



SIKA AT WORK

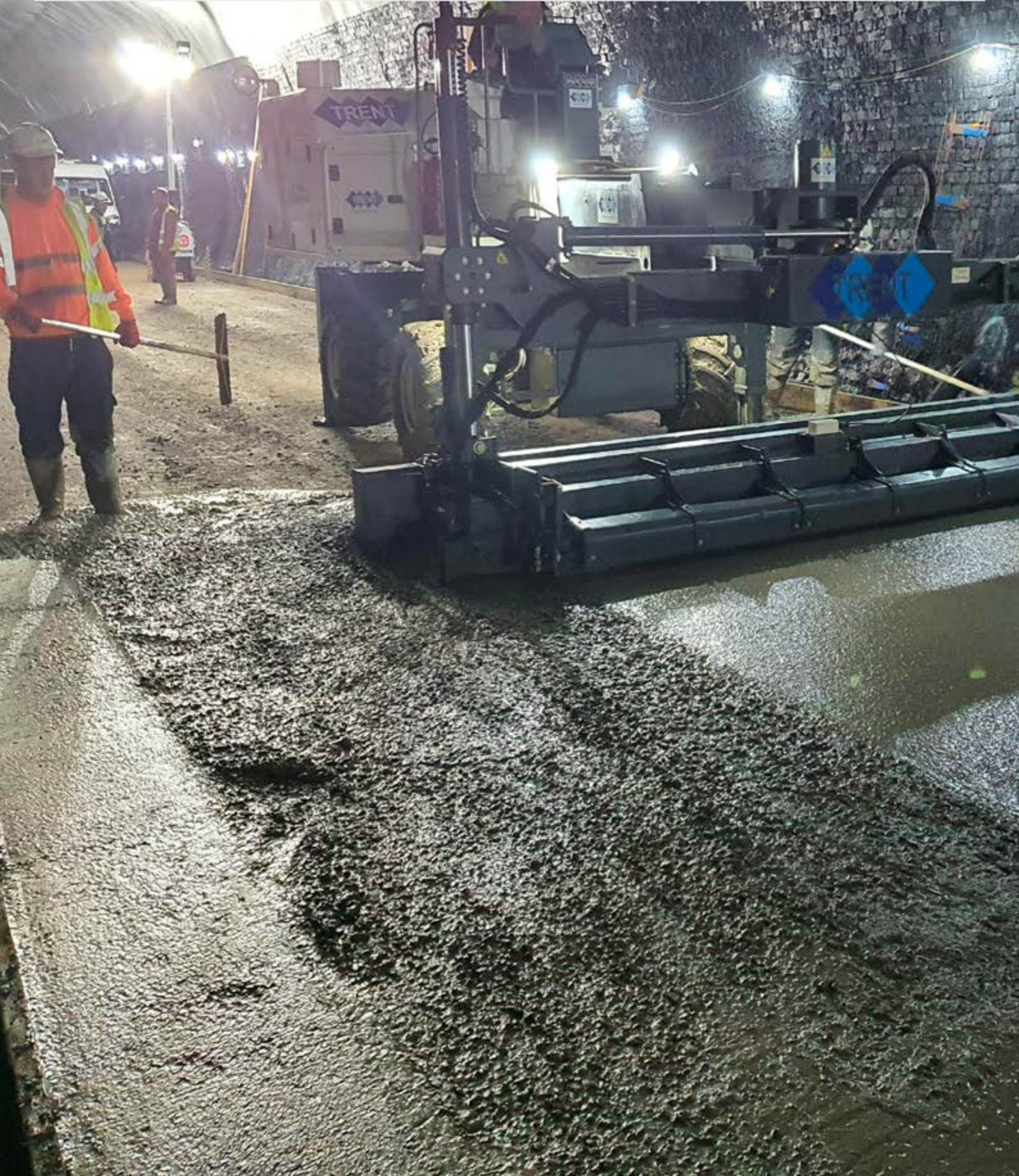
CATESBY TUNNEL, NORTHAMPTONSHIRE

CONCRETE: SikaFiber® Enduro® HPP 50 and Antisol Curing Agent

BUILDING TRUST



CATESBY TUNNEL NORTHAMPTONSHIRE



SIKA REINFORCE AERODYNAMIC TEST FACILITY.

Catesby Tunnel is an unusually large, disused railway tunnel. Spanning 8.2m (27ft) wide, 7.8m (25ft 6in) high and 2.7km (2,997 yards) in length, it was completed in 1897.

Located in the Northamptonshire countryside, it was decommissioned in 1966 when the line was made redundant by British Rail. After lying abandoned and flooded for more than 50 years, proposals were granted in 2017 to convert the tunnel into an aerodynamic test facility.

The project is being developed by Aero Research Partners (ARP) and is just one of two in the world.



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The Requirements

The tunnel is perfectly straight with a gentle 1:176 constant gradient and allowed the construction of a 2.7km-long, purpose-built road track for testing vehicles.

With just one entrance/exit, the project posed logistical challenges for both installation and curing.

Due to its extremely tight tolerances, specialist contractor for unique projects, Trent Construction Services Ltd, called on Sika for alternative options to traditional steel mesh reinforcement. This method would have required installers to physically carry more than 1,350 sheets of mesh down the almost 3km tunnel; totalling almost 100 tonnes to cover around 14,500 m².

The Solution

Sika specified SikaFiber® Enduro® HPP 50 macro fibres as they could be added to the concrete mix and poured directly at the source, complemented by the application of Antisol MP-10 curing agent.

Wagons had to expertly reverse down the tunnel to deliver material in stages at a rate of approximately 150 linear metres each day. A total of 8 tonnes of HPP 50 macro fibres was required for the project and the pour took just under four weeks.

SikaFiber® Enduro® HPP 50 is specifically engineered and manufactured for use as concrete reinforcement and designed to save time on projects when compared to traditional steel mesh. The macro synthetic fibres give the concrete added levels of toughness, impact resistance and durability.

Chris Henderson, Director at Trent Construction, commented: "The use of Sika's HPP 50 macro fibres in the tunnel environment were fundamental to ensuring we could deliver the stringent requirements of this concrete slab within a realistic timeframe."

For further information call 0800 292 2572.



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