Corrosion Engineering
A Division of ErgonArmor

PRODUCT INFORMATION

CE-184
11/13 Supersedes 07/11

TUFCHEM® EPOXY POLYMER CONCRETE

DESCRIPTION

TUFCHEM Epoxy Polymer Concrete is a three-component, 100% solids, epoxy-based polymer concrete. It is designed for placement at a minimum thickness of 2.0" by mixing and casting onto concrete substrates or into suitably designed forms. It is ideal for applications which require a low absorption, low shrinkage, quick setting high strength polymer concrete that also offers excellent chemical resistance. TUFCHEM Polymer Concrete can be poured in deep lifts as required. Large volume component packaging is available for larger projects where high volume mixing and placing equipment is used. **For complete installation instructions, consult Corrosion Engineering installation specification CES-360**.

AREAS OF USE

TUFCHEM Epoxy Polymer Concrete can be used for many types of applications where heavy loads, high impact, and chemical exposure are present. Typical applications include:

- Floor toppings
- Floor releveling before acid brick overlayments
- Rapid repair to deteriorated acid brick floors
- Trenches
- Deep pour structural machine base grouting applications
- Floor refurbishment before TUFCHEM Tiling overlayments
- Sumps
- Use behind anchored thermoplastic linings for trench and sump refurbishments
- Precast polymer concrete shapes

OUTSTANDING FEATURES

- Components are proportioned for easy mixing.
- Low exotherm, thus it can be poured as deeply as 12" (30 cm) in a single pour without overheating.
- High physical strength, good bond to concrete and metal surfaces.
- Easy to place and finish. Stiffness and slump are easily adjusted to accommodate varying slopes as needed.
- High impact strength. Excellent vibration resistance.
- Good resistance to a wide variety of chemicals and oils.

TYPICAL PHYSICAL PROPERTIES

PROPERTY	TUFCHEM EPOXY POLYMER CONCRETE
Working Life (Hours)	2 hours @ 70°F (21°C)
Density (ASTM C-138)	132 lbs/cu. ft. (2.1 kg/l)
Compressive Strength (ASTM C-579 7 days)	>15,800 psi (109 MPa)
Tensile Strength (ASTM C-190 28 days)	>1,500 psi (10.3 MPa)
Modulus of Rupture (ASTM C-580 28 Days)	>4,200 psi (29 MPa)
Absorption, % (ASTM C-413)	0.33
Shrinkage, % (ASTM C-531)	0.14
Coefficient of Thermal Expansion (75°F-210°F ASTM C-531)	22 x 10^{-6}/°F (39.6 x 10^{-6}/° C)
Minimum application thickness	2.0". For thicknesses <2.0", consult CE-183 Tufchem Grout
Mix Ratio by wt - Filler: Resin: Hardener	10:1.0:0.17 (Equivalent to 8.5 parts Filler to 1.0 parts mixed Resin/Hardener)
Slump at 8.5:1 mix ratio (Filler : R/H)	Approx 8.0". Note: Do not compare slump values to PCC concrete mixes, as finishing characteristics are different.

ESTIMATING/PACKAGING THEORETICAL QUANTITIES – NO OVERAGE ALLOWANCE

PRODUCT	CODE	PACKAGING	COVERAGE
TUFCHEM Epoxy Resin	19704 19712	47 lb (21.3 kg) pail 500 lb (227 kg) drum	A 3.82 (505 lb) cubic foot unit consists of 6 x 75 lb bags of Filler, 1 x 47 lb pail Resin, and 1 x 7.8 lb can Hardener. (8.2:1 mix of Filler : mixed R/H) A 23.5 (3104 lb) cubic foot unit consists of 37 x 75 lb bags of Filler, 6 x 47 lb pails Resin, and 2 x 23.4 lb can Hardener. (8.4:1 mix of Filler : mixed R/H) Above mix ratios are rounded to match standard package sizes. For larger pours using bulk packaging maintain a ratio of 1.0 part Resin to 0.17 parts Hardener, and 10.0 parts Filler, or, 8.5 parts Filler to 1.0 part mixed Resin/Hardener by weight.
TUFCHEM Epoxy Hardener	19705 29554 19713	7.8 lb (3.5 kg) can 23.4 lb (10.6 kg) can 435 lb (197 kg) drum	
Polymer Concrete Filler	19670 19714	75 lb (34 kg) bag 1180 lb (535 kg) sack	
Epoxy Cold Room Hardener	29447	2.5 Gal can. (use in temps below 50°F / 10°C)	

SAFETY PRECAUTIONS / DISCLAIMER

Mixes and applications of this product present a number of hazards. Read and follow the hazard information, precautions and first aid directions on the individual product labels and material safety data sheets before using. While all statements, technical information, and recommendations contained herein are based on information our company believes to be reliable, nothing contained herein shall constitute any warranty, express or implied, with respect to the products and/or services described herein and any such warranties are expressly disclaimed. We recommend that the prospective purchaser or user independently determine the suitability of our product(s) for their intended use. No statement, information or recommendation with respect to our products, whether contained herein or otherwise communicated, shall be legally binding upon us unless expressly set forth in a written agreement between us and the purchaser/user.

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