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Project Spotlight

Al Madina Logistics Distribution Centre
Barka, Oman

Distribution Centre-SFRC ground bearing Freeplan® ' jointless' floor slab

Twintec have designed and constructed the first SFRC 'jointless' ground floor slab in Oman for Al Madina Logistics Services, that is being heralded as the first Distribution Centre of its kind in the Sultanate in terms of the technical specification of construction. The Distribution Centre will accommodate goods in ambient, chilled and frozen areas. Twintec consulted from an early stage in the project with DG BIM Consulting to optimise the design in order to meet the clients specific operational and programme requirements.

This project followed the Twintec unique D-B-G (Design-Build-Guarantee) formula and highlights a key benefit of 'jointless' floor slabs compared against a saw-cut slab in that no sawn contraction joints were needed, only 936 lm of formed free movement construction joints. A traditionally designed slab would have contained 4200 lm of sawn contraction joints – this demonstrates a significant saving for the client on future joint maintenance and improves operational efficiency of mechanical handling equipment.

Project Data

Application Type:	Internal ground bearing warehouse
Consultant Engineer:	DG BIM Consulting
Fibre Type:	AFT 0.8/55
Fibre Dosage:	30 kg/m3
Total Area:	16,500m2
Slab Depth:	175mm
Completion Date:	October 2011

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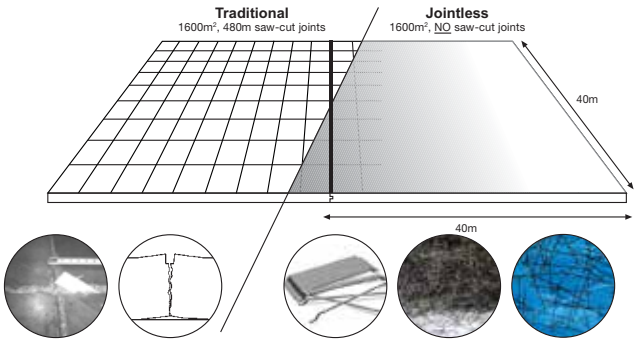
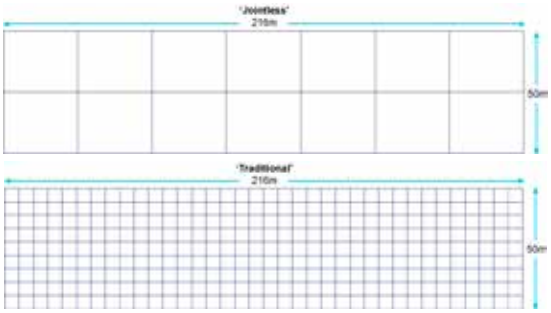
Al Turki provided a C32/40 concrete with the fibres and superplasticiser added by Twintec using specially designed integration machines on site, manned by experienced Twintec operatives. Twintec believe this is the only proven method of ensuring that a high dosage of high performance steel fibres can be evenly distributed throughout the concrete mix. The concrete trucks are then required to mix further under Twintec control to ensure that all fibres are fully dispersed.

Another key benefit of a SFRC 'jointless' floor slab is the speed of construction. On this project 16,500m2 was cast in 12 days, twice as fast as alternative methods of floor construction in the region.

As a temperature controlled distribution centre, the floor slab was constructed on top of high density insulation making it unsuitable for the operation of a laserscreed that would typically be utilised on such a project. The client's operational requirements necessitated a FM2 Special flatness tolerance and Twintec as a specialist contractor with a highly skilled workforce laid the floor slab by hand using flood pour techniques and still achieved the specified tolerance without the need for remedial grinding.



"The floor laid by Twintec for Al Madina in Barka Oman was the flattest we have ever surveyed. I congratulate all the men involved for the very high standard of flatness achieved".
Arthur Rous, Floor Surveys Limited



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