

Kratos C-Plate

Technical Data Sheet



DEFINITION

Kratos C-Plate is a plate product with a high modulus of elasticity obtained by laminating carbon fibers extending in one direction with polymer-based epoxy resin. The plate is formed by combining carbon fibers, one of the strongest materials known in the world. Kratos C-Plate must be used with Kratos Adhesive, which has been specially developed for bonding to the surfaces to be applied.

APPLICATION AREAS

- Increasing the load-bearing capacity of reinforced concrete beams by strengthening them against bending,
- Increasing the load-bearing capacity of reinforced concrete floors by strengthening them against bending,
- Strengthening the floor by eliminating the weaknesses that may be caused by the later formed floor opening

PURPOSE OF USE

- In the repair of the structure in case of mechanical damage due to an external factor (earthquake, vehicle crash, etc.),
- To increase the life of the structure,
- To change the design of the structure after its construction is completed

FEATURES & BENEFITS

- Can be used in all strengthening works,
- 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.

Ambient Temperature: Minimum 15°C (59°F) and maximum 25°C (77°F)

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

Application: Kratos C-Plate is cut and made ready according to the dimensions shown in the project and the geometric properties of the surface to be applied.

The prepared Kratos Adhesive mixture is applied with a spatula to both the concrete with a thickness of 1-1,5 mm (0.04-0.06 inch) and the surface of the Kratos C-Plate product to be bonded. Afterwards, the Kratos C-Plate should be fixed in a way that it does not swell by stretching in the direction of the fibers. The plate must be pressed with a roller so that no air remains between the plate and the surface.

Protection After Application: After the application is completed, Kratos C-Plate surfaces should be protected from all kinds of impacts, fire, and sunlight. If it will be applied to a place that will see sunlight, the surface must be covered with repair mortars within 7 days.

Consumption: On concrete surfaces, Kratos Adhesive is applied with a total consumption of 2-3 kg/m² (0.4-0.6 lb/ft²), on the Kratos C-Plate surface, depending on the surface.

SHELF LIFE & STORAGE

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

PACKAGING

Roll with 100 m (328 ft) length.

SAFETY INSTRUCTIONS

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

KRATOS C-PLATE TYPES & TECHNICAL SPECIFICATIONS

Type	50 mm x 1.2 mm (1.97 inch x 0.047 inch)	50 mm x 1.4 mm (1.97 inch x 0.055 inch)	100 mm x 1.2 mm (3.94 inch x 0.047 inch)	100 mm x 1.4 mm (3.94 inch x 0.055 inch)
Width (mm) (inch)	50 (1.97)	50 (1.97)	100 (3.94)	100 (3.94)
Cross Section Thickness (mm) (inch)	1,2 (0.047)	1,4 (0.055)	1,2 (0.047)	1,4 (0.055)
Tensile Strength (MPa) (ksi)	>2800	>2800	>2800 (362)	>2800 (362)
Elastic Modulus (GPa) (ksi)	≥175	≥175	≥175 (26106)	≥175 (26106)
Elongation at Break (%)	>1,5	>1,5	>2,5	>2,5

LEGAL DISCLAIMER

The recommendations regarding the use of Kratos C-Plate 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.

