation and speed of construction. Twintec takes total responsibility for the floor slab including design, materials specification/procurement, construction with skilled, experienced workers, specialised construction equipment and provides a 5 year warranty.

The total floor area is in excess of 104,000m², FM2 Special flatness tolerance and is designed to give total flexibility to Ikea to change the operational use of the building if required in the future. Use of the Co-sinus joint for the first time in Dubai, in combination with the Eclipse construction joint, allows the racking layout to be changed without impacting on operational activities of forklift traffic. The unique Co-sinus profile ensures smooth load transfer and crossing from any direction regardless of the speed of the forklift, offering higher operational efficiency, operator comfort, and reduced forklift truck maintenance. Combined with a SFRC large panel 'jointless' Twintec floor slab, Ikea will benefit from lower overall floor and forklift maintenance costs and operational efficiencies year after year.

Twintec liaised closely with Ikea and the general contractor Amana Contracting & Steel Buildings to finalise the optimum slab design for the distribution centre, factoring in a racking leg load of 110kN/m² and a UDL of 50kN/m² constructing a 170mm slab reinforced with 30kg/m³ of 08/55 AFT Steel Fibres and finished with 4kg/m² of BASF Mastertop 430 dryshake.

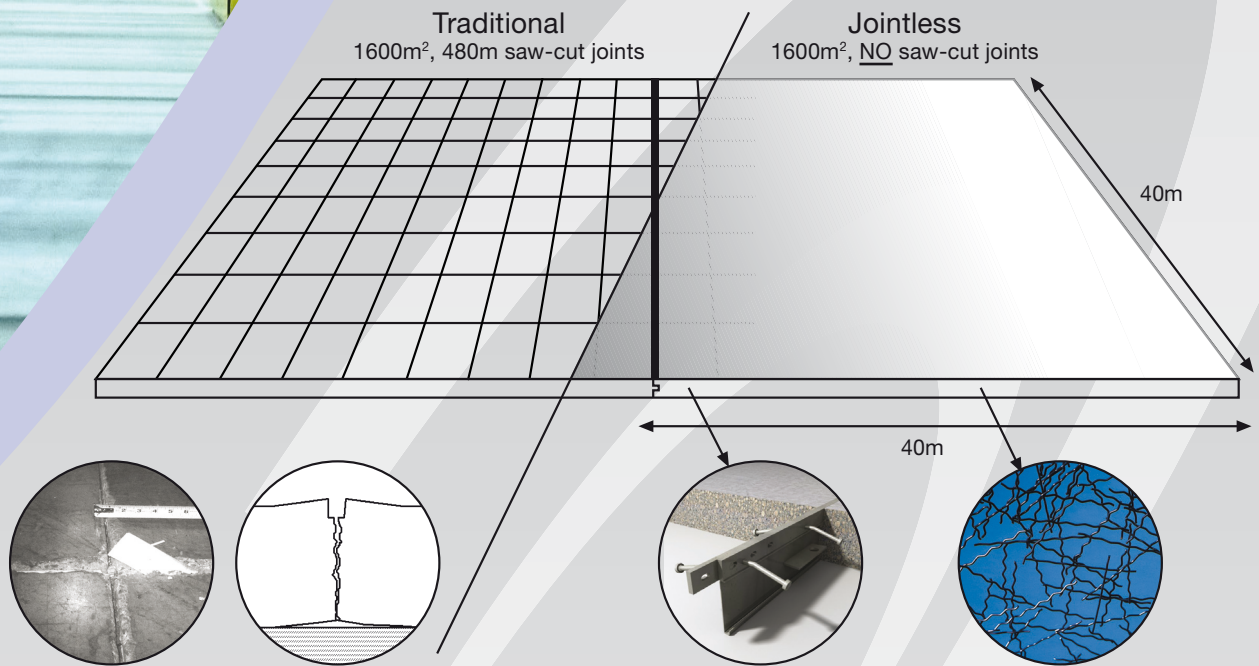
The project demanded an overall fast track construction programme and Twintec demonstrated their excellence in this area completing in a total of 39 working days, showcasing they can consistently construct faster and flatter than the competition with the largest single day pour of 3,627m² and an average weekly volume of 2,833m³ of concrete working closely with Amana and the concrete supplier Unimix to ensure a consistent mix and rate of delivery that is essential for 'jointless' floor slab construction.

Project Data

End User:	Ikea
Main Contractor:	Amana Contracting & Steel Buildings
Pour Days:	39
Total Area:	104,000m ²
Fibre Type:	AFT 08/55
Fibre Dosage:	30kg/m ³
Slab Depth:	170mm
Completion Date:	May 2015

Reducing the number of joints in a floor slab will reduce long-term maintenance costs

A traditional floor slab will contain up to 75% more joints than a Twintec Freeplan® 'jointless' floor slab that will require substantial maintenance year on year. The correct installation of quality armoured joints as used in a Twintec 'jointless' slab will reduce floor and MHE maintenance costs to a minimum. This offers a considerable long-term cost saving.



Twintec is a trusted specialist with a track record of producing large bay 'jointless' panels with SFRC.

- DESIGN** Slab thickness, joint layout and fibre dosage rates optimised to suit specific operational requirements
- BUILD** Supply of all materials and constructed by skilled, experienced workers utilising specialist equipment
- INSURE** Design covered by Professional Indemnity Insurance and a 5 year warranty provided

