

INNO-CRETE

FOX CARBOND® FIBER ADHESIVE

Epoxy Resin Based Carbon Fiber Fabric Adhesive Developed for Structural Strengthening Systems

Description

FOX CARBOND® FIBER ADHESIVE is a high-strength, epoxy-based, two-component carbon fiber fabric adhesive with laminating properties, specially developed for structural strengthening systems.

Fields of Application

- **FOX CARBOND® FIBER ADHESIVE** is used for bonding carbon fiber fabrics to the surface of structural elements to be strengthened.

Advantages

- Easy to apply.
- High mechanical strength.
- Provides excellent adhesion to concrete surfaces.

Technical Properties

Material Structure		A Komponent	Epoxy Resin
		B Komponent	Epoxy Hardener
Color			Blue
Density			1,02 gr/cm ³
Compressive Strength	7 days	EN 12190	>60 N/mm ²
Flexural Strength	7 days	EN 12190	>30 N/mm ²
Bond Strength	To Concrete	EN 1542	>4 N/mm ²
Application Temperature			+5°C / +30°C
Full Curing Time			7 days

The above values are given for +23°C and 50% relative humidity. Higher temperatures shorten curing times, while lower temperatures extend them.

Application Procedure

Surface Preparation

Surfaces to be strengthened must be sound, dry, load-bearing, dust-free, and clean. All substances that may reduce adhesion such as oil, grease, rust, and paraffin residues must be thoroughly removed. Surface irregularities should be repaired using structural repair mortars, and the surface must be primed with **FOX CARBOND® PRIMER**.

Mixing

Before mixing, ensure that the product temperature is between +5°C and +30°C. Mix Component A of **FOX CARBOND® FIBER ADHESIVE** using a suitable mixer for 30 seconds without entrapping air. Then pour Component B into Component A. Mix continuously for 2 minutes until a homogeneous mixture is obtained.

Application

Application of **FOX CARBOND® FIBER ADHESIVE** should begin within 24 hours following the application of **FOX CARBOND® PRIMER**. Apply the material onto the primed surface using a roller to achieve a thickness of 0.8 – 1 mm. While the material is still wet, pre-cut **FOX CARBOND® FIBER** (carbon fiber fabrics) should be tensioned in the direction of the fibers (FRP) and bonded onto the surface. Then, using a roller, press along the fiber direction to ensure that **FOX CARBOND® FIBER ADHESIVE** is fully impregnated into the fabric and that no voids remain between the fabric and the surface. A second layer of adhesive should be applied with a roller in the direction of the fibers onto the bonded carbon fiber fabric.

For multi-layer carbon fiber applications, approximately 0.9 kg/m² of adhesive should be used between layers. In areas exposed to direct sunlight, the applied material must be covered with suitable UV-resistant products within a maximum of 7 days. If fire resistance is required, the surface should be covered with fire-resistant special mortars at an appropriate thickness.

To allow plaster application, while **FOX CARBOND® FIBER ADHESIVE** is still wet after the **final FOX CARBOND® FIBER** application, coarse sand should be broadcast onto the surface to create a rough texture that facilitates plaster adhesion.



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Cleaning of Application Tools

Once **FOX CARBOND® FIBER ADHESIVE** has hardened, it can only be removed mechanically.

Consumption

For single-layer applications: 1 – 1.5 kg/m² per 300 g/m² carbon fiber fabric. For multi-layer applications: approximately 0.9 kg/m² for each additional layer

Watch Points

- **FOX CARBOND® FIBER ADHESIVE** should not be applied at temperatures below +5°C or above +30°C.
- Materials to be used should be brought to the application site 1–2 days in advance to acclimatize to ambient conditions.
- In cold weather applications, ambient and substrate temperatures should be increased. To improve workability, packaging should be conditioned at +20°C – 25°C before use.
- Rain, dust, wind, animals, and insects must be prevented from contacting the coating while it is still fresh.
- In resin-based systems, pot life and curing times are affected by ambient temperature, substrate temperature, and air humidity. At low temperatures, curing slows down, extending pot life, overcoating time, and working time.
- **FOX CARBOND®** structural strengthening systems must be applied by qualified and experienced applicators.
- **FOX CARBOND® FIBER ADHESIVE** is supplied in ready-to-use sets. Solvents or thinners must not be added to the mixture during application.
- Prepare only the amount of material that can be used within the working time.
- Mixing must be carried out using suitable mechanical mixers. Manual mixing is not recommended.

Packaging

5 kg set

Component A: 4.00 kg tin bucket

Component B: 1.00 kg tin bucket

Shelf Life

When stored properly in its original unopened packaging at temperatures between +5°C and +30°C, away from direct sunlight, the shelf life is 12 months from the date of production. Opened packages must be tightly sealed and consumed within 1 week.

Storage

Store in unopened original packaging in a cool and dry environment, protected from frost. For short-term storage, a maximum of 3 pallets may be stacked, and shipment should follow the first-in, first-out principle. For long-term storage, pallets should not be stacked.

Safety Precautions

It is dangerous to approach storage and application areas with fire. These areas must be properly ventilated. During application, appropriate work clothing, protective gloves, goggles, and masks must be worn in accordance with occupational health and safety regulations. Avoid contact with skin and eyes during storage and application; in case of contact, wash immediately with plenty of water and soap. If swallowed, seek medical advice immediately. Food and beverages must not be brought into application areas. Store out of the reach of children. For detailed information, refer to the Material Safety Data Sheet (MSDS).

Disclaimer

The data contained in this technical document are based on our scientific and practical knowledge. Fox Bau Yapı Kimyasalları A.Ş. is only responsible for the quality of the product itself. The company cannot be held liable for any consequences arising from applications or uses other than the written recommendations provided, and/or from improper use. For further details, please refer to the Safety Data Sheet and Technical Data Sheet or contact our authorized representatives.



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