

# Self Leveling Underlayment

**BONSAL® Self Leveling Underlayment** is a self-leveling, polymer modified cement underlayment.

## FEATURES AND BENEFITS:

- Self-Leveling Capabilities
- Open to Light Traffic in Four Hours
- Pumpable
- Feathered edges
- Stronger than Concrete
- Water Resistant

## USES:

### An Interior Underlayment *OVER*

- Concrete Floors & Decks
- Quarry Tile
- Ceramic Tile
- Stone
- Wooden Floors

### An Interior Underlayment *FOR*

- Carpeting
- Vinyl
- Ceramic Tile
- Wood Flooring
- Quarry Tile
- Asphalt
- New and Existing Floors and Decks

## PREPARATION:

Clean area and remove all unsound concrete, grease, oil, paint, and any other foreign materials that will inhibit performance. Slick or sealed surfaces must be thoroughly roughened.

Refer to:

- ASTM D 4259 [Abrading Concrete](#)
- ASTM D 4260 [Acid Etching Concrete](#)
- ACI 201.1R [Guide for Making a Conditions Survey of Concrete in Service](#)
- ACI 201.3R [Guide for Making a Condition Survey of Concrete Pavements](#)
- ACI 224.1R93 [Causes and Repair of Cracks in Concrete Structure](#)
- ICRI [Surface Preparation Guidelines for Repair of Deteriorated Concrete Resulting From Reinforcing Steel Oxidation](#)

Repair areas over 1" in depth with Bonsal Fast Set Cement Mix or Bonsal Vinyl Concrete Patcher. Allow the repair products to cure at least three hours before applying Bonsal 118 Primer/Admixture or Bonsal Epoxy Primer.

## PREPARATION (Cont.):

Absorbent concrete will require 2 applications of the diluted 118 Primer/Admixture to avoid bubbles, pinholes and reduce flow of the underlayment. To determine if 1 or 2 applications are needed, apply a 1:1 dilution of the 118 Primer/Admixture. If the primer turns clear in approximately 30 minutes under the recommended temperatures, two coats are needed. Allow the first coat to dry before applying the second coat.

Place the test area with the same tools and procedures as will be used in the actual construction. Install a minimum of 50 sq. ft. in a high traffic area. Allow the test area to cure for at least 3 days. Evaluate the test area for adhesion, appearance and suitability for the intended use.

Install a bond breaker where vertical surfaces meet the new topping. Extend existing expansion and control joints in the concrete through the topping cement.

### *Note:*

Self-Leveling Underlayment will not correct or compensate for a structurally defective substrate.

Faults in the substrate can appear in the underlayment. The use of alkali resistant glass fabric or galvanized metal reinforcing (Federal Specification

QQL 101C) can be helpful in reducing reflective cracking.

Mix the 118 Primer/Admixture in a 1:1 ratio with water. 1 gallon of 118 Primer/Admixture diluted with 1 gallon of water will cover 500-800 sq. ft. Apply the diluted primer with a soft pushbroom. A thin uniform application (4-6 wet mils) will perform better than a thick film, which forms a soft rubbery surface resulting in cracking of the Self-Leveling Underlayment.

Allow the primer to dry for 1 to 3 hours, but not more than 24 hours. Over non-porous substrates use the Bonsal Epoxy Primer. Use a soft pushbroom to apply the Epoxy Primer. Allow the primer to dry 1 to 3 hours, but not more than 24 hours. The Epoxy Primer will cover 400-500 sq. ft. per 2 gallon kit. If either primer is permitted to dry beyond 24 hours, reapply the primer.

## MIXING:

Mix only the amount that can be applied in 15 minutes. The product will remain fluid for about 15 minutes. Add 7 quarts of clean water to the mixing container for each 55 lb. bag of Self-Leveling Underlayment. As temperature rises above 70°F, working time will decrease. Up to 8 quarts of water per 55 lb. bag may be added between 80°F and 90°F. Over watering and over mixing will effect strength, abrasion resistance and may cause cracking or surface defects.

Installations of less than 1,000 sq. ft. are usually done by the “mix and spill” method. This involves mixing the material with a drill mixer - generally 2 bags at a time.

