

**Repair, Reinforcement and Restoration / Structural Reinforcement Products****CARBOFIX<sup>®</sup> Grid K 300/2x2**

Carbon Fiber Textile Reinforcement

**DESCRIPTION**

Technical textile reinforcement produced made of **carbon fiber**, used in the reinforcement of historical buildings, with a special grid-shaped structure that increases adherence and bearing strength. It weights 300 gr/m<sup>2</sup>, it can easily be shaped with its soft yarn-like structure, and gains a rigid structure with the epoxy resins it is used with.

**APPLICATION AREAS**

- Indoor and outdoor,
- Restoration and repair of historical monuments.
- increasing the carrying capacity of vaults, walls and domes of historical buildings
- Reinforcement of masonry walls,
- Increasing safety measures in excavation areas,
- Retrofitting of historical buildings in accordance with the original.
- Ground stabilization,
- Structural reinforcement of elements such as columns, beams and slabs.

**TECHNICAL PROPERTIES**

<b>Color</b>	Black
<b>Fiber Type</b>	Carbon fiber
<b>Fiber Density</b>	1.80 g/cm <sup>3</sup>
<b>Weight</b>	300 ± 5% gr/m <sup>2</sup> (TS EN 12127)
<b>Weight Ratio in 0° (Warp) Direction</b>	50%
<b>Weight Ratio in 90° (Weft) Direction</b>	50%
<b>Weaving Density</b>	24K Weaving Density
<b>Design</b>	20 x 20 mm opening mesh size
<b>Length</b>	Standard
<b>Width</b>	1.000 mm ± %2.50 (TS 3427 ISO 5025)
<b>Tensile Strength</b>	> 4.900 MPa
<b>Modulus of Elasticity</b>	> 240.000 MPa

**ADVANTAGES**

- Suitable for historical building.
- Easy to apply, has a special adherence enhancing coating to work together with reinforcement mortars.
- Used for floor and surface stabilization.
- Flexible, provides resistance against tensile stresses.
- No corrosion problem compared to steel.
- Has very high chemical resistance.
- Can be used more easily in applications with cement based products.

**PREPARATION OF THE SURFACE**

- The surface must be cured.
- The surface must be clear of materials which prevent bonding, such as dust, oil, paint, curing agents, detergents, mold release oils and silicone.
- The surface must be smooth. If there are significant corrosion or weak parts on the columns, break the concrete and clean the iron reinforcement of rust and repair with **REPOX 690T Epoxy Based Double Component Thixotropic Solvent Free Installation Putty and Repair Mortar** to obtain a smooth and solid surface.

**APPLICATION**

- Cut CARBOFIX Grid K 300/2x2 with special industrial shears in line with the project.
- Apply **REPOX 410 T Epoxy Based Thixotropic Adhesive and Mounting Putty** for vertical and overhead applications, **REPOX 400 Epoxy Based Concrete Reinforcement Resin and Adhesive** for horizontal applications to the concrete surface.
- Apply **REPOX 400** or **REPOX 410T** to the surface with a roller, trowel or spatula. The thickness should be between 0.5 – 3 mm.
- Adhere CARBOFIX Grid K 300/2x2 in appropriate size with a spatula or roller in a way that there is no air gap while the epoxy adhesive is still wet, Remove the epoxy resin from the bottom over the carbon fiber with a serrated roller. Apply to the entire surface. If the epoxy resin is insufficient, repeat the application and pull the epoxy resin to the upper level again and saturate the carbon fiber fabric with resin.
- Apply the second layer of adhesive on the fibrous polymer fabric adhered to the surface with a roller in the direction of the fibers. In multilayer fiber polymer applications, use 700-800 gr/m<sup>2</sup> adhesive between layers.
- In order to apply plaster on it, sprinkle silica sand while the epoxy adhesive is still wet after the application of the last layer of Carbofix Grid K 300/2x2.
- If it is necessary to heat the application area, do not use gas, oil, paraffin or similar fossil fuel heaters. Use only electric heater systems blowing warm air.
- Use the mixture in maximum 30 minutes at average +23°C. Full curing and mechanical and chemical resistance is reached after 7 days.

**CAUTION**

- Make sure that the carbon textile reinforcement is completely covered after application.
- Avoid application at temperatures below +10°C and above +30°C.
- Mix epoxy products with a low speed mixing drill. Never mix by hand or with a trowel. Do not add water, solvent etc. to the mixture.
- Working and hardening times of epoxy resin based products depend on ambient and ground temperature. At low temperatures, viscosity increases, chemical reaction slows down, thus pot life and working time are extended. At high temperatures, the opposite is the case.
- Avoid application on frozen areas, on areas under risk of freezing in 24 hours or on areas open to direct sunlight or wind.
- Do not touch for at least 24 hours after the application and prevent water contact for 48 hours.

**PACKAGING**

Standard

**HEALTH AND SAFETY**

As with all chemical products, avoid contact with food, skin, eyes and mouth during use and storage. In case of contact, wash immediately with plenty of water and soap, and if swallowed, consult immediately a doctor. During application, wear work clothes, protective gloves, goggles and masks in accordance with occupational health and safety rules. Do not bring food and beverage into the application areas. Do not approach the storage and application areas with fire. Ventilate the area. Store out of the reach of children.



## Technical Data Sheet (TDS)

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Page  
3 / 3

The application instructions and technical values given for the products have been obtained in accordance with our tests and experiences in accordance with international standards at  $23\pm 2^{\circ}\text{C}$  temperature and  $50\%\pm 5\%$  relative humidity conditions. These values may vary depending on ambient conditions. High temperatures shorten the times, low temperatures lengthen them. Before starting the application, the user should test whether the product is suitable for the application and purpose. FIXA Construction Chemicals Ltd is not responsible. This Technical Data Sheet remains valid until the next revision is published. FIXA reserves the right to change the values specified in this Technical Data Sheet, provided that the new version is published. It is the user's responsibility to check that the document is up-to-date. Please contact our sales department for more information.

