

# Tyfo<sup>®</sup> PR System

## using Tyfo<sup>®</sup> SEH-51A and Tyfo<sup>®</sup> S Epoxy

### DESCRIPTION

The Tyfo<sup>®</sup> PR System is a prefabricated structural casing comprised of the Tyfo<sup>®</sup> SEH-51A fabric and Tyfo<sup>®</sup> S Epoxy. Tyfo<sup>®</sup> SEH-51A is a custom weave, uni-directional glass fabric used in the Tyfo<sup>®</sup> Fibrwrap<sup>®</sup> System. The glass material is orientated in the 0° direction with additional yellow glass cross fibers at 90°. The Tyfo<sup>®</sup> S Epoxy is a two-component epoxy matrix material for bonding applications.

### USE

The Tyfo<sup>®</sup> PR System is designed to add strength and ductility to existing piles. The prefabricated jackets are typically designed to add both vertical stiffness and confinement to wood, reinforced concrete and precast piles. The Tyfo<sup>®</sup> PR System is installed around the piles by applying the Tyfo<sup>®</sup> SW-1 Epoxy to the seam and fastening with self-tapping screws. The annular space is then grouted with the required Tyfo<sup>®</sup> grout for the application.

### ADVANTAGES

- Easy to install
- ICC ESR-2103 listed material
- NSF/ANSI Standard 61 listed product for drinking water systems
- Good high & low temperature properties
- 100% solvent-free

### PACKAGING

Varies according to custom fabrication sizes.

### STORAGE CONDITIONS

Store casing at 40° to 90° F (4° to 32° C).  
Avoid freezing.

### 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.
- Possesses 0% V.O.C. level.

### COMPOSITE GROSS LAMINATE PROPERTIES

| PROPERTY   | ASTM METHOD   | TYPICAL TEST VALUE                           | DESIGN VALUE*                               |
|--|---------------|--|---|
| Ultimate tensile strength in primary fiber direction, psi  | D3039         | 83,400 psi (575 MPa)<br>(4.17 kip/in. width) | 66,720 psi (460 MPa)<br>(3.3 kip/in. width) |
| Elongation at break  | D3039         | 2.2%   | 1.76%                                       |
| Tensile Modulus, psi                                       | D3039         | 3.79 x 10 <sup>6</sup> psi<br>(26.1 GPa)     | 3.03 x 10 <sup>6</sup> psi<br>(20.9 GPa)    |
| Ultimate tensile strength 90 degrees to primary fiber, psi | D3039         | 3,750 psi (25.8 MPa)                         | 3,000 psi (20.7 MPa)                        |
| Barcol hardness  | D2583         |  | 52  |
| Water absorption, %  | D570          |  | 0.08  |
| IZOD impact resistance, ft-lbs/inch width                  | D256 Method D | Apex radius = 0.010 inch                     | 29.7  |
|  |               | Apex radius = 0.040 inch                     | 32.4  |
| Nominal Laminate Thickness per layer                       |               |  | 0.05 in. (1.3mm)                            |

\* Gross laminate design properties based on ACI 440 suggested guidelines will vary slightly. Contact Fyfe Co. LLC engineers to confirm project specification values and design methodology.

### HOW TO USE THE TYFO<sup>®</sup> PR SYSTEM

#### DESIGN

The Tyfo<sup>®</sup> PR System shall be designed to meet specific design criteria. The criteria for each project is dictated by the engineer of record and any relevant building codes and/or guidelines. The design should be based on the allowable strain for each type of application and the design modulus of the material. The Fyfe Co. LLC engineering staff will provide preliminary design at no obligation.

#### INSTALLATION

Tyfo<sup>®</sup> PR 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 relatively clean and free of protrusions. The Fyfe Co. LLC engineering staff will provide the proper specifications and details based on the project requirements.

#### APPLICATION

The Tyfo<sup>®</sup> PR System is installed around the piles by applying the Tyfo<sup>®</sup> SW-1 Epoxy to the seam and fastening with self-tapping screws. The annular space is then grouted with the required Tyfo<sup>®</sup> grout for the application.

**CAUTION!**

**SAFETY PRECAUTIONS**

Gloves are recommended when handling prefabricated composite jackets.

**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 by law

**CONSULT MATERIAL SAFETY DATA SHEET (MSDS) FOR MORE INFORMATION.  
KEEP OUT OF REACH OF CHILDREN.  
FOR INDUSTRIAL USE ONLY.**

**Fyfe Co. LLC**

**Tyfo® Fibrwrap® Systems**

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