



**KRAMPE HAREX®**

KNOW WHY.

## References

INDUSTRIAL  
FLOORING

KNOW WHY  
**6-CM-FIBRES**  
**MAKE THE**  
**DIFFERENCE.**



# WELL POSITIONED FOR THE LOGISTICS OF TOMORROW:

Retail giants like Aldi and Amazon and manufacturers such as BMW transport and store tons of goods every day. But digitalization and the associated increase in online business is seeing the logistics operations of smaller businesses expand too. In the course of the Fourth Industrial Revolution, logistics processes are merging seamlessly with production chains. But as crucial as smart processes are here, more important still is a stable foundation.

Industrial floors in high bay storage facilities, production buildings and logistics centers have to withstand huge loads. Not only are the concrete floors subjected to high point loads, but also large physical stresses due to transport vehicles, for instance. An increasing number of businesses are choosing fibre reinforced concrete floors for this reason. They represent a technically advanced and extremely cost-effective alternative to conventional reinforced concrete floors.

## 2,000,000

pairs of shoes are stored in a nine-meter-high rack in a shoe warehouse.

## 3,400

racks are in Amazon's Mönchengladbach warehouse.

## 297

truck loads are dispatched by Amazon's Mönchengladbach warehouse on busy days.

## 70%

of all industrial floors are already being constructed from steel fibre reinforced concrete.

## 1,419

articles are on sale in an Aldi store on average.



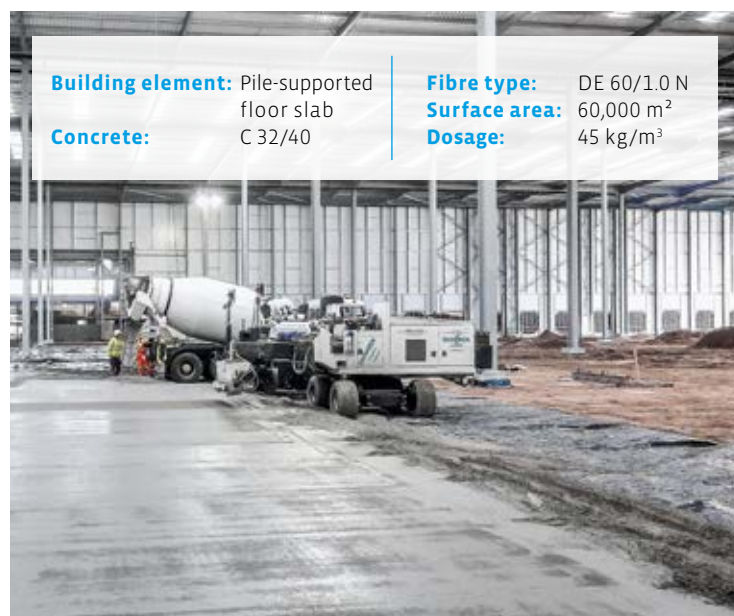
# LAYING SOLID FOUNDATIONS WITH FIBRES.

KrampeHarex® steel fibres form the basis of durable, jointless industrial flooring that is more affordable and less maintenance-intensive than jointed floors.

**Engineering-Support.** We not only supply you with the fibres for constructing industrial flooring, but offer design and planning services for your steel fibre reinforced concrete floor as well as concrete testing, construction supervision and flatness measurements in collaboration with our engineering partner. We even cover the cost for the structural design of standard industrial floors.

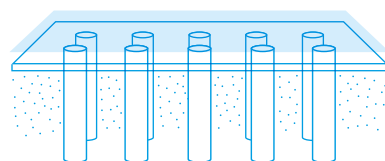


## REFERENCE ALDI DISTRIBUTION CENTER IN CARDIFF



### The basis for rapid expansion.

Aldi is expanding worldwide and relying on KrampeHarex® in the process. In 2016, we supplied the fibres for the steel fibre reinforced concrete floor of a new logistics center in Wales, United Kingdom. Rapid construction progress made possible by the time- and cost-saving workflow was a key criterion here. The fibres are admixed directly into the concrete and the resulting steel fibre reinforced concrete is immediately processed and laid. This makes it unnecessary to perform time-consuming reinforcement work or blinding as an additional work step. Moreover, doing away with the concrete cover makes it possible to reduce slab thicknesses and cast sections under ideal conditions of up to 2,500 m² in size. Fibre reinforced concrete thus saves time and money compared to the labor, equipment and steel involved for rebar flooring.



