

# Tyfo® CB

## Epoxy Cement Bonding Agent/Corrosion Protection

### DESCRIPTION

The Tyfo® CB is a three-component bonding agent composed of a specialty water-based epoxy and selected cementitious components.

### USE

Recommended for use with the Tyfo® Concrete Repair System. Tyfo® CB serves as a bonding agent for floor toppings, concrete repair, and as a bond coat for concrete repair mortars such as Tyfo® P and Tyfo® PF. Tyfo® CB offers corrosion protection for reinforcing steel. It is suitable for exterior and interior concrete.

### ADVANTAGES

- Extended open time
- Rebar corrosion protection
- Excellent adhesion to concrete and steel

### COVERAGE

For bonding or corrosion protection, approximately 110 sq. ft. (10.2 m<sup>2</sup>) per gallon (3.79L) at a typical thickness of 15 mils. Application coverage is highly dependent on surface profile with a lower coverage rate expected over rougher surfaces.

### PACKAGING

Supplied in 3 components - Tyfo® CB Part A (one liquid container), Tyfo® CB Part B (one liquid container), and Tyfo® CB Part C (one 2-gallon plastic container of dry powder).

### MIX RATIO

100.0 parts of Tyfo® CB Part A to 100.0 parts of Tyfo® CB Part B to 100.0 parts of Tyfo® CB Part C by volume. (See "Mixing" for further instructions).

### SHELF LIFE

Six months in the original, unopened packages when stored in a dry area.

### STORAGE CONDITIONS

Store in a dry area. 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.

### HOW TO USE

#### TYFO® CB REPAIR MORTAR

### SURFACE PREPARATION

**Bonding:** New concrete must be clean and rough. Remove all curing compounds and form release agents. All oil, dirt, debris, paint, and unsound concrete must be removed. Prepare the surface mechanically using a scabber, bushhammer, shotblast or other suitable equipment that will provide a minimum surface profile of 1/8-inch (3mm) and expose the aggregate of the concrete. The final step of cleaning is to remove all residue with a vacuum system, pressure washer, compressed air, broom, or similar.

**Corrosion Protection:** For maximum corrosion protection, the steel must be cleaned to white metal following the application of Tyfo® CIS Layers 1 & 2. Cleaning methods include wire wheel brushing, sandblasting, shotblasting, or similar.

### MIXING

Shake Tyfo® CB Part A before combining with Tyfo® CB Part B. Add the entire container of Tyfo® CB Part B to all of Tyfo® CB Part A. Mix for 2 to 3 minutes until uniform. Add Tyfo® CB Part C (powder) and blend until the powder is completely wetted and lump-free. Apply immediately. Smaller quantities may be mixed with a drill and "Jiffy"-type mixing blade. For large jobs use a paddle-type mixer. All

materials should be in the proper temperature range of 65° to 85° F (18° to 29° C) prior to use.

### APPLICATION

**Bonding:** Substrate and ambient temperatures should be between 65° to 85° F (18° to 29° C) for best results, but may be applied at other temperatures. Tyfo® CB is applied by stiff bristle broom or hopper gun at an even coverage rate of no more than 80 sq. ft. / gal. (7.4 m<sup>2</sup> / 3.79L). Final film thickness must be a minimum of 20 mils. Fresh concrete or repair mortar must be placed over Tyfo® CB within the maximum allowable time.

**Corrosion Protection:** For maximum protection of reinforcing steel, apply Tyfo® CB in two coats, with each coat brushed or troweled on at 80 sq. ft. / gal. (7.4 m<sup>2</sup> / 3.79L). After the first coat is applied, allow to dry tack-free before the second coat is applied. Total film thickness must be a minimum of 40 mils. Care should be taken to ensure the steel is completely coated. Fresh concrete or repair mortar must be placed over Tyfo® CB within the maximum allowable time.

### WORKING TIME

Tyfo® CB has a pot life of ninety (90) minutes. It also has an open time of 12-hours at 68° F (20° C), 6-hours at 95° F (35° C), 16-hours at 50° F (10° C), 24-hours at 40° F (4° C). If the open time limit has been exceeded, a fresh coat of Tyfo® CB must be applied before placement of the mortar. Prevent repair from freezing. If material begins to harden, it should be discarded.

### MATERIAL PROPERTIES

PROPERTY	ASTM METHOD	TYPICAL TEST VALUE*
Slant Shear Bond to Concrete Open Time** 0 hours	ASTM C-882	2,800 psi (19.3 MPa)
12 hours		2,600 psi (17.9 MPa)
Direct Tensile Bond to Concrete Open Time** 0 hours	(Germann Bond Test)	400 psi (2.8 MPa)
12 hours		350 psi (2.4 MPa)
Bond to Steel 7-day bond strengths Sandblasted Steel	(Patti Adhesion Test)	900 psi (6.2 MPa)
Wire Wheel Prep		650 psi (4.5 MPa)
Oxidized Steel		450 psi (3.1 MPa)
Weatherometer Testing	ASTM G-93	2,000 hours no cracking or peeling over steel

\* Specification values can be provided upon request.

\*\* Open Time: Time from initial application of Tyfo® CB on 14-day old, hardened concrete until application of fresh concrete topping over the Tyfo® CB.

## LIMITATIONS

For best results, apply Tyfo® CB at ambient temperatures between 50° to 80° F (10° to 27° C), but may be applied at other temperatures. The material temperature at time of application should be between 65° to 85° F (18° to 29° C). The maximum open times listed under "Working Time" should be rigidly followed. Cooler temperatures slow setting times and warmer temperatures speed up set times.

## CAUTION!

## 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

Clean tools and equipment with water before the material hardens.

## 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.**

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