

QUIKRETE® Guide Specification

FastSet™ Repair Mortar (No. 1241)

Polymer Modified, Shrinkage Compensated, Rapid Setting Concrete Repair Mortar

Section 030100 Maintenance of Concrete

PART 1 – GENERAL

1.10 SUMMARY

- A. Provide repair mortar for vertical overhead or horizontal patch and repair of existing substrate.
- B. Related Sections: Other specification sections which relate directly to the work of this section include the following:

- Section 030130: Maintenance of Cast-in-place Concrete
- Section 030140: Maintenance of Precast Concrete
- Section 033000: Cast-In-Place Concrete
- Section 033100: Structural Concrete
- Section 034100: Pre-Cast Structural Concrete

1.20 SUBMITTALS

- A. Product Data: Submit manufacturer's product data and installation for each material and product used. Include manufacturer's Material Safety Data Sheets.

1.30 REFERENCES

- A. ASTM C 109: Compressive Strength of Hydraulic Mortars
- B. ASTM C 191: Setting Time of Hydraulic Cement
- C. ASTM C 882: Slant Shear Bond Strength
- D. ASTM C 928: Rapid Hardening Cementitious Materials for Concrete Repairs
- E. Utah D.O.T. Bond/Slant Shear Testing.

1.40 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: The manufacturer shall be a company with at least fifteen years experience in the manufacturer and marketing of pre-packaged cementitious repair materials.
- B. Installer's Qualifications: The contractor shall be qualified to perform the work specified by reason of experience.

1.50 DELIVERY, STORAGE AND HANDLING

- A. Deliver products in original packaging, labeled with product identification, manufacturer, batch number and shelf life.

- B. Store products in a dry area. Protect from direct sunlight.
- C. Handle products in accordance with manufacturer's printed recommendations.

PART 2 – PRODUCTS
2.10 MATERIALS

- A. Polymer modified, shrinkage compensated, rapid setting high strength, hydraulic cement based repair mortar. Comply with the following:
 - 1. Manufacturer: Fastset™ Repair Mortar (#1241) as manufactured by the QUIKRETE® Companies, One Securities Centre, 3490 Piedmont Road, NE, Suite 1300, Atlanta, GA 30305; telephone (404) 634-9100.
 - 2. Performance and Physical Properties at 73 degrees F (23°C) and 50 percent relative humidity:
 - a. Compliance: ASTM C 928 R-2 specifications
 - b. Setting time, ASTM C 191: 20-40 minutes
 - c. Compressive Strength, ASTM C 109 Modified: 2000 psi (13.8 MPa) @ 3 hours, 4000 psi (27.6 MPa) @ 24 hours, 5000 psi (34.5 MPa) @ 7 days and 6000 psi (41.4 MPa) @ 28 days
 - d. Slant Shear Bond Strength, ASTM C 882: 1000 psi (6.9 MPa) @ 24 hours, 1500 psi (10.3 MPa) @ 7 days and 2500 psi (17.2 MPa) @ 28 days
 - e. Consistency: Gel-like
 - f. Unit weight lb/cu ft: ~128 lbs (2051 kg/m³)

PART 3 – EXECUTION

3.10 EXAMINATION

- A. Examine substrates and conditions under which materials will be installed. Do not proceed with installation until unsatisfactory conditions are corrected.
- B. Coordinate installation with adjacent work to ensure proper sequence of construction. Protect adjacent areas landscaping from contact due to mixing and handling of materials.

3.20 SURFACE PREPARATION:

Comply with manufacturer's printed instructions and the following:

- A. Remove all spalled and unsound concrete from area to be repaired. If rusty reinforcing steel is present; it must be abrasive blasted to remove rust.
- B. Remove enough material to completely expose reinforcing steel.
- C. Large vertical or overhead patches deeper than 2" (50 mm) should contain reinforcing steel. Additional steel should be inserted using appropriate techniques, if none is present.
- D. Clean surface to be repaired of all materials including dust, oil, dirt and grease.
- E. Dampen with clean water before patching and remove standing water.

3.30 **MIXING:**

Comply with manufacturer's printed instructions and the following:

- A. Material should be mechanically mixed for approximately 3 minutes using a five gallon (19L) bucket with a ½" (12 mm) drill and paddle mixer. For large repairs a standard mortar mixer should be used.
- B. Add 1 gallon + 3 pints (5.2L) of clean water for each 60lb (27.2 Kg) bag. Add the powder to the water and mix to a stiff gel-like consistency. If mix is too firm, add water sparingly to reach the desired consistency. Do not mix more material than can be placed in 15 minutes.
- C. For repair deeper than 2" (51 mm), up to 30 lbs (13.6 Kg) of clean, high quality ½" (12 mm) gravel may be added to the mix per 60-lb (27.2 Kg) bag.
- D. Do not re-temper with additional water.

3.40 **APPLICATION:**

Comply with manufacturer's printed instructions and the following:

- A. Material should be trowel applied to a damp surface.
- B. Apply a thin layer with heavy trowel pressure and then build up to the desired thickness. Material obtains high bond strength without the use of bonding adhesives or acrylic additives.
- C. After initial set, the material may be trimmed and shaped to match the contours of existing patch area.
- D. Do not apply if temperatures are below 40°F (4°C) or are expected to go below 32° (0°C) within a 24 hour period. Use cold water in hot weather or hot water in cold weather to achieve desired grout temperature.

3.50 **CURING**

- A. No special procedures are required. During the first 24 hours, keep the patch covered or damp to prevent excessive loss of water.

3.60 **CLEANING**

- A. Remove excess material before material cures. If material has cured, remove using mechanical methods that will not damage substrate.

END OF SECTION