



# MS-Grip™

## HARDWOOD ADHESIVE WITH MOISTURE VAPOR PROTECTION

### KEY FEATURES

- Easy spread & clean
- Subfloor moisture protection
- Low odor & VOC

### DESCRIPTION

MS-Grip™ is a hardwood and bamboo adhesive and moisture control membrane all in one. This adhesive formulation maintains long term durability and moisture control properties, and it is easy to spread and clean off of prefinished flooring before and after cure. This adhesive has low VOC's (as measured per EPA Method 24) and does **NOT** contain any water.

### MOISTURE PROTECTION

MS-Grip™ has low moisture vapor permeability and is not adversely affected by moisture. As a result, it will reduce moderate amounts of moisture vapor transmission through the concrete. When applied as directed as a moisture vapor membrane, it will prevent damages caused by subfloor moisture beneath dimensionally stable, engineered wood flooring only. MS-Grip™ may be used for concrete slabs with elevated moisture levels up to 10 lbs. per 1,000 square feet per 24 hours (using an anhydrous calcium chloride test kit according to ASTM F-1869 test method), and up to 82% RH (tested in accordance with ASTM F-2170). For substrates that have an MVER of greater than 10 lbs or 82% RH, use Bostik UltraGrip™ or GreenGrip™ for unlimited moisture vapor protection, or use MVP4™ prior to the application of MS-Grip™.

### ANTI-FRACTURE PERFORMANCE

MS-Grip™'s elastomeric characteristics establish an anti-fracture membrane that can bridge cracks up to 1/8" (3mm) which can occur in the substrate prior to or after installation. This superior elasticity allows the adhesive to move with the wood as it expands and contracts with changes in humidity and temperature over the life of the floor.

### HIGHLY VERSATILE

MS-Grip™ may be used to adhere all engineered, solid, bamboo, cork, and parquet. It may be used over all properly prepared substrates common to hardwood flooring installations including; concrete, plywood, OSB, well bonded vinyl/VCT and ceramic tile,



cement backer board, gypsum underlayments (dry, above grade), cement patch/underlayments, radiant-heat flooring, and properly prepared terrazzo.

### LEED® CONTRIBUTION

This low VOC formulation (as measured per EPA Method 24) may contribute toward LEED® credits under section EQ 4.1: Low-Emitting Materials – Adhesives & Sealants.

### DIRECTIONS FOR USE

Read and understand data sheet completely before beginning installation. Follow industry standards, as well as flooring manufacturer's recommendations for acclimation, design, layout and application of wood flooring material. If jobsite conditions are outside of flooring manufacturer's recommendations, take necessary corrective actions. Whether the moisture content of substrate exceeds or is within the flooring manufacturer's recommendations, to address current or possible future subfloor moisture, and cracks (up to 1/8"), apply MS-Grip™ as directed.

### SURFACE PREPARATION

Surfaces must be absorptive, clean, free from loose materials, oil, grease, sealers, curing compounds, waxes, silicates, laitance, and all other surface contaminants that may inhibit proper bond.

Completely remove cutback adhesive residue or other surface contaminants by diamond grinding to open the pores of the concrete. All surfaces to be treated must have a concrete surface profile (CSP) of 1-3 (similar to a broomed finish), as defined by ICRI (International Concrete Repair Institute, Guideline No. 03732). Maximum acceptable floor variation is 3/16" in 10 feet. Areas requiring patching or leveling must be done using a Portland cement-based material (e.g., Bostik Webcrete® 95, Webcrete® 98, SL-100™, SL-150™, SL-175™, SL-200™ or UltraFinish™ Pro).

**PLEASE NOTE:** Concrete substrate should **NOT** be smooth and reflective; it must have a concrete surface profile of CSP 1-3 (similar to a broomed finish), as defined by ICRI (International Concrete Repair Institute, Guideline No. 03732). It is advisable to test for adequate substrate absorption and texture in several areas throughout the jobsite by sprinkling droplets of water onto the slab. The drops of water should show signs of penetrating the substrate within one minute. This is evidenced by a water stain on the concrete without a "domed" droplet. If no signs of water penetration are shown within one minute and "domed" droplets remain (similar to drops on a car hood) the substrate will need to be mechanically textured.

