



1. Product Name

QUIKRETE® Rapid Road Repair® #1242

2. Manufacturer

The QUIKRETE Companies
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3. Product Description

BASIC USE

QUIKRETE Rapid Road Repair® is a fast-setting, rapid-hardening mortar designed to repair concrete highways, bridge decks, concrete parking lots and concrete floors. In most cases, traffic can be resumed in less than 1 hour after patching. Rapid Road Repair can be used to replace sections of streets or highways, runways or taxiways of airports and other applications where quick return to usage is desired.

COMPOSITION & MATERIALS

QUIKRETE Rapid Road Repair is made from a special blended cement with carefully graded aggregates to provide a permanent patch. It also contains AR glass fibers for improved flexural performance essential for applications of severe vibration as in the repair of bridge decks. An unfibred version of this product is also available.

COLORS

- Cement gray

SIZES

- 50 lb (22.7 kg) bags
- 67 lb (30.4 kg) bags

YIELD

A 50 lb (22.7 kg) bag of QUIKRETE Rapid Road Repair will yield 0.40 cu ft (11 L) of material. A 67 lb (30.4 kg) bag will yield 0.54 cu ft (15 L).

LIMITATIONS

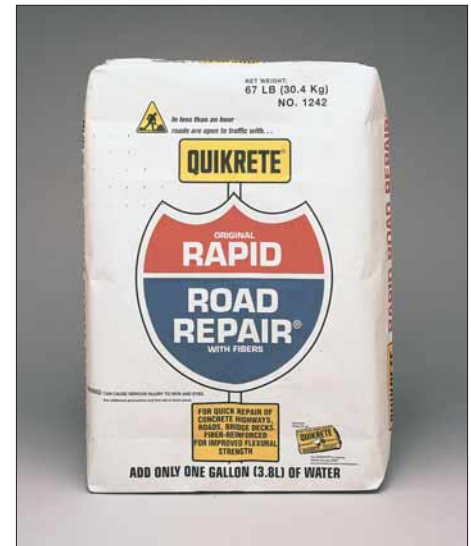
During extremely hot or dry conditions, cold water should be used to maintain mix at a moderate placement temperature.

4. Technical Data

APPLICABLE STANDARDS

ASTM International

- ASTM C39/C39M Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
- ASTM C78 Standard Test Method for Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)
- 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 Method for Time of Setting of Hydraulic Cement by Vicat Needle
- ASTM C531 Standard Test Method for Linear Shrinkage and Coefficient of Thermal Expansion of Chemical-Resistant Mortars, Grouts, Monolithic Surfacing, and Polymer Concretes
- ASTM C642 Standard Test Method for Density, Absorption, and Voids in Hardened Concrete



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- ASTM C666 Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing
- ASTM C672/C672M Standard Test Method for Scaling Resistance of Concrete Surfaces Exposed to Deicing Chemicals
- ASTM C882 Standard Test Method for Bond

TABLE 1 PHYSICAL/CHEMICAL PROPERTIES OF QUIKRETE RAPID ROAD REPAIR

| Property & test | Typical values |
|---|---------------------------------------|
| Setting ASTM C191 | |
| Initial | 17 - 25 minutes |
| Final | 25 - 45 minutes |
| Flexural strength, ASTM C78 | |
| 4 hr | 550 psi (3.8 MPa) |
| 1 day | 900 psi (6.2 MPa) |
| 7 days | 950 psi (6.6 MPa) |
| 28 days | 1000 psi (6.9 MPa) |
| Compressive strength, ASTM C109 | |
| 1 hr | 3000 psi (20.7 MPa) |
| 3 hrs | 3400 psi (23.4 MPa) |
| 24 hrs | 5200 psi (35.9 MPa) |
| 7 days | 8100 psi (55.9 MPa) |
| 28 days | 8370 psi (57.7 MPa) |
| Bond strength, ASTM C882 | |
| 1 day | 2000 psi (13.8 MPa) |
| 7 days | 2500 psi (17.3 MPa) |
| Absorption, ASTM C642 | 5.1% |
| Length change, ASTM C157 | |
| In water | +0.04% |
| In air | -0.04% |
| Coefficient of thermal expansion, ASTM C531 | $4 \times 10^{-6} - 9 \times 10^{-6}$ |
| Freeze/thaw, ASTM C666 | 96% |
| Scaling resistance, ASTM C672 | Excellent |



Strength of Epoxy-Resin Systems Used With Concrete By Slant Shear

- ASTM C928 Standard Specification for Packaged, Dry, Rapid-Hardening Cementitious Materials for Concrete Repairs

PHYSICAL/CHEMICAL PROPERTIES

QUIKRETE Rapid Road Repair, when tested in accordance with ASTM procedures, provides results as listed in Table 1.

