

Tyfo® PF

Form and Pour Concrete

DESCRIPTION

Tyfo® PF is a *new and improved*, one component, shrinkage compensated concrete repair mortar.

USE

Tyfo® PF is recommended for use in special applications on-grade, above and below grade on concrete. For horizontal surfaces, and formed vertical and overhead surfaces. Repair material for parking facilities, industrial plants, walkways, bridges, tunnels, dams and balconies. Filler for voids and cavities.

ADVANTAGES

- 3/4" to 3" depth repairs
- Can be extended with pea gravel for deeper repairs
- Contains a migratory corrosion inhibitor
- High bond strength
- Pumpable
- Compatible with coefficient of thermal expansion of concrete
- Easily mixed

COVERAGE

One 50 lb. bag of Tyfo® PF yields approximately 0.42 cu. ft. (0.01 cu. meter).

SET UP TIME

Approximately 30 minutes. Cooler temperatures will usually extend and warmer temperatures shorten the working time.

LIMITATIONS

Minimum application temperature of the epoxy is 40° F (4° C). **DO NOT THIN**; solvents will prevent proper cure.

PACKAGING

Order in 50 lb. (22.7kg) poly-lined bags.

SHELF LIFE

One year in original, unopened and properly stored container.

STORAGE CONDITIONS

Covered storage away from all moisture.

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® PF CONCRETE

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

Surface must be structurally sound, clean and free of loose or deteriorated concrete, dust, dirt, and all contaminants. Edges of area to be patched must be vertical, chipped or steep angle cut, to a minimum depth of 3/4". Clean and prime exposed steel and reinforcing steel with Tyfo® CB. If substrate is not absorptive, abrade as necessary to obtain proper profile for good adhesion. Flush area with clean water to remove dust and dampen the concrete. Wipe off any excess water or puddles prior to placement of Tyfo® PF. The surface should remain damp during placement. The Fyfe Co. LLC engineering staff will provide the proper specifications and details based on the project requirements.

ADDITIONAL SURFACE PREPARATION RECOMMENDATIONS

Exposed Reinforcement Steel: Exposed rebar may be treated with an anti-corrosion coating such as Tyfo® CB. Remove all loose rust and scaling, preferably by sandblasting to white metal prior to coating the rebar.

Bonding to existing substrate: After the surface has been prepared, prime all areas with either a bond coat of Tyfo® P or an epoxy bonding agent such as Tyfo® CB.

Bond Coat: Broom the bond coat onto the prepared and pre-dampened concrete. Apply the Tyfo® PF before the bond coat has dried. Follow mixing and placement instructions on the respective product technical data sheet.

MIXING

Tyfo® PF requires 3 quarts of mix water per 50 lb. bag. Use power drill with a jiffy type mixer to mix small quantities. For larger applications use a paddle type mortar mixer or a standard concrete mixer. Do not add additional water. Mix for 2-3 minutes until a smooth flowable consistency is achieved. For application depths in excess of 3 inches, add 30 pounds of 3/8" to 1/2" clean, saturated surface dry pea gravel per 50 pound bag of Tyfo® PF.

APPLICATION

The unrestrained surface area of the repair should be kept to a minimum. Tyfo® PF should be mixed, placed and finished within 30 minutes. Pour the mixed material into the prepared area to be patched. Screed and trowel the material so as to level with the existing concrete. If required, lightly trowel to seal the edges, and finish the surface as desired. Do not over-trowel or feather edge. Follow ACI guidelines for proper curing. On windy or hot days, or when under direct sunlight, wet curing is recommended.

MATERIAL PROPERTIES

Compressive Strength, psi (ASTM C109)	
1 day	3,000
7 days	6,500
28 days	7,800
Flexural Strength, psi (ASTM C78)	
1 day	560
7 days	780
28 days	1,140
Slant Shear Bond Strength, psi (ASTM C882)	
1 day	1,730
7 days	2,500
28 days	2,650
Tensile Strength, psi (ASTM C190)	
1 day	300
7 days	630
28 days	740
Splitting Tensile Strength, psi (ASTM C496)	
1 day	940
7 days	1,450
28 days	1,840
Length Change, % change (ASTM C157)	
1 day	0.021
7 days	0.023
28 days	0.027
Freeze-Thaw Durability, 300 cycles (ASTM C666)	
Weight Loss, % of zero cycles	0.0
Chloride Permeability (ASTM C1202)	
Coulombs	1140 "low"
Typical results obtained under laboratory conditions	

SAFETY PRECAUTIONS

CAUTIONS

Minimum depth of patching is 3/4". Do not add any additives to Tyfo® PF. The patch area should be frost free prior to application. Do not apply at temperatures below 40° F (4° C).

ENVIRONMENTAL AND SAFETY PRECAUTIONS

Product contains Portland cement, which is alkaline on contact with water. Do not breathe dust. May cause delayed lung injury (Silicosis). IARC reports crystalline silica may cause cancer in humans. Irritating to eyes and skin. Avoid splashing into eyes or contact with skin. In case of eye contact, flood eyes repeatedly with potable water and call a physician. DO NOT RUB EYES. Wash skin thoroughly after handling and before smoking or eating. Use adequate ventilation.

CLEANUP

Clean application tools and mixer with water immediately after use. Hardened Tyfo® PF will be difficult to remove.

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

Tyfo® Fibrwrap® Systems

8380 Miralani Drive, Suite A, San Diego, CA 92126

Tel: 858.642.0694 Fax: 858.444.2982

E-mail: info@fyfeco.com Web: <http://www.fyfeco.com>

Statement of Responsibility: The technical information and application advice in this publication is based on the present state of our best scientific and practical knowledge. As the nature of the information herein is general, no assumption can be made as to the product's suitability for a particular use or application, and no warranty as to its accuracy, reliability or completeness, either expressed or implied, is given other than those required by State legislation. The owner, his representative or the contractor is responsible for checking the suitability of products for their intended use. Field service, where provided, does not constitute supervisory responsibility. Suggestions made by the Fyfe Co., either verbally or in writing, may be followed, modified or rejected by the owner, engineer or contractor since they, and not the Fyfe Co., are responsible for carrying out procedure appropriate to a specific application.