## REFERENCE AMAZON WAREHOUSE IN RHEINBERG

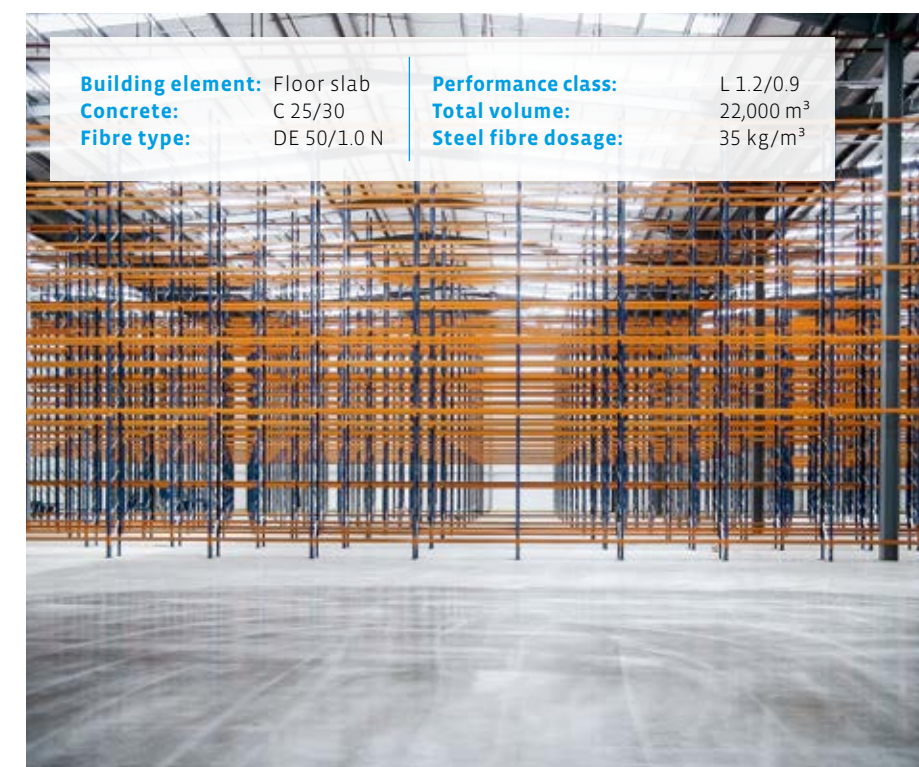
### The basis for high stock turnover.

When constructing their logistics center in Rheinberg, Amazon chose KrampeHarex® fibres, as they did for seven other facilities. And for good reason: Because the floor slab performs a load-bearing function due to the high loads generated by the pick towers, the stability of the concrete had to be precisely calculated. The project benefited greatly from our wealth of experience and the quality of our fibres. Our engineering partners determined the appropriate performance class in conformance with the latest standards. Because jointless steel fibre reinforced concrete floors distribute compressive and tensile forces more evenly, they reduce the risk of crack formation. The long-lasting industrial floor in Amazon's Rheinberg warehouse guarantees low maintenance costs and constitutes the ideal basis for high stock turnover.



