



Builder's Block™ -MS

HARDWOOD ADHESIVE WITH MOISTURE VAPOR PROTECTION

TECHNICAL DATA SHEET 06/22/2025

SMART ADVANTAGES

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

DESCRIPTION

Builder's Block™-MS is a hardwood adhesive and moisture vapor control membrane all in one. This adhesive formulation maintains long term durability and moisture vapor 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

Builder's Block-MS has low moisture vapor permeability and is not adversely affected by moisture vapor. As a result, costly and time-consuming concrete moisture testing is not required when installing engineered and solid hardwood flooring on a substrate that is properly prepared, dry to the touch and fully cured.

ANTI-FRACTURE PERFORMANCE

Builder's Block-MS'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

Builder's Block-MS 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 vapor of substrate exceeds or is within the flooring manufacturer's recommendations, to address current or possible future subfloor moisture vapor, and cracks (up to 1/8" [3.2 mm]), apply Builder's Block-MS 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 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 (4.8 mm in 3 m). 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).

This supersedes and replaces in its entirety all previously published versions of this document. B249050

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. It also must be tested in accordance with ASTM F3191 and found porous, where a 1/4" drop of water must absorb into the concrete within 1 minute.

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 Builder's Block™-MS 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" exteriorgrade 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 Builder's Block-MS adhesive/membrane to install flooring. Make sure that nails do not penetrate through the Builder's Block-MS membrane.

CLEAN UP

While Builder's Block-MS 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 vapor.
- 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 per ASTM E1745.
- Do not install solid wood or bamboo flooring over VCT/vinyl.
- Do not use Builder's Block-MS as a moisture vapor membrane beneath bamboo flooring.
- 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.
- This membrane is designed to reduce moisture vapor emissions that originate/emanate from below the membrane only.

PACKAGING

Available in 4 gallon pails (36 pails/pallet)

WARNING

MAY BE HARMFUL IF SWALLOWED OR INHALED. CONTAINS POTENTIAL SENSITIZER. MAY CAUSE ALLERGIC SKIN OR LUNG REACTION. MAY IRRITATE EYES, SKIN AND RESPIRATORY TRACT. Do not breathe fumes. Do not get in eyes, on skin or on clothing. Do not swallow. Use only in a well ventilated area or wear a mask. Keep away from flames and sparks. Wash thoroughly after handling. Keep container closed. Store in a cool, dry area with lid tightly sealed. Do not reuse container.

KEEP OUT OF REACH OF CHILDREN

FIRST AID TREATMENT

Contains petroleum resins, phthalates, 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

CHEMICAL & PHYSICAL PROPERTIES

Chemical Properties	Chemistry Type	1-part MS Polymer Adhesive
	Adhesive Type	Moisture Cure
	Solvent Free	Yes
	Flash Point, closed cup	200°F (>93°C)
Use Environments	Residential	Yes
	Offices/Light Commercial	Yes
	Heavy Commercial	Yes
	Hospital/Healthcare	No
	Industrial	No
	Exterior	No
Substrates	Concrete	Yes
	Concrete Board	Yes
	Concrete Patch/SLU	Yes
	Gypsum Underlayment	Yes
	Plywood	Yes
	OSB	Yes
	Ceramic Tile	Yes
	Terrazzo	Yes
Flooring Types	Solid Hardwood	Yes
	Engineered Hardwood	Yes
	Bamboo	Yes
	Cork	Yes
	Parquet	Yes
	Ceramic Tile, Marble, Stone Inlays*2	No
Cured Physical Properties	Cure Time*3	
	Light foot traffic	6 to 8 hours
	Normal foot traffic	8 to 12 hours
	Concrete Moisture Vapor Limits for subfloor moisture vapor protection	None, dry to the touch
	Elongation	>150%
	Service Temperature	-40°F to 150°F (-40°C to 66°C)

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 CONTINUED

Application Properties	Application Method	Trowel	
	Ease of Application	Easy	
	Odor	Slight	
	Required Flash Time	0 min	
	Open/Working Time*4	60 min	
	Color	Off White	
	Density (lbs/gallon)	15.44	
	Wet Lay	Yes	
	Walk-On-Work prior to cure	No	
	Percentage of Adhesive Coverage Required:	For Moisture Protection	For Bond
Engineered	100%	>80%	
Solid	100%	>95%	
Application Temperature Range	50°F to 90°F (10°C to 32°C)		
Cured Physical Properties	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***	<0.8	
	Concrete Moisture Vapor Limits for subfloor moisture vapor protection:	For engineered hardwood or solid hardwood	
	ASTM 1869 Calcium Chloride Method	None, dry to the touch	
	ASTM 2170 Relative Humidity Test	None, dry to the touch	
	For bamboo		
ASTM 1869 Calcium Chloride Method	≤3 lbs/1000 sq ft /24 hrs		
ASTM 2170 Relative Humidity Test	≤75% RH		
LEED® Contribution	EQ 4.1: Low-Emitting Materials: VOC (as measured per EPA Method 24)	<10 g/L	

* Light commercial and/or residential applications.
** Please refer to Open/Working Time chart.
*** 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/m²-24 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

NOTE: 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

NOTE: 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

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