

AREA RUGS

Direct Glue and Double Glue

Hand Knotted, Hand Loomed, Hand or Machine Tufted Area Rugs

Contents

About this Guide	2
General Requirements	2
Qualified Mechanics Only	2
Moisture and pH Standards	3
Test Conditions	3
Calcium Chloride	3
Relative Humidity	3
Chemical pH	3
Floor Prep	4
Acclimation and Ventilation	4
Direct Glue Installation	4
Area Rug Layout	4
Adhesive Application	5
Edge Sealer	5
Seam Sealer	5
Finishing	5
Double Glue Installation	5
Cushion (Pad) Options	5
Cushion Installation	5
Adhesive Application	6
Area Rug Layout	6
Cutting Area Rugs on Pattern	6
Installing Area Rugs with a Pattern	7
Edge Sealer	7
Seam Sealer	7
Finishing	7
Post Installation Care	7
Contact Us	8

About this Guide

This guide is intended to give practical instruction for qualified installation contractors and mechanics on proven techniques, methods, and support products for the installation of a range of textile floor covering products offered by Bentley Mills. The purpose of this guide is to help prevent problems, maximize performance, and to complete a floor covering design strategy for area rug installation. Taking shortcuts or ignoring any portion of these instructions can have serious consequences that may not always be immediately obvious. For instance, concrete moisture can slowly eat away at adhesive for months or years before causing adhesive breakdown and installation failure. On many broadloom products, an installer's decision to shortchange an installation by leaving off the seam sealer may not become obvious until the backing begins to separate or yarn begins to fall out along seams or transitions.

General Requirements

Bentley Mills has adopted the Carpet and Rug Institute's "Standard for Installation of Commercial Carpet," (CRI 104) (www.carpet-rug.org) as the basic minimum supplement to more specific installation requirements to accommodate special backings or carpet constructions. Bentley Mills reserves the right to exceed the CRI Standard where more specific installation instructions are needed.

Qualified Mechanics Only

- Bentley Mills is dedicated to producing the finest quality carpet and backing systems available for commercial application. These carpets must be installed by experienced, qualified mechanics using the proper tools and techniques. Unfortunately, this does not always happen, and problems usually result. Bentley Mills will not be responsible for problems resulting from an installer's failure to follow the specifics of these instructions or for an area rug that has been installed incorrectly. Bentley Mills supports the International Standards & Training Alliance (InSTALL), Floor Covering Installation Contractors Association (FCICA), and the International Certified Floorcovering Installers Association (CFI).
- These groups are supporting the industry by training installers and making them aware of the right tools and techniques required to properly install carpet. The Bentley Mills Field Services team can provide on-site consultation, special training, or instruction when needed. If any questions arise regarding this information, please contact Bentley Mills. at 800.423.4709.

NOTE: These installation procedures are recommendations designed for the experienced and competent installer, such as those trained and certified. Strict adherence to these procedures will result in a quality installation under most conditions. **Any situation that could alter the installation procedure or jeopardize the possibility of a satisfactory installation, such as identification of defective material or unusual installation conditions, creates a responsibility for the installer to STOP the installation immediately and call Bentley Mills Customer Care.**

Bentley Mills will not be responsible for substandard installation or for an installer's decision to proceed with an installation that is not resulting in a satisfactory or acceptable finished

Moisture and pH Standards

CRI 104 establishes effective guidelines for determining the chemical pH and acceptable moisture vapor emission levels for concrete slabs. Water vapor is constantly moving through concrete. The rate of that movement, vapor emission, is determined by a combination of factors such as concrete porosity or the ratio of temperatures above and below the concrete subfloor. Woven carpet backings allow more moisture to pass through without obstruction. Structured or moisture resistant backings allow less vapor to pass through into the air above. An installation contractor can only determine whether the floor covering selection is appropriate for use on concrete subfloor by measuring the vapor emission rate in a climatized environment with temperatures and humidity levels similar to those expected when the building is occupied.