## INSTALLATION

The installation begins with a starter row secured to the subfloor; the starter row provides a stationary point to push against so flooring doesn't move during installation. Once the starter row is secured, apply adhesive/membrane to substrate using the appropriate trowel. See the chart on last page for proper trowel selection. Flooring is to be installed using a "Wet-Lay" method of installation. For a "Wet-Lay" type of installation, spread the adhesive and begin to install the flooring immediately. Periodically lift boards immediately after installation to ensure proper slab coverage and transfer to the back of the flooring. If a thin skin forms on the adhesive on the slab prior to installation of the flooring, it may be possible to re-trowel the adhesive and obtain proper coverage and transfer. Re-trowel 90° to the ridges, and if no sign of the original trowel marks remains, install additional flooring and check coverage and transfer. Adhesive that has cured too much prior to installation of the flooring must be mechanically removed and fresh adhesive applied.

Although it is relatively easy to remove MS-Grip™ adhesive from the face of prefinished hardwood even after cure, it is recommended to clean with a non-abrasive towel as you work prior to cure. After a few rows have been installed, and as you move across the room, tape the boards together using removable 3M #2080 Blue tape to prevent boards from sliding and to secure close-fitting joints. Flooring that is not flat should be tacked, weighted, or rolled to ensure proper contact between the flooring and substrate.

**Plywood Over Concrete:** Score 4' x 4' or 2' x 8' sheets of 3/4" exterior-grade plywood on the backside every 8" to 10" by using a circular saw and cutting one-half the thickness of the plywood; "scoring or kerfing" takes the tension out of the plywood and helps to prevent possible warping or curling. Using a recommended trowel, apply adhesive/membrane to substrate and then set plywood into the wet adhesive/membrane. For moisture protection, ensure 100% coverage and transfer. Allow the adhesive/membrane to fully cure before nailing or using MS-Grip™ adhesive/membrane to install flooring. Make sure that nails do not penetrate through the MS-Grip™ membrane.

## CLEAN UP

While MS-Grip™ bonds tenaciously to concrete and flooring, it is designed not to bond with most finishes on pre-finished flooring, making it relatively easy to remove from the finish even after cure. Although it is relatively easy to remove after cure, it is recommended to clean with a non-abrasive towel as you work prior to cure. After cure, adhesive may be removed with a plastic scraper and dry, non-abrasive towel, taking care not to damage the finish. Immediately clean all tools and equipment before material cures.

**TROWEL CLEAN-UP TIP:** Before use, cover areas of the trowel that are not used to spread the adhesive with duct tape or blue tape. After use, simply tear off tape before material cures, and clean the remainder of the trowel with a towel.

## STORAGE/SHELF LIFE

Store at temperatures between 50°F (10°C) and 100°F (38°C). Shelf life is one year from date of manufacturing in closed, original packaging.

**Re-Seal Partially Used Container:** Clean all adhesive residue off of the lip of the pail and the groove around the perimeter of the lid. Plastic (e.g., a trash bag) may be placed into the pail to cover the wet adhesive, especially in high humidity environments, but do not allow the plastic to extend outside of the pail and interfere with the seal of the pail with the lid. Use a rubber mallet to fully seat the lid on the pail. Do not turn the pail over.

**Re-Open Partially Used Container:** Remove the lid. Peel any cured material away from pail and discard cured material and plastic from the top of the pail. Any uncured material may be used.

## LIMITATIONS

- Periodically check coverage of adhesive during installation; 100% substrate coverage and adhesive transfer is required to protect against damages from subfloor moisture.
- Due to limitations with solid and bamboo wood flooring (e.g., lack of dimensional stability), "below-grade" installations are limited to engineered hardwood flooring.
- On or below-grade substrates must have appropriate vapor barrier (6 mil poly or better) properly installed below slab.
- Do not install solid wood or bamboo flooring over VCT/vinyl.
- Bamboo installations should follow solid hardwood flooring installation recommendations.
- Slab temperature should be between 50°F and 90°F (10°C and 32°C) during installation.
- Do not use on wet, dusty, contaminated, glassy smooth or friable substrates; do not use over substrates/slabs treated with sealers or curing compounds.
- Do not use in areas subject to hydrostatic head.
- Do not use over perimeter bonded flooring material.
- Completely remove all adhesive residue and other surface contaminants from the slab by diamond grinding, shot blasting, or scarifying.
- Use over gypsum-based/underlayments is limited to dry, "above-grade" installations where the gypsum has dried hard (not dusty/powdery), with a minimum compressive strength > 2,000 psi for engineered hardwood installations, or minimum compressive strength > 2,500 psi for solid hardwood installations.

