

Bona R851

Technical Data Sheet

Bona R851 is a one-component, moisture curing, water and solvent free, silane-based adhesive for wood floors. Bona R851 provides outstanding adhesion to a variety of surfaces, and allows for the natural movement of wood flooring.

- Extended open time - 60 minutes @70°F and 50%RH*
- 1250G and Moisture Barrier Plus clip-on trowels included!
- Excellent "green grab" means the flooring stays in place
- No "memory" – Floor seams will not move apart
- Rapid shear strength development – Flooring is ready for furniture and foot traffic in one day
- Easy to clean – Will not harm the finish on pre-finished floors; will not stain hands
- Easy to apply – No arm fatigue
- Exceptional ridge stability provides maximum adhesive transfer
- GREENGUARD Gold Indoor Air Quality Certified
- Moisture protection up to 18lbs or 95% RH
- ZERO VOC – Meets the criteria for LEED EQc 4.1 (v. 2.1, 2.2, 3.0)
- California Proposition 65 Compliant
- Can be used with radiant heat systems

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Physical Characteristics:

Ingredients – Calcium carbonate, silane modified prepolymer, plasticizers, amorphous silica

Base – Silane Modified-Prepolymer

Color – Cream

Viscosity – 64 Pa/*s at a shear rate of 5/1 sec (cone-plate rheometer)

Density – 12.5-13.4 lbs./gallon

VOC Content – ZERO VOC

Max Shear Strength – 340psi (at final cure; lap shear test, 1mm gap)

Elongation – 180-220%

Water Vapor Permeability - < 0.7 g/m²-24 hour-mmHG @ 2000g/m²

Sound Reduction Rating – 71dB per ASTM E492-09 IIC (6" concrete slab with ceiling)

Moisture Levels – Moisture protection up to 18lbs or 95% RH, 6% Tramex or 5% CM

Odor – Non-offending

Flash Point – >100° C (212°F) (Pensky-Martens)

Stability – 12 months from date of manufacture in unopened, original packaging

Packaging – 3-gallon (17.14 kg) containers

Application Characteristics:

Spread Rating – Easy to spread, maintains excellent ridge stability

Open Time- 60 minutes @70°F and 50%RH*

Coverage – See "Trowel Notch Requirements" for spread rate

Curing – Light foot traffic - 8-10 hours

Furniture, fixtures - 12-24 hours

Unfinished floor sanding - after 24 hours

*Dependent of temperature and humidity. Higher humidity decreases open time while lower humidity increases open

Recommended Use

- Commercial and residential. Use with solid or engineered prefinished and unfinished flooring; on, above or below grade¹. May be used on both wood and concrete substrates².

¹Read and follow flooring manufacturer instructions, recommendations and limitations as to the suitability of a particular flooring product to certain jobsite conditions and installation methods.

²After proper site conditions, moisture testing results and substrate preparation have been met. See "Directions for Use" for acceptable jobsite conditions.

Directions

DIRECTIONS FOR USE:

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

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

ACCLIMATION AND SITE CONDITIONS: Building climate control system must be functioning with a temperature of 65°F - 80°F and maximum relative humidity of 70% for 72 hours before flooring is installed, during installation, and for 72 hours after installation. Acclimate Bona 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 the Bona R540 Moisture Barrier/Primer (See label for

Adhesives



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detailed instructions) or use a moisture barrier plus (MBP) clip-on trowel with any Bona trowel and spread the adhesive at a coverage rate of 30-35 square feet per gallon. To ensure proper coverage use a new clip-on trowel for every pail 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%, the Bona Moisture Barrier Clip-On Trowel or the Bona R540 Moisture Barrier/Primer will not be necessary. If the reading is between 4% and 6%, either use the Moisture Barrier Plus (MBP) Clip-On Trowel or apply 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.

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 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 leveling compound. Substrate must be level to 3/16" in a 10-foot span. 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. Suitable substrates include concrete, plywood, Warmboard®, cork, particle or chip board, stone, ceramic, terrazzo, radiant heat flooring (refer to manufacturer's recommended installation instructions), and dry above-grade gypsum underlayment, recycled-rubber underlayment.

PRODUCT LIMITATIONS: Bona 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 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

TROWEL NOTCH REQUIREMENTS (Spread rates are approximate):

Replace as needed to achieve proper spread rate.

Description	Use	Size	Coverage Rate
Bona 1250G Trowel or 1250G Clip-on Trowel	Engineered flooring up to 8" width or solid plank 3/4" thick and 5" width	1/4" x 1/4" x 7/16" V-notch	55-60 sq. ft./gallon
Bona 1500G Trowel	Engineered flooring up to 16" width or solid plank 3/4" thick and 9" width	5/16" x 5/16" x 7/16" V-notch	45-50 sq. ft./gallon
Bona MBP Clip-On Trowel	Moisture barrier protection for Engineered flooring up to 16" width or solid plank 3/4" thick and 9" width	7/16" V-notch with MBP spacer	30-35 sq. ft./gallon
Bona Engineered Flooring Trowel (EF)	Engineered flooring, maximum 3/4" thick and 7" width	7/32" x 13/64"x 25/64"V-notch	70-75 sq. ft./gallon for adhesion only

SPREADING ADHESIVE AND LAYING FLOORING: 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 adhesive while the adhesive is still wet. 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.

Maintenance

CLEAN-UP: Clean adhesive from the surface of the floor while wet. Use mineral spirits on a clean white cloth.

STORAGE: Store in a climate-controlled environment. Keep from freezing. Do not store for extended periods in excess of 90°F.

Order Information

Item#	Size	#/Case	Lbs./Case
BR85106100USBO	3 Gallons	1	38.6

Adhesives