Test Conditions

- Accurate testing of concrete floors requires the building to be fully enclosed with the HVAC system functioning to a level expected when the space is occupied.

Calcium Chloride

- The test must be administered in strict adherence to the specifications of the ASTM F1869 test procedure. Moisture emissions must be three (3) pounds or less per 1,000 square feet for 24 hours. If the test results are higher than three pounds, do not proceed with the installation until subsequent testing demonstrates the emission rate is three pounds or less.
- Once testing has confirmed the slab to be within three pounds of moisture as determined by the proper application of the calcium chloride test, the chemical pH of the slab must also be determined. Relative Humidity testing will take precedence over Calcium Chloride testing when both tests are performed on the same project.

Relative Humidity

- The test must be administered in strict adherence to the specifications of ASTM F2170 and as described here. Moisture levels in the concrete subfloor must be 75% or less for area rugs.
- Once levels have been determined, then the chemical pH of the concrete subfloor should also be tested.
- In the event of a discrepancy between Calcium Chloride Test results and the results from Relative Humidity testing, the decision on whether to remediate or correct excessive vapor emission should be based on results from Relative Humidity testing. Relative Humidity testing will take precedence over Calcium Chloride testing when both tests are performed on the same project.
- The use of a properly installed, uncompromised, approved moisture membrane is essential in preventing moisture migration into and through a concrete slab in accordance with ASTM F710.

NOTE: Priming cannot overcome moisture vapor emissions and must not be used for that purpose.

Chemical pH

- All concrete floors, old or new, should be tested for alkalinity by using an approved alkalinity test kit, a pH Test Probe or pH Test Meter which meets ASTM F710 Standard for testing Alkalinity. The slab should have an alkalinity level ranging from 7.0 to 9.0 to be suitable for installation.
- Chemical pH test strips should be capable of measuring a range of 0-14.
- The area to be tested must be enclosed and acclimated as described.

- A reading greater than 9 pH can cause adhesive failure and should be neutralized by using one roller application of Taylor 2025 primer.
- If the pH is over 9, contact Bentley Mills Field Services at 800.423.4709.

The Owner, General Contractor, or their designated testing agent, must submit to the flooring contractor a written report of the RH vapor emission level and the pH alkalinity of the concrete subfloor.

Floor Prep

- **Primers:** Using primers on floor surfaces generally is not required except for sanded wood sheet products, dusty, porous or acoustical concrete surfaces. The use of Taylor 2025 primer is recommended.
- **Liquid Adhesive Removers:** Liquid adhesive removers should not be used as residues left in or on the concrete slab may cause failure of the new floor adhesive. Existing adhesives should be mechanically removed.
- **Sweeping Compounds:** Do not use sweeping compounds prior to the adhesive application. The residue from these compounds interferes with adhesive bonding. All floors must be vacuumed. Vacuum cleaners are required to have a properly functioning HEPA filter.

Acclimation and Ventilation

- To minimize wrinkling and buckling, and to facilitate installation, it is highly recommended that carpet be unrolled and allowed to relax in the installation area for a minimum of 24 hours at a temperature between 65-95 degrees F (18-35 degrees C). Carpet must be adequately protected from soil, dust, moisture and other contaminants. It is also recommended to pre-cut the carpet prior to acclimation.
- Carpet must be installed when the indoor temperature is between 65-95 degrees F (18-35 degrees C) with a maximum relative humidity of 65%. If ambient temperatures are outside these parameters, the installation must not begin until the HVAC system is operational and these conditions are maintained for at least 48 hours before installation. Always exhaust air to the outside to avoid re-circulation. After installation, maintain fresh air ventilation for 48-72 hours at 65–95 degrees F (18-35 degrees C). by operating the ventilation or exhaust fan system at full capacity. There should be a minimum of 18" air space under wood sub-floors.
- Temporary HVAC units are not recommended. If a system other than the permanent HVAC source is utilized, it must provide proper control of both temperature and humidity as required to specific levels for the appropriate time duration

Direct Glue Installation

Area Rug Layout

- Lay out the carpet according to the seaming diagram. Carpet must be cut 3-4 inches longer than the area measurement. Where applicable, allow for pattern repeat.
- Align all carpet breadths to their proper position and trim seams. Products are manufactured an additional 3-4" in width and length to accommodate inset or wall to wall installations.
- Hand Knotted or Hand Loomed area rugs without a secondary backing MUST have Taylor 710 Latex applied to the back around the perimeter of the rug approximately 2-3 inches and where seams will be cut prior to trimming. This will help secure the tufts to prevent fraying prior to

cutting and seam sealing the edges. Use of any other backing latex without prior written approval shall void the warranty.

