FastSet™ Concrete Mix

Product No. 1004-68

DIVISION 3 & 32

03 01 00 Maintenance of Concrete
03 31 00 Structural Concrete

PRODUCT DESCRIPTION

QUIKRETE® FastSet™ Concrete Mix is a high performance cement high-strength, rapid hardening, pre-blended concrete requiring only the addition of water.

PRODUCT USE

QUIKRETE® FastSet™ Concrete is a fast-setting, high early strength concrete designed to build or repair concrete sidewalks, driveways, highways, bridge decks, concrete parking lots and concrete floors. Use at any thickness from 2 in to 24 in (50 mm to 610 mm). FastSet™ Concrete has less shrinkage than ordinary Portland cement concrete. The addition of corrosion inhibitor has no adverse effect on the other physical properties of the product.

SIZES

• 60 lb (27.3 kg) bags

YIELD

• Each 60 lb (27.3 kg) bag of FastSet™ Concrete Mix will yield approximately 0.45 cu ft (12.7L) of mixed concrete.

TECHNICAL DATA

APPLICABLE STANDARDS

- ASTM C 33 Standard Specification for Concrete Aggregates
- ASTM C 39 Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
- ASTM C 157 Standard Test Method for Length Change of Hardened Hydraulic-Cement, Mortar, and Concrete
- ASTM C 191 Standard Test Method for Time of Setting of Hydraulic Cement by Vicat Needle
- ASTM C 496 Standard Test Method for Splitting Tensile Strength of Cylindrical Concrete Specimens
- ASTM C 666 Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing
- ASTM C 672 Standard Test Method for Scaling Resistance of Concrete Surfaces Exposed to Deicing Chemicals
- ASTM C 882 Standard Specification for Bond Strength of Epoxy-Resin Systems Used with Concrete by Slant Shear
- ASTM C 928 Standard Specification for Packaged, Dry, Rapid-Hardening Cementitious Materials for Concrete Repairs
- ASTM C 1583 Standard Test Method for Tensile Strength of Concrete Surfaces and the Bond Strength or Tensile Strength of Concrete Repair and Overlay Materials by Direct Tension (Pull-off Method)
- ICRI Guideline No. 310.2R Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair
- ACI 305R-10 Guide to Hot Weather Concreting
- ACI 306R-10 Guide to Cold Weather Concreting

PHYSICAL/CHEMICAL PROPERTIES

Typical results obtained for QUIKRETE® FastSet™ Concrete, when tested in accordance with the referenced ASTM procedures, are shown in Table 1. FastSet™ Concrete meets the requirements of ASTM C928 Type R3.

INSTALLATION

SURFACE PREPARATION

All surfaces should be clean and free of foreign substances including corrosion present on reinforcing steel. Remove all spalled areas and areas of unsound concrete. The appropriate personal protective equipment should be worn. The repair area should have a vertical edge of 2 in (50 mm) or more. Preparation work done on the repair area should be completed by high pressure water blast, breaker hammer, or other appropriate mechanical means to obtain an exposed aggregate surface. Refer to current ICRI Guideline 310.2R for additional surface preparation information. Saturate repair area with clean water before patching to ensure SSD condition. No standing water should be left in the repair area.

MIXING

WEAR IMPERVIOUS GLOVES, such as nitrile when handling product.
Mechanically mix QUIKRETE® FastSet™ Concrete for 4 to 5 minutes using a standard concrete or mortar mixer. Use approximately 6-½ pints (3.1 L) of clean potable water per 70 lb (31.7 kg) bag of QUIKRETE® FastSet™ Concrete. Adjust water as needed to achieve a place-able consistency. Exceeding an ASTM C 143 slump of 5 inches (125 mm) is not recommended. This may cause a reduction in performance of the product.

APPLICATION

WEAR IMPERVIOUS GLOVES, such as nitrile when handling product.
Fill the repair area completely working continuously from one end to the other. Avoid partial depth fills which could lead to cold joints. Consolidate the material using hand tamping and/or chopping with a shovel. It is particularly important to compact around the edges of the

forms or patches. Mechanical vibration should be avoided in areas that will be exposed to de-icing salts.

After QUIKRETE® FastSet™ Concrete has been compacted and spread to completely fill the forms without air pockets, screed the surface and then apply a trowel or broom finish as desired.

CURING

No special curing methods are required. QUIKRETE® FastSet™ Concrete is often placed in service within a few hours after it sets, so conventional moist curing methods may not be practical. Curing compounds such as QUIKRETE® Acrylic Concrete Cure and Seal (#8730) provide the easiest and most convenient method of curing. Curing compounds should be applied via appropriate methods, once final set has been reached.

The application of epoxy coatings over QUIKRETE® FastSet™ Concrete may be done in as little as 6 hours. Consult with the epoxy coating manufacturer for their recommendations. Test a small area to evaluate epoxy performance and adhesion prior to applying full-scale.

PRECAUTIONS

- Mix no more than can be used in 10 minutes.
- Follow ACI 305R-10 when using product in hot weather. An example of an additional step would be using cold water when mixing in extremely hot weather.
- Follow ACI 306R-10 when using product in cold weather. Examples of additional steps would be using hot water when mixing in severely cold weather and using plastic sheeting and insulation blankets if temperatures are expected to fall below 32 °F (0 °C).
- For best results, do not overwork the material.

WARRANTY

NOTICE: Obtain the applicable **LIMITED WARRANTY** at www.quikrete.com/product-warranty or send a written request to The Quikrete Companies, LLC, Five Concourse Parkway, Atlanta, GA 30328, USA. Manufactured under the authority of The Quikrete Companies, LLC.

TABLE 1 TYPICAL PHYSICAL PROPERTIES

Compressive Strength, ASTM C 39

Age	*ASTM C 928 Req. PSI (MPa)*	*Typical Values PSI (MPa)*
3 hours	3000 (20.6)	3000 (20.6)
24 hours	5000 (34.4)	5000 (34.4)
7 days	5000 (34.4)	6000 (41.3)
28 days	-	7000 (48.2)

Setting Time, ASTM C 191

Final	25 to 45 minutes

Length Change, ASTM C 157

Age, Condition	*ASTM C 928 Req.*	*Typical Values*
28 days, air	> -0.15%	≥ -0.04%
28 days, water	< +0.15%	≤ 0.03%

Slant Shear Bond Strength, ASTM C 882

Age	*ASTM C 928 Req. PSI (MPa)*	*Typical Values PSI (MPa)*
24 hours	1000 (6.8)	2000 (13.7)
7 days	1500 (10.3)	2500 (17.2)

Freeze Thaw Resistance, ASTM C 666

After 300 cycles	-	≥ 95% Durability Factor

Scaling Resistance after 25 Cycles, ASTM C 672

	ASTM C 928 Req.	*Typical Values*
Visual	≤ 2.5	≤ 2.0

Tensile Strength by Direct Tension (Pull Off Method), ASTM C 1583

Age	*Typical Values PSI (MPa)*
28 days	≥ 250 (1.7)

Split Tensile Strength, ASTM C 496

Age	*Typical Values PSI (MPa)*
28 days	≥ 350 (2.4)