



SIKA AT WORK

HARPUR HILL BUSINESS PARK, BUXTON, DERBYSHIRE

CONCRETE: Sika® Fibre Reinforced Concrete

BUILDING TRUST



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SIKA'S STRENGTH USED IN CONCRETE SLAB FOR WAREHOUSE BUILDING. Specification and installation of a concrete slab within a 4,000m² warehouse on the Harpur Hill Business Park in Buxton, Derbyshire.

The building shell had already been constructed; the main complexity of the project was working within the constraints of the building's walls to deliver a slab that would be fit for purpose.



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The Requirements

The new-build scheme for occupier Eagley Plastics, required the concrete slab to provide a strong, ultra-flat surface to support large amounts of high-rise racking.

The ground was piled prior to the slab pour, each at 3.5m apart, making it logistically difficult for vehicles to both get into and move around the building.

An added complication was the impending arrival of an expert team of installers from Belgium who were due to begin installing the floorcovering in eight weeks.

Additional pressure was added by the occupier, who imposed a strict occupation date which left no room for manoeuvre in the build programme.

The Solution

Main contractor, RT Mycock, called on specialist support from Sika which, following an engineer visit, specified fibre technology to deliver on the project's strength and finishing requirements.

With a requirement to cover the whole floorplate inside the 4000m² warehouse, Sika developed a mix design which included a dosage of steel fibres strong enough for the task. Novocon HE1060 HT (high tensile) dosed at 45 kilos per m³ was specified and swiftly accepted by the engineering team in order to meet the timescale constraints.

By utilising this specification, the timescale, budget and logistical needs of the scheme were met in several ways.

The fibre reinforced concrete was discharged directly from the wagon at the point of the pour, removing the need for expensive pumping equipment. It also eliminated the need for traditional steel fabric reinforcement solutions, reducing labour costs and risks to health and safety.

Providing the residual strength required, even on a piled floor design, the specification reduced the risk of cracking, subsequently delivering a more robust material.

The Belgian team of experts arrived on time and swiftly delivered the flooring installation without a hitch.

The slab provided the glass-like finish required by the occupier, bolstered by the strength-providing fibres distributed throughout the concrete.

Paul McGinnis from RT Mycock said: "We really had an extremely tight deadline in which we couldn't afford anything to go wrong with this project. The team did a tremendous job in getting the task done within the timeframe and the product has been faultless since its implementation. Both the client and the contractor were very happy with the finishing result."

Andy Taurah, special projects manager at Sika, added: "This project is a great example of thinking outside the box – literally and figuratively – to get the job done in time and within budget. Increasingly the market is coming around to the many benefits of fibre reinforced concrete when compared to traditional steel fabric reinforcement jobs and examples like this are when modern methods of construction really come into their own."

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