



## REMR Material Data Sheet CM-PC-2.4

FAST SETTING PATCHING MATERIALS: BONSAL  
RAPID PATCH

## 1. NAME

BONSAL Rapid Patch

## 2. MANUFACTURER

W. R. Bonsal Company  
P.O. Box 241148  
Charlotte, NC 28224  
Telephone: 1-800-334-0784

## 3. DESCRIPTION

BONSAL Rapid Patch is a quick setting, high early strength concrete patching compound. Blended of special cements and additives that make a self-bonding patching compound that can accept traffic 3 hr after placement.

## 4. APPLICABLE SPECIFICATIONS

BONSAL Rapid Patch meets or exceeds the requirement of ASTM C 928-89 "Specification for Packaged, Dry, Rapid-Hardening Cementitious Materials for Concrete Repairs."

## 5. USES

BONSAL Rapid Patch can be used for repair of garage parking decks, airport runways, warehouse floors, and other concrete structural elements.

## 6. MANUFACTURER'S TECHNICAL DATA

| <u>Properties</u>                                     | <u>Test Method</u>       | <u>Results</u> |
|---|--------------------------|----------------|
| Setting time  | ASTM C 266               |                |
| Initial set, min                                      |                          | 35             |
| Final set, min  |                          | 45             |
| Flexural strength, 28 days, psi                       | ASTM C 580               | 800            |
| Compressive strength, psi                             | ASTM C 109               |                |
| 3 hr  |                          | 2,500          |
| 1 day   |                          | 4,500          |
| 28 days   |                          | 6,500          |
| Length change, %                                      | ASTM C 157               |                |
| Air cured   |                          | -0.06          |
| Moist cured   |                          | +0.06          |
| Scaling resistance, 25 cycles                         | ASTM C 672               | 2 rating       |
| Freeze-thaw resistance, 300 cycles, % dynamic modulus | ASTM C 666 (Procedure A) | 88             |

7. MANUFACTURER'S GUIDANCE FOR APPLICATION

Surface preparation: The hole should be back cut or have a vertical edge obtained from using a pneumatic jackhammer or sawing. Remove all loose scale or dust with air or water blasting. Only solid concrete should remain. Holes should be dampened with water prior to placement but with no standing water or puddles.

Mixing: BONSAL Rapid Patch may be mixed in a concrete or mortar mixer, in a bucket by hand mixing, or with a slow speed drill and stirring blade. Measure the water and add to the mixer; then add the Rapid Patch and mix at a medium speed for 3 min. Use approximately 0.73 gal (6.1 lb) of mixing water per bag. This will yield 0.40 cu ft of mix. The working time of Rapid Patch is approximately 20 min. Working time is shortened as the temperature increases. DO NOT mix more than can be placed in 20 min. Clean mixer and equipment with clean water after each use to avoid buildup.

Application: Rapid Patch may be used for repairs from 1/2 to 8 in. in thickness. For patching areas greater than 1-1/2 in., Rapid Patch may be extended with up to 50 percent by weight of stone meeting AASHTO M43, Size No. 7 requirements.

Substrate to be repaired and materials must be above 40°F during placement and maintained above 40°F for at least 24 hr. Fill the hole to the full depth and consolidate by rodding during the placement. The surface may be broomed or textured approximately 20 to 30 min after placement. Curing is recommended during hot, dry conditions.

8. CORPS OF ENGINEERS' EVALUATION

| <u>Properties</u>                    | <u>Test Method</u> | <u>Results</u> |
|--------------------------------------|--------------------|----------------|
| Compressive strength, psi            | ASTM C 109         |                |
| 3 hr                                 |                    | 5,480          |
| 6 hr                                 |                    | 6,200          |
| 24 hr                                |                    | 7,080          |
| 7 days                               |                    | 8,020          |
| Flexural strength, psi               | ASTM C 78          | 840            |
| Length change, air cured, 28 days, % | ASTM C 157         | -0.06          |
| Bond strength to concrete, psi       | ASTM C 882         | 3,020          |
| Scaling resistance, 25 cycles        | ASTM C 672         | 2 rating       |

9. 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.

#### 10. AVAILABILITY & COST

BONSAL Rapid Patch is marketed throughout the United States. The material is packaged in 50-lb bags. Contact W. R. Bonsal Company for nearest distributor and price.