fischer’s Problem-solvers for Structural Retrofitting – A Future for Existing Buildings

Category: Business
written by International Khabar | May 28, 2025

The preservation and retrofitting of existing buildings has become one of the most important tasks of the construction industry, not least because of the growing demand for sustainability. fischer’s market launches with carbon fibre reinforced polymers (CFRP) and carbon fibre fabrics (CF) allow the structural strengthening of infrastructure constructions and buildings. Additional fischer fixing systems give existing structures an extended service life, post-installed rebar connections, concrete overlay and anchoring caps and edge beams to bridges.

Structural Retrofitting Existing Buildings

fischer is launching its new problem-solvers for one of the greatest challenges faced by the construction market: strengthening and retrofitting existing buildings for their long-term use.

As fischer India navigates the evolving landscape of structural retrofitting, **Mr. Mayank Kalra, Managing Director of fischer India**, emphasizes the critical role our solutions play in enhancing the sustainability and longevity of existing buildings. *"With an increasing focus on sustainability and infrastructure optimization, our innovative systems using carbon fibre reinforced polymers (CFRP) and complementary fixing solutions are designed to meet the demands of modern engineering."* says Mr. Kalra. These technologies not only strengthen structural integrity but also conform to the highest global standards, making them suitable for a wide range of applications-from urban redevelopment to infrastructure restoration.

New systems for reinforcing structural framework

The load-bearing capacity of existing structures often needs

to be restored or increased, whether it is because the existing building is going to be repurposed, because the structure is in need of improvement or because of the introduction of more stringent building regulations. Other reasons for retrofitting existing buildings can include poor material quality and execution or construction defects. fischer's new products for structural strengthening using carbon fibre reinforced polymers (CFRP) and carbon fibre fabrics (CF) increase the structural performance of reinforced concrete structures, prolonging their service life. The cost-effective solutions are easy to install and can be used for a versatile range of applications such as infrastructure projects or buildings. Various international approvals provide assurance regarding the application of these new systems: a European Technical Assessment (ETA-24/0281) for CFRP laminates bonded into grooves (Near-Surface Mounted) and onto surfaces (Externally Bonded), an ICC-ES evaluation report (ESR-4774) for the CFRP laminate and the CF fabric in addition to a GB code certificate for the carbon fabric system. In addition to this, the individual chemical products comply with the relevant parts of the ten-part European standard EN 1504, which specifies the requirements for various construction products for protecting and maintaining concrete.

Post-installed rebar connections

With the new fischer RebarConnect FIS RC II vinyl ester hybrid mortar, post-installed rebar connections can be carried out in diameters of 8 – 40 mm and an embedment depth of up to 2 m with an ETA and an approved service life of 100 years. The FRA rebar anchor can also be used for this application. Temperatures of -10 C to +40 C in the anchor substrate allow for flexible and universal applications (as per ETA). The ETA further approves designs up to fire resistance class R 240. Short processing and curing times enable quick progress in drill holes created either with hollow or hammer drills. Combined with the right hollow drill, there is no need to

clean the drill hole.

Rebar connections can also be carried out with a bar diameter of 8 to 40 millimetres at depths of up to 2 m with the fischer FIS EM Plus epoxy resin mortar and with the FRA rebar anchor. In addition to ETA-17/1056 and its ICC approval, the application of the FIS EM Plus for post-installed rebar connections is now regulated by ETA-22/0001 – Post-installed reinforcing bar (rebar) connections with improved bond-splitting behaviour. This serves as the basis for planning post-installed rebar connections in addition to the previous procedures (EN 1992-1-1 (rebar theory) and EN 1992-4 (anchor theory)) in accordance with the TR 069 Technical Report by the European Organisation for Technical Approvals. One advantage is that the TR 069 permits the design of post-installed, rigid rebar connections that do not have to be carried out as overlapping joints. Even without a starter bar in the existing component and with relatively short embedment depths, the particularly rigid connections under static and quasi-static loading are covered by the design method, as significantly higher bond stresses may be applied than according to EC2 Part 1-1. In general, the FIS EM Plus is ideal for permanently and securely transferring heavy loads into concrete, even under extreme conditions. It is also safe in the event of fire (R120 fire assessment) and has a service life of 100 years, according to the ETA. The epoxy resin mortar can be processed in low temperatures of up to -5C. FIS EM Plus can be used in diamond-drilled drill holes in concrete without requiring additional roughing up.

The styrene-free FIS V Plus vinyl ester hybrid mortar can additionally be used for post-installed rebar connections with a diameter of 8 – 28 mm and the fischer FRA rebar anchor.

Innovative concrete overlay reinforcements

Together with the fischer FIS EM Plus, FIS RC II, FIS V Plus and FIS SB injection systems, the concrete-concrete shear

connector FCC is the ideal approved system for repairing and reinforcing buildings, bridges and other structures through concrete overlay. Variable anchoring depths allow ideal adaptation to the acting load. The latest addition to the range is the fischer FCC-B bridge cap anchor (M16-24). This solution can be used in combination with the FIS EM Plus or FIS SB in order to permanently and securely anchor caps and edge beams on bridges and can be adapted to different construction site conditions. The general design approval of the concrete connector FCC provides planners, structural engineers and users with certified safety when using the FCC-B as a bridge cap anchor together with the ETA-assessed injection mortars.

Mr. Mayank Kalra reiterates fischer India's commitment to providing future-proof solutions for structural retrofitting. "*Our focus is on delivering products that are technically advanced, cost-effective, and easy to implement, ensuring long-term value for engineers, developers, and end-users alike*." he affirms. The comprehensive suite of offerings-from carbon-based reinforcement systems to post-installed rebar connections and concrete overlay reinforcements-reflects fischer's mission to support sustainable infrastructure growth while empowering construction professionals with reliable, performance-driven tools.