



## Kimitech CB

ST12-0223

*Range of carbon fibre reinforcement fabrics with different weights and textures for structural consolidation.*



### DESCRIPTION

**Kimitech CB** is a family of carbon fiber reinforcement fabrics available in different weight and texture, specific for structural consolidation. Its advantages are: high mechanical resistance, low thickness and weight, speed and ease of installation, great workability and ductility, ability to orient and size the reinforcement of the structure as needed, good reversibility, excellent resistance to stray currents, solvents, acids. The product, properly treated, can be finished with spurs, plaster, paint or fire protection. **Kimitech CB** fabrics are part of **Kimitech CB** system which gained the Italian **CVT** n° 405.

### ADVANTAGES

- **Performing:** high mechanical strength even in low thickness and weight; great resistance to stray currents, solvents, acids.
- **Versatile:** may orient and size the reinforcement depending on the structure. Reversible.
- **Easy to apply:** fast and easy to lay even in express works.

### USES

**Kimitech CB** fabrics are used for structural consolidations of r.c., steel, wood and masonry elements. They are particularly suitable for plating inflected elements, to reinforce beams and partitions, to confine pillars and, in general, to circle buildings.

### WORKS

- Structural reinforcement with high resistance carbon fiber tissues impregnated with resins (**SA61**)
- Structural reinforcement of vaults and arches using composite materials strips (**SA117**)

### APPLICATION

Please refer to the specifications and technical data sheets of the materials to be used depending on the kind of work to be performed.

In case of reinforced concrete structures, the concrete

substrate, where we apply the reinforcing system, shall not have a concrete compressive resistance less than 15 N/mm<sup>2</sup>. In case of masonry support, follow instructions mentioned at §5.8.1.1 of Guide Lines CNR DT 200 R1/2013.

Once the surface has been prepared and primed with **Kimicover FIX**, spread **Kimitech EP-TX** epoxy adhesive. When fresh, roll out the fabric and, using a special metal roller, exert a slight pressure on it; this favours a good adhesion of the fabric and will avoid dangerous formations of air bubbles.

Apply by brush **Kimitech EP-IN** or **Kimitech CMP** epoxy impregnant on the fabric.

### STORAGE

Store in a dry place, no direct sunlight.

Article	g/mq	Density [g/cm <sup>3</sup> ]	Weaving**	Thickness tf *** [mm]	Resistant area per unit of width [mm <sup>2</sup> /m]	Impregnation resin consumption [Kg/mq]	Width bf [mm]
Kimitech CB 320	300	1,8	U	0,165	165	0,8	100; 200; 500.
KimitechC B 420	400	1,8	U	0,210	210	0,9	100*; 200; 500*.
Kimitech CB 620	600	1,8	U	0,348	348	1	100*; 200; 500.
Kimitech CB 820	800	1,8	U	0,450	450	1,5	100; 200*; 500*.
Kimitech CB ST 300	300	1,8	B	0,083	83	1	1000
Kimitech CB 380 MTX	380	1,8	Q	0,053	53	1,3	1270

For non-standard measures the min. order quantity is 300 m except for Kimitech CB 320, in this case the min. quantity is 1000 m

\* Min. order 300 lm

\*\* U: unidirectional, B:bi-directional, Q:quadri-directional

\*\*\* Referring to each weaving direction

Kimitech CB	Resistance class	Characteristic tensile strength [N/mm <sup>2</sup> ] (average value)	Maximum load per unit of width [KN/m] (average value)	Elastic modulus [Gpa] (average value)	Elongation [%] (average value)
Kimitech CB 320	210/C	> 4900	> 800	245±4%	> 1,9
KimitechCB 420	210/C	> 4900	> 1000	245±4%	> 1,9
Kimitech CB 620	210/C	> 4900	> 1700	245±4%	> 1,9
Kimitech CB 820	210/C	> 4900	> 2200	245±4%	> 1,9
Kimitech CB ST 300	210/C	> 4900	> 400	245±4%	> 1,9
Kimitech CB 380 MTX	210/C	> 4800	> 254	> 230	> 1,9

## WARNING

Product for professional use.

The product is an item according to the definitions of Regulation (EC) n.1907/2006 and therefore does not require a Safety Data Sheet.

The Obligations of marking are not related to the intrinsic nature of a given product, but to the use to which a specific material is used: before making the order, the buyer shall submit all the documentation available to the D.L. in order to determine the materials suitability (in terms of certifications and performance) in relation to the use for which they are intended.

The information and requirements indicated in this Technical Data Sheet are based on our current knowledge and experience and are to be considered, in any case, purely indicative. They cannot guarantee the final result of the applied product and they have to be confirmed by exhaustive practical applications; therefore the user must test the suitability of the product for the intended application and its purpose. Users must always refer to the latest version of the local technical data sheet related to the product.

## TECHNICAL SPECIFICATION

**SK61** - Structural reinforcement with high resistance carbon fibre tissues impregnated with resins

**SK117** - Structural reinforcement of vaults and arches using composite materials strips

If necessary, shoring the structures to be reinforced.

**(SK61)** Clean the surface to be treated removing detached parts and any material could affect the good adhesion between support and reinforcing system. The composite material must be applied on rounded angles (minimum radius 2 cm). Repair any cracks with adequate material (mortar or resin). In case of irregular surfaces, proceed smoothing it with adequate hydraulic mortars.

**(SK117)** Remove the floor, the screed and empty the filling material on the extrados of the vault. Repair any cracks with adequate material (mortar or resin) and rebuild if necessary damaged parts. Clean the support removing detached parts and any material could affect the good adhesion between support and reinforcing system.

As a primer, Kimicover FIX by Kimia S.p.A. or a similar product will be used respecting the following minimum consumptions:

- 0,2 Kg/m<sup>2</sup> (concrete or wood)
- 0,3 Kg/m<sup>2</sup> (masonry)
- 0,5 Kg/m<sup>2</sup> (gypsum or "cannucciato" structures)

As a bi-component epoxy adhesive, Kimitech EP-TX by Kimia S.p.A. or a similar product will be used respecting the following consumptions

- 3,5 Kg/m<sup>2</sup> on irregular support;
- 3 Kg/m<sup>2</sup> on wooden support;
- 2-2,5 Kg/m<sup>2</sup> on support treated with Tectoria or Betonfix mortars;
- 1,6-2 Kg/m<sup>2</sup> on a smooth RC support or a steel surface.

As reinforcing carbon-tissue fabric, Kimitech CB by Kimia S.p.A. or a similar product will be used, using as impregnation resin the fluid bi-component Kimitech EP-IN or Kimitech CMP by Kimia S.p.A. or a similar product.

As anchoring systems, if necessary, Kimitech FRP-LOCK or Kimitech FIOCCO by Kimia S.p.A. or similar products will be used.