- Please refer to flooring manufacturer's recommendations and NWFAs specifications for proper acclimation, verification of moisture content of flooring with a moisture meter, and expansion relief around perimeter throughout installation.
- Do not use vinyl-backed cork flooring or foamed backed parquet.
- This membrane does **NOT** reduce/affect issues originating from the sides, ends, or top of flooring (i.e. puddles, water leaks, wet mopping, hydrostatic-head, etc.).
- This membrane does **NOT** eliminate all possible moisture-related or install-related issues (i.e. improper acclimation of flooring, jobsite temperature/relative humidity, etc.).
- This membrane is designed to prevent excessive variance of moisture between the top, middle, and bottom of flooring that originates from the substrate.

### PACKAGING

Available in 4 gallon pails, 36 pails/pallet.

### CAUTION

IRRITANT. MAY IRRITATE EYES, SKIN OR RESPIRATORY TRACT. CONTENTS MAY BE HARMFUL IF SWALLOWED OR INHALED. Methanol may form during curing. Do not breathe fumes. Do not get in eyes, on skin or on clothing. Do not swallow. Handle with care. Use only in a well ventilated area or wear a mask. Wear protective clothing including gloves. Wash thoroughly after handling. Keep container closed. Store in a cool, dry area. Do not reuse container.

### KEEP OUT OF REACH OF CHILDREN

### FIRST AID TREATMENT

Contains calcium carbonate and quartz silica inextricably bound in a polymer matrix. If in eyes or on skin, rinse with water for at least 15 minutes. If on clothes, remove clothing. If breathed in, move person to fresh air. If swallowed, call a Poison Control Center or doctor immediately. Do not induce vomiting.

### SEE SAFETY DATA SHEET

**CHEMICAL EMERGENCY:** 800-424-9300 (USA),  
703-527-3887 (International)

**MEDICAL EMERGENCY:** 866-767-5089

OPEN TIME CHART			
Temperature	Humidity		
	40%	60%	80%
60 ° F (16 ° C)	2.3 Hours	2.0 Hours	1.0 Hours
70 ° F (21 ° C)	2.0 Hours	1.0 Hours	45 Minutes
80 ° F (27 ° C)	1.0 Hours	45 Minutes	30 Minutes

**NOTE:** This chart is for reference only; actual jobsite times may vary.

### CHEMICAL & PHYSICAL PROPERTIES

<b>Chemical Properties</b>	Chemistry Type	1-part MS Polymer Adhesive		
	Adhesive Type	Moisture Cure		
	Solvent Free	Yes		
	Flash Point	>200°F (>93°C)		
<b>Use Environments</b>	Residential	Yes		
	Offices/Light Commercial	Yes		
	Heavy Commercial/Retail	Yes		
	Hospital/Healthcare	No		
	Industrial	No		
	Exterior	No		
	Wet Areas	No		
<b>Substrates</b>	Concrete	Yes		
	Concrete Board	Yes		
	Concrete Patch/SLU	Yes		
	Gypsum Underlayment	Yes		
	Plywood	Yes		
	OSB	Yes		
	Ceramic Tile	Yes		
	Terrazzo	Yes		
	Well-Bonded Vinyl	Yes		
	<b>Flooring Types</b>	Solid Hardwood	Yes	
Engineered Hardwood		Yes		
Bamboo		Yes		
Cork		Yes		
Parquet		Yes		
Ceramic Tile, Marble, Stone Inlays*1		No		
<b>Application Properties</b>		Application Method	Trowel	
	Ease of Application	Easy		
	Odor	Slight		
	Required Flash Time	0 min		
	Open/Working Time*2	60 min		
	Color	Brown		
	Density (lbs/gallon)	15.44		
	Wet Lay	Yes		
	Walk-On-Work prior to cure	No		
	Percent of Adhesive Coverage & Transfer Required	For Moisture Protection	For Bond	
		Engineered	100%	>80%
	Solid	100%	>95%	
	Application Temp Range	50°F-90°F (10°C-32°C)		
	Shelf Life	1 year		
	Ease of Clean, Wet	Very Easy		
<b>Cured Physical Properties</b>	Ease of Clean, Cured	Easy		
	Dry Time: Light Traffic	8-10 hrs		
	Dry Time: Normal Traffic	12-24 hrs		
	Service Temp Range	-40°F to 150°F (-40°C to 66°C)		
	Elongation	>100%		
	Water Vapor Permeability*3	<0.8		
	Concrete moisture vapor limits for subfloor moisture vapor protection:			
ASTM 1869 Calcium Chloride Method	≤ 10 lbs/ 1000 sq ft /24 hrs			
ASTM 2170 Relative Humidity Test	≤ 82% RH			
<b>LEED® Contribution</b>	EQ 4.1: Low-Emitting Materials: VOC (as measured per EPA Method 24)	8 g/L		

\*1 Light commercial and/or residential applications.

