

# CRS-CS300

## HIGH-STRENGTH, HIGH MODULUS CARBON FIBRE FABRIC FOR STRUCTURAL STRENGTHENING

### SUITABLE FOR

#### Load increases

- Increasing the live loads in warehouses.
- Increasing traffic volumes on bridges.
- Installation of heavy machinery in industrial buildings.
- Vibrating structures.
- Changes of building utilization.

#### Seismic strengthening

- Column wrapping.
- Masonry walls.

#### Damage to structural parts

- Aging of construction materials.
- Vehicle impact.
- Fire.
- Blast resistance.

#### Change in structural system

- Removal of walls or columns.
- Removal of slab sections for openings.
- Design or construction defects
- Insufficient reinforcement.
- Insufficient structural depth.

### ADVANTAGE

- Used for shear, confinement or flexural strengthening.
- Flexible, can be wrapped around complex shapes.
- High strength.
- Light weight.
- Non-corrosive.
- Alkali Resistant.
- Low aesthetic impact.

### TECHNICAL DATA

Color	Black
Woven	Unidirectional
Areal Weight	300 g/m <sup>2</sup>
Fiber Content	100%
Dry Fiber Tensile Strength	5800 Mpa (Test according ISO 10618)
Composite Tensile Strength	4000 Mpa (Test according ASTM D 3039; Calculate with Thickness of 0.167mm)
E-Modulus	240 Gpa
Thickness	0.167mm
Elongation	1.60%
Density	1.8 g/cm <sup>3</sup>
Length/roll	100 m
Width	(10/15/20/25/30/50/60) cm, etc..
Package	In plain card board box

### LIMITATIONS

- Design calculations for the CRS-CS wrap CFRP system must be made and certified by an independent, licensed professional engineer.
- Minimum radius for application around corners must be over 20 mm.
- Overlapping of the fabric in the fiber direction must be at least 100 mm
- Side by side application of fabric requires no overlap in the weft direction.
- Overlap joints in multiple layers must be evenly positioned about the circumference of columns.
- Protect the CRS-CS wrap CFRP system from UV.

## OPERATIONS PROCEDURE

### Surface Pretreatment

Pretreat the concrete surface by sandblasting or grinding and remove dust or loose particles. The surface must be clean, free from grease and oil and should be dry.

The surface to be bonded must be level, with no irregularities or protrusion over 0.5 mm. Larger deviations must be levelled with epoxy putty. All corners of the structure must be rounded to a minimum radius of 20 mm.

### Adhesive Mixing

Consult Product Data Sheet for information on epoxy adhesive.

### Fabric Cutting

Fabric can be cut to appropriate length using commercial quality, heavy-duty scissors. The usage of dull or worn cutting implements should be avoided to prevent fiber weakening or fraying.

### Fabric Placement

Apply the mixed CRS-CB322 epoxy resin directly onto the substrate, then carefully place the fabric into the resin with gloved hands and smooth out any irregularities or air pockets using a plastic laminating roller. Allow the resin to squeeze out between the rovings of the fabric. If more than one layer of fabric is required, apply additional mixed CRS-CB322 and repeat as above. Apply a final coat of CRS-CB322 to the exposed surface.

### Protection and Overlayment

At low temperatures and/or high relative humidity it may be longer than 10 days for the surface may become slightly tacky.

The exposure to direct sunlight of carbon fiber fabric should be forbidden after operation. To adhere cementitious top coat systems to the cured epoxy, apply an additional layer of epoxy and blind (broadcast) the surface with silica sand to promote adhesion before coating.

## HEALTH & SAFETY INFORMATION



**For information and advice on the safe handling, storage, and disposal of chemical products, users should refer to the most recent SAFETY DATA SHEET containing physical, ecological, toxicological and other safety-related data.**

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