

# Tyfo® CIS

## Volatile Corrosion Inhibitor System - Layer 2

### DESCRIPTION

Tyfo® CIS Layer 2 is a single-component, clear, waterbased liquid with a mild odor. It may be applied by roller or spray following the application of Tyfo® CIS Layer 1. Layer 2 controls the pH, purges and encapsulates water-soluble chlorides, fills voids in the concrete, and inhibits further penetration of moisture. Layer 2 also acts as a contact corrosion inhibitor on the reinforcing steel. After receiving both Layers 1 & 2, the exposed surfaces are cleaned by washing with fresh water or by abrasive blasting. All exposed steel is then treated with the Tyfo® CB material and the concrete section is restored using Tyfo® P or Tyfo® PF as required.

### USE

Tyfo® CIS Layer 2 is used with the Tyfo® Concrete Repair System on new or old concrete surfaces to seal porosity, increase compression strength, maintain pH, protect from acid and alkali attack, pacify and extract chlorides, and inhibit embedded steel corrosion.

### ADVANTAGES

- Ease of application
- Can be applied to horizontal, vertical or overhead surfaces
- Restores properties of deteriorating Portland concrete cement
- Can penetrate concrete 2 to 3 inches, depending upon existing porosity
- Dramatically improves condition of substrate prior to repairs
- Protects new concrete
- For new and old structures
- Non-toxic

### COVERAGE

Approximately 25 to 125 sq. ft per gallon, depending on the porosity of the substrate, severity of the corrosion, and cause of the deterioration.

### PACKAGING

Order in 5-gallon (19L) pails.

### SHELF LIFE

Two years in the original, unopened container when kept in proper storage conditions.

### STORAGE CONDITIONS

Store at 40° to 95° F (4° to 35° C). Do not freeze.

### 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.

12/10 Tyfo® CIS - Layer 2

### HOW TO USE THE TYFO® CIS - LAYER 2

#### SURFACE PREPARATION

Remove all grease, curing compounds, coatings, residue, etc. by proper means. Light sandblasting, shot blasting, pressure washing or other methods of surface abrasion may enhance penetration. Do not apply to hot surfaces; cool the substrate with a light spray of water.

#### APPLICATION

Apply Tyfo® CIS Layer 2 liberally by spray, brush or roller until surface is saturated. Allow to penetrate into surface. Spread with squeegee, brush or roller until absorbed. A second or third application may be necessary, depending on the porosity of the surface. For optimum results, apply as the surface is shaded and cooling down. Remove any excess Tyfo® CIS Layer 2. For multiple applications, allow Tyfo® CIS Layer 2 to penetrate, dry and cure overnight. If surface repairs or coatings are to be applied, wash surface with water to penetrate and/or remove any residual Tyfo® CIS Layer 2 or other residues which may have been purged to the surface. The outer layer of corrosion may also receive abrasive blasting to remove residue. If an organic coating (solvent-based) is to be applied, the surface should be thoroughly dry prior

to application. Application should be made when rain is not expected for 12-hours. Tyfo® CIS Layer 2 penetrates the surface and is not a coating, therefore, foot and vehicle traffic can be allowed when the surface has dried. Traffic on wet surfaces will not adversely affect performance.

#### LIMITATIONS

Do not apply to hot, sunlight-exposed surfaces.

### MATERIAL PROPERTIES

PROPERTY	ASTM METHOD	TYPICAL TEST VALUE*
Corrosion Inhibition	C-876	50% reduced voltage in 14 days (400 to 200mV)
Compression Strength	C-42	Increases 2,000 psi (13.8 MPa)
Hardness Increase		
New concrete	C-418	14%
Deteriorated concrete	C-414	64%
Porosity Reduction		90%
Solubility		Complete in water
pH		12.0
Soluble Chloride Reduction		70%
Acid Reactivity Reduction		90%
Density		9.1 lbs./gal. (4kg/3.79L)
VOC		Less than 1%

\* Specification values can be provided upon request.

## CAUTION!

### 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. In case of contact with clothing and shoes, remove clothing and wash thoroughly. Avoid contact with glass, aluminum and painted surfaces; may cause permanent spotting. Tyfo® CIS Layer 2 contains non-toxic and non-flammable substances.

### FIRST AID

In case of skin contact, flush with water. If skin irritation occurs, seek medical attention. For eye contact, flush immediately with plenty of water; contact physician immediately. For respiratory problems, remove to fresh air. Wash contaminated clothing before reuse.

### CLEANUP

Dispose of in accordance with local disposal regulations.

### 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

**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, San Diego, CA 92126

Tel: 858.642.0694 Fax: 858.444.2982

E-mail: [info@fyfeco.com](mailto: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.