\*2 Please refer to Open/Working Time chart.

\*3 Per ASTM F-1249 standard test method for water vapor transmission rate through plastic film and sheeting using a modulated infrared sensor. Ratings are g/m<sup>2</sup>-24 hr-mmHG.

## TROWEL SELECTION

In order to form a membrane that functions properly for moisture vapor protection, the correct trowel needs to be selected to achieve both 100% coverage of the substrate and 100% transfer to the back of the flooring. Jobsite conditions, profile of the substrate, depth of back channeling in the flooring, and other factors affect the amount of adhesive that must be applied to achieve proper coverage and transfer. Always pull a floorboard at the beginning of, and during, the installation process to confirm adequate coverage and transfer. Trowel size may need to be changed to achieve the required coverage and transfer. See trowel suggestions below.

### ADHESIVE & MOISTURE MEMBRANE INSTALLATION METHOD

#### Suggested Trowel (For use as an adhesive only, refer to adhesive only installation method.)

Engineered wood flooring up to 5/8" thick.  
Coverage: 30-35 sq.ft. per gallon

Engineered wood flooring >5/8" thick.  
Coverage: 20 sq.ft. per gallon



1/4" x 1/4" V-Notch



1/4" x 1/4" x 1/4" Square Notch



1/2" x 15/32" V-Notch



1/4" x 3/8" x 1/4" Square Notch

Trowel size is suggested to maximize coverage of adhesive. Periodically lift a floorboard to ensure the following conditions are being met: 100% coverage of concrete substrate and 100% transfer to the back of the floorboard. Uneven subflooring may require the use of either a leveling/patching material, or a larger V-notched trowel for proper coverage of adhesive.

### ADHESIVE ONLY INSTALLATION METHOD

#### Suggested Notched Trowel (For use as an adhesive and moisture control membrane, refer to chart above.)

Engineered hardwood flooring ≤1/2" thick.  
Coverage: 50 sq.ft./gallon

≤1/2" Parquet, or cork underlayment.  
Coverage: 80 sq.ft./Gallon

Engineered hardwood flooring >1/2" thick, solid wood or bamboo flooring ≤1/2" thick, and parquet ≤3/4" thick.  
Coverage: 40 sq.ft./gallon

Solid wood or bamboo flooring >1/2" thick.  
Coverage: 35 sq.ft./gallon



3/16" x 5/32" V-Notch



1/8" x 1/8" x 1/8" Square Notch



1/4" x 1/4" x 1/8" Square Notch



1/4" x 1/4" x 1/4" Square Notch

Trowel size is suggested to maximize coverage of adhesive. Periodically check coverage of adhesive during installation: >80% coverage and transfer to the back of the floorboard is required for all engineered wood flooring; >95% coverage and transfer is required for all solid wood flooring or bamboo flooring products.

## LIMITED WARRANTY

Limited Warranty found at [www.bostik.com/us](http://www.bostik.com/us) or call 800.726.7845. TO THE MAXIMUM EXTENT ALLOWED BY LAW, BOSTIK DISCLAIMS ALL OTHER EXPRESS OR IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. UNLESS OTHERWISE STATED IN THE LIMITED WARRANTY, THE SOLE REMEDY FOR BREACH OF WARRANTY IS REPLACEMENT OF THE PRODUCT OR REFUND OF THE BUYER'S PURCHASE PRICE. BOSTIK DISCLAIMS ANY LIABILITY FOR DIRECT, INCIDENTAL, CONSEQUENTIAL, OR SPECIAL DAMAGES TO THE MAXIMUM EXTENT ALLOWED BY LAW. DISCLAIMERS OF IMPLIED WARRANTIES MAY NOT BE APPLICABLE TO CERTAIN CLASSES OF BUYERS AND SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU. It is the buyer's obligation to test the suitability of the product for an intended use prior to using it. The Limited Warranty extends only to the original purchaser and is not transferable or assignable. Any claim for a defective product must be filed within 30 days of discovery of a problem, and must be submitted with written proof of purchase.

#### BOSTIK HOTLINE

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