

# SUREWALL® Surface Bonding Cement

SUREWALL® Surface Bonding Cement is a patented, Portland Cement glass fiber product.

## FEATURES AND BENEFITS:

- Glass Fiber Reinforced
- Reduces Sound Transmission
- Stucco Finish
- Stronger than Concrete Block Walls Built with Mortar
- Decorative
- Water Resistant Finish
- Noncombustible
- Resists 98 MPH (157.6 km/h) Wind Driven Rain TT-P-0035
- Exceeds ASTM C 887 Packaged, Dry, Combined Materials for Surface Bonding Mortar
- Trowel or Spray Apply

## USES:

- Build Dry Stack Block Walls Without Mortar
- Water Resistant Coating for Basement Walls
- Crack Resistant Finish Over Concrete and Concrete Masonry
- Structural and Decorative Coating for Restoration
- Concrete and Concrete Masonry Fire Walls
- Roof and Rib Sealant for Underground Coal Mines and for Brattice Wall Construction

### Over

- Conventional Mortar Blocked Walls
- Concrete - poured in place, precast, tilt-up and prestressed
- Brick
- Cementitious Backer Board

### Waterproofing

- Above Grade
- Below Grade

Replaces the parge coat to provide moisture protection. The exterior surface of the finished walls may require two coats of bituminous "waterproofing".

## PREPARATION:

### New Wall Construction

Clean area and remove all unsound or damaged material, grease, oil, paint, and any other foreign materials that will inhibit performance. Rain or water soaked blocks must dry out before the material can be applied.

## PREPARATION (Cont.):

### Dry Stack Block Walls

Foundations must be sound. Level the first course of block on each floor in a full bed of mortar or SUREWALL Surface Bonding Cement (with no head joints). If mortar is used, wait four hours before stacking remaining blocks. When SUREWALL Surface Bonding Cement is used, wait one hour. Stack the remaining courses without mortar from corners in a running bond pattern. Butt the blocks together.

Check wall every fourth or fifth course to be certain it is plumb and level.

Use galvanized brick ties when necessary for leveling while stacking. Fill gaps larger than 1/4" (6 mm) with the SUREWALL Surface Bonding Cement prior to coating the wall.

### Existing Masonry Wall

Clean area and remove all grease, oil, paint, and any other foreign and deteriorated materials that will inhibit performance. Slick or sealed surfaces must be thoroughly roughened. Rain or water soaked blocks must dry out before material can be applied.

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
- ACI 201.1R Guide for Making a Condition Survey of Concrete in Service

## MIXING:

Use clean tools and water. Use 1 1/2 gallons (5.6 l) of water per 50 lb. (22.7 kg) bag. Add only water or a mixture of BONSAL Acrylic Additive or BONSAL 118 Primer/Admixture and water. Mix only quantities that can be applied within one hour. In hot and dry weather, mix less material because working time will be reduced.

## MIXING (Cont):

Over substrates other than uncoated concrete block and during hot, dry weather use one of the mixtures below:

	Admixture	Water
BONSAL® 118 Primer/Admixture	1 qt. + (0.94 l)	1 1/4 gallons (4.7 l)
BONSAL® Acrylic Additive	2 qts. + (1.9 l)	1 gallon (3.78 l)

Add water to a clean mixing container and slowly add SUREWALL Surface Bonding Cement. Thoroughly mix. High speed mixers require only one or two minutes. Keep mixing time to a minimum. Wash out mixer periodically to keep it from caking.

## PLACEMENT:

Dampen, do not saturate, masonry surfaces before applying SUREWALL Surface Bonding Cement and keep damp during application. Apply material to the substrate at a minimum thickness of 1/8" (3.1 mm). Gauge the thickness to insure proper coverage during application. For structural applications, apply 1/8" (3.1 mm) thick coat to both sides of the block wall. For complete installation instructions refer to: Building With SUREWALL Surface Bonding Cement.

