Tecnoplate P – pultrusion-

REINFORCEMENT SYSTEM WITH CARBON FIBRE LAMINATES

Description

Carbon fibre plates obtained by pultrusion process impregnated with epoxy resins, available in different elasticity modulus, as 160 GPa, 250 GPa and other required measures.

Advantages and characteristics

- The mechanical performance of the reinforcement system Tecnoplate shows a typical linear elastic behaviour till break.
- Excellent mechanical properties.
- Excellent fatigue resistance
- High resistance to chemical attack
- No corrosion
- Excellent resistance to frost/thaw cycles.
- Low dilatation coefficient (50 times lower than steel one).
- No sliding or relaxation under permanent load.
- High resistance to heat.
- Low weight, easy to manipulate on the jobsite and easy to cut for required dimensions.

Fields of use

Main applications:

- Reinforcement supporting beams, in concrete, wood or steel
- Reinforcement of concrete floors
- Recovery of structures with seismic damage

Methode of use

The product is applied to the surface of the structural elements to be reinforced, by mean of epoxy resin TECNOEPO 701/UNIC (adhesive).
The pasting of the plates with these adhesive can be made only after a thorough preparation of the substrate, using sand or grid-blasting in order to remove all dust and incoherent parts.
When the substrate is deteriorated or it shows a steel reinforcements corrosion*, it is advisable to apply epoxy putty to level and repair the surface. The installation of the fabric has to start with the application of the epoxy resin TECNOEPO 701/L by spatula at a coverage of approx 1÷ 1,5 kg/m² on the whole contact substrate of the plates *(for the polyamide tissue, remove first the protective peel-off layer "peel ply")* and directly on the plate.
Apply the plates and shore them up until the adhesive is cured.
The curing depends on the reticulation time of the epoxy resin and it is linked to the climatic conditions like temperature and humidity. In particular, applications at temperature lower than +10°C, and at high relative humidity should be avoided. In case of application at temperatures below +10°C, and in order to have a pot life of the epoxy adhesive not too much delayed, it is advisable to heat slightly the environment.

* Note: Use our VHDRS® Very High Durability Repair & Prevention Systems and consult our Technical Office for any further information.

Remarks

The positioning of the plates must follow the project directions.

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Packaging Rolls of continues membrane, length 25, 50 or 100 m.

Technical characteristics (typical values)

TYPE (standard)	DIMENSIONS Width x thickness (mm)	Carbon fibre size (mm^2)	TENSILE STRENGTH (MPa)	ELASTICITY MODULUS (GPa)	ELONGATION AT BREAK %
Tecnoplate P 5-160	50x1,4	47	2600	160	1,4
Tecnoplate P 6-160	60x1,4	57	2600	160	1,4
Tecnoplate P 8-160	80x1,4	76	2600	160	1,4
Tecnoplate P 10-160	100x1,4	95	2600	160	1,4
Tecnoplate P 12-160	120x1,4	114	2600	160	1,4
Tecnoplate P 15-160	150x1,4	142	2600	160	1,4
Tecnoplate P 5-210	50x1,4	47	2400	210	0,95
Tecnoplate P 6-210	60x1,4	57	2400	210	0,95
Tecnoplate P 8-210	80x1,4	76	2400	210	0,95
Tecnoplate P 10-210	100x1,4	95	2400	210	0,95
Tecnoplate P 12-210	120x1,4	114	2400	210	0,95
Tecnoplate P 15-210	150x1,4	142	2400	210	0,95
Tecnoplate P 5-250	50x1,4	48	2300	250	1,30
Tecnoplate P 10-250	100x1,4	95	2300	250	1,30

other elastic modulus on request

Safety indications Read carefully the indications on the packaging, or consult the specific Material Safety Data Sheet.

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