CARBON FIBRE TECHNOLOGIES

TCI 855-R   *NSF 61*

PRODUCT DESCRIPTION

TCI 855-R is a two-component, 100% solid, room temperature curing epoxy repair paste. Specially designed for resurfacing, patching, and general repair, its high mechanical properties, and resistance to chemicals make it ideal for concrete elements. TCI 855-R is formulated for use in potable water facilities, components are **ANSI/NSF 61** & **NSF 372 Approved**, meeting and exceeding safety standards.

WHERE TO USE

- Resurface concrete
- Patch spalled and damaged concrete
- Repair/seal cracks less than 0.3mm
- Repair concrete issues
- Fill concrete imperfections such as 'bugholes'

PROPERTIES	TCI-855-R Resin	TCI-855-R Hardener
Appearance	Clear	Clear
Specific Gravity @ 23°C, gm/cm^3	1.54 +/- 0.04	1.08 +/- 0.04
Viscosity @ 23°C, cps	Paste	40,000 +/-10,000
Pot Life @ 23°C, 200gm mass	1.0-1.25 hours	
Gel Time @ 23°C, 200gm mass	1.45-2.45 hours	

Cure Cycle: 3 Days @ Room Temperature. **OR** 6 Hrs @ 45°C + 24Hrs @ Room Temperature.

Shelf life: two (2) years in original unopened, properly stored containers

GLASS FIBRE

Milled glass fibre is added to TCI 855-R resin (Component A). The glass fibre provides stiffness and precludes any potential for thermal cracking in high-build applications.

FIELD OF APPLICATION

- Concrete wastewater pipes
- Brick wastewater pipes
- Manhole protection and rehabilitation
- Water treatment facilities and transmission lines
- Steel pipes and steel tanks

TYPICAL USAGE

- Structural rehabilitation and reinforcing of existing concrete and providing protection against chemical corrosive environments
- Rehabilitation of brick wastewater tunnels
- Rehabilitation and repair of manholes.
- Protection of buried steel pipes
- High strength bond mortar
- Sealing of surfaces against water and water vapour infiltration
- Repairs or upgrades inferior materials

ADVANTAGES

- High mechanical properties allow effective structural rehabilitation of deteriorated concrete
- Long pot life time and room temperature cure
- High strength-to-weight ratio

PHYSICAL PROPERTIES OF CURED PRODUCT

EPOXY MATERIAL – Cured 24 Hrs @ 60°C		
TYPICAL TEST PROPERTIES	ASTM METHOD	TYPICAL TEST VALUE
Tensile Strength	D638	10,050 psi (69.3 MPa)
Tensile Modulus	D638	406 Ksi (2,800 MPa)
Elongation Percent	D638	7.5%
Flexural Strength	D790	16,900 psi (116.5 MPa)
Flexural Modulus	D790	478 Ksi (3,296 MPa)
Glass Transition Temperature Tg	E1545	94°C (201°C)

PACKAGING AND YIELD

TCI 855-R is a two-component system consisting of a resin and a hardener, packaged separately in pre-weighted pails, the total volume is 14 Litres when mixed together.

Yield varies, depending on the application type, thickness, and substrate surface condition.

STORAGE

- Store TCI 855-R in an environment where the ambient temperature does not fall below 5°C or reach above 30°C
- Store in dry conditions with original unopened packaging
- Never Store chemical containers in an environment exposed to the weather or direct sunlight
- Reseal the container immediately after each use

APPLICATION

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 if the substrate surface temperature is above 40° C.

Surface preparation:

- Power wash substrates using a minimum of 5000 psi to remove existing coating, dust, laitance, grease, waxes, and any other foreign particles from the substrate surface.
- Concrete substrate must be sound and clean. Remove all spalled or fractured areas.

Mixing:

- Mix TCI 855-R components, resin (Part 'A'), and hardener (Part 'B') for at least 5 minutes.
- Always mix pre-weighted kits in their entirety to avoid human errors in proportioning the product components.
- Mix the product in quantities according to the rate of application by the installation team.

Installation:

- All substrate surfaces must be cleaned and free of bond inhibitors such as dust
- All substrate surfaces must be primed using TCI 800-D for dry substrates and TCI 800-W for saturated surface dry substrates (SSD) prior to applying TCI 855-R. Refer to TCI 800-D or TCI 800-W material data sheets for primer mixing and application procedures.
- Apply the product within the pot-life time.
- Apply the product using manual trowels and squeegees.
- The coating thickness varies depending on the substrate conditions and the aim of application.
- The maximum number of coats is unlimited.
- The successive coats must be applied within the recoat window of 72 hours.

Final cure and return to service

Allow 24 to 72 hours for final cure before return to service depending on conditions.