



CRACK RESISTANT CONCRETE MIX

PRODUCT No. 1006-50, -67, -80

DIVISION 3
03 31 00 Structural Concrete

PRODUCT DESCRIPTION

QUIKRETE® Crack Resistant Concrete Mix is a typical 4000 PSI (27.5 MPa) construction-grade concrete that is uniformly blended and properly proportioned mixture of aggregates, portland cement, air-entraining admixtures, special synthetic reinforcing fibers, and may contain other concrete approved ingredients.

PRODUCT USE

QUIKRETE® Crack Resistant Concrete Mix can be used for any application requiring concrete at a minimum of 2 inches (50 mm). QUIKRETE® Crack Resistant Concrete Mix has a unique formulation, offering benefits and uses such as:

- Significantly reduced cracking from drying shrinkage
- Enhanced impact resistance
- Superior workability
- Air entrained for improved freeze-thaw durability
- Reduces the need for rebar and wire mesh in typical slab-on-grade concrete applications (check your local building codes)
- Exceeds the compressive strength requirements of ASTM C387

SIZES

QUIKRETE® Crack Resistant Concrete Mix is available in:

- 50 lb (22.6 kg) bags
- 60 lb (27.2 kg) bags
- 80 lb (36.2 kg) bags

YIELD

- A 50 lb (22.6 kg) bag yields approximately 0.375 ft³ (10.6 L)
- A 60 lb (27.2 kg) bag yields approximately 0.45 ft³ (12.7 L)
- An 80 lb (36.2 kg) bag yields approximately 0.60 ft³ (17 L)

TECHNICAL DATA

APPLICABLE STANDARDS

- ASTM C39 Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
- ASTM C138 Standard Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete
- ASTM C143 Standard Test Method for Slump of Hydraulic-Cement Concrete
- ASTM C231 Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
- ASTM C387 Standard Specification for Packaged, Dry, Combined Materials for Concrete and High Strength Mortar

PHYSICAL/CHEMICAL

Typical results obtained for QUIKRETE® Crack Resistant Concrete Mix, when tested in accordance with the referenced ASTM test methods, are shown in Table 1.



TABLE 1 TYPICAL PHYSICAL PROPERTIES

Slump, ASTM C143	2 in to 3 in (50 mm to 75 mm)
Unit Weight, ASTM C138	Approximately 140 lb/ft ³ (2242.5 kg/m ³)
Air Content, ASTM C231	4% to 8%
Compressive Strength, ASTM C39	
Age	PSI (MPa)
7 days	2500 (17.2)
28 days	4000 (27.5)

INSTALLATION

SURFACE PREPARATION

Stake out the planned area and remove sod or soil to the desired depth. Nail and stake forms securely in place. Tamp and compact the sub-base until firm.

MIXING

QUIKRETE® Crack Resistant Concrete Mix can be mechanically mixed in a barrel type concrete mixer or a mortar mixer. Choose the mixer size most appropriate for the size of the job to be done. Allow at least 1 ft³ (28.3 L) of mixer capacity for each 80 lb (36.2 kg) bag of QUIKRETE® Crack Resistant Concrete Mix to be mixed at one time. For each 80 lb (36.2 kg) bag of QUIKRETE® Crack Resistant Concrete Mix to be mixed, add approximately 6 pt (2.8 L) of potable water to the mixer. Turn on the mixer and begin adding the concrete to the mixer. If the material becomes too difficult to mix, add additional water until a workable mix is obtained. If a slump cone is available, adjust water to achieve a 2 in to 3 in (50 mm to 75 mm) slump.

QUIKRETE® Crack Resistant Concrete Mix may also be mixed by hand. Empty concrete bags into a suitable mixing container. For each 80 lb (36.2 kg) bag of mix, add approximately 6 pt (2.8 L) of potable water. Work the mix with a shovel, rake or hoe and add water as needed until

a stiff, moldable consistency is achieved. Be sure there are no dry pockets of material. Do not leave standing puddles of water.

Final water content should be approximately 6 pt to 10 pt (2.8 L to 4.7 L) of water per 80 lb (36.2 kg) bag of concrete. For other bag sizes, use Table 2 to determine water content.

