

Fast Set Cement Mix

BONSAL® Fast Set Cement Mix is a polymer modified, rapid setting Portland Cement repair product.

FEATURES AND BENEFITS:

- Ideal for Overhead Repairs
- Featheredges (See * under Mixing)
- Can be Used for Horizontal or Vertical Repairs
- Freeze-Thaw Resistant
- Meets ASTM C 928 Packaged, Dry, Rapid-Hardening Cementitious Material for Concrete Repair
- Complies with DOT Requirements
- High Early Strength
- No Forming Needed
- Can be Extended with Coarse Aggregate
- Bonds to Existing Concrete and Masonry
- Does Not Shrink
- Sets in 20 Minutes
- Ready for Light Use in 4 Hours, Heavy Use in 24 Hours
- Non-Corrosive-Contains No Calcium Chloride
- Rapid Buildup

USES:

Repair of Concrete

- Poured in place, precast, tilt-up and prestressed
- Concrete Beams and Columns
- Walkways
- Driveways
- Curbs
- Tunnels
- Ramps
- Loading Docks
- Bridges
- Decks
- Concrete Pipes
- Cavities
- Median Barriers
- Honeycombs
- Core Holes

Repair of Concrete Masonry

- Resetting or Pointing of Brick, Block or Stone
- Stucco
- Cement Tile Roofs

PREPARATION:

Evaluation of the substrate by a qualified engineer, architect or contractor using means that determine the cause of deterioration is strongly recommended. Particular attention is to be given but not limited to chloride penetration, corrosion of steel galvanic activity, materials selection and compatibility, waterproofing, constructibility, quality assurance and methods of application and maintenance by the owner. Clean area and remove all unsound concrete, grease, oil, paint, and any other foreign materials that will inhibit performance.

PREPARATION (Cont.):

Slick or sealed surfaces must be thoroughly roughened. Refer to:

- ASTM D 4258 Surface Cleaning Concrete for Coating
- ASTM D 4259 Abrading Concrete
- ASTM D 4261 Surface Cleaning Concrete Unit Masonry for Coating
- ICRI Surface Preparation Guidelines for Repair of Deteriorated Concrete Resulting From Reinforcing Steel Oxidation
- ASTM D 4580 Measuring Delaminations in Concrete Bridge Decks by Sounding
- ACI 201.1R Guide for Making a Condition Survey of Concrete in Service
- ACI 201.3R Guide for Making a Condition Survey of Concrete Pavements

Use of BONSAL Acrylic Additive

When using BONSAL Acrylic Additive in BONSAL Fast Set Cement Mix, saturate the substrate with water. Remove excess water prior to application and consult BONSAL Acrylic Additive product literature.

Note: BONSAL Acrylic Additive cannot be used as a roll, brush or spray applied substrate primer.

Use of BONSAL 118 Primer/Admixture

When using BONSAL 118 Primer/Admixture as a primer over sound substrates, dilute 1:1 with water. Consult BONSAL 118 Primer/Admixture product literature for coverage rates.

Make a small test area and examine after several days. Under conditions of excessive temperatures or high absorption, dampen substrate with water prior to applying BONSAL 118 Primer/Admixture.

MIXING:

Combine Admixture per table below before adding to Fast Set Cement Mix.

Horizontal	Acrylic Additive or 118 Primer/Admixture	Water
9 lb. Pail (4.0 kg)	8 oz. (236.5 cm ³)	+ 24 oz. (709.6 cm ³)
50 lb. Bag (22.7 kg)	1 quart (0.94 l)	+ 3 quarts (2.82 l)
Overhead & Vertical	Acrylic Additive or 118 Primer/Admixture	Water
9 lb. Pail (4.0 kg)	6 oz. (177.4 cm ³)	+ 12 oz. (354.8 cm ³)
50 lb. Bag (22.7 kg)	1 quart (0.94 l)	+ 2 quarts (1.88 l)

MIXING (Cont.):

Discard any material that sets up.

For repair areas more than 2" (9.0 cm) deep, preblend 20 lbs. (9.08 kg) 3/8" (0.95 cm) coarse aggregate (AASHTO M43 size #7) per 50 lb. (22.7 kg) bag, 3 1/2 lbs. (1.58 kg) per 9 lb. (4.0 kg) pail, then add mixing liquid.

For repair areas more than 12" (30.48 cm) deep or DOT requirements, consult the *W.R. Bonsal Company*.

*Featheredging is permitted when the Vinyl Concrete Patcher is modified with BONSAL 118 Primer/Admixture or BONSAL Acrylic Additive.

PLACEMENT:

Placement Temperature

	Minimum	Maximum
Substrate	50°F (10°C)	90°F (32.2°C)
Mix	60°F (15.5°C)	80°F (26.6°C)
Air	50°F (10°C)	90°F (32.2°C)

Place the Fast Set Cement Mix on the substrate to be repaired. Force the mix into the original concrete. Lightly trowel to the desired finish.

For overhead repairs, thickness should not exceed 1" (2.54 cm) per application.

Finishing

To obtain a nonskid surface, use a damp sponge, rubber float or a damp broom.

When vinyl, wood, or other types of floor coverings are to be installed over Self Leveling Underlayment, the requirements of the floor covering manufacturer are to be followed with respect to but not limited to levels of moisture.

Refer to:

•RFCI (Resilient Floor Covering Institute publication MRP - Nov 95): Addressing Moisture Related Problems Relevant to Resilient Floor Coverings Installed Over Concrete

•NOFMA(National Oak Flooring Institute) publication: Installing Hardwood Flooring, Rev. March 98/10

CURING:

Protect from heat and direct sun for 12 hours. Do not wet the surface after the material has set. Maintain at least 40°F (4.4°C) for 24 hours after application. Materials modified with BONSAL Acrylic Additive or BONSAL 118 Primer/Admixture should be air cured, unless hot/or drying winds or low humidity are present. Under such conditions, cure per Portland Cement Association - Design and Control of Concrete Mixes (EB001.12T) and/or American Concrete Institute 308 - Standard Practice for Curing Concrete.

