Technical Data Sheet

Strengthening Products

Bidirectional Carbon Wrap

ALPHA SHIMI

PRODUCT DESCRIPTION

The Technopol® Carbon Wrap (TechnoWrap™BC) is a 0/90-degree bidirectional, high-strength, non corrosive carbon fabric designed to be field laminated with epoxy saturant resin to create a carbon-fiber-reinforced polymer (CFRP) composite for structural reinforcement applications.

- Buildings Structures
- Transportation Infrastructure
- Water &Wastewater
- Oil, Gas &Industrial
- Waterfront Structures
- Industrial Facilities

TECHNICAL DATA (DRY FIBER)		
	Unit	TechnoWrap™BC
Weave Pattern	-	Bidirectional
Primary Fiber Direction	Degree	200-600
Weight	gr/m2	Black
Tensile Strength ISO 10618	-	4900
Tensile Modulus ISO 10618	MPa	230
Elongation at Break ISO 1061	Gpa	1.7
Penetrating Time	%	30-60
Application Methods	Sec	Hand lay-up Spray machine Robot processes
Compatible Resins	-	Epoxy, Polyester, Phenolic, Polyurethane, Vinylester
Shelf Time	-	10
Storage Condition	years	Store dry at 4oC-40oC

PHYSICAL PROPERTIES		
Code	Width (mm)	Thickness (mm)
TechnoWrap™BC200	50-100	0.11
TechnoWrap™BC400	50-100	0.22
TechnoWrap™BC600	50-100	0.33

ADVANTAGES

- High strength
- Lightweight
- Non-corrosive
- Low aesthetic impact
- Ambient cure
- Chemical and corrosion resistant
- Easy to impregnate using wet or dry
- Flexible

lay-up methods : Molds to fit various shapes

TYPICAL USES

- Seismic Retrofit: * Shear strengthening *Displacement/ductility *Life safety
- Damage Repair: *Deterioration/corrosion * Blast/vehicle impact
- Load Rating Upgrade: * Increased live loads *New equipment *Change of use
- Defect Remediation: *Size/layout errors *Low concrete strengths

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/transitioned using thickened epoxy, or a suitable repair mortar. All corners to be wrapped around shall be rounded to a ½" (13 mm) minimum radius using a grinder, or thickened epoxy.

APPLICATION

TechnoWrap™BC installation shall only be performed by contractors and personnel who have been properly. Apply one coat of primer using a nap roller. Where minor surface defects are present, apply epoxy saturant thickened with fumed silica (maximum ratio of 2 parts fumed silica to 1 part epoxy, by volume) in lifts no thicker than 25 mm. Apply the saturated fabric before the primer and paste/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 21°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 4oC.

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.