

# Bona QUANTUM® R851

## SILANE-BASED WOOD FLOOR ADHESIVE

Flooring adhesive that helps reduce voids caused by uneven substrates



One-component, silane-based wood floor adhesive.

Bona QUANTUM® R851 is a silane-based, adaptable wood floor adhesive with outstanding green-grab and easy application that doesn't cause fatigue. Quick and efficient, flooring can be ready in as little as one day for furniture and foot traffic.

- Easy to apply- no arm fatigue
- Unsurpassed ridge stability provides maximum adhesive transfer
- Easy to clean
- VOC free\*



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### TECHNICAL DATA

<b>Ingredients:</b>	Calcium carbonate, silane modified prepolymer, plasticizers, amorphous silica
<b>Density:</b>	14.6 lbs/gallon
<b>Viscosity:</b>	Medium
<b>US Regulatory VOC:</b>	0 g/L VOC formulation as calculated per SCAQMD Rule 1168
<b>Odor:</b>	Non-offending
<b>Color:</b>	Cream
<b>Max Shear Strength:</b>	340psi (at final cure; lap shear test, 1mm gap) ISO 17177
<b>Max Elongation:</b>	220% (ISO 17178)
<b>Moisture Levels:</b>	Moisture protection up to 18lbs or 95% RH, 6% Tramex. For maximum moisture protection ensure 100% coverage of adhesive to substrate. Maximum 6lbs/80% RH over radiant heat.
<b>PERM Rating:</b>	< 0.7 g/m <sup>2</sup> -24 hour-mmHG @ 2000g/m <sup>2</sup>
<b>Sound Rating:</b>	Meets ASTM E90-09 (2016)/ E413-16 STC and ASTM E492-09 (2016) e1/ASTM E989-21 IIC, with insulated ceiling assembly on 6" slab; 63 STC and 69 IIC
<b>Packaging:</b>	3-gallon containers
<b>Shelf life:</b>	12 months from date of manufacture in unopened, original packaging
<b>Storage/Transport:</b>	Store in a climate-controlled environment. Do not store for extended periods in excess of 90°F. Freeze thaw stable.
<b>Application Tools:</b>	Bona Adhesive Trowel
<b>Coverage:</b>	See Trowel Specifications in Application section
<b>Open time:</b>	Up to 60 minutes @ 70F and 50% RH (Dependent of temperature and humidity. Higher humidity decreases open time while lower humidity increases open time.)
<b>Curing time:</b>	<ul style="list-style-type: none"><li>• Light foot traffic - 8–10 hours</li><li>• Furniture, fixtures - 12–24 hours</li><li>• Unfinished floor sanding - after 24 hours</li></ul>
<b>Clean-up:</b>	Clean adhesive from the surface of the floor while wet. Use mineral spirits on a clean white cloth.
<b>Disposal:</b>	Dispose of contents and container in accordance with all local, regional, national, and international regulations.
<b>Certificates:</b>	UL 2818 - 2022 Gold Standard for Chemical Emissions for Building Materials, Finishes and Furnishings

*BEFORE USING, READ ALL DIRECTIONS AND MATERIAL SAFETY DATA SHEETS. KEEP OUT OF REACH OF CHILDREN. FOR TECHNICAL ADVICE: Call Bona US at 800-872-5515*

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### RESPONSE

. In case of eye contact, flush immediately with water. Get medical attention if irritation occurs. For skin, wash thoroughly with soap and water. If affected by inhalation,

remove to fresh air. If swallowed, do not induce vomiting. Get medical attention if symptoms occur.

### RECOMMENDED USE

Commercial and residential. Use with solid or engineered prefinished and unfinished flooring; on, above, or below grade<sup>1</sup>. May be used on both wood and concrete substrates<sup>2</sup>.

<sup>1</sup>Read and follow flooring manufacturer instructions, recommendations, and limitations as to the suitability of a particular flooring product to certain jobsite conditions and installation methods. <sup>2</sup>After proper site conditions, moisture testing results and substrate preparation have been met. See Directions for Use<sup>®</sup> for acceptable jobsite conditions.

### SUITABLE SUBSTRATES

- Concrete
- Plywood
- Warmboard®
- Cork
- Particle or OSB
- Stone
- Ceramic
- Terrazzo
- Radiant heat flooring (refer to manufacturer's recommended installation instructions)
- Dry, above-grade gypsum underlayment
- Recycled-rubber underlayment

### PRODUCT LIMITATIONS

Bona QUANTUM® R851 will not prevent moisture-related damages to wood flooring 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 QUANTUM® R851

- 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
- On chemically treated woods (stain, preservatives, etc.)
- As a leveling compound
- As a moisture barrier over leveling compounds or patches



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### PREPARATION

#### ACCLIMATION AND SITE CONDITIONS

Building climate control system must be functioning with a temperature of 65°F–80°F and maximum relative humidity of 65% for 72 hours before flooring is installed, during installation, and for 72 hours after installation. Ideal conditions are 65-70F and 45-55% RH. Acclimate Bona QUANTUM R851 adhesive to room temperature of the installation, usually overnight.

