



Bona[®] R540

A one-component, roll-on moisture membrane

Polyurethane reactive primer compatible with the entire Bona Adhesive System



Bona[®] R540 is a one-component, roll-on moisture membrane specially designed to mitigate vapor transmission on absorbent and non-absorbent subfloors, including gypsum-based underlayment. The polyurethane reactive primer is compatible with the entire Bona Adhesive System.

- Helps mitigate potential moisture issues, like cupping[†], originating from below the membrane, in new and existing construction
- Can be used as a vapor retarder in place of felt paper for wooden subfloors up to 20% MC
- One coat can be used for damp proofing concrete subfloors up to 95% RH & 18 lbs.[‡]
- Dries fast, allowing nail-down installation in 1-2 hours
- No more tears in paper or seams to be concerned with – the continuous film offers more uniform coverage and moisture protection

[†]Can help minimize cupping from excess subfloor moisture

[‡]Only one coat needed when used with 1250G or 1500G trowel and any Bona Adhesive. Two coats required in all other installations when the above criteria is not met.



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PHYSICAL CHARACTERISTICS

Base – Polyisocyanate Prepolymer

Color – Transparent brown

Viscosity – Thin

Density – 9.51 lbs. / gallon

VOC Content – Zero VOC

Odor – Solvent

Flash Point – Closed cup: >410°F (>210°C)

Stability – 1-year from date of manufacture in unopened, original packaging

Packaging – 5-liter jugs

APPLICATION

CHARACTERISTICS

Roller– ¼" nap mohair or other shed-resistant rollers

Dry Time – 1-16 hours* See application information

Cure Time – 24 hours

COVERAGE (per 5L jug)

When used as a vapor retarder on unsealed wooden subfloors: 1 coat at 300-400 square feet. When used as a primer on sealed subfloor systems: 1 coat at 400-600 square feet (test for compatibility). For moisture barrier protection (up to 18 lbs. or 95% RH) on concrete: 1 coat* at 400 square feet (when used with Bona 1250G or 1500G trowel and any Bona Silane Adhesive). Apply two coats, each at 400 square feet for any other installation not meeting the above criteria, and prior to installation of leveling compounds or patches.

*Two coats of R540 are required prior to installation of leveling compounds or patches. Broadcast sand into the second coat of wet Bona R540 prior to application of leveling compounds or patches.

DIRECTIONS

BEFORE USING, READ ALL DIRECTIONS AND MATERIAL SAFETY DATA SHEET.

FOR TECHNICAL ADVICE: Call Bona US at 800-872-5515

PREVENTION

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves: Nitrile rubber. Wear eye or face protection. Wear protective clothing. Wear respiratory protection. Use only outdoors or in a well-ventilated area. Do not breathe vapor. Wash hands thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.

RESPONSE

Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. **IF INHALED:** If breathing is difficult, remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. If experiencing respiratory symptoms: Call a POISON CENTER or physician. **IF ON SKIN:** Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. **IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

MOISTURE TESTING**

For concrete slabs, conduct moisture testing per ASTM test methods F1869 "Test Method for Measuring Moisture Vapor Emission Rate (MVER) of Concrete Subfloor Using Anhydrous Calcium Chloride", and/or F2170 "Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in Situ Probes". Contact ASTM International to obtain copies of the test methods before proceeding. Use one of Bona R540 Moisture Barrier Sealer at a coverage rate of 400 square feet per 5-liter jug prior to installation of hardwood flooring with a Bona adhesive and the 1250G or 1500G trowel when MVER using ASTM F1869 (Calcium Chloride test) exceeds 12 lbs./24 hours/1000 square feet or when using ASTM



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F2170 (RH probe test) exceeds 85% relative humidity. The maximum moisture content should not exceed 18 lbs./24 hours/1000 square feet or 95% relative humidity.** When using a Tramex measuring device to identify moisture levels in cementitious based substrates, use the Tramex measuring device to find the highest reading in the area to be installed and then run the CM testing method where you have recorded the highest reading. As a general guideline for floors with no in-floor heating system, if the Tramex is below 4%, the Bona R540 will not be necessary and between 4% and 6%, Bona R540 will be required. However, the CM method must be used to make final determination of concrete moisture levels. As a moisture barrier where Bona Adhesives in conjunction with the 1250G or 1500G trowels will not be used, or when using prior to the installation of leveling compounds or patches, Apply two coats of R540 at a coverage rate of 400 square feet per 5-liter jug. The maximum moisture content should not exceed 18 lbs./24 hours/1000 square feet or 95% relative humidity** for moisture content and quality of substrates, the guidelines of the wood floor manufacturer must be observed. Wood subfloor MC not to exceed 20%. Do not use more than one coat of R540 on any wooden subfloor system.

**When using one coat of Bona R540 and a Bona 1500G trowel in conjunction with Bona Quantum Flow, and a leveling compound has not been installed, moisture protection is unlimited and testing is not required. Concrete surface must be dry to the touch.

ACCLIMATION AND SITE CONDITIONS

Building climate control systems must be functioning with a temperature of 65°- 80°F and maximum relative humidity of 70% for 72 hours before flooring is installed, during installation, and for 72 hours after installation. Acclimate flooring according to manufacturer's instructions. Acclimate Bona[®] R540, Bona QUANTUM[®] adhesive sausage, Bona Vertical, Bona QUANTUM[®] R851, Bona Quantum Flow, or

Bona QUANTUM[®] T to the room temperature of installation; usually overnight.

