

TechnoWrap™ UC

Unidirectional Carbon Wrap

PRODUCT DESCRIPTION

The Technopol® Carbon Wrap (TechnoWrap™UC) is high strength carbon fabric designed for structural reinforcement applications as part of the Technopol FRP strengthening system. Unidirectional carbon fiber wrap is High strength with fibers oriented in the 0° direction weighing 160, 200, 240, 300 and 400 g per m². A wide range of unidirectional carbon fabrics in different weights are available for installation using the dry or wet application process to meet the specific requirements of each project.



Buildings
Structures



Transportation
Infrastructure



Water &
Wastewater



Oil, Gas &
Industrial



Waterfront
Structures



Industrial
Facilities

TECHNICAL DATA (DRY FIBER)

	Unit	TechnoWrap™UC
Weave Pattern	-	Unidirectional
Primary Fiber Direction	Degree	0
Weight	gr/m²	160-300
Color	-	Black
Tensile Strength ISO 10618	MPa	4000
Tensile Modulus ISO 10618	GPa	230
Elongation at Break ISO 10618	%	1.7
Penetrating Time	Sec	30-60
Application Methods	-	Hand lay-up Spray machine Robot processes
Compatible Resins	-	Epoxy, Polyester, Phenolic, Polyurethane, Vinylester
Shelf Time	years	10
Storage Condition	-	Store dry at 4°C-40°C

PHYSICAL PROPERTIES

Code	Width (mm)	Thickness (mm)
TechnoWrap™UC160	50-100	0.09
TechnoWrap™UC200	50-100	0.11
TechnoWrap™UC240	50-100	0.13
TechnoWrap™UC300	50-100	0.174

ADVANTAGES

- High strength
- Lightweight
- Non-corrosive

- Low aesthetic impact
- Ambient cure
- Compatible with many finish coatings
- Compatible with different materials and standard adhesive resins.
- Chemical and corrosion resistant.
- Easy to impregnate using wet or dry lay-up methods
- Molds to fit various shapes

TYPICAL USES

Seismic Retrofit

- Shear strengthening
- Displacement/ductility

Damage Repair

- Deterioration/corrosion
- Blast/vehicle impact

Load Rating Upgrade

- Increased live loads
- New equipment

Defect Remediation

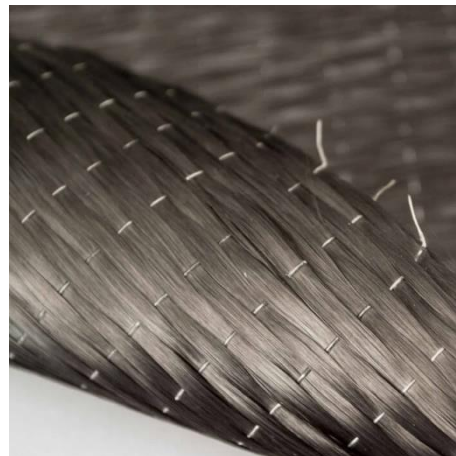
- Size/layout errors
- Low concrete strengths

PACKAGING

Roll Size (Width x Length): 0.5m-1.0m X 50m-100m.

DESIGN

The number of layers, dimensions, and detailing of TechnoWrap™BG shall be designed in accordance with ACI 440.2R



or another recognized design guideline/code in order to meet the design performance specified for the application.

INSTALLATION PROCEDURE

PREPARATION OF SUBSTRATE

Repair existing substrate per ICRI Guideline No. 310.1R. Concrete shall be abrasively prepared to achieve an open pore structure in accordance with ICRI Guideline No. 310.2R by means of grinding, sand blasting, shot blasting, or pressure washing. Application surfaces shall be clean, sound, and free of standing water at time of application. All dust, laitance, grease, curing compounds, and other foreign materials that may hinder the bond must be removed before installation. In some applications, such as column confinement, the engineer may determine that the installation is not bond-critical, in which case abrasive surface preparation is not required. Existing concave and convex surfaces must be filled or transitioned using thickened epoxy, or a suitable repair mortar. All corners to be wrapped around shall be rounded to 19 mm minimum radius using a grinder, or thickened epoxy.

APPLICATION

TechnoWrap™UC installation shall only be performed by contractors and personnel who have been properly trained. Apply one coat of TechnoWrap™UC primer using a nap roller. Where minor surface defects are present, apply epoxy saturant thickened in lifts no thicker than 25 mm. Apply the saturated fabric before the primer and paste or thickened epoxy have cured. Sheets can be cut to required length using heavy duty scissors. Saturate fabric mechanically or manually, ensuring that full fiber saturation is achieved. Apply the saturated sheet to the primed surface and remove entrapped air using hand pressure, rollers, or trowels. Apply additional layers as necessary to meet the project requirements, ensuring each layer is in firm contact with the previous layer. Feather all seams and edges with thickened epoxy. Allow epoxy to fully cure (approximately 72 hours at 70°F) and lightly sand epoxy before applying finish coating.

LIMITATIONS

- Design calculations must be achieved by a professional company.
- Concrete deterioration and steel corrosion must be resolved prior to application.
- Only apply this product when the ambient temperature ranges of the approved epoxy adhesive. Minimum application temperature is 4°C.

CAUTION

The use of safety glasses and chemically resistant gloves is recommended. Use appropriate clothing to minimize skin contact. The use of NIOSH-approved respirator is required to protect respiratory tract when ventilation is not adequate to limit exposure below the PEL. Refer to Safety Data Sheets (SDS) for detailed information.

FAIRST AID

Skin

Wash fibers off skin with water and soap. If fibers are embedded in the skin, remove with tweezers. Discard clothing that may contain embedded fibers. Seek medical advice if exposure results in adverse effects.

Eyes

Immediately flush with a continuous water stream for at least 20 minutes. Washing immediately after exposure is expected to be effective in preventing damage to the eyes. Seek medical advice.

Inhalation

If there is inhalation exposure to the fibers of this product, remove source of exposure and move victim to fresh air. If victim is not breathing, give artificial respiration. If there is breathing difficulty, give oxygen. Seek medical advice for any respiratory problems.

Ingestion

Ingestion is not a likely means of exposure for this product. If ingestion does occur, do not induce vomiting. Give nothing by mouth if victim is unconscious. Seek medical advice.

DISCLAIMER: All guidelines, recommendations, statements, and technical data contained herein are based on information and tests we believe to be reliable and correct, but accuracy and completeness of said tests are not guaranteed and are not to be construed as a warranty, either expressed or implied. It is the user's responsibility to satisfy himself, by his own information and test, to determine suitability of the product for his own intended use, application and job situation and user assumes all risk and liability resulting from his use of the product. We do not suggest or guarantee that any hazard listed herein are the only ones which may exist. Neither seller nor manufacturer shall be liable to the buyer or any third person for any injury, loss or damage directly or indirectly resulting from use of, or inability to use, the product. Recommendations or statements, whether in writing or oral, other than those contained herein shall not be binding upon the manufacturer, unless in writing and signed by a corporate officer of the manufacturer. Technical and application information is provided for the purpose of establishing a general profile of the material and proper application procedures. Test performance results were obtained in a controlled environment and Technopol products makes no claim that these tests or any other tests, accurately represent all environments.