Adhesive Application

- Must use Bentley's Healthbond 1000 Multi-purpose adhesive. Use of any other adhesive without prior written approval shall void the warranty.
- The trowel size for direct glue is 1/8" × 1/8" × 1/8" U-notch trowel. (6-10 yd² per gallon).
- Spread the adhesive uniformly over the subfloor to achieve full coverage of the substrate and to provide sufficient transfer into the carpet backing.
- Maintain a clean and properly notched trowel throughout the installation process. Trowels should be held at a consistent 45-60 degree angle to apply the recommended amount of adhesive.
- Allow sufficient open time for adhesive to develop 3" legs.

Edge Sealer

- Taylor 710 Latex must be applied to both edges that are trimmed for seaming (edge sealing) and cover the thickness of both the primary and secondary backing (if applicable) of both trimmed edges without contaminating the face yarns.

Seam Sealer

- A 1/8" bead of Healthbond 3000 Seam Sealer is then applied to the cut edge of one side only (seam sealing) and placed into the floor adhesive.
- All transitions must be seam sealed.
- Transition strips must be used. Schluter type strips with U-shaped design for edge protection are required.
- Place the second edge into the floor adhesive and butt together with the first edge to form the seam while the seam adhesive is still transferable. This seals the first edge to the second edge.

NOTE: All seams must be sealed with Healthbond 3000 seam sealer. No exceptions.

Finishing

- After sufficient open time, where adhesive develops 3" legs, the carpet must be pressed into the adhesive and rolled with a 75-pound roller in both directions.

Double Glue Installation

Site conditions, environmental and ventilation conditions become even more important when performing double glue installations. In double glue installations, a separate cushion is adhered to the subfloor and the carpet is adhered to the cushion.

Cushion (Pad) Options

- The approved cushion options to be used for double glue installation:
- Tred-MOR® 2500 Dubl-Stik® (1/4") or
- Tred-MOR 3700 Dubl-Stik® (3/8") synthetic rubber pad.

NOTE: Felt pads and wool pads are not recommended for this type of installation.

Cushion Installation

- Cushion must be installed in the longest continuous lengths possible with consideration to traffic patterns and carpet seam placement.

- Cushion seams must be at a right angle (90 degrees) to carpet seams or offset at least six inches.
- Cushion seams must be butted without compression and leaving no gaps.

Adhesive Application

Adhesive and Trowel size for double glue installation:

Adhesive (Pad to Floor):

- Bentley Healthbond 1000 Multipurpose Adhesive must be used for adhering the pad to the floor utilizing a 3/32 x 3/32 x 3/32 V-notch trowel. (10-15 yd² per gallon).

Adhesive (Carpet to Pad):

- **Smooth Backed Rugs** - Bentley Healthbond 1000 Multipurpose Adhesive must be used for adhering the carpet to the pad utilizing a 1/8" x 1/16" x 1/8" U-notch trowel. (6-10 yd² per gallon).
- **Rough Backed Rugs** - Bentley Healthbond 1000 Multipurpose Adhesive must be used for adhering the carpet to the pad utilizing a 1/8" x 3/16" x 1/8" U-notch trowel. (6-10 yd² per gallon).
- Allow adhesive to develop 3" legs for both the pad to floor and the carpet to pad. Failure to allow adhesive to properly flash may result in bubbles which can appear anywhere from immediately to a year or more after installation.

