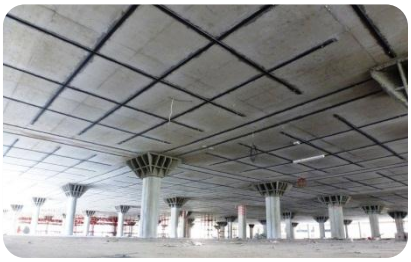
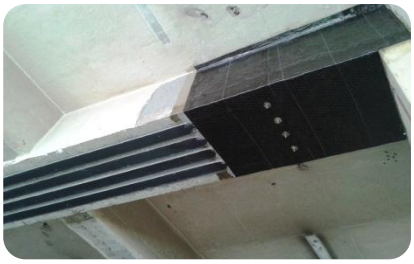
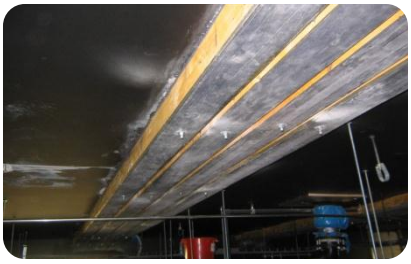
PC® CARBOCOMP PLUS

MULTIDIRECTIONAL CARBON FIBRE LAMINATES THAT CAN BE ANCHORED WITH BOLTS







1. Description

Epoxy carbon fibre laminate composed of unindirectional carbon fibres and carbon fibres at +- 45° direction, which can be anchored with bolts.

- Width: 50, 60, 80, 100, 120mm
- Minimum fibre content: 65%.

2. Application

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

- Repair of the original bearing capacity, like after a fire or corrosion of the rebars.
- Local strengthening of construction elements, when making holes through floor plates or walls.
- To increase the load bearing capacity.
- To repair construction errors.

3. Properties

Effective Thickness	1mm
Tensile Strength	> 2400 Mpa (average value)
Modulus of Elasticity	> 160 GPa (Min. value)
Maximum Elongation	1,33% (Min. value)
Density	1,6g/cm³
Water Absorption	< 0,1 percent by weight
Application Temperature	- 40°C to + 130°C

4. Advantages

4.1 Global Advantages

- High Tensile strength and stiffness
- Light weight
- Very low creep
- Flexible in use
- Great lengths can be installed jointless
- Excellent corrosion, acid and alkali resistance
- High durability
- Little thermal expansion
- Requires little or no maintenance
- The finishing with paint or plaster demands no special requirements.
- The laminate is protected by a peel ply that must be removed before application. Thanks to this no roughening, cleaning and degreasing is necessary.

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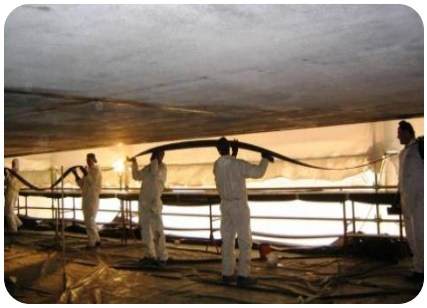

REFERENCE BEAM:
PLASTIC DEFORMATION OF REBARS, LARGE DEFLECTION, FAILURE AT **2X68KN**

GLUED LAMINATE:
CONCRETE RIP-OFF, BRITTLE FAILURE AT **2X85KN**

GLUED AND BOLTED LAMINATE:
SEMI-DUCTILE BEHAVIOUR, CONCRETE CRUSHING, FAILURE AT **2X118KN**

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4. Advantages (Cont)

4.2 Advantages of Bolting

- Prevents premature debonding phenomena → higher security of the structure.
- Achievement of high strengthening factors.
- Shortening of the anchorage length.
- Application of poor quality concrete possible (tensile strength < 1,5 MPa).
- Increase of the ductility of the reinforced element → early warning in case of failure of the structure.
- Resistance against vibration and impact.

5. Processing

- Concrete, steel, wood: the surface must be cleaned, prepared and smoothened.
  - Concrete: The surface has to be free of grease, cement and dust. Repair unevenness and weak zones. Smoothen the surface, remove all dust and make dry.
  - Metal: Degrease and remove all rust, high pressure cleaning is preferred.
- Remove the peel ply.
- 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 enclosed.
  - Consumption: ± 3 to 5kg/m² depending on the roughness of the surface.
  - Pot Life: ca 30 minutes at 20°C
  - After positioning the laminate on the surface, it must be pressed until a minimal quantity of glue comes out underneath the laminate. Remove the glue that is pressed out with PC® 5900.
- Drill holes in the laminate and anchor the stainless steel bolts.
- Avoid contact of the carbon fibre laminate with metal by applying a plastic, glass or polyester membrane in between.

6. Packaging

Length : 100m
Storage : Unlimited

7. Precautions & Safety Measures

- PC® CarboComp Laminates: The laminate can have sharp edges, therefore wear safety gloves.
- Keep away from electricity.
- Epoxy glue: See the data sheet of PC® 5800/BL.
- Cleaner: See data sheet of PC® 5900.