



Tyfo® PR Expansive Cementitious Grout

Expansive Underwater Grout

DESCRIPTION

Tyfo® Expansive Cementitious Grout is a flowable, high strength cementitious grout designed for underwater placement. It requires only potable mixing water before use and exhibits resistance to washout of cement and fines, while resisting the blending of external water into the plastic grout.

USES

- Underwater grouting
- Pier supports
- Off-shore rigging and repair
- Underwater concrete structures

COVERAGE

One 50 lb. bag will yield approximately 0.43 ft³ (0.012 m³) of grout.

PACKAGING

Tyfo® Expansive Cementitious Grout is packaged in 50 lb (22.7 kg) poly-lined and DOT-approved bags.

SHELF LIFE

One year in original, unopened and properly stored containers. Protect from moisture. Freight class is 55.

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.
- Meets the requirements of CRD-C-621, Corps of Engineers Specification for Non-Shrink Grout.
- Shows positive expansion when tested in accordance with ASTM Specification C-1090, Standard Test Method for Measuring Changes in Height of Cylindrical Specimens from Hydraulic-Cement Grout.
- Meets the performance requirements of ASTM C- 1107, Grades A & B as well as Grade C, combination volume adjusting grout standard specification for packaged, dry, hydraulic-cement grout (non-shrinkable).

HOW TO USE THE TYFO® EXPANSIVE CEMENTATIOUS GROUT

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.

APPEARANCE

Tyfo® Expansive Cementitious Grout is a proprietary formulation of cements, graded aggregates and chemical additives. It contains no added chlorides or calcium sulfates.

SURFACE PREPARATION

All concrete surfaces should be clean, sound and free of surface scaling and any material which may interfere with bond.

CAUTION

Do not mix more material than can be placed in 25 minutes. Do not retemper with additional water after the mix has begun to set. Do not aerate the mix.

APPLICATION

Tyfo® Expansive Cementitious Grout is factory proportioned and comes ready to use after mixing with potable water. A paddle type mortar mixer should be used for best results. Use 4.5 quarts (4.26L) of water per 50 lb. (22.7kg) bag to produce a flowable but not fluid grout. Add two thirds of the required water into the mixer, then add the powdered grout and mix partially. Add the remaining water and thoroughly mix the entire quantity for 2 - 3 minutes. Place in a continuous manner by pump or tremie. For placements where the clearance is greater than 2" (51mm), Tyfo® Expansive Cementitious Grout may be extended with up to 20 lb. (9.1kg) of 3/8" (10mm) pea gravel per 50 lb. (22.7kg) bag. No special curing is required for underwater applications. Air exposed surfaces should be cured according to ACI guidelines.

TYFO® EXPANSIVE CEMENTATIOUS GROUT PROPERTIES

Material Properties @ 75° F (23° C)	
Compressive Strength ASTM C-109, psi	
1 day	3,200psi (22.0MPa)
3 days	4,600psi (31.7 MPa)
7 days	5,600psi (38.6MPa)
28 days	7,200psi (49.7MPa)
Volume Change, CRD 621	
1 day.....	0.025
3 days.....	0.030
7 days.....	0.030
28 days.....	0.030
Setting Time, Hours, ASTM C-191	
Initial	2.0 - 2.5
Final	4.0 - 6.0

Typical results, developed under laboratory condntions.

CAUTION!

Contains silica sand and IARC reports crystalline silica may cause cancer in humans. May cause delayed lung injury. Contains portland cement which is alkaline on contact with water. Irritating to eyes and skin. Avoid eye and skin contact. Do not breathe dust.. In case of eye contact, flood eyes with large amounts of water and call a physician. DO NOT RUB EYES. Wash skin thoroughly after handling and before smoking or eating. Use adequate ventilation. KEEP AWAY FROM CHILDREN AND ANIMALS.

CLEANUP

Clean tools and equipment with water before the grout hardens. Hardened grout may require mechanical abrasion for removal.

SHIPPING LABELS CONTAIN

- State specification number with modifications, if applicable
- Component designation
- Type, if applicable
- Manufacturer's name
- 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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