

# COMMERCIAL GRADE FASTSET™ DOT MIX

PRODUCT NO. 1244-56, -81

**DIVISION 32**

Rigid Paving Repair  
32 01 29

## PRODUCT DESCRIPTION

QUIKRETE® Commercial Grade FastSet™ DOT Mix is a fiber reinforced, rapid-setting repair material specifically designed to meet ASTM C928 Category R3 specifications for a high-performance repair material.



## PRODUCT USE

QUIKRETE® FastSet™ DOT Mix meets DOT Region 3 requirements as a patching material for commercial applications at a thickness of 1/2" - 2" (12.7 - 51 mm). This product may also be extended with up to 25 lb (11.3 kg) of gravel per 55 lb (25 kg) bag for repairs to roads and bridges at a minimum thickness of 2" (51 mm). FastSet™ DOT Mix Extended is identical to FastSet™ DOT Mix except that it already contains the recommended amount of coarse aggregate. QUIKRETE® FastSet™ DOT Mix is available with an integral corrosion inhibitor in cases where maximum corrosion protection is desired. The addition of corrosion inhibitor has no adverse effect on the other physical properties of the product.

## SIZES

- QUIKRETE® FastSet™ DOT Mix - 55 lb (25 kg) bags
- QUIKRETE® FastSet™ DOT Mix Extended - 80 lb (36.3 kg) bags

## YIELD

- A 55 lb (25 kg) bag of FastSet™ DOT Mix will yield 0.44 cu ft (12.5 L) at a mortar consistency
- An 80 lb (36.3 kg) bag of FastSet™ DOT Mix Extended (1244-81) or a 55 lb (25 kg) bag of FastSet™ DOT Mix (1244-56) extended with 25 lb (11.3 kg) of high-quality ASTM C33 size number 8 aggregate 100% - 1/2" (12.7 mm) will yield approximately 0.57 cu ft (16.1 L)

## TECHNICAL DATA

### APPLICABLE STANDARDS

ASTM International

- ASTM C33 Standard Specification for Concrete Aggregates
- ASTM C109/C109M Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)
- ASTM C157/C157M Standard Test Method for Length Change of Hardened Hydraulic-Cement, Mortar, and Concrete
- ASTM C191 Standard Test Methods for Time of Setting of Hydraulic Cement by Vicat Needle
- ASTM C666 Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing

- ASTM C672 Standard Test Method for Scaling Resistance of Concrete Surfaces Exposed to Deicing Chemicals
- ASTM C928 Standard Specification for Packaged, Dry, Rapid-Hardening Cementitious Materials for Concrete Repairs
- ASTM C1090 Standard Test Method for Measuring Changes in Height of Cylindrical Specimens of Hydraulic-Cement Grout

Department of Transportation (DOT) Region III Test Method IV

## PHYSICAL/CHEMICAL

QUIKRETE® FastSet™ DOT Mix is a blend of rapid hardening cement, sand and special additives. Typical results obtained on FastSet™ DOT Mix, when tested in accordance with the applicable ASTM test methods, are shown in Table 1. Similar results are obtained with FastSet™ DOT Mix Extended (1244-81) or with the addition of up to 25 lb (11.3 kg) of high quality ASTM C33 size number 8 aggregate (100% -1/2" (12.7 mm)) to a bag of FastSet™ DOT Mix (1244-56).

## INSTALLATION

### SURFACE PREPARATION

All surfaces should be clean and free of foreign substances that would cause bond failure. Remove all spalled areas and areas of unsound concrete. The hole should have a vertical edge of 1/2" (12.7 mm) or more, formed by use of a pneumatic jackhammer or by sawing. In some cases, it may be necessary to roughen smooth surfaces or etch old ones with acid. After the chipping process is completed, the repair area must be cleaned via water blasting or another suitable method. Dampen holes with clean water before patching. No puddles of water should be left in the hole.

### MIXING

**WEAR IMPERVIOUS GLOVES**, such as nitrile when handling product. Mechanically mix FastSet™ DOT Mix or FastSet™ DOT Mix Extended for a minimum of 3 minutes using a standard concrete or mortar mixer. Use approximately 3 ½ quarts (3.3 L) of clean potable water per 55 lb (25 kg) bag of FastSet™ DOT Mix or 80 lb (36.3 kg) bag of FastSet™ DOT Mix Extended. Adjust water as needed to

achieve a place-able consistency. The recommended slump is 3" - 7" (76-178 mm). Do not exceed recommended slump range.

