

Unidirectional carbon fibre textile used to reinforce concrete (wooden) structures.

APPLICATION

The installation of the CARBOTEX UD Textile, can only be done by certified application companies (certification by the manufacturer) or companies having extensive experience with similar systems. In order to guarantee a correct application, the installer has to observe the quality control policy which governs this product. It is absolutely crucial to follow all the observations and guidelines given by the manufacturer and the consulting engineer for the design, the preparation, installation and quality control procedure. The CARBOTEX UD Textile is installed after adequate preparation of the surface. Both working and climatological conditions have to be appropriate.

- **Adequate preparation of the surface**

The surface has to be clean, dry, firm, rough and free of all contaminating elements (oil, grease, paint,...). The adherence of the textile to the surface is crucial for perfect functioning and optimal valorisation of the carbon fibre characteristics. Products for preparation (after concrete repair) of the surface are mentioned under preparation and repair in the CARBOSTRIP USERS GUIDE. (available on request). The CARBOTEX UD Textile is applied directly on the prepared surface (smooth, dry, firm, clean and free of any contaminating agents) in order to guarantee perfect adherence. The system is applied in only two steps.

- **Application: dry lay-up**

According to the design, the CARBOTEX UD Textile system is applied in minimum two steps.

- Apply the first layer of liquid epoxy impregnation resin CARBOTEX IMPREG (2 components) for maximal adherence to the prepared surface with a paint roller.
- Position the carbon fibre fabric according to the design and dimension. Scissors can be used to cut the fabric. Always position in the longitudinal direction of the carbon fibre. Use a laminating roller to eliminate all air voids. The resin will impregnate the carbon fibre filaments of the fabric in order to form, after curing, an in situ formed composite to strengthen the concrete.
- Apply a second layer of CARBOTEX IMPREG. Use a laminating roller to eliminate all air voids. The resin will impregnate the carbon fibre filaments of the fabric in order to form, after curing, an in situ formed composite to strengthen the concrete.
- For additional layers repeat step 1 and 2. For decorative reasons or for protection the carbon fibre fabric can be finished with a coating. (protective mortar / fire resistant or retardant coating / decorative coating).

The system can also be applied in a “wet layup” process using a saturator machine for similar performance. For further info kindly contact our technical services.

USAGE

The average consumption of CARBOTEX IMPREG is as follows:

- UD 200: around 600 g/m²
- UD 300: around 800 g/m²
- UD 450: around 1,000 g/m²
- UD 530: around 1,100 g/m²
- UD 600: around 1,200 g/m²

TECHNICAL DATA

The CARBOTEX UD Carbon Fibre Textile is a unidirectional carbon fibre tape for easy hand lamination (dry or wet layup method) used to reinforce concrete structures.

CARBOTEX High Strength	UD 200	UD 230	UD 300
Weight (g/m ²)	200	230	300
Thickness (mm)	± 0.111	± 0.131	± 0.166
Tensile Strength (N/mm ²)	4900	4900	4900
Elongation at Break (%)	> 2.1%	> 2.1%	> 2.1%
E-modulus (GPa)	240	240	240
Width (mm)	500	500	500
Roll Length (m)	100	100	100

CARBOTEX High Strength	UD 450	UD 530	UD 600
Weight (g/m ²)	450	530	600
Thickness (mm)	± 0.255	± 0.293	± 0.337
Tensile Strength (N/mm ²)	4900	4900	4900
Elongation at Break (%)	> 2.1%	> 2.1%	> 2.1%
E-modulus (GPa)	240	240	240
Width (mm)	500	500	500
Roll Length (m)	50	50	50

These are the values for the UNAPPLIED CARBOTEX UD textile. These values change depending on the application technique used.

CARBOSTRIP SYSTEM (OVERVIEW)

CARBOTEX UD is part of the complete range products in the CARBOSTRIP system:

- **CARBOTEX IMPREG**
Epoxy resin for impregnation of carbon fibre textile. (CARBOTEX)
- **CARBOSTRIP UNI**
Unidirectional carbon fibre laminates for structural strengthening.
- **CARBOSTRIP ADHESIVE**
Epoxy glue for Carbon fibre laminates (CARBOSTRIP) or steel plates.
- **EPOXPRIM**
Epoxy primer for the preparation of the concrete when using EPOXMORTAR.
- **EPOXMORTAR**
Epoxy mortar for concrete repair
- **EPOXINJECT**
Epoxy resin for structural repair of concrete by injection