### Spray Equipment

*The following information is offered as a guide only. Specific product, equipment, application conditions and user experience will influence proper equipment selection. Consult with the equipment manufacturer for equipment handling techniques. Field Test material with equipment prior to starting project.*

### SUREWALL Surface Bonding Cement

Pump Progressive Cavity	Hose Diameter	Gun	Tip	Pressure at Pump	Pressure at Gun
2.5L6	1" to (25.4 mm)  1 1/2" (3.8 cm)	Pole	7/16" (11.1 mm)  9/16" (14.3 mm)	300 to (2 Mpa)  400 psi (2.7 Mpa)	Air Compressor to furnish 50 psi (10°C)

### Finishing

Surface may be finished to a variety of stucco textures.

### Placement Temperature

	Minimum	Maximum
Substrate	40°F (4.4°C)	90°F (32.2°C)
Mix	50°F (10°C)	90°F (32.2°C)
Air	40°F (4.4°C)	90°F (32.2°C)

## CURING:

Protect fresh coating from rain for 12 hours.

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 (EB001.12 T) and/or American Concrete Institute 308- Standard Practice for Curing Concrete.

As with all cement coatings, surface cracking may occur due to curing conditions, over watering or other conditions beyond the control of the **W.R. Bonsal Company.**

## TECHNICAL DATA:

The term "waterproof" is used in common colloquial sense of stopping water within the parameters test data provided. The building code may classify this material differently. Check product data against code and project requirements.

### Wind Driven Rain Resistance

Federal Specification TT-P-0035  
Excellent

### Water Absorption

ASTM C 413  
5.2 - 7.4% by weight

### Water Vapor Transmission

ASTM C 355 (desiccant method)  
162 grams/square meter in 24 hours

### Freeze-Thaw Resistance

ASTM C 666 300 Cycles (Procedure A)  
Durability Factor: 99%  
Length change: +0.011%

### Weatherability

ASTM G 23 Type F (1,000 hours)  
Adhesion Excellent - Passed

### Combustibility

ASTM E 136  
Noncombustible

### Fire/Flame Resistance

ASTM E 119 Fire/Hose  
8" (20 cm) 2-Hour Rated Block - Passed 2 Hours  
8" (20 cm) 4-Hour Rated Block - Passed 4 Hours

## TECHNICAL DATA (Cont.):

### Sound Transmission

ASTM E 90

	Wall Wt.	S.T.C.
6" Hollow Core (15.2 cm)	30 lbs. (13.6 kg)	43
8" Hollow Core (20.3 cm)	46 lbs. (20.8 kg)	47
8" (20.3 cm) Hollow Core, -Masonry Fill	48 lbs. (21.8 kg)	48
12" Hollow Core (30.5 cm)	67 lbs. (30.4 kg)	51
8" (20.3 cm) Hollow Core, -All Cells Grouted	92 lbs. (41.7 kg)	56

### Heat Transmission

ASTM 236

	"U"	"C"
8" (20.3 cm) Hollow Core, Empty - 38 lbs. (17.2 kg) /Block,		
148 lbs. (2371 kg/m <sup>2</sup> )/c.f.	.51	.73
8" (20.3 cm) Hollow Core Empty - 28 lbs. (12.7 kg) /Block,		
105 lbs. (1682 kg/m <sup>2</sup> )/c.f.	.33	.49
8" (20.3 kg) Hollow Core, Vermiculite - 28 lbs. (12.7 kg) /Block,		
105 lbs. (1682 kg/m <sup>2</sup> )/c.f.	.15	.18

### Air Transmission N.C.M.A. Test Procedure

Leakage Rate in CFM/100 Ft.<sup>2</sup>

Equivalent Air Pressure

1" (2.54 cm) of H<sub>2</sub>O      2" (9.0 cm) of H<sub>2</sub>O

8" (20.3 cm) Lt. Wt. Block - Conventional, Uncoated  
207.6 CFM (6.33 l/min/m<sup>2</sup>)      491.5 CFM (1496 l/min/m<sup>2</sup>)