@ 50 cycles

**TABLE 1 TYPICAL PHYSICAL PROPERTIES**

**Compressive strength, ASTM C109 (Modified) / C39**

| Age       | ASTM C928 Spec<br>psi (MPa) | Typical Values    |                       |
|-----------|-----------------------------|-------------------|-----------------------|
|           |                             | Neat<br>psi (MPa) | Extended<br>psi (MPa) |
| 1.5 hours | -                           | 3000 (20.7)       | 3000 (20.7)           |
| 3 hours   | 3000 (20.7)                 | 4500 (31.0)       | 4500 (31.0)           |
| 24 hours  | 5000 (34.5)                 | 6500 (44.8)       | 5500 (37.9)           |
| 7 days    | 5000 (34.5)                 | 8000 (55.2)       | 6500 (44.8)           |
| 28 days   | -                           | 9000 (62.1)       | 8000 (55.2)           |

**Setting time, ASTM C191**

|         |                 |
|---------|-----------------|
| Initial | 10 - 20 minutes |
| Final   | 20 - 45 minutes |

**Length change, ASTM C157**

| Condition      | ASTM C928 Specification | Typical Values |
|----------------|-------------------------|----------------|
| 28 days, air   | > -0.15%                | -0.052%        |
| 56 days, air   | -                       | -0.057%        |
| 84 days, air   | -                       | -0.062%        |
| 28 days, water | < +0.15%                | +0.020%        |
| 56 days, water | -                       | +0.024%        |
| 84 days, water | -                       | +0.027%        |

**Cylindrical height change, ASTM C1090**

|          |        |
|----------|--------|
| 24 hours | +0.02% |
|----------|--------|

**Slant shear bond strength**

| Age      | ASTM C928 Specification | Typical Values      |
|----------|-------------------------|---------------------|
| 24 hours | 1000 psi (6.9 MPa)      | 1200 psi (8.3 MPa)  |
| 7 days   | 1500 psi (10.3 MPa)     | 1620 psi (11.2 MPa) |

**Scaling resistance testing**

| Test method  | Specification                               | Typical Values |
|--------------|---|----------------|
| ASTM C666    | > 60% modulus                               | 78%            |
| ASTM C672    | (Visual)                                    | < 2.5          |
| ASTM C672    | 1 lb/ft <sup>2</sup> (5 kg/m <sup>2</sup> ) | 0              |
| (Mass Loss)  |   |                |
| Region 3 TM4 | < 8.0% loss                                 | -0.28%         |
| @ 25 cycles  |   |                |
| Region 3 TM4 | < 8.0% loss                                 | +0.38%         |

**APPLICATION**

**WEAR IMPERVIOUS GLOVES**, such as nitrile when handling product. Place the repair material quickly and continuously, using light rodding to eliminate bubbles. Mechanical vibration should be avoided in areas that will be exposed to de-icing salts.

After FastSet™ DOT Mix 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 sawing motion to smooth the surface. Use a darby or bull float to float the surface; this levels any ridges and fills voids left by the straight edge.

Cut the FastSet™ DOT Mix away from the forms by running an edging tool or trowel along the forms to compact the slab edges. Note - For best results, do not overwork the material.

**CURING**

Proper curing increases the strength and durability of concrete repair materials. QUIKRETE® Acrylic Concrete Cure and Seal (#8730) provides the easiest and most convenient method of curing. Apply by spray, brush or roller, when the surface is hard, following the final finishing operation. The surface may be damp, but not wet, when applying the curing compound.

**PRECAUTIONS**

- During extremely hot or dry conditions, cold water should be used to maintain mix at a moderate placement temperature. Use hot water when mixing in severely cold weather.
- Mix no more than can be used in 10 minutes.

**WARRANTY**

NOTICE: Obtain the applicable LIMITED WARRANTY: at [www.quikrete.com/product-warranty](http://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. © 2018 Quikrete International, Inc.

\* Refer to [www.quikrete.com](http://www.quikrete.com) for the most current technical data, SDS, and guide specifications