QuakeWrap, Inc.
2055 E. 17th Street
Tucson, AZ 85719 U.S.A.
Phone: (520) 791-7000
FAX: (520) 791-0600
Toll Free: (866) QuakeWrap [782-5397]
www.QuakeWrap.com

Product Data Sheet

QuakeWrap® GU50C Carbon Laminate

for Structural Strengthening

DESCRIPTION
QuakeWrap® GU50C is a high-strength unidirectional pultruded laminate constructed with carbon fibers. The CFRP laminates are bonded to the substrate using QuakeBond™ J201TC (Tack Coat). The laminates are ideal for strengthening concrete, wood and steel structures.

USE
- Increased live load capacity in buildings and bridges, hospital floors, roofs of buildings, etc.
- Seismic retrofit of structural elements such as columns, unreinforced masonry walls, etc.
- Repair of large diameter pipes to achieve strengthening and water-proofing
- Repair of damaged structural components caused by aggressive environments, fire, vehicle impact, aging, etc.
- Changes in structural system: new openings in floors, removal of existing walls, etc.
- Correction of design or construction errors: misplaced reinforcing bars, insufficient structural depth

ADVANTAGES
- Very strong and lightweight laminates ideal for confined spaces.
- Used for flexure and shear strengthening.
- High modulus of elasticity.
- Fully compatible and excellent adhesion to QuakeBond™ resins.
- Non-corrosive.
- Light weight does not alter mass & dynamic loads on structure.
- Alkali resistant.
- Thin sections can be easily crossed and overlapped.

PACKAGING
Rolls: 4 in x 500 ft (101.6 mm X 152.4 m). Smaller quantities can also be accommodated. The laminates can be easily cut in the field to desired length.

SHELF LIFE
Unlimited shelf life in proper storage conditions.

STORAGE CONDITIONS
Store in dry place at 45°-95° F (7°-35° C).

COVERAGE
Application requires QuakeBond™ J201TC Tack Coat at a rate of 1 gallon per 65 feet (1 liter per 5.2 m) of laminate.

APPLICATION
Surface must be clean and sound; it may be dry or damp but must be free of standing water and frost. Remove dust, laitance, grease, curing compounds, disintegrated materials and other bond inhibiting materials from the surface. Existing uneven surfaces must be filled with an appropriate repair mortar. The adhesive strength of the substrate must be verified after surface preparation by random pull-off testing (ACI 503R) at the discretion of the engineer. Minimum tensile strength of 200 psi (1.4 MPa) with substrate failure is required.

Blast clean, shot-blast, scarify or use other approved mechanical means to clean the substrate surface. Any sharp edges (i.e. fins, form-marks, etc.) must be ground smooth and flush.

1) Wipe GU50C with appropriate cleaner (e.g. acetone or MEK) using clean cloth.
2) Apply QuakeBond™ J201TC onto the substrate with a trowel or spatula to a nominal thickness of 50 mil (1.3 mm). A notched trowel may be used for this application.
3) Apply QuakeBond™ J201TC to the cleaned surface of GU50C to a thickness of 50 mil (1.3 mm).
4) Within the open time of the epoxy, considering ambient temperature, place the coated GU50C on top of the substrate and pres firmly.
5) Use a hard rubber roller and press the laminate into the epoxy until the adhesive is forced out on both sides.
6) Remove excess epoxy; finial epoxy thickness should not exceed 1/8 in. (3 mm).
7) The bonded GU50C laminates should not be disturbed for 24 hours.

Installation of QuakeWrap® products must be performed only by specially trained and approved contractors.
Laminates can be cut to appropriate length using a commercial quality heavy duty shears. Care must be taken to support both sides of the laminate to avoid splintering. Since dull or worn cutting tools can damage, weaken or fray the fiber, their use should be avoided.

LIMITATIONS
Design calculations must be made and certified by an independent licensed professional engineer.

CAUTION
QuakeWrap® GU50C is non-reactive and fully cured. They do not require a Material Safety Data Sheet (MSDS). However, caution must be used when handling since a fine carbon dust may be present on the surface. Gloves must therefore be worn to protect against skin irritation. Caution must also be used when cutting the laminates to protect against airborne carbon dust generated by the cutting procedure. Use of an appropriate, properly fitted NIOSH approved respirator is recommended.

FIBER & LAMINATE PROPERTIES		
	US Units	SI Units
Fiber Properties:		
Tensile Strength	710 ksi	4,900 MPa
Tensile Modulus	33,400 ksi	230,000 MPa
Ultimate Elongation	2.1%	2.1%
Density	0.065 lb/in^3	1.8 g/cm^3
Laminate Properties:		
Density	0.047 lb/in^3	1.3 g/cm^3
Tensile Strength	400 ksi	2,750 MPa
Tensile Modulus	24,000 ksi	165,500 MPa
Ultimate Elongation	1.7%	1.7%
Breaking Force	18,800 lb/in.	3,300 N/mm
Ply Thickness	0.0472 in.	1.20 mm

KEEP OUT OF REACH OF CHILDREN.
NOT FOR INTERNAL CONSUMPTION.

FOR INDUSTRIAL USE ONLY.
KEEP CONTAINER CLOSED TIGHTLY.