8" (20.3 cm) Lt. Wt. Block - 1/8" (3.1 mm) coated one side  
.053 CFM (1.5 l/min)      .115 CFM (3.2 l/min)

### Set Time

ASTM C 191

Initial Set 2:30      Final Set 4:00

### Water Retention

ASTM C 887 A6

77%

### Compressive Strength

ASTM C 109

5800 psi (40 Mpa)

### Flexural Strength

ASTM C 348

1150 psi (8 Mpa)

### CODE APPROVALS (Over Concrete Block)

SBCCI	NER - 521
BOCA	NER - 521
ICBO	NER - 521
HUD/FHA	MR. 907 <sup>d</sup>

## TECHNICAL DATA (Cont.):

State of Ohio	BB-906-16
State of Wisconsin	#930023-K
State of Texas	Ruling MA-1
State of New York	#585-88-M & MC

For current code approval status, consult the **W.R. Bonsal Company**.

### DESIGN CRITERIA (Dry Stack Block Walls)

UNREINFORCED - Except as modified by the recommendation of a particular building code or F.H.A. Materials Release, walls shall comply with the following design criteria:

#### GROSS AREA

Compressive Stresses	45 psi (.310 Mpa)
Lateral Support	Same as ANSI 41.1
Shear Stresses	10 psi (.068 Mpa)
Tensile Stress in Flexure	
Vertical Span	18 psi (0.124 Mpa)
Horizontal Span	30 psi (0.207 Mpa)

#### Maximum Ratio Unsupported Height or Length to Wall Thickness (T)

	Ratio	Actual Span
<i>Bearing Walls</i>		
Unreinforced		8"      12" (20.3 cm) (30.5 cm)
-Hollow Core	18 x T	12'      18' (3.6 m) (5.5 m)
-Solid or Grouted	20 x T	13'      20' (3.9 m) (6.1 m)
Reinforced		
-Hollow Core or Grouted	25 x T	16' - 6"      25' (5.0 m) (7.6 m)
<i>Non-Bearing Walls</i>		
Unreinforced		
-Exterior	20 x T	13'      20' (3.9 m) (6.1 m)
-Interior	36 x T	24'      36' (7.3 m) (11 m)
Reinforced		
-Exterior	30 x T	20'      30' (6.1 m) (9.1 m)
-Interior	48 x T	32'      48' (9.7 m) (14.6 m)

## LIMITATIONS:

- **DO NOT** over water.
- **DO NOT** over mix.
- **DO NOT** retemper after 15 minutes.
- **DO NOT** apply over water saturated substrates.
- **DO NOT** apply when air or substrate temperature is below 40°F (4.4°C) or above 90°F (32.2°C).
- **DO NOT** apply when temperature is expected to fall below 40°F (4.4°C) within 24 hours.
- **DO NOT** add any foreign materials.

## LIMITATIONS (Cont):

- **DO NOT** exceed two stories or 16' (4.8 m) in height for unsupported walls.
- **DO NOT** use structurally in chimneys, kilns, or areas with high temperatures (150°F - 65.5°C).
- **DO NOT** use sand or wood for leveling block courses.
- **DO NOT** apply asphalt emulsion within 48 hours of application.
- **DO NOT** apply cutback asphalt before curing 28 days.

## COLORS:

White and Grey

## COVERAGE:

Coverage can vary depending upon weather, method of application, workmanship and other conditions.

Thickness	Yields
1/8" (3.1 mm)	35 - 40 sq. ft. (2.41 - 2.75 m <sup>2</sup> ) Per 50 lb. (22.7 kg) bag

### Technical Assistance

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

## PACKAGING:

50 lb./22.7 kg multiply bag

## SHELF LIFE:

One year from the 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.**

### Home Office

**Charlotte, NC**  
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**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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