



TCI PrecurStrong

PRODUCT DESCRIPTION

TCI PrecurStrong is a pre-cured carbon fibre laminate used to strengthen and/or upgrade structural elements. The laminate is bonded to the substrate using TCI 800-D primer and TCI 855-R epoxy glue.

APPLICATIONS

Structural capacity changes

- Increased live and/or dead loads in structures
- Increased traffic volumes on bridges and viaducts
- Ability to accommodate changes of building utilization or industrial machinery layout
- Allows for the removal of walls, columns, or sections of floor slabs

Advantages

- Meets design criteria of **ACI 440**, and **CSA S806**
- High strength-to-weight ratio
- Light weight, adds negligible dead load to structure
- Non-corrosive, non-magnetic and non-conductive.

EPOXY Glue

TCI 855-R is a two-component, 100% solid, room temperature cure thermoset epoxy system with low viscosity and long pot life characteristics.

Specific Gravity @ 23oC, gm/cm ³	1.54 +/- 0.04	1.08 +/- 0.04
Viscosity @ 23oC, cps	Paste	40,000 +/-10,000
Mix Ratio by weight	100	25
Pot Life @ 23oC, 200gm mass	1.0-1.25 hours	
Gel Time @ 23oC, 200gm mass	1.45-2.45 hours	
Cure Cycle	3 Days @ R. T. OR 6 Hrs @ 45oC + 24Hrs@ R. T.	

MECHANICAL & PHYSICAL PROPERTIES

PrecurStrong Laminate	
PHYSICAL PROPERTIES	TYPICAL TEST VALUE
Tensile Strength	400 Ksi (2,758 MPa)
Tensile Modulus	24 Msi (165.474 GPa)
Elongation at Break	1.70%
Fibre Volume Content	> 68%
Temperature Resistance	300 F (149 C)
Thickness	0.0472 " (1.2mm)
Standard width	1.97", 3.15", and 3.94" (50, 80, and 100 mm)



Epoxy Glue TCI 855-R – Cured 24 Hrs @ 60°C	
TYPICAL TEST PROPERTIES	TYPICAL TEST VALUE
Tensile Strength	10,050 psi (69.3 MPa)
Tensile Modulus	406 Ksi (2,800 MPa)
Elongation at Break	7.5%
Flexural Strength	16,900 psi (116.5 MPa)
Flexural Modulus	478 Ksi (3,296 MPa)
Glass Transition Temperature Tg	94°C (201°C)

INSTALLATION

Environmental conditions

- Maintain a dry dehumidified environment and maintain the ambient temperature at a minimum of 10° F above the dew point
- Substrate surfaces shall be at least at SSD (Saturated Surface Dry) condition prior to installation
- Maintain the required environmental conditions of substrate surfaces until at least 48 hours after the installation has been completed
- The surface temperature of the substrate shall not fall below 5° C. Don't apply the protective coating if the substrate surface temperature is above 40° C

Surface preparation:

- Concrete substrate must be sound and clean. Remove all spalled or fractured areas and inject any cracks that exceed 0.3 mm in width. Ensure to patch and fill voids
- All surfaces must be free of dust, laitance, grease, waxes, coating materials, and any other foreign particles
- Surface preparation should promote continuous intimate contact between the CFRP system and the substrate surface
- Substrate surfaces shall be thoroughly cleaned using mechanical and/or high-pressure sand /water blasting
- All substrate surfaces have to be primed using TCI 800-D. Refer to the current 800-D datasheet for primer mixing and application procedures

Installation of Saturated Fabric:

- Mix TCI 855-R components. Refer to the current datasheet for mixing and application procedures
- Apply approximately 3mm thick layer of TCI 855-R on the substrate surface.
- Install TCI PrecurStrong in-place making sure no voids or air bubbles exist in the epoxy glue layer. If necessary, tape and secure the laminate to prevent sagging and displacement.
- Allow for the curing time of the epoxy glue for at least 8 hours before the installation of successive layers
- The number of PrecurStrong layers is per design documents and shop drawings
- Finally, apply fireproofing to the CFRP laminates as may require by the project documents.

Final cure and return to service

Allow 72 hours for a final cure before returning to service.



CARBON FIBRE
TECHNOLOGIES

LIMITED WARRANTY

Ten (10) year material replacement warranty is available. For complete details contact info@tcicarbonfibre.com. Copy is furnished upon request.

Legal Disclaimer

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