Once the water has been placed in the mixing drum, gradually add the Self-Leveling Underlayment to the mixing water and mix until material is wet, free of lumps and of a flowable consistency. Mix for about two minutes. In temperatures above 80°F, use cold water to retard the set. Use a high torque electric drill with 450 RPM maximum and self-leveling mixing blade. For applications over 1,000 sq. ft. using a progressive cavity (rotor stator tube) grout pump is recommended.

For applications greater than 1”, extend the Self-Leveling Underlayment by adding up to 25 lbs. of clean, graded 1/8” damp aggregate per 55 lb. bag. Mix the product per instructions, then add the aggregate. If the aggregate is damp, no additional mixing water will be needed. If the aggregate is dry, up to 1 pint of mixing water may be needed to obtain material flow characteristics.

Addition of aggregate reduces the working characteristics of the material. It may be necessary to apply a finish layer the next day as a final coat. 118 Primer/Admixture must be applied before the finish layer of Self-Leveling Underlayment.

## PLACEMENT:

Placement Temperature

	Minimum	Maximum
Substrate	50° F	80°F
Mix	60°F	80°F
Air	50°F	90°F

## PLACEMENT (Cont.):

Use a spreader tool to pull the Self-Leveling Underlayment into place. Troweling is not recommended. Divide the areas to permit continuous placement without cold joints. To prevent ridges between batches, use the smoother tool and work a narrow dimension. Self-Leveling Underlayment will rapidly adapt to the temperature of the substrate and the environment.

Application thickness down to 1/16” are acceptable at points of termination. Most applications are 1/4” to 1/2” in thickness.

Consult Bonsal Technical Services for applications over wooden floors.

## CURING:

Protect from freezing and sudden rain for 24 hours. Air and surface temperature of the substrate will affect the working time and method of curing needed.

Materials modified with Bonsal Acrylic Additive or Bonsal 118 Primer/Admixture should be air cured, unless hot and/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.

## TECHNICAL DATA:

### Set Time - Temp. 70°F

ASTM C 191

Initial Set	1 to 1 1/2 hours
Final Set	2 to 3 hours

### Compressive Strength

ASTM C 109

Cured 6 hours	500 psi
Cured 24 hours	1500 psi
Cured 7 days	3800 psi
Cured 28 days	5500 psi

### Flexural Strength

ASTM C 580

Cured 28 days	1370 psi
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### Tensile Strength

ASTM C 190

Cured 28 days	780 psi
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## TECHNICAL DATA (Cont.):

### Bond Strength Slant Cylinder

ASTM C 882 with 118 Primer/Admixture

Cured 7 days            1360 psi

ANSI A 118.1 Plywood with Epoxy Primer

Cured 7 days            250 psi

ANSI A 118.1 Quarry tile with Epoxy Primer

Cured 7 days            300 psi

### Wt.lbs./ft<sup>3</sup>

ASTM C 138

Wet (Plastic)            117 lbs. ± 2%

Dry (Hardened)        105 lbs. ± 2%

## LIMITATIONS:

- **DO NOT** trowel.
- **DO NOT** use as a wear surface or finished floor.
- **DO NOT** apply over substrates that are frozen or contain frost.
- **DO NOT** retemper.
- **DO NOT** use without primer.
- **DO NOT** coat with materials that will trap water in the substrate.
- **DO NOT** use in areas that are continually exposed to water.
- **DO NOT** over mix.
- **DO NOT** apply over 1" thick without adding 1/8" aggregate.
- **DO NOT** apply over wood without metal lath.
- **DO NOT** add more than 7 qts. of water per bag if temperature is below 80°F.

## COLOR:

Grey

## COVERAGE:

55 lb. bag covers 24 to 27 sq. ft. @ 1/4"

## PACKAGING:

55 lbs./25.0 kg multiply bag

## SHELF LIFE:

One year from date of manufacture.

**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.

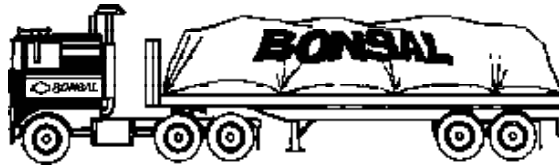
**KEEP OUT OF REACH OF CHILDREN**

## Technical Assistance

**Charlotte, NC  
(800) 334-0784**

## Home Office

**Charlotte, NC  
Telephone#: (704) 525-1621  
Toll Free #: (800) 738-1621  
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