

MBrace[®] LAMINATE

Ready to use carbon laminates (Fibre Reinforced Polymer) for the reinforcement of concrete and wood elements with MBrace[®] FRP Laminate System

Description

MBrace[®] Laminate is a ready to use pultruded carbon fibre laminate that provides a high tensile strength and is excellent for supplemental flexural reinforcement of concrete and wood elements with MBrace[®] FRP Laminate System.

Features and benefits

To reinforce structures with strong elements in tension, MBrace[®] Laminate enables the traditional technique of plating with steel plates to be replaced with extremely light materials that are easy to install and to:

- Increase the load-bearing capacity (e.g. structural conversion following a change in capacity load).
- Reduce deformation to the working loads (increase in rigidity).
- Increase the fatigue strength.
- Limit or cover the cracking states (increase in durability).

The MBrace[®] FRP Laminate also:

- Enables the amount of reinforcement to be calculated and placed in relation to the performance required or the stress flow.
- Enables less and faster maintenance, thereby reducing costs.
- Increases the durability of the structure by protecting it against the aggressive action of chlorides and freezing and thawing cycles.

Packaging

150 and 100 metre rolls:

- 50mm / 1.2mm
- 50mm / 1.4mm
- 80mm / 1.2mm
- 80mm / 1.4mm
- 100mm / 1.2mm
- 100mm / 1.4mm
- 120mm / 1.4mm

Other sizes to order.

*Performance data (Typical) Laminates CFK 165/3000

Modulus of elasticity	Tensile strength at break
>165 GPa	3000N/mm ²
Width / thickness mm / mm	Tensile force at elongation of 0.6/0.8%
50/1.2	60/78 x 10 ³ N
50/1.4	70/91 x 10 ³ N
80/1.2	96/109.2 x 10 ³ N
80/1.4	112/145.6 x 10 ³ N
100/1.2	120/156 x 10 ³ N
100/1.4	140/182 x 10 ³ N

Laminates CFK 210/2500

Modulus of elasticity	Tensile strength at break
>210 GPa	2500N/mm ²
Width/thickness mm/mm	Tensile force at elongation of 0.6/0.8%
50/1.4	87.5/115.5 x 10 ³ N
60/1.4	101.4/134.1 x 10 ³ N
80/1.4	151/184.8 x 10 ³ N
100/1.4	189/224 x 10 ³ N
120/1.4	201/269 x 10 ³ N

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Application

- The surfaces of elements that are still in good condition or restored should be profiled. With degraded structures, the whole damaged layer should be removed by scarifying, hydrodemolition or such like and then structural restoration carried out with suitable mortar e.g., Emaco S22 NT.
- Remove oils, grease, dust or any other loose material from the surface.
- Clean up the laminate surface with a proper solvent.
- Apply one layer of MBrace[®] Laminate Adhesive 220 3mm thick on the surface of laminate and a thin layer on the substrate.
- Apply MBrace[®] Laminate and using a roller, exert a constant pressure by moving the tool both ways in the direction of the fibres.
- Clean up.

Precautions

Surfaces exposed to UV rays should be protected with a suitable product in order to maintain perfect bonding between the MBrace[®] FRP Laminate and the structure.

Safety

- Always wear gloves, goggles and suitable work clothes during mixing in order to avoid contact with the skin.
- In the event of accidental contact, thoroughly wash the affected parts with water and soap or an appropriate detergent.
- Do not use solvents or thinners.

- Do not inhale the vapours and sprays; a continual change of air should be ensured for application in a closed environment.
- Under no circumstances drink, eat or smoke during use.
- Comply with safety regulations on the use of products that are inflammable or contain solvents.

For applications with surfaces, climatic conditions or use other than those indicated in the product sheet contact our Technical Department.

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* Properties listed are based on laboratory controlled tests.

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