Press release

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fischer nail anchors secure fire protection plates in the longest land tunnel in the Netherlands

Giving the green light in Amsterdam with innovative fixing technology

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The longest and second-widest land tunnel is currently being constructed in the Netherlands in order to direct traffic in Amsterdam-Southeast below ground – reducing the level of noise and air pollution to the benefit of local residents. More than 1.7 million stainless steel (A4) fischer nail anchors FNA II were used to install fire protection plates to walls and ceilings in addition to other applications.

The Directorate-General for Public Works and Water Management (Rijkswaterstaat) is currently expanding the A9 motorway in central Amsterdam. The development is part of The Netherland's Schiphol-Amsterdam-Almere (SAA) project, which will increase the capacity of several dual carriageways (A1, A6, A10 and A9) and thereby improve traffic in the Randstad area. The A9 Gaasperdammerweg between the Holendrecht and Diemen intersections will be extended from three lanes per direction to five lanes per direction plus a reversible lane.

The project includes a new tunnel that will span a distance of three kilometres upon its completion in 2020, which will make it the longest land tunnel in the Netherlands. The tunnel has another special feature, as local traffic can exit the underpass halfway through it. At a width of 73 metres, it is also the second widest land tunnel in the Netherlands. The tunnel will also be

expanded to include five lanes per direction plus a reversible lane upon completion.

Two tunnel tubes located on the far sides are being constructed for the local traffic from and to Amsterdam-Southeast. There will also be two tunnels between them for transit traffic, while a fifth tunnel tube will serve as a reversible lane. The underground central arterial road will reduce the level of noise for local residents along the A9 while improving the air quality. A park will also be built on the roof of the tunnel and is set to be completed in 2021. The green space will connect the city districts in Amsterdam-Southeast and improve their quality of life.

The fischer Group of Companies has already been able to successfully complete the installation of the fire protection plates to the walls and ceilings in cooperation with the building contractor Kaefer Construction GmbH. The purpose of the post-installed tunnel cladding is to protect the concrete construction in the underground traffic facility in case of fire. “The type of fire protection, be it plates, fire protection plaster or paint was determined ahead of time. Particular emphasis was placed on its durability, appearance, cost effectiveness and installation period, among other things”, says Sven Burgard, Head of passive fire protection for buildings and tunnels at Kaefer Construction GmbH.

The system was ultimately tested over the course of multiple fire tests to ensure its suitability. Over 1.7 million units of the fischer nail anchor FNA II A4 were used for the project. “The fact that our FNA II A4 is proven to be ideal for tunnel fire protection and is quick and easy to use was one of the main decisive arguments”, emphasises Daniel Jäger, Head of Industry Key Account Management at the fischer Germany Vertriebs GmbH, who contributed significantly to the project. “The FNA II was also able to meet the project’s high wind drag and durability

requirements and is furthermore suitable as an anchoring base for sensitive concrete." The plates are installed in just a few installation steps. The fire protection plates are simply positioned on the wall or ceiling before being drilled through to create a drill hole into which the anchor is quickly placed with a pneumatic setting tool using the push-through method of installation. The FNA II expands automatically under load, during which the cone is pulled into the expansion clip and expands it against the drill hole. "The FNA II is highly suitable for this case, as it is very easy to install. Simply drill the hole, drive in the nail anchor, and done! Once it has been placed, its function is guaranteed for a very long time", Sven Burgard confirms, while emphasising that "working together on a project of this scale is crucial to a positive outcome. fischer once again proved itself to be a reliable partner in terms of quality, reliability and meeting deadlines."

The FNA II A4 has already been used on multiple fire protection projects in the Netherlands, during which it has proved its effectiveness. The anchor has successfully passed all fire tests carried out by the fire protection plate manufacturers. "In addition to the on-time production and supply of high quantities of the FNA II as an ideal fixing solution, our broad range of services was also a deciding factor", Daniel Jäger highlights. "We successfully accompany our clients through every phase of the project, from planning, calculations and preliminary pull-out tests to on-site support on the construction site through training and certification".

Image captions:

Image 1

Providing relief on Amsterdam's A9: The new tunnel improves the air quality and reduces noise levels in adjacent residential areas.
Image credit: nisanga / 123rf

Image 2

Reducing noise levels and air pollution on the surface by directing traffic underground – the longest and second widest tunnel in the Netherlands is currently being constructed with this objective in sight while using over 1.7 million fischer nail anchors FNA II in stainless steel (A4) to install fire protection plates and many other applications.
Image credit: Marcel van den Bos / 123rf

Images 3 to 5

Fire protection plates on the walls and ceilings help protect lives and infrastructure in case of fire, and are held securely in place thanks to the fischer nail anchor FNA II.
Image credits: KAEFER Construction GmbH

Image 6

Nailed down in the long term: fischer's nail anchor FNA II provides a permanent firm hold to the fire protection plates on the walls and ceilings of the new A9 tunnel in order to protect the concrete construction in case of increased temperatures. Nail head variants with a large system-tested washer and variants with metric threads were primarily used for this project.
Image credit: fischer

Images 7 to 9

The fischer nail anchor FNA II was used for the construction of Amsterdam's new A9 tunnel due to its ease of installation and because it was able to meet the high tunnel fire protection, wind drag and durability requirements while also being suitable as an anchoring base for sensitive concrete.

Image credits: KAEFER Construction GmbH

The fischer Group of Companies

The fischer Group of Companies, headquartered in Waldachtal in Germany's northern Black Forest, generated sales of 887 million Euros in 2019 with a worldwide staff of 5,200 employees. The family-owned company operates 49 subsidiaries in 37 countries and exports to more than 100 countries. It includes the five divisions: fischer fixing systems, fischer automotive, fischertechnik, fischer consulting and LNT Automation.

fischer fixing systems is the technological market leader in important areas of fixing technology. fischer offers products that deliver technical perfection to a wide range of customers, from do-it-yourselfers to craftspeople to key account partners.

fischer automotive manufactures high-quality parts for car interiors. The company is highly competent in the plastics processing segment and is an important partner for the automotive industry. Its range of products includes air vents, cup holders, trays and multi-function components.

With its construction kits, fischertechnik is active in both the toymaking and in the educational sector. fischertechnik is one of the last remaining toy makers to exclusively develop and produce in Germany.

fischer Consulting evolved from the competence developed in the company itself, which includes the fischer ProcessSystem with its central aim of permanent improvement for the ultimate benefit of the customer. fischer Consulting advises small and medium-sized businesses, government agencies and major companies on their path towards lean and efficient processes.

LNT Automation develops and manufactures custom electronic solutions. The company also develops, produces and distributes custom and capacitive touch systems such as multi-touch solutions made of glass and the corresponding controller units. All electronics are manufactured in-house.

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