FYFE
Tyfo® FIBRWRAP® Systems

ISO 9001:2008 REGISTERED FIRM

# Tyfo® TC Epoxy
## Tack Coat

### DESCRIPTION
Tyfo® TC Epoxy is a two-component, solvent-free, NSF-Certified epoxy matrix material specially formulated to provide improved adhesion of the Tyfo® Fibrwrap System to vertical and overhead applications. Please refer to the NSF Listing for the NSF-61 Listed application.

### USE
Tyfo® TC is recommended for use in special applications where Tyfo® S or WS Epoxy will not provide adequate adhesion between the fabric and substrate. Typical examples for use are overhead or vertical surfaces, undersides of beams when applying composite materials, horizontal or vertical surfaces where excellent adhesion to a substrate is necessary for maximum strength, wall surfaces, and any surface where bonding between fabric and substrate is critical. Tyfo® TC can also be used to improve the bond between successive layers of the Tyfo® Fibrwrap® System.

### ADVANTAGES
- Excellent adhesive properties
- NSF-Listed Product
- Good high temperature properties
- Good low temperature properties
- Long working time (1-2 hours)
- High elongation
- Ambient cure

### COVERAGE
One unit of Tyfo® TC Epoxy will cover approximately 30 to 75 sq. ft. (2.8 to 7m$^2$) of surface area at a thickness of 1/16" (2mm). The existing condition of the surface as well as the temperatures of both the epoxy and application surface will significantly affect the coverage estimation.

### PACKAGING
Order in pre-measured units in five-gallon containers.

### MIX RATIO
100.0 parts of component A to 29.4 parts of component B by volume. (100 parts of component A to 23.3 parts of component B by weight.)

### SHELF LIFE
Two years in original, unopened and properly stored container.

### STORAGE CONDITIONS
Store epoxy at 40° to 90°F (4° to 32°C). Avoid freezing. Store in a cool place. Temporary storage of these components should not be in high temperatures, particularly the "A" component. The lids of both components should be kept tightly sealed.

### CERTIFICATE OF COMPLIANCE
- Will be supplied upon request, complete with state and federal packaging laws with copy of labels used.
- Material safety data sheets will be supplied upon request.

## HOW TO USE THE TYFO® TC EPOXY

### INSTALLATION
Tyfo® System to be installed by Fyfe Co. LLC trained and certified applicators. Installation shall be in strict compliance with the Fyfe Co. LLC Quality Control Manual.

### SURFACE PREPARATION
The required surface preparation is largely dependent on the type of element being strengthened. In general, the surface must be clean, dry and free of protrusions or cavities, which may cause voids behind the Tyfo® composite. Discontinuous wrapping surfaces (walls, beams, slabs, etc.) typically require a light sandblast, grinding or other approved methods to prepare for bonding. If waterblasting is used, allow a sufficient amount of time for adequate drying prior to application of epoxies. Anchors are incorporated in some designs. The Fyfe Co. LLC engineering staff will provide the proper specifications and details based on the project requirements.

### MIXING
For pre-measured units in 5-gallon containers, pour the contents of component B into the pail of component A. Mix ratio: 100.0 parts of component A to 29.4 parts of component B by volume (100 parts of component A to 23.3 parts of component B by weight). Do not thin; solvents will prevent proper cure. Mix thoroughly for five minutes with a Tyfo® low speed mixer at 400-600 RPM until components are thoroughly dispersed. Excessive mixing will shorten pot life.

### APPLICATION
Apply a prime coat of Tyfo® S or WP Epoxy to the prepared surface and allow to tack. Apply Tyfo® TC Epoxy with a roller, trowel or non-porous float.

Note: Avoid applying layers thicker than 1/16" (2mm) as this will not provide additional tackiness. If the Tyfo® TC Epoxy begins to set up before the fabric can be applied, scrape off and apply freshly mixed Tyfo® TC Epoxy and allow to tack prior to the application of the fabric.

**EPOXY COMPONENT PROPERTIES**

Curing Schedule 72 hours post cure at 140˚F (60˚C)

| PROPERTY | ASTM TEST METHOD | TYPICAL TEST VALUE* |
|---|---|---|
| Mix Ratio, by volume | | 100:29.4 |
| Color | | Translucent Beige |
| Viscosity, cps | | |
| Component A | | 180,000 |
| Component B | | 200 |
| Component A & B | | 55,000 |
| Gel Time, 150 grams | | 250 minutes |
| Thin Film Set | | 14 - 16 hours |
| Bond Strength | | |
| Dry Concrete | | Excellent |
| Compressive Strength | | 4,088 psi |
| Tensile Strength | D638 | 3,285 psi (22.7 MPa) |
| Tensile Modulus | D638 | 174,000 psi (1.2 GPa) |
| Tensile Elongation | D638 | 1.88% |
| Flexural Strength | D790 | 6,645 psi (45.8 MPa) |
| Flexural Modulus | D790 | 178,000 psi (1.23 GPa) |
| $T_g$ | E1356 | 160˚F (71˚C) |

Testing temperature: 70° F (21° C) Crosshead speed: 0.5 in. (13mm)/min. Grips Instron 2716-0055 - 30 kips
* Specification values can be provided upon request.

## SET UP TIME
Tyfo® TC Epoxy is formulated to give a minimum of 1 to 2 hours working time. Cooler temperatures will usually extend and warmer temperatures shorten the working time.

## LIMITATIONS
Application temperature of the epoxy is a minimum 40° F (4° C) and maximum of 100° F (38° C). DO NOT THIN, solvents will prevent proper cure.

**CAUTION!**

**COMPONENT A** - Irritant:
Prolonged contact to the skin may cause irritation. Avoid eye contact.

**COMPONENT B** - Irritant:
Corrosive. Contact with skin may cause severe burns. Avoid eye contact. Product is a strong sensitizer. Use of safety goggles and chemical resistant gloves recommended. Remove contaminated clothing. Avoid breathing vapors. Use adequate ventilation. Use of an organic vapor respirator recommended.

## SAFETY PRECAUTIONS
Avoid breathing vapors. Avoid contact with eyes and skin. Use of an approved respirator with an organic absorption cartridge is recommended for possible vapors. Rubber gloves, rubber boots, and protective suits are recommended for handling and application of this material. Safety glasses or a face shield are recommended to prevent eye contact.

## FIRST AID
In case of skin contact, wash thoroughly with soap and water. For eye contact, flush immediately with plenty of water; contact physician immediately. For respiratory problems, remove to fresh air. Wash clothing before reuse.

## CLEANUP
Collect with absorbent material, flush with water. Dispose of in accordance with local disposal regulations. Uncured material can be removed with approved solvent. Cured materials can only be removed mechanically.

## SHIPPING LABELS CONTAIN
- State specification number with modifications, if applicable
- Component designation
- Type, if applicable
- Manufacturer's name
- Date of manufacture
- Batch name
- State lot number, if applicable
- Directions for use
- Warnings or precautions required by law

**KEEP CONTAINER TIGHTLY CLOSED.**
**NOT FOR INTERNAL CONSUMPTION.**
**CONSULT MATERIAL SAFETY DATA SHEET (MSDS) FOR MORE INFORMATION.**
**KEEP OUT OF REACH OF CHILDREN.**
**FOR INDUSTRIAL USE ONLY.**


**Fyfe Co. LLC**

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