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 (23ºC) 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**