

# 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.

- 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 Indoor Air Quality Certified®
- Moisture protection up to 15lbs or 85% 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

### Technical data

#### **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 10 1/sec (cone-plate rheometer)

**Density** – 12.5 lbs./gallon

**VOC Content** – ZERO VOC

**Shear Strength** – 335psi (at final cure; lap shear test, 1mm gap)

**Elongation** – 250%

**Water Vapor Permeability** - < .07 per ASTM E-96 Standard Test Methods for Water Vapor Transmission of materials. Ratings are g/m<sup>2</sup>-24 hour-mmHG.

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

**Moisture Levels** – Moisture protection up to 15lbs or 85% RH, 4% Tramex or 2.5% 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** - 40 minutes

**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

### 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” 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 F1869 *Test 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. **MVER using ASTM F1869 (Calcium**

Adhesives



**Bona**®

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## Adhesives



chloride test) must not exceed 12 lbs/24 hours/1000 square feet. Relative Humidity using ASTM F2170 (RH Probe test) must not exceed 85%. If MVER readings exceed 12 lbs. but are less than 15 lbs., the following procedure may be used. UTILIZING THE FLAT SIDE OF THE BONA® 1500G TROWEL, SKIM COAT R851 ONTO SUBFLOOR CREATING A SMOOTH SURFACE FREE OF VOIDS. WHILE THE SKIM COAT OF ADHESIVE IS STILL WET, APPLY R851 WITH THE 1500G TROWEL. 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 R580 will not be necessary and between 4% and 6%, Bona R580 will be required. However, the CM method must be used to make final determination of concrete moisture levels. For moisture protection, ensure that 100% coverage and transfer have been achieved. For moisture content and quality of substrates, the guidelines of the wood floor manufacturer must be observed. 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 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 levelling 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 temperatures must be between 55° and 95°F. Suitable substrates include concrete, plywood, cork, particle or chip board, stone, ceramic, terrazzo, Warmboard®, radiant heat flooring (refer to manufacturer's recommended installation instructions) and dry above-grade gypsum underlayments.

**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.

- **Parquet (12" x 12")** over smooth substrates; Acoustical Underlayment Pad – **Bona 1000F Trowel:** 5/32" x 5/32" x 5/32" V-notch / 80-85 sq. ft/gallon.
- **Engineered Flooring** - up to 8" width; **Solid Plank** – maximum 3/4" thick and 5" width – **Bona 1250G Trowel:** 1/4" x 1/4" x 7/16" V-notch / 60-65 sq. ft/gallon.
- **Engineered Flooring** - up to 16" in width ; **Solid Plank** – 3/4" thick up to 9" width – **Bona 1500G Trowel:** 5/16" x 5/16" x 7/16" V-notch / 50-55 sq. ft/gallon.

**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 40 minutes of open time before setting flooring into the adhesive. Higher humidity can decrease 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 Gallon	1	38.6