#### MOISTURE TESTING

For concrete slabs, using standard application, conduct moisture testing per ASTM test methods F 1869. Test for Measuring Moisture Vapor Emission Rate (MVER) of Concrete Subfloor using Anhydrous Calcium Chloride, and/or F 2170 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. MVER using ASTM F 1869 (Calcium chloride test) shall not exceed 12 lbs/24 hours/1000 square feet. Relative Humidity using ASTM F 2170 (RH Probe test) shall not exceed 85%. If MVER readings exceed 12 lbs. or 85% but are less than 18 lbs. or 95%, use Bona RollGuard™ or Bona® R540 Moisture

Barrier/Primer (See label for detailed instructions) or use a ¼" x ¼" v-notch, and spread the adhesive at a coverage rate of up to 35 square feet per gallon. For maximum moisture protection ensure 100% transfer and coverage of adhesive to concrete subfloor creating an uninterrupted and continuous membrane of adhesive. 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. As a general guideline for floors with no in-floor heating system, if the Tramex reading is below 4%, a ¼" x ¼" V-notch trowel, Bona RollGuard™ or the Bona R540 Moisture Barrier/Primer will not be necessary. If the reading is between 4% and 6%, use a ¼" x ¼" V-notch trowel at a rate of up to 35 square feet per gallon. Alternatively, Apply Bona RollGuard™ or Bona R540 Moisture Barrier/Primer prior to adhesive application. For wood substrates, follow flooring manufacturer's guidelines including moisture content and required moisture measuring methods. When used over radiant heat. the maximum moisture protection is 6 lbs. / 80% RH.

### SUBSTRATE PREPARATION

Substrate must be clean, smooth, dry, free of loose material and structurally sound, with the surface slightly textured (similar to a light broom finished concrete) for best adhesion. Remove adhesive residue, paint, concrete curing compounds or other contaminants that may affect adhesive bonds. 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 leveling compound. Substrate must be level to 3/16" in a 10-

foot span. To achieve moisture protection when a patch or leveling compound is used, first apply one coat of Bona RollGuard™ at 200-250 SF/5L or two coats of Bona R540 at 400 SF/ 5L. Dry sand should be broadcast into the final coat of moisture barrier (while wet, until rejection) prior to the application of leveling compounds. Apply leveling compound following manufacturer's instruction. Do not install wood flooring before the compound has fully cured. Do not install over expansion joints or other moving joints in a concrete slab. Slab temperature must be between 55°F and 95°F.

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### APPLICATION

Spread adhesive on the substrate while holding the Bona trowel at a 90° angle, using a smooth semicircular motion. Do not leave any puddles of adhesive. Set the flooring into the adhesive while the adhesive is still wet. At the start of the job, pull a freshly laid board to ensure 100% transfer. This can be repeated a second time, mid-installation, to ensure consistency. Do not allow more than 60 minutes of open time before setting flooring into the adhesive. (At 70° F and 50% RH; higher humidity can decrease open time, lower humidity can increase open time). DO NOT SET FLOORING

INTO ADHESIVE THAT HAS SKINNED OVER. REMOVE ADHESIVE AND REAPPLY.

#### BACK TROWEL METHOD

Utilizing the flat side of the Bona® 1500g trowel or the Bona® 1250g trowel, skim coat Bona QUANTUM® R851 onto subfloor creating a smooth surface free of voids. While the skim coat of adhesive is still wet, apply Bona QUANTUM R851 with either trowel.

### COVERAGE

- **1/4" x 1/4" V-notch (Bona 1/4" x 1/4" V-notch Trowel)**
  - Solids up to 9" wide and 3/4" thick
  - Engineered up to 16" wide and 3/4" thick
  - Coverage: up to 35 sq. ft./gallon
  - Moisture protection: 18 lbs. / 95% RH
- **Bona 1500G Trowel**
  - Solids up to 9" wide and 3/4" thick
  - Engineered up to 16" wide and 3/4" thick
  - Coverage: up to 50 sq. ft./gallon
  - Moisture protection:
    - ≤ 15 lbs / 87% RH with back-trowel method
    - 18 lbs. / 95% RH over Bona RollGuard or Bona R540
- **Bona 1250G Trowel (1/4" x 1/4" x 7/16" V-notch)**
  - Solids up to 5" wide and 3/4" thick
  - Engineered up to 8" wide and 3/4" thick
  - Coverage: up to 60 sq. ft./gallon
  - Moisture protection:
    - ≤ 15 lbs / 87% RH with back-trowel method
    - ≤ 18 lbs / 95% RH over Bona RollGuard or Bona R540
- **Bona Engineered Flooring (EF) Trowel (3/16" x 7/32" x 25/64" V-notch)**
  - Engineered flooring only
  - Up to 7.5" wide and 3/4" thick
  - Coverage: up to 75 sq. ft./gallon
  - Moisture protection: ≤ 6 lbs / 80% RH (trowel only)
- **Bona 1000F Trowel (5/32" x 5/32" x 5/32" V-notch)**
  - Parquet up to 12" x 12" over smooth substrates
  - Acoustical underlayment pad
  - Coverage: up to 85 sq. ft./gallon
  - Moisture protection: ≤ 6 lbs / 80% RH (trowel only)
- **Bona Engineered Flooring Plus (EFP) Trowel (5/16" x 5/16" x 3/4" V-notch)**
  - Engineered flooring only
  - Up to 7.5" wide and 5/8" thick
  - Coverage: up to 70 sq. ft./gallon
  - Moisture protection: ≤ 3 lbs / 75% RH (trowel only)
- - Back-trowel method uses flat side of 1500G or 1250G trowel
  - Coverage depends on board width, subfloor flatness, trowel angle & pressure
  - Two coats of a moisture barrier provide additional protection
  - Over radiant heat: maximum moisture protection is 6 lbs / 80% RH



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