CURING (Cont.):

Actual moisture content testing is recommended prior to final floor covering installation. Consult the Floor Covering Manufacturer for substrate recommendations.

TECHNICAL DATA:

Set Time

ASTM C 191	
Initial Set	20 minutes
Final Set	30 minutes

Slant Shear Bond Strength

ASTM C 882	
28 days air cured	1200 psi (8.2 Mpa)

Shrinkage

ANSI 118.4, F-5	
28 days air cured	None

Length Change Percent

ASTM C 157	
Air Cured	-.04
Moist Cured	+.08

Alkalinity

12.8 pH

Freeze Thaw Durability

ASTM C 666 A	
300 cycles	98%

Fast Set Cement Mix	Water	3:1 Water/ 118 Primer/ Admixture	3:1 Water/ Acrylic Additive
Compressive Strength ASTM C 109	PSI	PSI	PSI
4 hours air cured	3125 (21.5 Mpa)	3000 (20.6 Mpa)	2500 (17.2 Mpa)
24 hours air cured	4250 (29.3 Mpa)	3875 (26.7 Mpa)	3625 (25.0 Mpa)
7 days air cured	5625 (38.7 Mpa)	4750 (32.7 Mpa)	4250 (29.3 Mpa)
28 days air cured	7500 (51.7 Mpa)	5500 (37.9 Mpa)	5625 (38.7 Mpa)
Flexural Strength ASTM C 580	PSI	PSI	PSI
7 days air cured	1290 (8.89 Mpa)	1800 (12.4 Mpa)	1250 (8.61 Mpa)
28 days air cured	1688 (11.6 Mpa)	2450 (16.8 Mpa)	1800 (12.4 Mpa)
Tensile Strength ASTM C 190	PSI	PSI	PSI
7 days	400 (2.75 Mpa)	600 (4.13 Mpa)	650 (4.48 Mpa)
28 days	450 (3.10 Mpa)	650 (4.48 Mpa)	465 (3.20 Mpa)
Shear Bond Strength ASTM C 882	PSI	PSI	PSI
28 days	1075 (7.41 Mpa)	1300 (8.9 Mpa)	1250 (8.61 Mpa)

LIMITATIONS:

- **DO NOT** apply when air or substrate temperature is below 50°F (10°C) or above 90°F (32.2°C) within 12 hours of application.
- **DO NOT** coat with materials that will trap water in the substrate.
- **DO NOT** use dirty water or tools.
- **DO NOT** retemper after 5 minutes of mixing.
- **DO NOT** over trowel.
- **DO NOT** apply over substrates that are frozen or contain frost.
- **DO NOT** add or mix any materials with this product, unless approved by the *W.R. Bonsal Company*.
- **DO NOT** add excessive amounts of water.
- **DO NOT** apply over Light Weight concrete.
- **DO NOT** apply over concrete cured less than 7 days.
- **DO NOT** reuse empty container. Recycle or dispose of properly.

WARNING: Cracks in the material may reappear due to structural faults in the construction itself. The effectiveness of any repair depends on sound structures, proper evaluation, preparation, application, maintenance.

COLORS:

Grey

COVERAGE:

	Yields
9 lb. pail (4.1 kg)	5 sq. ft. at 1/4" thick (0.46 m ²) (6.3 mm)
50 lb. bag (22.7 kg)	1/2 cubic ft. (14.16 l) or 25 sq. ft. at 1/4" thick (2.3 m ²) (6.3 mm)

PACKAGING:

9 lb./4.1 kg pail
50 lb./22.7 kg multiply bag

SHELF LIFE:

One year from date of manufacture.

INSPECTIONS:

The W.R. Bonsal Company Sales Representatives do not make jobsite inspections. If an inspection is needed, please contact Bonsal Technical Service at 1-800-334-0784 to discuss inspection process.

CAUTION: Contains Silicon Dioxide, Portland Cement, and Calcium Hydroxide. Your skin may be sensitive to cement. Wearing rubber gloves is recommended. Avoid contact with eyes or prolonged contact with skin. In case of contact, flush thoroughly with water. For eyes, flush with clean water for at least 15 minutes and get prompt medical attention.

KEEP OUT OF REACH OF CHILDREN.

LIMITED WARRANTY: W.R. Bonsal Company ("Bonsal") warrants that this product and the materials used therein meet or exceed the applicable standards listed and enforced at the time of manufacture. Bonsal will replace any product or part which proves defective due to quality of ingredients used or due to the manufacturing process itself. This Warranty shall apply only if the product is used in strict accordance to applicable specifications and instructions provided by Bonsal for its use, and Bonsal shall not be liable otherwise. Replacement of any defective product, or, at Bonsal's option, refund of the purchase of any defective product shall be the buyer's sole remedy under this Warranty, and Bonsal shall in no event be liable for any damages in excess of the purchase price of the defective product. **BONSAL SHALL IN NO EVENT BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL OR SPECIAL DAMAGES.**

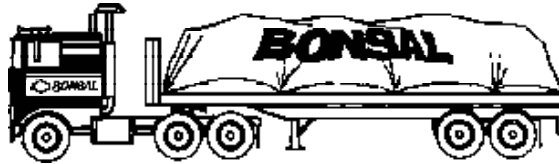
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“Bonsal Delivers Solid Solutions”

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