

Press release

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fischer bolt anchors secure Moscow's metro

Setting the course for increased mobility

With over 12 million inhabitants, Moscow is Europe's largest city. This becomes apparent on a daily basis in the city's congested streets. The city and the Russian government have been countering this situation for almost eight years by expanding the metro, tram and bus network, building new roads, and much more. Among these measures there is also an underground metro tunnel in which approximately 50,000 fischer FAZ II bolt anchors have been used to install the ventilation system.

fischerwerke GmbH & Co. KG
Corporate Communications

Klaus-Fischer-Straße 1
72178 Waldachtal

According to information from the transport provider Inrix, motorists in Moscow spent approximately 210 hours stuck in traffic last year, with the average speed being just 18 km/h. The construction of a new several kilometre-long metro tunnel led by the Russian construction firm Mosinzhproekt is set to encourage more road users to switch from the streets to the metro. The project, which began in April and is due to be completed by the end of 2019, is therefore of great importance to Russia. The essential tunnel ventilation system extracts pollutants and smoke in case of fire while also supplying fresh air. The ventilation systems have been installed safely and permanently as well as in a fast and economic manners using fischer bolt anchors FAZ II. The Russian subsidiary of the fischer Group of Companies developed a solution in close cooperation with one of its partner firms, the technical planner and supplier VIP systems. This solution ensures that the fixings are optimised from both a

technical and economic point of view. In total, approximately 30,000 FAZ II 24/30 and around 18,000 FAZ II 12/10 – both in stainless steel (A4) variants – were used to secure the ventilation system.

“Initially, the plan was to attach the installations to the tunnel tubes using four anchors per unit, each with a diameter of 24 millimetres, due to the high loads”, reports Andrey Egorov, Managing Director at fischer Russia. “We offered a significantly more economic fixing solution with the same high level of safety”, the expert emphasises, before explaining “with our fischer FAZ II 24/30 we were able to reduce the number of fixing points from four down to two while simultaneously ensuring the required load-bearing capacity”. This prevented errors during the installation of the ventilation system in the rail tunnel’s high-density reinforced concrete while saving time and material costs.

Two FAZ II 24/30 A4 bolt anchors per unit were used to install the ventilation system’s main units to the tunnel tubes. An additional two FAZ II 12/10 A4 fixings were used to secure each secondary supporting structure. In general, the bolt anchor is the preferred solution for installing equipment that is not subjected to dynamic loads, such as ventilators, in tunnels. Its tried and tested expansion clip safely introduces loads into concrete and enables high load-bearing capacity. The FAZ II 24/30 and 12/10 in A4 have an ETA (European Technical Approval) and an ICC Approval, making them compliant with both European and international standards. They are made of stainless steel and are proven to be fireproof and resistant to seismic influences. “In addition to the ideal fixing solution, we also impressed the client with our range of services, with which we accompanied the construction of the metro through all project phases, from planning and calculation, training and on-site support all the way through to completion”, emphasises Andrey Egorov.

Image captions:

Image 1



On the fast track instead of at a snail's pace on the streets: Moscow is one of Europe's congestion centres and is countering its problem with multiple infrastructure measures.

Image 2



One of the measures to improve the flow of traffic includes Moscow's construction of a new metro tunnel, in which around 30,000 FAZ II 24/30 and approx. 18,000 FAZ II 12/10 are securing the ventilation system.

Image 3



When it comes to installing ventilation systems, the FAZ II 24/30 and FAZ II 12/10 in A4 is an ideal choice with its secure load transfer and high load-bearing capacity, ETA and ICC approval in accordance with European and international standards, its stainless-steel material and resistance to fire and seismic influences.

Credits: fischer

The fischer Group of Companies

The fischer Group of Companies, headquartered in Waldachtal in Germany's Northern Black Forest, generated sales of 864 million Euros in 2018 with a worldwide staff of 5,200 employees. The family-owned enterprise operates 47 of its companies in 35 countries and exports to more than 100 countries. It includes the five divisions: fischer fixing systems, fischer automotive systems, 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 craftsmen to key account partners.

fischer automotive systems 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. fischer automotive systems produces air vents, cup holders, trays and multi-function components.

fischertechnik is active both in the construction kit and in the educational toy sector. As one of the last toy makers, fischertechnik develops and produces exclusively in Germany.

fischer consulting evolved from the competence and skills developed in the company itself, among these the fischer ProcessSystem with its central aim of permanent and continuous improvement for the ultimate benefit of the customer. fischer consulting advises small and medium-sized businesses, government agencies and major companies on their way 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.

www.fischer.group
www.fischer-international.com

Contact partner

Katharina Maria Siegel

Corporate Communications

Telephone: +49 7443 12 – 4217

E-mail: Katharinamaria.Siegel@fischer.de