

Project Spotlight



Kuehne + Nagel Dubai, UAE

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

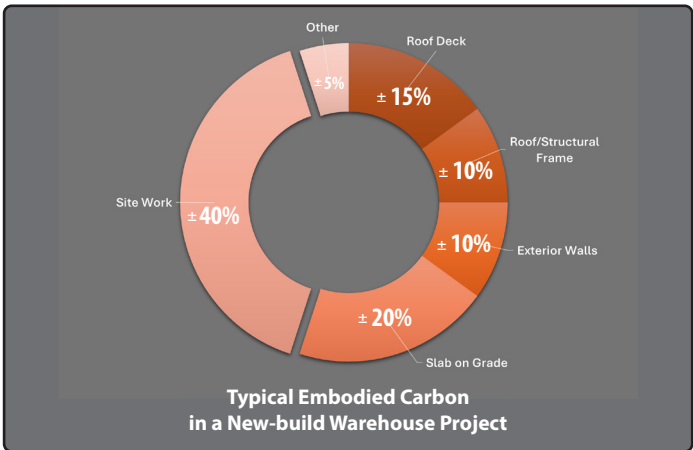
Twintec was chosen to design & construct the internal & external concrete floor slabs for Kuehne & Nagel’s new fulfilment and distribution centre located in ESDubai, a dedicated e-commerce zone in Dubai South, closely located to Al Maktoum International Airport and connected to Jebel Ali Port via a bonded logistics corridor.

The location and connectivity of the new centre will function as a hub for trade across the region, giving customers easy access to a variety of logistics solutions.

The new fulfilment centre was developed by Dubai South & Aldar Properties, general contractor RAQ, and AWAJ as Consultants. The project, was designed to achieve LEED Silver status and the incorporation of a Twintec ECO Freeplan® solution was a key element.

Designed to reduce embodied carbon

20% of the embodied carbon in a typical warehouse is attributed to the slab on grade. The decision to go with an ECO Freeplan® slab saved approximately 108,000 kilograms of CO2 a significant amount. The equivalent to the emissions from driving 540,000 kilometers in an average car, which equates to 13 times around the world.



Project Data

End User	Kuehne & Nagel	Completion	Jan 2025
Contractor	RAQ Contracting	Fibre Type	AFT® 08/55 + AFT® E-Fibre 15/40
Consultant	AWAJ		
Total Area	18,000m²		

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The internal steel fibre reinforced concrete floor slab was designed to be a Twintec ECO Freeplan® solution, combining new AFT® 08/55 steel fibres with AFT® E-Fibres produced from end of life tyre wire. The use of re-purposed AFT® E-fibres and an optimised slab depth design, provides a quantifiable reduction in embodied carbon (34%).

This blend of manufactured high performance fibres, and very thin recycled fibres of high tensile strength is the perfect marriage to provide the highest performance and better crack control of the finished concrete, in addition to the reduction of embodied carbon.

The embodied carbon saving on this project can be demonstrated by analysing specific factors including all materials, transport and execution. Each project profile is unique depending on country, locally available materials etc.

Design Type	CO2/m2
Traditional	100.9
Twintec FreePlan®	64.6
Twintec Eco FreePlan®	58.6



Virgin
Steel Fibre
1270 kg CO2 per tonne



AFT® +E-Fibre
15/40
39 kg CO2 per tonne



AFT®+ E-fibre 15/40 is an ultra-high tensile steel wire fibre produced from extracted steel cord from end of life tyres.



Twintec concrete flooring solutions use a fibre concrete slab design which has further advantages over traditional or non flooring specialist designs:

- Large bay 'jointless' panels – NO SAW CUTS
- Optimised slab thickness for loading conditions – NO MINIMUM SLAB DEPTH
- Significant reduction in floor & MHE maintenance – LOW LIFE COST

"Throughout the duration of the project Twintec demonstrated a high level of technical expertise, professionalism, and commitment to quality. Twintec's attention to detail and strong coordination with RAQ site team ensured seamless integration. Their knowledge, solution-oriented approach, production timelines and attention to detail contributed significantly to the overall success of the project."

Ahmad Rababah,
Operations Manager, RAQ



"Delivering a high-performance facility starts from the ground up. For this project, it was essential to engage experts who could provide a durable, precision-engineered flooring solution that supports operational efficiency and long-term sustainability. Twintec's bespoke approach and commitment to excellence were instrumental in achieving these goals."

Marcus Berg
Director Product Development Logistics, Dubai South

As the only concrete flooring specialist in the Middle East offering a total package for the floor slab – Twintec provide, design, materials, execution & product liability insurance for all flooring solutions. This ensures a clear one point of responsibility and expertise at all stages of the project. With knowledge obtained over more than 40 years, Twintec's highly experienced & skilled on-site operation teams, support also the General Contractor in providing the ideal platform for the concrete floor slab.

Contact the Twintec Middle East business team for further information:

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