»We not only supply quality fibres 'Made in Germany', but assume responsibility for the functionality of the industrial floor through our engineering partner.«

**Dipl.-Ing. Stephan Müller**  
Director of International Fibre Sales,  
KrampeHarex®



# 8

**Amazon Logistics Centers**  
throughout Germany are built  
on fibres KrampeHarex®.



# REFERENCE BMW PARTS WAREHOUSE IN GÜNDLKOFEN

**670 t**  
of 6-cm-fibres form the basis  
for the safe storage of BMW  
parts in Gündlkofen.

<b>Building element:</b> Floor slab	<b>Performance class:</b> L 1.2/0.9
<b>Concrete:</b> C 30/37	<b>Surface area:</b> 100,000 m <sup>2</sup>
<b>Fibre type:</b> DE 60/0.9 N	<b>Steel fibre dosage:</b> 25 kg/m <sup>3</sup>

## The basis for safety.

When constructing BMW's parts warehouse in Gündlkofen, tighter tolerances applied with respect to levelness – because in high-bay storage facilities, even minimal unevennesses in the floor can cause the racks to lean and become instable. Fibre reinforced concrete floors not only meet the highest of levelness standards, but are exceptionally durable and dimensionally stable as well. The floor develops no cracks or indentations even when subjected to high point loads. This in turn prevents damage being caused to the racks and the goods being stored and transported. Our state-of-the-art fibre solutions are used in the construction of high-bay storage facilities worldwide to guarantee trouble-free workflow with safe and dependable end results. Safety was a deciding factor for our involvement in Gündlkofen as well.

*»Our steel fibres are truly amazing: durable and stable, they represent the ideal basis for industry.«*

**Wilhelm Nell**  
Product and Business Development  
Manager, KrampeHarex®



*»Our fibres have been increasing the stability and durability of concrete for over 35 years. In order to ensure availability of supply at all times, we ourselves manufacture the wire used to make our fibres.*

*As such, we are not subject to the delivery periods of external vendors and can reliably meet even the most ambitious timings.«*

**Dipl.-Ing. Ulrich Krampe**  
Managing Director,  
KrampeHarex®

**>17,000,000**  
km of drawn wire / year

## Expertise in every fibre.

As a world-renowned specialist and technology leader in the field of fibres, our satisfied customers include companies and property developers in 50 countries around the globe. Thanks to our world-class expertise and outstanding service, we are earning greater recognition each day. Our Service+ portfolio includes engineering, support, construction supervision, special solutions and dosing unit rental service as well as exemplary quality management.

**21**

wire-drawing machines



**100 % green power**  
in all processes



**Highly efficient cross-sectional technologies**



**Environmentally friendly production and waste management**



**KRAMPE HAREX®**

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## OTHER PROJECTS

### Continental Tire Production

Jackson Mississippi / USA

**Area:** 90,000 m<sup>2</sup>

**Fibres:** 320 t

**Fibretype:** DE 60/0.9 N

### Home Depot Central Logistic Centre

Calgary / Canada

**Area:** 200,000 m<sup>2</sup>

**Fibres:** 600 t

**Fibretype:** DW 50/1.0 N

### Toys "R" US

Walsrode / Germany

**Area:** 80,000 m<sup>2</sup>

**Fibres:** 320 t

**Fibretype:** DE 60/0.9 N

### TPV Monitor Production

Gorzów Wlkp. / Poland

**Area:** 32,000 m<sup>2</sup>

**Fibres:** 130 t

**Fibretype:** DE 50/0.65 N

### Babyshop Warehouse

Jonkoping / Sweden

**Area:** 35,000 m<sup>2</sup>

**Fibres:** 150 t

**Fibretype:** DE 50/0.75 N

### Volkswagen VW

Bratislava / Slovakia

**Area:** 120,000 m<sup>2</sup>

**Fibres:** 840 t

**Fibretype:** DE 60/1.0 N

### Rema 1000

Distribution Centre

Stavanger / Norway

**Area:** 30,000 m<sup>2</sup>

**Fibres:** 190 t

**Fibretype:** DE 50/0.75 N

### Latam Bodega 300

Bogota / Columbia

**Area:** 31,000 m<sup>2</sup>

**Fibres:** 132 t

**Fibretype:** DE 60/0.75 N

### Kellogg's

Lagos / Nigeria

**Area:** 18,000 m<sup>2</sup>

**Fibres:** 108 t

**Fibretype:** DE 50/1.0 N

## GERMANY

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