

Kratos C-Fabric

Technical Data Sheet



DEFINITION

Kratos C-Fabric is a uni-direction woven fiber carbon fabric with high tensile strength. The fabric is woven with carbon fibers, one of the strongest materials known in the world. Despite its strength, the fibers, which have the softness of yarn, are easily formed into the desired shape and become rigid when used with Kratos Prime Resin special epoxy resin.

PURPOSE OF USE

- In case of mechanical damage to the structure due to an external factor (earthquake, vehicle collision, etc.),
- To increase the life of the building,
- It is used to change the design of the structure after the construction is completed.

APPLICATION AREAS

- Increasing the load bearing capacity of reinforced concrete beams by strengthening them against bending and shearing,
- Increasing the load bearing capacity of reinforced concrete floors by strengthening them against bending,
- Increasing the shear and compressive strength and ductility of reinforced concrete columns by wrapping,
- In strengthening wooden beams against bending,
- In the reinforcement of masonry structures,
- Increasing the load bearing capacity of cast-in-situ and precast reinforced concrete and prestressed concrete elements.

FEATURES & BENEFITS

- Can be used in all strengthening works,
- Can be applied regardless of the surface shape,
- Has low density, so the additional load it brings to the applied surface is less,
- Lightweight and easy to carry,
- Has high fatigue resistance,
- Yield is very limited.

APPLICATION DETAILS

Surface Preparation: The application surface must be dry and free from all kinds of dust, dirt, weak and loose particles, cement grout residues, oil, and grease. The concrete surface must be clean, durable, and of sufficient strength.

Plaster and paint on the application surface, if any, must be removed. Weak concrete pieces, if any, on the application surface must be removed and repaired with high-strength repair mortar and restored. The application surface must be cleaned using various methods such as holding compressed air, etc. to provide the highest adhesion strength. Corners of elements such as columns and beams must be chamfered and rounded at least 30 mm (1.18 inch).

Ambient Temperature: Minimum +10°C (50 °F) and maximum +30°C (86 °F)

Tool Cleaning: All tools should be cleaned with solvent immediately after use.

Application: Kratos C-Fabric is made ready by cutting with a razor blade according to the geometrical properties of the surface to be applied. The prepared Kratos Prime Resin mixture is applied to the concrete with a roller. Afterwards, Kratos C-Fabric is stretched

on the surface in the direction of the fibers, and Kratos Prime Resin is firmly adhered to the carbon by hand. There must be no air between the fabric and the surface. For Kratos Prime Resin to be absorbed into the fabric, air gaps must be removed by pressing in the direction of the fibers with a roller. Thus, Kratos C-Fabric is fully adhered to the surface. During bonding, Kratos Prime Resin at the bottom is provided to come out with a rough plastic roller. This process is done in such a way that Kratos Prime Resin is placed on the entire surface homogeneously, and if Kratos Prime Resin is insufficient, Kratos Prime Resin is drawn again and the carbon fibers are saturated with it. If a second coat of Kratos C-Fabric is to be applied to the surface, Kratos Prime Resin should be applied over Kratos C-Fabric with a roller and the fibrous polymer should be laminated between two layers of adhesive. In multi-layer fibrous polymer applications, Kratos Prime Resin should be applied with a roller between each layer and the fibrous polymer fabric should be pressed with a roller and laminated in the adhesive. If plaster will be applied on the CFRP surface, sand should be sprinkled before Kratos Prime Resin on the last layer dries, and roughnesses should be formed on the surface that will facilitate the adhesion of the plaster. Sprinkled sand provides adherence between the carbon fiber and the plaster to be made.

Protection after application: After the application is completed, the surface covered with Kratos C-Fabric must be protected from all kinds of impacts, fire and sunlight.

Consumption: On concrete surfaces, depending on the surface, Kratos Prime Resin is applied with a consumption of 1,0-1,5 kg/m² (0.20-0.31 lb/ft²), including the primer and the first layer. The material is then impregnated with Kratos Prime Resin using a rough roller. The consumption in the layers following the first layer is around 0.4-0.6 kg/m² (0.08-0.12 lb/ft²). Kratos C-Fabric consumption is 1.20 m²/ m² (1.20 ft²/ ft²) when wrapped and 1.00 m²/m² (1.00 ft²/ ft²) when applied on a flat surface.

SHELF LIFE & STORAGE

It must be stored at standard room temperature, in a dry and closed area, out of direct sunlight. If stored under these conditions, the shelf life is 3 years from the production date.

PACKAGING

25 m² (0,50 x 50 m) roll 270 ft², (1,64 x 164 ft)

50 m² (0,50 x 100 m) roll 540 ft², (1,64 x 328 ft)



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SAFETY INSTRUCTIONS

Be sure to read and understand each product's own material safety sheet before using the products.

KRATOS C-FABRIC TYPES & TECHNICAL SPECIFICATIONS

Type	Kratos C-Fabric 300	Kratos C-Fabric 600	Kratos C-Fabric BD 600
Width (mm) (inch)	500 (19.69)	500 (19.69)	500 (19.69)
Tensile Strength (MPa) (ksi)	4000-5000** (580-725)	4000-5000** (580-725)	4000-5000** (580-725)
Elastic Modulus (GPa) (msi)	>235 (34)	>235 (34)	>235 (34)
Elongation at Break (%)	~2**	~2**	~2**
Area Weight (g/m ²) (oz/ft ²)	300 (1)	600 (2)	600 (2)
Stiffness per Unit Width* (kN/mm) (Msi/in)	40 (22.81)	80 (45.62)	80 (45.62)
Nominal Thickness of Fabric (mm ² /mm) (in ² /in)	0.168 (0.0066)	0.336 (0.0132)	0.336 (0.0132)
Fiber type (k)	12/24k	12/24k	12k/24k

*Value is for per ply of laminated composite

** Product performance varies according to the raw material. For detailed information, you can contact the sales representative.

LEGAL DISCLAIMER

The recommendations regarding the use of Kratos C-Fabric product presented by Kordsa Teknik Tekstil A.Ş. under the document are only recommendations and may vary according to the customer's purpose of using the product and technical data. Since the customer has the expertise and knowledge regarding the intended use of the product and the products made from the product in question, regardless of whether the product is used alone or with other materials, the customer undertakes all the risks and responsibilities arising from the use of the product. Kordsa Teknik Tekstil A.Ş. expressly declares that it is not liable for any loss and / or expense that may arise in the eye of the customer, regardless of whether it is used in accordance with the usage recommendation offered to the customer.