SUBSTRATE PREPARATION

The substrate must be clean, smooth, dry, free of loose material and structurally sound, with the surface slightly textured for best adhesion (similar to a light broom finished concrete). Remove adhesive residue, paint, concrete curing compounds or other contaminants that may affect adhesive bond. Sandblasting, shot blasting or scarifying may be necessary to completely remove some of these residues. Surface cracks, grooves, depressions, control joints or other non-moving joints, and other irregularities must be filled or smoothed with a Portland Cement-based patching and/or leveling compound. The substrate must be level to 3/16" in a 10-foot span. Slab temperatures must be between 55° and 95°F. **NOTE: If a concrete slab needs to be leveled, two coats of Bona R540 Moisture Barrier Sealer should be applied to the slab prior to application of the leveling compound. Dry sand should be broadcast into the second coat of R540 (while wet, until rejection) prior to the application of leveling compounds.** Always refer to leveling compound manufacturer's recommendations for detailed installation instructions. Other suitable substrates include wood and radiant heat flooring (refer to manufacturer's recommended installation instructions).

PRODUCT LIMITATIONS

Bona R540 is designed to reduce moisture vapor emissions that originate from below the membrane only. It does not affect other issues originating from the top, sides or ends of flooring (water leaks, puddles, hydrostatic head, etc.) nor does it eliminate other moisture or installation related issues such as improper acclimation of flooring or the effects of jobsite temperature and humidity.

DO NOT USE BONA R540

- On wet, contaminated, or friable surfaces



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- Over concrete curing compounds, sealers or other surface treatments that could affect adhesion
- On areas subject to hydrostatic head
- On cutback residue, or over vinyl/VCT/LVT
- On chemically treated woods (stain, preservatives, etc.)
- As a leveling compound
- As an adhesive

APPLICATION

As a primer, roll Bona R540 Moisture Barrier and Primer evenly to the substrate using a ¼" nap roller, or similar, at the rate indicated in the chart below. Avoid the formation of puddles, or heavy spots. Allow to dry to a transparent film. Alternatively, apply Bona R540 as follows: Working out of a paint tray, pre-saturate a roller with Bona R540. To minimize product set up, work in 4' by 10' sections, and no more than 4' x 20' sections. Pour a 3-4" puddle of product spanning the width of the area you wish to seal, about 2' from starting wall. Roll out Bona R540 in 4' sections, 2' on either side of the poured puddle. Work across the floor until section is complete. Repeat, pouring a new 3-4" puddle 2' from the previously rolled section. Be sure to overlap into previously section. Continue working in this manner until the entire floor is sealed).

If used as a moisture barrier over cementitious substrates, a second coat can be applied when the first coat is dry to the touch and within 24 hours. When used as a vapor retarder for nail down installations only, allow one coat of Bona R540 Moisture and Primer to dry 1-2 hours or when dry to the touch. When using Bona R540 Moisture Barrier and Primer in conjunction with Bona QUANTUM™ sausage, Bona QUANTUM™-R851, Bona Quantum Flow or Bona QUANTUM™ T Wood Floor Adhesives, whether as a nail-glue assist or full trowel, dry Time of Bona R540 Moisture Barrier and Primer is a minimum 16 hours and a maximum of 48 hours. For Bona Vertical, a minimum of 4 hours and maximum of 48 hrs. Higher temperatures and higher relative humidity may decrease dry times while lower temperatures and lower relative humidity will increase dry times. **See chart on next page for more details.**

CLEAN UP

R540 is difficult to remove once dried. Take care not to step in wet product to avoid unwanted transfer of material to other surfaces. Wet material can be cleaned up with mineral spirit. Dried R540 must be mechanically removed.

STORAGE & DISPOSAL

Store locked up in a climate-controlled environment. Keep from freezing. Do not store for extended periods above 90°F (32°C). Dispose of contents and container in accordance with all local, regional, national and international regulations. in a climate-controlled environment. Keep from freezing. Do not store for extended periods above 90°F (32°C).

ORDER INFORMATION

Item #	Description	Size	No. Case	Weight/ Lbs.
BR54002200USBO	Bona R540	5-liter jug	3	40 lbs.



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Usage	Substrate	Installation Method	Coverage Rate	Dry Time (prior to installation)
Vapor Retarder	Plywood/wooden subfloor/cementitious* (floating only)	Nail down, floating	400 sq. ft. per five liters	1-2 hours* (surface dry to the touch)
Vapor Retarder	Plywood/wooden subfloor/cementitious	Nail - Glue Assist with Bona Vertical	400 sq. ft. per five liters	4 hours
Vapor Retarder	Plywood/wooden subfloor/cementitious	Nail - Glue Assist with Bona QUANTUM™ sausage, QUANTUM™ R851, Flow, QUANTUM™ T	3400 sq. ft per five liters	16 hours
Moisture Barrier - up to 18 lbs. / 95% RH*	Cementitious subfloors only	Full Trowel (1250 or 1500 trowel only) with QUANTUM™ R851, Flow, QUANTUM™ T	One coat, at 400 sq. ft. per five liters	16 hours
Moisture Barrier - up to 18 lbs. / 95% RH*	Cementitious subfloors only	LVT (non-glue install only) Full Trowel (1000F, EF, and EF Plus)	Two coats, each at 400 sq. ft. per five liters	1-2 hours** 16 hours
Unlimited Moisture Barrier	Cementitious subfloors only	Bona Quantum Flow Only and Bona 1500G Trowel	One coat at 400 sq. ft. per five liters***	16 hours

*Radiant heat systems will have a maximum moisture protection of 6 lbs. or 80% RH.

**Surface dry to the touch

***If using a leveling compound or patch, minimum two coats of R540 is required prior to leveling the floor. See *Substrate Preparation* for more information.