

Project Spotlight



Lidl RDC Avonmouth, UK

Construction of 58,000m² traditionally reinforced suspended slab for Lidl UK GmbH using NLFEA design methods

Twintec designed and constructed the floor slabs for a new regional distribution centre at Central Park, Avonmouth for Lidl which will service the supermarket's expanding operations in the South West of England. Central Park is a 600 acre warehouse and distribution park development strategically located within the region and designed to be the South West's largest distribution park.

Lidl's international specification for distribution centres imposed a number of requirements not usually seen in the UK market and Twintec's international experience was key to fulfilling these. Working closely with the main contractor, TSL Projects Ltd, and our design consultant, DIANA FEA BV, Twintec developed designs for the various loading categories required by the client. Unusually for Twintec, the slabs were required to be reinforced traditionally rather than utilising steel fibres, however the client also wanted the benefits of jointless panels.

To achieve this, Twintec used NLFEA design methods to produce designs in standard steel bar reinforcement to cater for the loads and to limit shrinkage cracking on the surface of the slabs. This technology is the same as that employed in our Twintec Ultimate® product but in this instance the client insisted upon traditional movement joints around panels.

Project Data:

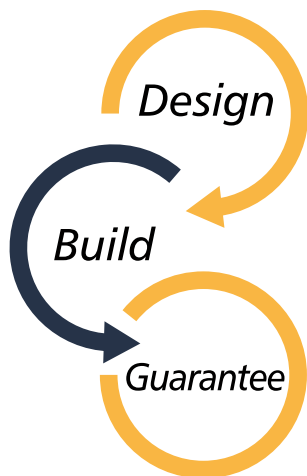
End User	Lidl UK GmbH
Main Contractor	TSL Projects Ltd
M2	58,000m ²
Pour Days	43
Flatness Tolerance	DIN18202
Slab Depth	230-250mm
Fibre Type	AFT 08/55
Fibre Dosage	30kg/m ³
Completion Date	January 2018

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The distribution centre had a number of different zones. The freezer slab consisted of a 250mm thick structural slab with glycol pipework system embedded, 240mm of approved insulation (by others) and a 240mm thick SFRC wearing slab. The main warehouse was divided into high bay and low bay areas, the majority of which included underfloor heating pipework cast in the slab. Different load requirements applied in these areas and Twintec designed three different slab depths (230mm, 240mm and 250mm) to suit these. In addition to the ground floor areas Twintec also constructed slabs on profile metal decking to office and plant room areas.

To reduce wheel impact damage and provide a smooth transition in areas of greatest use by MHE, Twintec and the client team defined specific locations where a sinus-wave profile joint was installed in lieu of standard steel armoured construction joints. The sinus wave profile at the joint crossing effectively reduced impact damage at the opening to zero.



Due to the high demand in the area for concrete, an on-site batching plant was supplied by Rockland Concrete. Twintec worked closely with Rockland to develop the correct concrete mix.

Under the Twintec Design-Build-Guarantee package, Twintec took total responsibility for the floor slab including:

- Detailed design
- Material procurement (concrete, steel fibres, construction joints, etc) from established and tested supply chain partners
- Skilled, experienced labour, supervision and management
- 12 year warranty on the finished product

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 1DU