

INNO-CRETE

FOX CARBOND® FIBER 312

Unidirectional Carbon Fiber Fabric

Description

FOX CARBOND® FIBER 312 is a unidirectional carbon fiber fabric developed for structural strengthening projects.

Fields of Application

- Strengthening of reinforced concrete beams against flexural and shear forces,
- Strengthening of reinforced concrete slabs against flexural forces,
- Increasing the compressive strength of columns by wrapping,
- Increasing the ductility of columns by wrapping,
- Strengthening of timber beams against flexural forces,
- Strengthening of masonry structures.

Advantages

- Lightweight and easy to handle.
- Economical solution.
- High mechanical strength.
- Due to its unidirectional continuous fiber structure, it provides significant ease in design and application for flexural and shear strengthening works.

Technical Properties

Material Structure	Carbon Fiber 12K
Areal Weight	300 g/m ²
Thickness	0,166 mm
Warp Density (ends/10cm)	36,50
Weft Density (ends/10cm)	10,00
Fabric Width	50cm-100 cm
Density	1,80 g/cm ³
Elongation at Break (%)	2,00±%2
Elastic Modulus	250 GPa
Tensile Strength of Carbon Fiber	4900 MPa

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 repaired 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. The application surface must be primed with **FOX CARBOND® PRIMER**. Prior to application, the carbon fiber fabric should be cut to the dimensions specified in the project.

Application

The carbon fiber fabric **FOX CARBOND® FIBER 312** shall be placed onto the surface previously coated with one layer of **FOX CARBOND® FIBER ADHESIVE**, tensioned in the direction of the fibers. To ensure impregnation of the adhesive into the fabric, pressure shall be applied using a roller in the fiber direction in order to remove air voids. Subsequently, a second layer of **FOX CARBOND® FIBER ADHESIVE** shall be applied onto the surface of the carbon fiber fabric using a roller, ensuring lamination between the two adhesive layers. In multi-layer applications, **FOX CARBOND® FIBER ADHESIVE** shall be applied by roller between each layer, and the carbon fiber fabric shall be pressed with a roller to ensure proper lamination within the adhesive.

To allow plaster application, after the final layer of **FOX CARBOND® FIBER 312**, while **FOX CARBOND® FIBER ADHESIVE** is still wet, sand shall be broadcast onto the surfaces to be plastered in order to create a rough texture that facilitates plaster adhesion.

Cleaning of Application Tools

Application tools and equipment should be cleaned immediately with solvent after use.



Consumption

Variable.

Watch Points

- **FOX CARBOND®** systems must be applied by qualified and experienced applicators.
- Care should be taken to prepare only the amount of material that can be used within the working time.

Packaging

Roll dimensions: 50×5000 cm and 100×5000 cm

Shelf Life

When stored properly at room temperature, away from direct sunlight, between +5°C and +30°C, the shelf life is 24 months from the date of production.

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.



FOX BAU YAPI KİMYASALLARI ANONİM ŞİRKETİ