

BET10® CARBON LAMINATE

Carbon Fiber Reinforced Polymer Plate Product Technical Data Sheet



GENERAL FEATURES

DESCRIPTION

BET10® Carbon Laminate is a pre-manufactured carbon fiber reinforced polymer plate material used to increase the flexural strength and stiffness of reinforced concrete, steel, and wooden structural elements.

FIELDS OF APPLICATION

BET10® Carbon Laminate systems can be defined as pre-manufactured carbon fiber-reinforced polymer plate materials (laminates) that can be used in many different structural elements. These systems are designed to increase the bending strength and stiffness of beams, slabs, and steel/wood members. Additionally, they can be used to increase the bending capacity of floors with heavy loads (machines, shelves, etc.), increase the stiffness of beams and slabs that deflect, compensate for section losses due to installations such as ducts, stairwells, etc., increase the bending capacity of beams and slabs in structures where usage and service loads change, and to absorb stresses arising from vibrations caused by machines mounted on reinforced concrete slabs.

ADVANTAGES

- BET10® Carbon Laminate system is much easier and faster to apply compared to traditional reinforcement methods such as steel or concrete wrapping.
- It reduces deflections caused by service loads in slabs and beams due to their high modulus of elasticity.
- It increases the load-bearing capacity of structures (for new loads resulting from changes in the building's use).
- It is very lightweight, so they do not add any additional load to the structure.
- There is no need to evacuate the building during reinforcement applications; reinforcement work can be carried out while the building is still in use with partial adjustments.
- It has very high tensile strengths (even higher than the steels used in prestressed concrete industry).

APPLICATION

PREPARATION OF THE SURFACE

Before starting the application, fibrous polymer fabrics of planned dimensions should be cut and cleaned from foreign materials such as oil, grease, dirt, etc. on their surfaces using solvents such as thinner.

APPLICATION

The smooth surfaces of pre-prepared carbon fiber plates should be coated with BET10® Carbon Laminate Adhesive using a spatula at a thickness of 1-1.5 mm. In addition, the primed surfaces should also be coated with BET10® Carbon Laminate Adhesive using a spatula in the same manner. Then, the carbon fiber polymer plates with adhesive on the back should be gently stretched and securely fixed in place in the direction of their fibers, without causing any swelling. Finally, the carbon plates should be rolled over in the direction of their fibers, ensuring that there are no gaps between the concrete surface and the plates.

In areas exposed to sunlight, suitable cement-based repair mortars should be applied within 7 days after application. If fire resistance is desired, the plates should be covered with fire-resistant special mortars in an appropriate thickness.

THINGS TO CONSIDER

- Bet10® FRP systems should only be applied by expert applicators.
- During the application, protective equipment such as gloves and goggles should be used as safety gear. Additionally, Bet10® Carbon Laminate should not be handled with bare hands.
- In special cases (different weather conditions, different application areas, etc.), if any application is to be made that is not specified in the information sheet, Bet10® Construction Chemicals Technical Service should be consulted.

TECHNICAL DATA

Özellikler	BET10® Carbon Laminate 50/1.2 CFS	BET10® Carbon Laminate 100/1.2 CFS
Material Type	Carbon	Carbon
Elasticity Modul (N/mm ²)	≥165	≥165
Tensile Strength (N/mm ²)	≥3000 Mpa	≥3000 Mpa
Density (g/m ³)	1,5	1,5
Thickness S (mm)	5	5
Width L (mm)	50	100
Cross Section Area	60	120

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THINGS TO CONSIDER

CLEANING OF TOOLS

After the application, the tools and equipment used should be cleaned with solvent. Bet10® Carbon Laminate can only be mechanically removed from the surface after it has hardened.

PACKAGING

BET10® Carbon Laminate 100 m. rolls

STORAGE

Store the products in a closed, ventilated, dry place away from moisture, fire, flames, and direct sunlight (+5°C- +30°C).

SAFETY PRECAUTIONS

Preventive measures taken for conventional chemical products should be considered when using this product. After the work is completed or interrupted, hands should be washed thoroughly with plenty of water, and food, drink, and smoking should be avoided. Special safety information regarding the use and transportation of this product is available in the Material Safety Data Sheet. Relevant Health and Safety Information Documents should be consulted for complete information on health and safety issues. This product and its packaging should be disposed of in accordance with local laws and regulations. This responsibility belongs to the end user of the product.

DISCLAIMER

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