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Project Spotlight

MG Real Estate (JYSK)
Leystad, Netherlands

Logistics Warehouse - Twintec® ECO Ultimate
'seamless' concrete floor slab on piles.

MG Real Estate is a high quality, high speed, sustainability focused European logistics developer.

The construction of a new logistics warehouse for JYSK in the eco friendly port of Flevokust Haven demanded that all project stakeholders contributed to achieve BREEAM Outstanding certification.

A sustainable construction approach with the "Make it Green" core value of MG Real Estate, coupled with a demanding construction program, suited a Twintec® ECO ULTIMATE concrete floor slab solution perfectly.

Twintec's expertise in sustainable design resulted in an optimised pile grid in combination with a hybrid steel mesh & fibre concrete floor slab, to deliver a totally seamless floor solution meeting the flatness demands of DIN18202 Zeile 4.

Twintec designed and constructed a 60,000m2 totally seamless concrete floor slab utilising sustainable materials that contributed to a quantifable reduction in embodied carbon. This was achieved by:

- Less Concrete: Reduced slab thickness 170mm > 160mm
- Green Concrete: CEM III instead of CEMI
- Steel: Recycled steel mesh & steel fibres from end of life tyre wire
- Equipment: Electric laser screed

Project Data

End User:	JYSK	Slab Depth:	160mm
Consultant:	R&G Engineering	Fibre Type:	AFT® 08/55 AFT® E- Fibre 15/40
M2:	59,620m^2	Dosage:	30kg/m^3
Pour Days:	30	Completion Date:	Feb 2023

*Compared to a traditional seamless slab.

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The Twintec® ECO ULTIMATE concrete floor slab solution shows a clear reduction in embodied carbon

	Traditional Seamless		Ultimate		Ultimate-Eco	
	Total	Reduction	Total	Reduction	Total	Reduction
Percentage $kgCO_2$	100.00%		87.43%	-12.57%	36.44%	-63.56%
Total $kgCO_2$ for 59834m^2	5794423.4		5066267.9		2111421.0	
$kgCO_2$ per m^2	96.8		84.7		35.3	

Knowledge: Better by Design

Design optimisation is key to sustainability and supports carbon neutral targets. It is essential that for new logistics or industrial facilities that the concrete floor slab design is optimised to meet the specific operational requirements and consideration given to the embodied carbon content and life cost (operational efficiencies and ongoing maintenance) at the concept stage.

- Optimised slab thickness & reinforcement to achieve lowest material consumption
- Use of environmentally sustainable materials to reduce embodied carbon
- Design for life cost; longevity & low maintenance

"Since the creation of Twintec in 1996, sustainability has been a foundation stone of our company and continues to be at the forefront of what we do. We recognise that our business activities have an effect on the world we live in. The construction industry collectively is responsible for 40% of carbon emissions, we can't change this alone, but we can contribute. It is our duty and obligation to keep questioning ourselves. Sustainability and a commitment to reducing our environmental footprint is not a new or finished action, it's ongoing every single day. At Twintec we seek through our research, development and eco-innovation initiatives, to have an impact in Design, Application, Equipment and Materials.
Twintec is the environmentally sustainable choice"
Julien Lazzari, CEO, Twintec Group

Materials: AFT® E-Fibre

This ultra- high tensile steel fibre is repurposed from extracted steel chord in end of life of tyres.

Contact the Twintec Netherlands business team for further information:

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