

Bona[®] R540

Technical Data Sheet



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 underlayments. 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
- When used as a primer, one coat increases adhesion over sealed subfloor systems, i.e. AdvanTech™
- 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 – continuous film offers more uniform coverage and moisture protection

*Can help prevent cupping caused by excessive subfloor moisture.

**Only one coat needed when used with 1250G or 1500G trowel and any Bona Silane Adhesive. Two coats required for 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 roller

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. 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).

Directions

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

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

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 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, 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,

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 Moisture Barrier Sealer and Bona R851 or R859 Adhesive to the room temperature of installation; usually overnight.

SUBSTRATE PREPARATION: 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

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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. 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, Bona R540 Moisture Barrier Sealer should be applied to the slab prior to application of the leveling compound. Dry sand should be broadcast in to the last coat R540 (while wet) prior to the application of leveling compounds. 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
- 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: 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. As a primer, roll Bona R540 evenly to the substrate using a high quality ¼" nap roller at the rate indicated in the chart below. Avoid the formation of puddles, or heavy spots. Allow to dry to a transparent film. If used as a moisture barrier over cementitious substrates, and a second coat is needed, apply within 24 hours.

When used as a vapor retarder for nail down installations only, allow R540 to dry 1-2 hours or when dry to the touch. When using R540 in conjunction with Bona R850T, R851, or R859 adhesives, whether as a nail-glue assist or full trowel, dry time of R540 is a minimum 16 hours and a maximum of 48 hours. (For R880, dry time of R540 is a minimum 4 hours and a maximum of 48 hours.) Higher temperatures and higher relative humidity may decrease dry times while lower temperatures and lower relative humidity will increase dry times.

Usage	Substrate / Installation Method	Installation Method	Coverage Rate	Dry Time (prior to installation)
Vapor Retarder	Plywood / wooden subfloor / cementitious*	Nail down, floating	300-400 square feet per five liters	1-2 hours* (surface dry to the touch)
Vapor Retarder	Plywood / wooden subfloor / cementitious	Nail - Glue Assist with Bona R880	300-400 square feet per five liters	4 hours
Vapor Retarder	Plywood / wooden subfloor / cementitious	Nail - Glue Assist with - R850T, R851, R859	300-400 square feet per five liters	16 hours
Primer	Advantech Subfloor Systems	Nail - Glue Assist with Bona R880	400-600 square feet per five liters	4 hours
Primer	Advantech Subfloor Systems	Nail - Glue Assist with - R850T, R851, R859	400-600 square feet per five liters	16 hours
Moisture Barrier - up to 18 lbs / 95% RH*	Cementitious subfloors only	Full Trowel (1250 or 1500 trowel) with R851, R859	One coat, at 400 square feet per five liters	16 hours
Moisture Barrier - up to 18 lbs / 95% RH*	Cementitious subfloors only	LVT Floating, LVT Click	Two coats, each at 400 square feet per five liters	1-2 hours**



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

**Surface dry to the touch

Maintenance

CLEAN-UP: R540 Can be mechanically removed once dried.

STORAGE: Store in a climate-controlled environment. Keep from freezing. Do not store for extended periods above 90°F (32°C).

Order Information

Item#	Size	#/Case	Lbs./Case
BR54002200USBO	5-Liter jugs	3	40 lbs.

Adhesives



Bona[®]