

Project Spotlight



GROHE Porta Westfalica

Freeplan® and Twinplan® floor slabs for a high-bay warehouse with narrow aisle (VNA)

Twintec GmbH designed and constructed the floor slab for GROHE's logistic centre in Porta Westfalica. It comprises two different floor types, Freeplan® and Twinplan®, covering a total area of approximately 30,000m².

Twintec's in-house developed machines were used for this project's Freeplan® floor; the TS6000 Superflat Screed which uses laser controls to level the concrete, and the TS5000 Topping Spreader which controls the application of the required surface treatment onto the fresh concrete.

Twintec Twinplan®

Twinplan® large panel floors meet requirements for floor flatness, levelness and operational demands in very narrow aisles (VNA) racking areas that have mechanical handling equipment that run on defined movement floors and fixed pathways in between the racking.

A critical aspect of this project was the narrow-aisle warehouse area of approximately 14,000m². The high-

bay warehouse required the design and construction of a floor slab in accordance with the VDMA guideline "Floors for the use of narrow-aisle industrial trucks". This is a technical extension of DIN 15185 "Warehouse systems with guided industrial trucks", which is used in high-bay warehouses with narrow aisles. With the VDMA guideline, the highest applicable requirements for this type of use needed be met.

The floor slab was designed for the required load demands and the necessity to be extremely flat and level.

Project Data

End User:	Grohe
Main Contractor:	Köster GmbH
Consultant:	Schulz Concrete Engineering
M ² :	30,000m ²
Pouring Days:	20

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These particular high level prerequisites can only be met by a specialist contractor, which is able to offer:

- its own highly skilled and experienced workers, quality-motivated, under the expert guidance of in-house site management;
- a dedicated flatness team working alongside experienced concrete finishers;
- quality control procedures individually tailored to the construction site;



- innovative precision machines;
- Tried, tested and monitored unique concrete mix design, consistent delivery and quality.

In order to be able to drive the forklift trucks safely at the high speeds required for an economical stock turnover, the floor has to be very flat. The flatness is produced directly during the installation process of the floor slab. The lanes of the floor slab are directly recorded and logged with special measuring devices.

Twintec Freeplan®

Freeplan® floors offer exceptional durability and performance with no sawn-induced contraction joints. The 'jointless' steel fibre reinforced concrete floors are designed to be economical and low-maintenance. The advantages of a Freeplan® floor are:

- Reduced maintenance costs
- MHE efficiency
- Faster production time
- Improved long term flatness tolerances
- Enhanced sustainability
- Optimised design
- Enhanced durability

In close co-ordination with all parties involved (the main contractor, client, end user, racking manufacturer and forklift manufacturer), Twintec was able to produce the best solution for this project's specific requirements.

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