

POLYMER MODIFIED STRUCTURAL REPAIR

DIVISION 3

03 01 00 Maintenance of Concrete
03 31 00 Structural Concrete

PRODUCT NO. 1241-25, -58

PRODUCT DESCRIPTION

QUIKRETE® Polymer Modified Structural Repair is a polymer modified, shrinkage-compensated, rapid setting, high strength repair material designed to make horizontal, vertical, and overhead structural repairs to any concrete surface. QUIKRETE® Polymer Modified Structural Repair consists of special fast-setting hydraulic cement, graded sands, and other proprietary ingredients. Exceeds the requirements of ASTM C928 R2.

PRODUCT USE

QUIKRETE® Polymer Modified Structural Repair demonstrates low sag, making it ideal for vertical or overhead repairs. Its unique properties allow it to be used for partial-depth repairs and can be sculpted to match the contour of existing concrete surfaces. Use to repair concrete cracks, curbs, steps, loading docks, retaining walls, decorative moldings, and virtually any vertical or overhead concrete surface. This product can be built up to at least 1-1/2 in (38 mm) in one application. For full-depth repairs, the product should be extended with up to 10 lb (4.5 kg) of clean, high quality -1/2 inch (-13 mm) gravel per 20 lb (9 kg) pail, or 25 lb (11.3 kg) of gravel per 50 lb (22.6 kg) bag.

SIZES

- 20 lb (9 kg) pails
- 50 lb (22.6 kg) bags

YIELD

- Each 20 lb (9 kg) pail of QUIKRETE® Polymer Modified Structural Repair will yield approximately 0.18 ft³ (5.0 L) of material.
- Each 50 lb (22.6 kg) bag of QUIKRETE® Polymer Modified Structural Repair will yield approximately 0.45 ft³ (12.7 L) of material.

TECHNICAL DATA

APPLICABLE STANDARDS

- ASTM C109 Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2 in. or [50-mm] Cube Specimens)
- ASTM C143 Standard Test Method for Slump of Hydraulic-Cement Concrete
- ASTM C191 Standard Test Methods for Time of Setting of Hydraulic Cement by Vicat Needle
- ASTM C928 Standard Specification for Packaged, Dry, Rapid-Hardening Cementitious Materials for Concrete

PHYSICAL/CHEMICAL

Typical results obtained for QUIKRETE® Polymer Modified Structural Repair, when tested in accordance with the referenced ASTM test methods, are shown in Table 2.



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. Large vertical or overhead patches deeper than 2 in (50 mm) should contain reinforcing steel. If none is present, new steel should be inserted using appropriate techniques. Dampen the repair area with clean water before patching. No standing water should be left in the repair area.

MIXING

Refer to Table 1 for water quantities. Begin by using a mid-range water quantity, then adjust, if needed, to achieve a placeable, gel-like consistency. The water demand of the product may vary based upon environmental conditions. Starting with the maximum quantity of water is not recommended. Add the water to the mixer or mixing container first, followed by the QUIKRETE® Polymer Modified Structural Repair. Mix by hand, or mechanically using a standard mortar mixer, for a minimum of 3 minutes. Adding excessive water that causes a flowable consistency is not recommended, because this will cause a reduction in performance of the product. Where large quantities of material are needed for patches deeper than 2 in (50 mm) QUIKRETE® Polymer Modified Structural Repair may be extended with 10 lb (4.5 kg) of -1/2 inch (-13 mm) gravel per 20 lb (9 kg) pail, or 25 lb (11.3 kg) gravel per 50 lb (22.6 kg) bag. The gravel used should be clean, high quality, and in a damp condition. Adjust water, if needed, to achieve a placeable consistency. Exceeding an ASTM C143 slump of 5 inches (125 mm) is not recommended. This may cause a reduction in performance of the product.

TABLE 1 TYPICAL WATER CONTENT

Amount of Material	Minimum	Maximum
20 lb (9 kg)	2-3/4 pt (1.3 L)	3 pt (1.4 L)
50 lb (22.6 kg)	7 pt (3.3 L)	7-1/2 pt (3.5 L)

APPLICATION

QUIKRETE® Polymer Modified Structural Repair should be trowel applied to the damp surface. Apply a thin layer with heavy trowel pressure, and then go back and build up to the desired thickness. QUIKRETE® Polymer Modified Structural Repair obtains high bond strength without the use of bonding adhesives or acrylic additives. After initial set, the material may be trimmed and shaped to match the existing contours of the patch area.

CURING

During the first 24 hours, it is best to keep the patch covered or damp to prevent excessive loss of water. Under hot, dry and windy placing conditions, all concrete tends to lose moisture unevenly and may develop plastic shrinkage cracks. The use of sheeting, as well as application of a very fine fog spray of water, has been quite successful in limiting shrinkage cracking. Curing compounds such as QUIKRETE® Acrylic Concrete Cure and Seal (No. 8730) provide the easiest and most convenient method of curing. Curing compounds should be applied via appropriate methods, once final set has been reached.

PRECAUTIONS

- Mix no more than can be used in 15 minutes.
- Do not apply as a coating.
- Do not use if temperatures are below 40 °F (4 °C) or are expected to go below 32 °F (0 °C) within a 24 hour period.
- Use cold water in hot weather or hot water in cold weather to help maintain sufficient working time of the mixed product.
- In most cases, concrete repair materials will not be an exact color match to surrounding concrete.
- For best results, do not overwork the material or remix the material with additional water after it starts to harden.

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. © 2024 Quikrete International, Inc.

TABLE 2 TYPICAL PHYSICAL PROPERTIES

Setting Time, ASTM C191	
Initial	Approx. 20 minutes
Final	20 to 40 minutes
Compressive Strength, ASTM C109 (Modified)	
Age	PSI (MPa)
3 hours	2000 (13.7)
24 hours	4000 (27.5)
7 days	5000 (34.4)
28 days	6000 (41.3)