

PRODUCT DATA

CARBOCOMP PLUS MULTIDIRECTIONAL CARBON FIBRE LAMINATES

PRODUCT DESCRIPTION

CarboComp Plus is a unique vacuum formed epoxy carbon fibre laminate composed of both unidirectional carbon fibres and carbon fibres at $\pm 45^\circ$ direction, which can be mechanically anchored.

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

APPLICATION

Reinforcing of beams, floors, walls and/or columns in concrete, steel and timber construction. Strengthening of bridges and buildings, for example in the following cases:

- Repair of the original bearing capacity, eg. after fire damage or corrosion of reinforcement.
- Local strengthening of construction elements, eg. when making holes through floors or walls.
- To increase load bearing capacity.
- To repair construction errors.

PROPERTIES

Effective Thickness	1.2mm
Tensile Strength	>2,400 MPa
Modulus of Elasticity	>165 GPa
Minimum Elongation	>1.33%
Density	<ul style="list-style-type: none"> • Carbon Fibre: Approx. 1.6 g/cm³ • Manufactured Laminate: Approx. 2.0 g/cm³
Water Absorption	<0.1 percent by weight
Operating Temperature Range	-40°C to +130°C

ADVANTAGES

Global Advantages:

- High tensile strength and stiffness.
- Lightweight.
- Very low creep.
- Flexible in use.
- Long lengths can be installed jointlessly.
- Excellent corrosion, acid and alkali resistance.
- High durability.
- Minimal thermal expansion.
- Requires little or no maintenance.

- Finishing with paint or plaster or other finishes demands no special preparation.
- Laminate rolls are plastic wrapped at time of manufacture to protect bonding surfaces during transit and site storage, ensuring ease of placement.

Advantages of Bolting:

- Prevents premature de-bonding phenomena for higher security of the structure.
- Helps achieve higher strengthening factors than simply bonded plates.
- Shortens anchorage length.
- Application to poor quality concrete possible (tensile strength < 1.5 MPa).
- Increases the ductility of the reinforced element, gives early warning in case of failure.
- Resistance against vibration and impact.

APPLICATION

Concrete, Steel and Timber Surfaces:

- The surface shall be free of grease, cement, dust and any deleterious matter prior to application of the system. Repair any unevenness, poor quality concrete or weak areas. Smooth out the surface, remove all dust and ensure it is dry.

Metal:

- Degrease and remove all rust. High pressure cleaning is preferred.

Laminate:

- Mix the components of 5800/BL, apply on the laminate with a spatula, make sure that no air is being entrapped.
- Consumption: See Table 1 for typical consumption.
- Adhesive Pot Life: Circa 40 minutes at 20°C
- After positioning the laminate on the surface, it must be pressed (Eg. with a small hard roller) until a minimal quantity of adhesive extrudes from the sides. Remove any excess adhesives with 5900 cleaner.
- Drill holes through the laminate and into the concrete to the required depth and secure with stainless steel anchors/bolts.
- Avoid direct contact between the carbon fiber laminate and bolts or washers by applying a layer of plastic or polyester membrane in between the carbon fiber laminate and fixing.

CARBOCOMP PLUS

MULTIDIRECTIONAL CARBON FIBRE LAMINATES

PACKAGING

- Length: 100m, 50m
- Storage: Unlimited

PRECAUTIONS & SAFETY MEASURES

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

NOTES

- Safety Data Sheets for CarboComp Plus products are available upon request.
- A staff of Technical Service Engineers is available to assist with installation or to answer questions related to CarboComp Plus products.
- Requests for technical service or literature can be made through local sales representatives and offices or corporate offices located worldwide.

TABLE I

WIDTH OF CARBOCOMP LAMINATE (mm)	TYPICAL CONSUMPTION RANGE (kg/m Length of Plate)
50	0.25 - 0.35
60	0.30 - 0.40
80	0.40 - 0.55
100	0.55 - 0.80
120	0.65 - 1.00
150	0.85 - 1.25

NOTE: These are typical values

Important:

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