QUIKRETE Rapid Road Repair meets the requirements of ASTM C928 Grade R3. It can be modified to meet specific requirements of the Department of Transportation in various states.

5. Installation

SURFACE PREPARATION

- Remove all spalled areas and areas of unsound concrete and patching
- The hole should have a vertical edge of 1/2" (12.7 mm) or more, formed by use of a pneumatic jackhammer or sawing. Holes should be chipped out to create a new, sound substrate
- After the chipping process is completed, the repair area must be cleaned by water blasting or other suitable method
- Dampen holes with clean water before patching. No puddles of water should be left in the hole

MIXING

- Use 3/4 gal (2.8 L) of water per 50 lb (22.7 kg) bag or 1 gal (3.8 L) of water per 67 lb (30.4 kg) bag
- All tools and equipment used in the mixing and finishing process should be clean
- Place water in mixer. While mixer is running, add contents of bag
- Mix 4 to 5 minutes. The mix will appear stiffer than normal concrete
- Place in a wheelbarrow or other transporting vehicle. Place the mixture immediately after the mixing is completed

Note - Working time is 10 - 20 minutes and will fluctuate; shorter time during severe hot weather and longer time during cold weather.

PLACING

- The hole should be filled by placing material full depth, from one end to the other to eliminate part depth lifts between batches
- Consolidate the material in the hole by hand tamping or chopping with a shovel. This is particularly important around the edges
- Screed and finish patches with hand tools to create a surface finish equivalent to the existing slab finish

TABLE 2 PRODUCT EXTENSION OF QUIKRETE RAPID ROAD REPAIR ¹

| Property & test | Typical value for extended product |
|--------------------------------|------------------------------------|
| Compressive strength, ASTM C39 | |
| 1 hr | 2380 psi (16.4 MPa) |
| 3 hr | 2750 psi (19.0 MPa) |
| 24 hr | 6150 psi (42.2 MPa) |

¹ Product extended with 50% by weight minus 1/2" (12.7 mm) diameter coarse aggregate.

CURING

No curing membranes or compounds are required. Traffic can be allowed over the patch in approximately 1 hour if the temperature is 70 degrees F (21 degrees C) or above. Cure under ambient conditions. Do not moist cure.

AGGREGATE EXTENSION

For deep patches, QUIKRETE Rapid Road Repair may be extended with up to 25 lb (11.3 kg) of minus 1/2" (12.7 mm) coarse aggregate per 50 lb (22.7 kg) bag or 33 lb (15 kg) per 67 lb (30.4 kg) bag. Water content must be adjusted depending on the moisture content of the aggregate. Adjust as needed to achieve a slump of about 3" - 4" (76 - 102 mm). Typical test results are found in Table 2.

PRECAUTIONS

QUIKRETE Rapid Road Repair must be properly placed in a space surrounded by sound, high quality previously hardened concrete. Do not subject to de-icing salts for at least 7 days after placement.

6. Availability

QUIKRETE Rapid Road Repair is available at leading concrete construction supply houses and distributors. Contact QUIKRETE Construction Products for the name of the nearest dealer.

7. Warranty

The QUIKRETE Companies warrant this product to be of merchantable quality when used or applied in accordance with the instructions herein. The product is not warranted as suitable for any purpose or use other than the general purpose for which it is intended. Liability under this warranty is limited to the replacement of its product (as purchased) found to be defective or, at the shipping company's option, to refund the purchase price. In the event of a claim under this warranty, notice must be given to The QUIKRETE Companies in writing. This limited warranty is issued and accepted in lieu of all other

express warranties and expressly excludes liability for consequential damages.

8. Maintenance

None required.

9. Technical Services

The QUIKRETE Companies maintain technical field representatives throughout the country. Contact a local distributor for the name and number of the nearest representative or call QUIKRETE Construction Products.

10. Filing Systems

- Reed First Source
- Additional product information is available from the manufacturer.