Area Rug Layout

- Lay out the carpet according to the seaming diagram. Carpet must be cut 3-4 inches longer than the area measurement. Where applicable, allow for pattern repeat.
- Align all carpet breadths to their proper position and trim seams. Products are manufactured an additional 3-4" in width and length to accommodate inset or wall to wall installations
- Hand Knotted or Hand Loomed area rugs without a secondary backing **MUST** have Taylor 710 Latex applied to the back around the perimeter of the rug approximately 2-3 inches and where seams will be cut prior to trimming. This will help secure the tufts to prevent fraying prior to cutting and seam sealing the edges. Use of any other backing latex without prior written approval shall void the warranty.

Cutting Area Rugs on Pattern

- Insert pattern locators on the distinct pattern from the carpet face through to the backing down the entire length of the rug. Repeat this procedure based on pattern size using the same reference point on the pattern down the entire length of the intended seam.
- Flip the carpet over and place a straight edge next to the protruding pattern locators. Ensure the straight edge is properly aligned and cut the carpet from the back. Be careful to cut just deep enough to penetrate the primary backing and avoid cutting the face fibers.
- Repeat these cutting procedures on the adjoining breadth making sure you use the same pattern reference points. Many products have very similar pattern markings that may not necessarily be the exact same reference point.
- Cross seams need to be prepared using the same techniques.

NOTE: Row cutting, and top cutting are not acceptable with Prima Vista area rugs.

Installing Area Rugs with a Pattern

- Once cut, match the pattern at the midpoint of the seam's length. Work from the seam's midpoint to the seams ends, bringing the pattern into register.
- Align all carpet breadths to their proper position and trim seams.
- Avoid cutting into cushion under seams.

CAUTION: For area rugs with a secondary backing, use of tools that might include; power stretchers with cotton head attachment, knee kickers, dead man, dry lines, stay nails, and mini crab stretchers should be used with caution. Care must be taken to avoid damaging the area rug.

For Hand Loomed and Hand Knotted products without a secondary backing, power stretchers, knee kickers and mini crab stretchers must NOT be used.

Edge Sealer

- Taylor 710 Latex must be applied to both edges that are trimmed for seaming (edge sealing) and cover the thickness of both the primary and secondary backing (if applicable) of both trimmed edges without contaminating the face yarns.

Seam Sealer

- Apply a 1/8" bead of Healthbond 3000 Seam Sealer to the cut edge of one side only (seam sealing) and place it into the floor adhesive.
- All transitions must be seam sealed.
- Transition strips must be used. Schluter type strips with U-shaped design for edge protection are required.
- Place the second edge into the floor adhesive and butt together with the first edge to form the seam while the seam adhesive is still transferable. This seals the first edge to the second edge.

NOTE: All seams must be sealed with Healthbond 3000 seam sealer. No exceptions.

Finishing

- To ensure complete adhesive transfer and to eliminate air bubbles, use a 35-50-pound roller over the area rug in both directions away from the seams.
- After 2-3 hours, the carpet should be rolled a second time in both directions.

Post Installation Care

Applies to All Installations

- All foot traffic, roller traffic, and construction traffic must be restricted for a minimum of 72 hours to allow adhesives to cure properly. Premature trafficking may cause installation failure.
- Restrict carpet exposure to water from cleaning or other sources for a minimum of 30 days.
- Protect the finished floor covering from soil, paint, or construction traffic after the installation is completed. Cover with non-staining building material paper.
- Protect the installation from rolling traffic by using sheets of hardboard or plywood in potentially affected areas.
- Maintain Temperature. Do not allow the temperature of indoor carpet areas to fall below 50 degrees F (10 degrees C), regardless of the age of installation.
- Chair pads are required if chairs with rolling castors are used.

CAUTION: Do not place plastic sheeting over any carpet installation because it may adversely affect the color or leave a residue that results in rapid soiling after removal. In addition, it may trap moisture, which may promote mold growth, and retard adhesive curing.

Contact Us

For additional installation related questions, please contact Bentley Mills Field Services at fieldservices@bentleymills.com or (800)423-4709.