

Products and techniques for construction and chemical industry

PC® CARBOCOMP CMU - 1,4 THICKNESS

High modulus unidirectional carbon fibre laminates for the reinforcement of structures

1. Description

Epoxy carbon fibre laminate composed of high modulus unidirectional carbon fibres.

Fibre content: 68 volume %

Available widths: 50, 60, 80, 100, 120 mm

Effective thickness: 1,4 mm

2. Application

Reinforcement of beams, floors, walls and columns made of concrete, wood or steel. Strengthening of bridges and buildings, for example in the following cases:

- Repair of the original bearing capacity, for example after fire or corrosion of the rebars.
- Local strengthening of construction elements, when making openings in floor plates or walls.
- To increase the load bearing capacity.
- To repair errors construction errors.

3. Properties

| Tensile strength average value min. value | 2200MPa >2050MPa |
|---|---------------------|
| Modulus of elasticity average. value min. value | 210GPa >200GPa |
| Elongation min. value | >0,98% |

4. Advantages

- High tensile strength and stiffness
- Low self-weight
- · Very low creep
- Flexible in use
- · Large lengths can be installed jointless
- Excellent corrosion, acid and alkali resistance

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- High durability
- Small thermal expansion
- Requires little to no maintenance
- The finish with paint or plaster demands no special requirements
- The laminate is protected by a peel ply that has to be removed prior to application. Thanks to this no roughening, cleaning or degreasing is necessary

5. Processing

- Concrete, steel, wood: the surface must be cleaned, prepared and smoothened.
 - o Concrete: the surface has to be free of grease, cement and dust. Repair unevenness and weak zones (the adhesion strength should, if possible, be superior to 1,5 N/mm²). Smoothen the surface, remove all dust and dry (<3%).
 - $_{\odot}\,\text{Metal:}$ degrease and remove all rust, high pressure cleaning is preferred.
- Remove the peel ply in the longitudinal direction towards the end of the laminate and at an <45° angle.
- Apply the epoxy glue PC® 5800/BL on the surface of the laminate that has to be glued: mix the components of PC® 5800/BL, apply on the laminate with a spatula and make sure that no air is being entrapped.
 - \circ Consumption: \pm 3 to 5 kg/m² depending on the roughness of the surface.
 - Pot life: ca 30 min at 20°C
 - After positioning the laminate on the surface, it must be pressed until a minimal quantity of glue comes out from underneath the laminate.
- Remove the excess glue with PC® 5900.

6. Dimensions and shelf life

Length: 100 m Shelf life: unlimited

7. Precautions and safety requirements

• PC® Carbocomp:

The laminate can have sharp edges, so wear protective gloves. Keep it away from electricity.

- Epoxy glue: see technical data sheet PC[®] 5800/BL
- Cleaner: see technical data sheet PC[®] 5900

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