



### DESCRIPTION

DRYLEX CS is a high-strength, uni-directional carbon fiber fabric that, when used with the MapeWrap family of two-component epoxy adhesives, forms an externally bonded fiber-reinforced polymer (FRP) reinforcement system. DRYLEX CS is part of an engineering solution that allows for an increase in the strength of structural elements without increasing the dead load supported by the structure.

### FEATURES AND BENEFITS

- Use for confinement, shear or flexural strengthening.
- High tensile modulus and strength
- Lightweight fabric for use in areas of limited access
- Non-corrosive
- Low aesthetic impact (easily concealed, with minimal change to profile)
- Excellent resistance to a wide range of environmental conditions
- Alkali-resistant
- Flexible; will conform to the shape of complex surfaces
- Installs quickly with no special machinery or equipment

### WHERE TO USE

- Restores structural integrity to damaged or deteriorated concrete surfaces caused by fire, impact or aging
- Improves seismic strength of masonry or concrete shear walls, column/beam connections and concrete columns
- Increases ductility and load-bearing capacity of concrete beams, slabs, columns and walls due to design defects, change of use and increased service loads in buildings
- Seismic strengthening and restoration of vaulted elements and arches found in historical buildings, tunnels and highway structures
- Confines axial-loaded structures such as columns, chimneys, tanks and silos

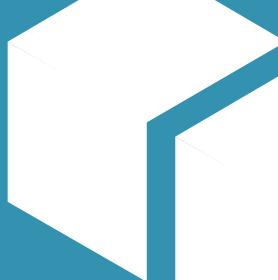
### LIMITATIONS

- Application temperature of the epoxy adhesive being used should be between 41°F and 86°F (5°C and 30°C). Contact DRYLEX Technical Services Department for installation recommendations when ambient temperatures are above or below this temperature range.
- Design calculations and project review should be carried out by an independent licensed engineer with carbon-fiber-reinforced polymer (CFRP) design experience, and in accordance with all state, provincial and federal building codes. Additional design examples/guidelines are available upon request from DRYLEX Technical Services Department.

### SUITABLE SUBSTRATES

- Use for interior/exterior applications on 28-day-old cured concrete, masonry, wood and steel.

Consult DRYLEX Technical Services Department for installation recommendations regarding substrates and conditions not listed.



### SURFACE PREPARATION

- Concrete surfaces must be fully cured, clean, sound, and dry and free of cavities or protrusions.
- High-Strength,
- Uni-Directional
- Carbon Fiber Fabric
- DRYLEX CS

### Product Performance Properties

Laboratory Tests	Results
Fiber material	High-strength carbon
Color	Black
Primary fiber direction	0° (uni-directional)
Shelf life	Unlimited in proper storage conditions; store in a dry place with no exposure to direct sunlight

### Dry Fiber Properties

Property	Typical Test Value
Base	High-strength, uni-directional carbon fiber fabric
Ultimate tensile strength	≥ 710,000 psi (4.90 GPa)
Tensile modulus	36.5 x 10 <sup>6</sup> psi +/- 2% (252 GPa +/- 2%)
Elongation at break	>/- 2.0%
Weight	18 U.S. oz. per sq. yd. 300 gr
Nominal thickness (t <sub>p</sub> )	0.0131" per ply (0.331 mm per ply)

Property	Average Value	Design Value**	ASTM Test Method
Tensile strength*	136,000 psi (938 MPa)	119,000 psi (821 MPa)	D3039
Tensile modulus*	8,208,000 psi (56 607 MPa)	8,208,000 psi (56 607 MPa)	D3039
Elongation at break*	1.7%	1.4%	D3039
Ply thickness – inch (mm)*	0.0589 (1.496)	0.0589 (1.496)	–



Property	Average Value	Design Value**	ASTM Test Method
Tensile strength*	236,000 psi 4600 MPa	210,000 psi 4200 MPa	D3039
Tensile modulus*	11,875,000 psi (81 897 MPa)	11,875,000 psi (81 897 MPa)	D3039
Elongation at break*	2.0%	1.76%	D3039
Nominal layer thickness*	0.0397" (1.01 mm)	0.0397" (1.01 mm)	-

\* 24 sample coupons per test series according to ACI 440. Testing is in accordance with ASTM D3039.

\*\* Average value minus 3 standard deviations, according to ACI 440.2R (Section 4.3.1)

### Packaging

Size
50 m x 100 m roll