



CASE STUDY

Logistics

PROJECT OVERVIEW

Project: Kraftool Logistic Centre
Customer: Kraftool, TFS Trans
General Contractor: Strabag
Product: PrimX high-bay floor
Usage: Warehouse, logistic center
Address: Kundziņsala, 10. līnija, Latvia
Casted: Mar, 2015 – Apr, 2015
Area: 9 990 m² (107 492 ft²)
Slab thickness: 180 mm (7 in)
CO₂ savings: 222 750 kg (491 080 lb)
Automated system: Daifuku

CUSTOMER

Kraftool is an industrial tool manufacturing company whose products include tools for metal engineering, electronics, and telecommunications. The company's logistic center – located in Kundziņsala on the territory of the Freeport of Riga – is over 200 meters long, weighs almost 3,000 tons, and is one of the largest high-bay automatic pallet logistic centers in the Baltics. From the beginning, this project was developed as a modern, highly energy-efficient building. Several innovative solutions were implemented: a latest-generation sandwich-type panel system that saves 30% of heating energy, solar panels, photovoltaics, and more. The logistics center building is energy self-sufficient.

CHALLENGE

A fully automated high-bay pallet logistic center with pallet storage (206 m x 48 m x 32 m) for 73,000 pallets had to be housed in a stable and solid structure. And there was an extra challenge – bad soil conditions.

A pile-supported structure was chosen to hold the intended loads and accommodate for the soil conditions. According to project design a raft slab with parallel beams was placed on top of the piles to support the superstructure and the racks of the high-bay warehouse.



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40% Less CO₂ emissions

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SOLUTION

PrīmX floor was chosen because it has:

- › high material rigidity – even under the extreme loads of this high-bay warehouse, the supporting structure has negligible deflections,
- › no joints – perfect for automated driving units, no slowdowns, much less maintenance,
- › everlasting flatness,
- › very high load-bearing capacity,
- › construction speed – on average 30% faster than traditional concrete solutions.

Along with the construction process, a full-scale test was carried out to gain greater insight into PrīmX system capabilities when applied to particular solutions. Test results indicated that the particular design and deflection parameters gave the structure a safety factor that was much higher than expected according to the engineers' calculations.



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