



REMR Material Data Sheet CM-PC-2.5

FAST SETTING PATCHING MATERIALS: RAPID SET CONCRETE MIX

1. NAME

Rapid Set Concrete Mix

2. MANUFACTURER

Rapid Set Products
 Los Angeles, CA 90077
 Telephone: 213-472-8898

3. DESCRIPTION

Rapid Set Concrete Mix is a packaged blend of hydraulic cement, sand, and gravel (maximum size 3/8 in.). When mixed with water, it produces a concrete that attains 2,000 psi compressive strength in 1 hr. No chlorides are added to the mixture.

4. USES

Used for repairing highways, air-fields, sidewalks, floors, and other structural members when high early strength is needed.

5. MANUFACTURER'S TECHNICAL DATA

<u>Properties</u>	<u>Test Method</u>	<u>Results</u>
Compressive strength, psi	ASTM C 192	
1 hr		2,000
24 hr		4,200
7 days		5,100
28 days		6,300

<u>Properties</u>	<u>Test Method</u>	<u>Results</u>
Flexural strength psi, 5 hr 28 days	ASTM C 78	650 1,260
Modulus of Elasticity, psi	ASTM C 469	4.2×10^6
Freeze-thaw durability, relative modulus of elasticity, 300 cycles, %	ASTM C 666	82.4

6. MANUFACTURER'S GUIDANCE FOR APPLICATION

Preparation. Remove all unsound concrete keeping edges and corners square. Concrete should be clean and free of oil, grease, laitance, and other contaminants that would affect the bond. Dampen the area with water.

Mixing. A slump of about 6 in. is used for ease of placement and to assure a good bond. This slump requires about 3 qt of mixing water per 60-lb bag of Rapid Set Concrete Mix. Due to possible segregation of materials in the bag, use only whole bags. Rapid Set Concrete Mix has almost zero shrinkage even when placed at a 6-in. slump.

Placement and finishing. The working time for Rapid Set Concrete Mix is about 20 min at 70°F and is longer at lower temperatures and shorter at higher temperatures. It is important that the placement operation be organized within this time limitation. After setting, Rapid Set Concrete Mix will gain strength quickly, and finishing operations may be difficult. The working time may be extended by using cold mixing water or a retarder (Rapid Set-Set Control). In cold weather, warm mixing water and/or an accelerator (Rapid Set Accelerator) may be used to hasten the set and strength development.

Curing. The manufacturer recommends the use of a curing compound for curing Rapid Set Concrete Mix. If a curing compound is not available, the surface should be kept damp for at least 1 hr after placement.

7. CORPS OF ENGINEERS' EVALUATION

<u>Properties</u>	<u>Test Method</u>	<u>Results</u>
Compressive strength, psi	ASTM C 39	
1 hr		2,610
3 hr		3,660
24 hr		4,060
28 days		6,040
Bond to concrete, psi	ASTM C 882	2,900
Flexural strength, psi	ASTM C 78	
1 day		710
28 days		1,100
Scaling resistance to deicing chemicals, 25 cycles	ASTM C 672	Rating 5 severe scaling

8. ENVIRONMENTAL CONSIDERATIONS

Reasonable caution should guide the preparation, repair, and cleanup phases of activities involving potentially hazardous and toxic chemical substances. Manufacturer's recommendations to protect occupational health and environmental quality should be carefully followed. Material safety data sheets must be obtained from the manufacturers of such materials. In cases where the effects of a chemical substance on occupational health or environmental quality are unknown, chemical substances should be treated as potentially hazardous toxic materials.

9. AVAILABILITY & COST

This material is marketed throughout the United States. Rapid Set Concrete Mix is prepackaged in 60-lb bags. The cost of the material is \$13.00 per 60-lb bag (prices FOB, 1990).