

**C-Fiber Force
Strengthening System.
Products and applications.
A short overview.**



Preserve more. Build less.

Retrofitting and maintenance of existing civil engineering structures have become one of the main challenges in the construction industry, due to the increased demand for more sustainability. Building reutilization, material deterioration and the introduction of more stringent building codes present a clear need to restore or increase the load-bearing capacity of these structures. Other reasons for strengthening include poor material quality, construction execution errors and design flaws.

Carbon fiber reinforced, precured laminates (CFRP laminates) and carbon fiber fabrics (CF fabrics) from fischer increase the structural safety of reinforced concrete as well as pre-stressed concrete structures and extend their service life. These economical and easy-to-install fischer solutions can be used for diverse applications for the infrastructure sector as well as for building construction.

To provide ultimate safety and flexibility for design engineers, our new fischer C-Fiber Force Strengthening System comes

with state-of-the-art technical assessments: European Technical Assessments for CFRP laminates in near surface mounted (NSM) and externally bonded (EB) applications (ETA-24/0281), ICC-ES Evaluation Report (ESR-4774) and GB Code Certificates.

Furthermore, the individual chemical products, such as the FRS PC 11 concrete repair mortar, FRS-BA bonding agent and FRS-CP corrosion protection coating comply with the corresponding parts of the Europe-wide recognized standard EN 1504.



Advantages at a glance

- Extended service life of existing structures due to increased structural resistance, crack width limitation
- Versatile solutions through combined applications of NSM and EB CFRP laminates, CF fabrics and steel stirrups
- Technical assessments for ultimate safety: ETA, DoPs acc. to EN1504-3;-4;-7 for individual products, ICC-ES Evaluation Report, GB Code Certificates
- Interactive and user-friendly structural design with REINFORCE-FIX® software including full-size, detailed documentation

Maintain infrastructure.

The assessment of existing bridges indicates the urgent need for restorative or preventive structural strengthening measures. The main reasons for this include the constantly increasing traffic density and traffic loads, as well as deterioration processes. Typical applications on existing reinforced concrete and on pre-stressed concrete structures are flexural or shear strengthening of bridge girders, the extension of bridge superstructures,

tunnels, trough structures, hydraulic structures, retaining structures and beyond. The combination of the individual products of the fischer C-Fiber Force Strengthening System covers a huge variety of applications, from standard cases to individual solutions. Since infrastructure applications are often exposed to moderate and aggressive environmental conditions, we also offer the FRS-SF protection coating against UV radiation.

Reliably the best choice



ETA-24/0281 as per EAD 160086-01-0301



EN 1504 certificates for individual chemical products



ICC-ES Evaluation Report ESR-4774 as per AC125



GB Code Certificates as per GB 50728



Flexibly convert existing buildings.

Existing buildings often need to comply with new and more stringent building codes. Due to repurposing, structural members often need to withstand higher loads. fischer's C-Fiber Force strengthening product range offers easy-to-use and economical solutions for a wide range of applications – whether it is a new wall, or ceiling opening, flexural and / or shear strengthening of reinforced concrete members.

The products of the fischer C-Fiber Force Strengthening System were developed for optimized performance to provide maximum safety. For protection against fire and smoke development in indoor applications, fischer also offers a water-based FRS-FP fire protection coating in the assortment. To prevent corrosion of externally applied steel stirrups that are typically used for shear strengthening, fischer provides the FRS-CP corrosion protection coating.



Learn more about
the new fischer
C-Fiber Force
Strengthening System



Learn more about
our innovative
REINFORCE-FIX®
design software



Rely on proven performance.

fischer knows no compromise when it comes to the performance of our products: The technical assessments for our C-Fiber Force Strengthening System verify the short-term

resistance as well as the durability of our products, such as water, fuel and alkaline resistance, resistance under sustained load, freeze-thaw, temperature and fatigue loading.



FRS-W U300 and FRS-W U600
Unidirectional carbon fiber fabrics with 300 g/m² or 600 g/m² area density



FRS-CA
Universal cleaning agent for the CFRP laminate and tools



FRS-FC
Unidirectional open end high-strength carbon fiber anchor for optimal end-anchorage of carbon fiber fabrics



FRS-L-S and FRS-L-H
CFRP laminates to improve the flexural capacity of RC members



FRS-PC 11
Epoxy-based concrete repair mortar, requirement class R4 acc. to EN 1504-3



FRS-BA
Bonding agent for optimal adhesion between existing concrete and concrete repair materials, and corrosion protection for embedded steel reinforcing bars (EN 1504-7)



FRS-CP
2-component epoxy system with low viscosity for corrosion protection of exposed steel surfaces acc. to EN 1504-7, available in red and grey



FRS-CS
Thixotropic 2-component epoxy resin for the installation of CFRP laminates and steel stirrups as well as for surface levelling (≤ 4 mm), acc. to EN 1504-4, EN 1504-6



FRS-CF
Epoxy-based impregnating resin for the FRS-W CF fabrics and for FRS-FC spike anchor



FRS-SF
UV-protection coating for CFRP laminates and CF sheets with good weather-ability



FRS-FP
Single-component, water-based fire protection coating against smoke development



Sales Organization:

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