



Alekon Cargo OÜ — is a state of the art provider of forwarding services, storage and warehousing services and handling of all types of cargo. Built in 2007- 08 the Alekon Cargo Logistics Hub, located in Tallinn, Estonia, is a state of the art logistics centre incorporating road, rail and port services over a 12.5 hectare site.

The complex is equipped with warehouses, covered and open storage areas, three railway tracks and high-performance warehousing and cargo handling equipment. Warehousing and Storage Facilities on-site Include;

- 90,000 m2 customs terminal area (75% monolithic concrete surfacing, 25% asphalt)
- 9,000 m2 warehouse with 12 m high shelf stands and 15,000 standard pallet capacity
- 7,000 m2 warehouse with 12,000 standard pallet capacity and 16t capacity overhead cranes
- 3,500 TEU container yard
- 22,000 m2 parking yard for freight motor transport
- 3 railway branches with 1.3 km of total frontage.



The cargo handling machinery fleet on site included;

- 30 tonne capacity gantry crane
- 45 tonne capacity reach stacker for containers and equipment
- 9 lift trucks with up to 16 tonne capacity
- Fork lift trucks with lifting capacities of 1.5 to 4.5 tonnes
- Electric stacker
- Special electric lift truck with side grippers for handling tyres, paper drums, pulp etc.

Reinforced with BarChip Synthetic Fibre

BarChip structural synthetic fibre was used as the sole reinforcement in over 40,000 m2 of the Logistic Hub's concrete flooring;

Concrete Class	C30	C37
Dose Rate	7 kg/m3	5 kg/m3
Slab Thickness	180 mm	150 mm
UDL acc.	6T/m2	4T/m2

By incorporating the use of BarChip synthetic fibre reinforcement, flooring contractors Savekate were able to realise a number of benefits;

- Eliminated the placement, storage and transport of steel mesh
- Increased durability and eliminated the risk of corrosion. EPC's synthetic fibre is inert and will never rust.
- Increased concrete toughness
- Increased on-site productivity
- Reduced overall costs
- Improved temperature and shrinkage crack control

Since construction in 2007- 08 the concrete flooring has performed perfectly.

The selection of BarChip synthetic fibre as the primary concrete reinforcement eliminated significant man hours during construction and since construction in 2008 there have been no maintenance or serviceability issues with the BarChip reinforced concrete sections.





UK Concrete Society Technical Report 34: Concrete Industrial Ground Floors- A Guide to Design and Construction.

TR34 from the UK Concrete Society provides guidance on many of the key aspects of concrete industrial ground floors and is recognised globally as one of leading concrete flooring design publications. The 4th edition of TR34 provides design guidance on;

- Floor surfaces and surface regularity
- Warehouse equipment and floor loading
- Soils and support structures
- Design- structural properties
- Structural design of ground supported slabs
- Structural design of pile supported slabs
- Concrete specification
- Concrete materials
- Construction and joints
- Design and construction best practice
- Maintenance

TR34 provides internationally recognised design methods for fibre reinforced concrete floors which engineers and designers have used since the early 2000's to confidently design fibre reinforced flooring.

Over 3 million square metres of BarChip synthetic fibre reinforced flooring has been built using this standard.



EPC's BarChip fibres evenly distributed throughout the concrete mix.

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The Synthetic Fibre Experts

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