



Bona QUANTUM™ R851

Silane-based Wood Floor Adhesive

Moisture controlling silane-based wood floor adhesive



Bona QUANTUM™ is a silane-based wood flooring adhesive that provides exceptional “green grab strength. Its elastomeric characteristics allow the adhesive to move with the wood as it expands and contracts over the life of the floor.

- Easy to apply – no arm fatigue
- Unsurpassed ridge stability provides maximum adhesive transfer
- Easy to clean
- Zero VOC
- GREENGUARD Gold Certified



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PHYSICAL CHARACTERISTICS

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

Base – Silane Modified-Prepolymer

Color – Cream

Viscosity – 100 +/-10 Pas at a shear rate of 5[^]-1 sec

Density – 13.9 lbs./gallon

VOC Content – ZERO VOC

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

Max Elongation – 200%

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

Sound Reduction Rating – Meets ASTM E492-09 and ASTM E90-04 STC and IIC with ceiling.

Moisture Levels – Moisture protection up to 18lbs or 95% RH, 6% Tramex. For maximum moisture protection ensure 100% transfer of adhesive to both subfloor and flooring.

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 containers

APPLICATION CHARACTERISTICS

Spread Rating – Easy to spread, maintains excellent ridge stability

Open Time- 60 minutes@70oF 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 time.

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

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–95 °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 65-70°F 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



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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 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. For maximum moisture protection ensure 100% transfer of adhesive to both subfloor and flooring. 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, 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 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

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 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



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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.

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. Do not store for extended periods in excess of 90°F. Freeze thaw stable.

ORDER INFORMATION

Item #	Description	Size	No. Case	Lbs./Case
BR85106100USBO	Bona QUANTUM® - R851	3 gal	1	43 lbs.

Suggested Notched Trowel for Maximum Coverage of Adhesive

Description	Use	Coverage Rate	Moisture Protection
 7/16" V-notch with MBP spacer Bona MBP Clip-OnTrowel (included)	Solids up to 9" wide and 3/4" thick Engineered up to 16" wide and 3/4" thick	up to 35 sq. ft./gallon	≤ 18 lbs. / ≤ 95% RH ≤ 6 lbs. / 80% RH over Radiant Heat
 5/16"x5/16"x7/16" V-notch Bona 1500G Trowel	Solids up to 9" wide and 3/4" thick Engineered up to 16" wide and 3/4" thick	up to 50 sq. ft./gallon up to 40 sq. ft./gallon if back troweled*	≤ 12 lbs. / 85% RH ≤ 16 lbs. / 87% RH when back troweled ≤ 18 lbs. / ≤ 95% RH over Bona R540 ≤ 6 lbs. / 80% RH over Radiant Heat
 1/4"x1/4"x7/16" V-notch Bona 1250G Trowel or 1250G Clip-on Trowel (included)	Solids up to 5" wide and 3/4" thick Engineered up to 8" wide and 3/4" thick	up to 60 sq. ft./gallon up to 50 sq. ft./gallon if back troweled*	≤ 12 lbs. / 85% RH ≤ 15 lbs. / 87% RH when back troweled ≤ 18 lbs. / ≤ 95% RH over Bona R540 ≤ 6 lbs. / 80% RH over Radiant Heat
 7/32"x13/64"x25/64" V-notch Bona Engineered Flooring Trowel (EF)	Engineered flooring only up to 7" wide and 3/4" thick	up to 75 sq. ft./gallon	≤ 6 lbs. / 80% RH
 5/32"x5/32"x5/32" V-notch Bona 1000F Trowel	Parquet (12"x12") over smooth substrates Acoustical Underlayment Pad	up to 85 sq. ft./gallon	≤ 6 lbs. / 80% RH

*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.