TABLE 2 MIXING WATER FOR QUIKRETE® CRACK RESISTANT CONCRETE MIX

Package Size lb (kg)	Starting Water Content pt (L)	Maximum Expected Water Content pt (L)
50 (22.6)	3-3/4 (1.77)	6-1/4 (2.95)
60 (27.2)	4-1/2 (2.1)	7-1/2 (3.5)
80 (36.2)	6 (2.8)	10 (4.7)

APPLICATION

For pouring a slab, start by dampening the sub-grade before concrete is placed. Do not leave standing puddles of water. Shovel or place concrete into the form; fill to the full depth of the form. Fill the repair area completely working continuously from one end to the other. Avoid partial depth fills which could lead to cold joints. After concrete has been compacted and spread to completely fill the forms without air pockets, strike off and float immediately. To strike off, use a straight board (screed), moving the edge back and forth with a saw-like motion to smooth the surface. Use a darby or bull float to float the surface; this will level any ridges and fills voids left by the straight edge. Cut the concrete away from the forms by running an edging tool or trowel along the forms to compact the slab edges. Cut 1 in (25 mm) deep control joints into the slab every 6 ft to 8 ft (1.8 m to 2.4 m) using a grooving tool. Allow concrete to stiffen slightly, waiting until all water has evaporated from the surface before troweling or applying a broom finish.

Note - For best results, do not overwork the material.

CURING

General

Curing is one of the most important steps in concrete construction. Proper curing increases the strength and durability of concrete, and a poor curing job can ruin an otherwise well-done project. Proper water content and temperature are essential for good curing. In near freezing temperatures the hydration process slows considerably. When the weather is too hot, dry, or windy, water is lost by evaporation from the concrete, which will hinder the hydration reaction, which may result in finishing difficulties and shrinkage cracking. The ideal circumstances for curing are ample moisture and moderate temperature and wind conditions. Curing should be started as soon as possible and should continue for a period of 5 days in warm weather at 70 °F (21 °C) or higher or 7 days in colder weather at 50 °F to 70 °F (10 °C to 21 °C).

Specific Curing Methods

QUIKRETE® Acrylic Concrete Cure & Seal – Satin Finish (No. 8730) provides the easiest and most convenient method of curing. Apply by spray, brush, or roller soon after the final finishing operation when the surface is hard. The surface may be damp, but not wet, when applying curing compound. Complete coverage is essential. Other methods of providing proper curing include covering the surface with wet burlap,

plastic sheeting, or waterproof paper to prevent moisture loss; keeping the surface wet with a lawn sprinkler is also acceptable. If burlap is used, it should be free of chemicals that could weaken or discolor the concrete. New burlap should be washed before use. Place it when the concrete is hard enough to withstand surface damage and sprinkle it periodically to keep the concrete surface continuously moist. Water curing with lawn sprinklers, nozzles or soaking hoses must be continuous to prevent interruption of the curing process. Curing with plastic sheets is convenient. They must be laid flat, thoroughly sealed at joints, and anchored carefully along edges.

PRECAUTIONS

- Curing compounds should not be applied if rain or temperatures below 50 °F (10 °C) are expected within 24 hours.
- Curing with plastic or burlap can cause patchy discoloration in colored concrete. For colored concrete, wet curing, or the use of QUIKRETE® Acrylic Concrete Cure & Seal – Satin Finish (No. 8730) is recommended.
- Do not use curing compounds during late fall on surfaces where de-icers will be used to melt ice and snow. Using curing compounds at that time may prevent proper air drying of the concrete, which is necessary to enhance its resistance to damage caused by de-icers.
- Protect concrete from freezing during the first 48 hours. Plastic sheeting and insulation blankets should be used if temperatures are expected to fall below 32 °F (0 °C).

SAFETY

IMPORTANT: Read Safety Data Sheet carefully before using. **WEAR IMPERVIOUS GLOVES**, such as nitrile, mask, and eye protection.

DANGER: Causes severe skin burns and serious eye damage. Prolonged or repeated inhalation of dust may cause lung damage or cancer.

Keep out of reach of children

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 by or under the authority of The Quikrete Companies, LLC. © 2021 Quikrete International, Inc.