FCA 10/450

**PRE-CURED CFRP ANCHOR
FOR FRP STRENGTHENING SYSTEM ANCHORAGE**

10 mm	450 mm	4,500 MPa	240 GPa
ROD DIAMETER	TOTAL LENGTH	FIBRE TENSILE STRENGTH	FIBRE ELASTIC MODULUS

DESCRIPTION

FCA 10/450 is a hybrid CFRP anchor consisting of a pre-cured composite rod section (170 mm) for embedment into the substrate and a flexible carbon fibre fan section (280 mm) for integration with surface-applied FRP fabric systems. The pre-cured rod eliminates on-site resin saturation of the embedded section, simplifying installation and ensuring consistent anchor performance regardless of site conditions.

INTENDED USES

- Anchorage enhancement at termination zones of FIDSTRONG FSC carbon fibre fabric strengthening systems
- Shear reinforcement anchorage — connecting externally bonded U-wrap fabric through slab soffits or into columns
- Load transfer between structural elements (e.g., beam–slab connections, wall–foundation ties)
- Prevention of FRP delamination at curtailment points and re-entrant corners

CHARACTERISTICS

- Pre-cured rod section — reliable embedment without on-site mixing or resin injection into the anchor body
- Flexible fan section — integrates seamlessly with surface FRP fabric; fan fibres are saturated in-situ with FSE322
- High-strength PAN-based carbon fibre (4,500 MPa) — lightweight and corrosion-free alternative to steel anchors
- Non-conductive sleeve for transport; easy to cut to required length in the field

PRODUCT INFORMATION

PROPERTY	VALUE

CARBON FIBRE PROPERTIES

PROPERTY	VALUE

COMPATIBLE SYSTEM PRODUCTS

CODE	FUNCTION	NOTES
FSE322	Saturating resin	Used to saturate the flexible fan section during installation
FSC series	Carbon fibre fabrics	Fan fibres are aligned with and integrated into the FSC fabric lay-up
FSFIX390 / FSFIX360	Hole injection resin	Injected into the drilled hole to bond the pre-cured rod section

APPLICATION INSTRUCTIONS

Step 1 — Hole Preparation

- Drill holes to the specified diameter and embedment depth per the engineering design. Clean holes thoroughly using a blow-out pump and round brush — repeat at least three times — until no dust remains. Do not use water during drilling. Round the hole edge to a minimum radius of 5 mm to prevent fibre damage during insertion.

Step 2 — Rod Installation

- Inject FSFIX anchoring resin into the cleaned hole from the back, filling approximately 2/3 of the depth. Insert the pre-cured rod section of the FCA 10/450 with a slow, twisting motion to the specified embedment depth. Ensure the fan section exits the hole at the correct orientation. Allow the injection resin to cure fully before loading the anchor.

Step 3 — Fan Installation

- Apply FSE322 saturating resin to the prepared substrate surface. Thoroughly saturate the flexible fan fibres with FSE322, ensuring full fibre impregnation. Spread the fan fibres evenly in the required orientation (aligned with the primary FRP fabric fibres). Press the saturated fan firmly into the resin-coated surface with a laminating roller or rubber spatula to ensure full bond and removal of air pockets. Embed the FRP fabric system over the fan and proceed with normal fabric lay-up.

LIMITATIONS

- Installation must be carried out by trained specialists following FIDSTRONG application manuals and project specifications.
- Minimum substrate compressive strength: 20 MPa (concrete); verify before installation.
- Do not modify anchor length, diameter, or embedment depth without engineering re-evaluation.
- Protect the completed FRP system from UV radiation, sustained elevated temperatures, and mechanical damage.

HEALTH & SAFETY

> **NOTE**
> Wear nitrile gloves, safety goggles, and a dust mask when cutting and handling carbon fibre anchors. Carbon fibre dust and fragments are skin irritants and potential respiratory hazards. Refer to the current SDS for full guidance. This TDS does not replace the SDS.

LEGAL NOTES