



Double Bond

Carpet
Installation

GUIDELINES & PROCEDURES

INTRODUCTION TO DOUBLE BOND

Roberts Consolidated Industries is proud to be the pioneer of the Double Bond carpet installation method. Over the years, the procedure for Double Bond carpet installations has evolved, and this manual was developed to provide the most up-to-date, comprehensive set of guidelines and procedures. Once mastered, these techniques will make Double Bond as easy as direct bond installations... with higher quality results.

- Double Bond refers to a carpet installation method of adhering cushion to the substrate, and then adhering carpet to the cushion.
- Compared to direct bond, Double Bond installations are more comfortable, extend the carpet life, provide sound dampening qualities and offer enhanced thermal insulation.
- The Double Bond method developed by ROBERTS is now a widely adopted and approved carpet installation method.

Standard recommended materials and techniques for the Double Bond method have been accepted across the industry (although minor variations are advocated by different manufacturers). The techniques are simple, but it is critical that they be followed to the letter, to ensure the quality required for heavy traffic areas.

The guidelines and procedures contained in this manual should be followed precisely – no shortcuts, no cheating, no substitutes, no excuses!

PREPARATION FOR DOUBLE BOND CARPET INSTALLATIONS

Carpet, Cushion & Adhesive Conditions

Ensure substrate, carpet, cushion and adhesive are fully acclimated prior to installation at the same temperature and humidity level expected during normal use (between 18–35°C), with a relative humidity of no greater than 65%. Refer to flooring manufacturer's specific recommendations and industry standards. *Note:* If the building is new or the HVAC has just been turned on, ensure the concrete slab is at the correct temperature prior to installation. Maintain these conditions during and after the installation. Large temperature or humidity changes after the installation of the carpet will cause excessive expansion or contraction of the materials and/or substrate and may cause installation failure.

The carpet should be unrolled and laid flat during acclimation. Ensure that the carpet is not walked upon during the acclimation process. Check with the carpet manufacturer to determine if they recommend precutting the carpet as well.

Subfloors must be structurally sound, dry, smooth, flat, level and free of excess moisture/alkali and all substances that might interfere with the performance of the adhesive bonding to the substrate or to the flooring installation itself. Remove all the existing adhesive residues prior to installation. Due to the heavy traffic loads and the increased stresses from the movement of the system it is critical that the concrete substrate be clean in order for the adhesive to obtain the maximum mechanical bond.

WARNING – Existing flooring and adhesives may contain asbestos. Unless you have confirmation that the existing flooring system is not asbestos containing, do not sand, dry sweep, dry scrape, abrade, drill, saw, bead blast, mechanically chip or pulverize existing flooring or adhesive without taking all appropriate precautions. Refer to local, provincial and federal guidelines for treatment and removal of these products. You may also refer to the Resilient Floor Covering Institute's *Recommended Work Practices for Removal of Resilient Floor Coverings*.

All substrate cracks, holes, high spots and irregularities must be adequately repaired to ensure a smooth, finished appearance to prevent show through and accelerated wear. Patching compounds must be suitable for the use application, cement based, polymer-modified and applied according to the manufacturer's instructions.

Refer to the Carpet and Rug Institute's *Carpet Installation Standard 2011, First Edition* (available at www.carpet-rug.org) for proper subfloor conditions. Inform the builder and all interested parties of any negative conditions. When proper site conditions are unattainable the installation should not proceed and if necessary alternative installation methods should be considered.

Excessive moisture and alkalinity can cause the degradation of adhesives and flooring over time. A concrete substrate must exhibit alkalinity levels between 7 and 9 on the pH scale, moisture vapor emissions of no more than 3 lbs./24 hours/1,000 sq. ft. (ASTM F1869 Calcium Chloride Test), and relative humidity levels no more than 75 percent (ASTM F2170 In Situ Relative Humidity Test). Testing protocols are available at www.astm.org.

Alkalinity – To check the alkalinity level of the concrete substrate, ensure all sealers and curing compounds are removed, then wet the concrete with distilled water. Allow the water to sit for two to three minutes. Carefully dip the pH testing paper in the water and verify the alkalinity level of the slab. If the pH level exceeds 9, correct the situation by rinsing with clean warm water and then allowing the slab to dry thoroughly (typically 24 hours) before retesting.

Double Bond Adhesive Guidelines

Adhesive selection will depend upon the type of Double Bond installation method specified. For a permanent bond, **ROBERTS 3095 Carpet Adhesive** or **3300 Multipurpose Adhesive** may be used to adhere the cushion to the substrate and the carpet to the cushion. However, some business owners require a releasable cushion method, which allows fast removal and reinstallation of the system and reduces costly business down time. For this type of installation **ROBERTS 6300** or **6280 Pressure Sensitive Adhesive** may be used to install the cushion to the substrate due to their high performing pressure sensitive characteristics. **ROBERTS 3095** or **3300** is then used to adhere the carpet to the cushion.

Remember the glue line between the carpet and the cushion is subjected to high stress flexing. Some high-end multipurpose adhesives are hard setting. The product required for a Double Bond installation is a high-end, high solids and flexible adhesive which maintains these characteristics.

It is imperative to use the correct amount of adhesive for Double Bond carpet installations. Ensure that enough adhesive is applied in order to fully penetrate all areas of the cushion and the carpet backing. Again, because the glue line is flexing, the coverage of the adhesive to the flooring materials is paramount in order to withstand the stress. A thin or insufficient amount of adhesive will cause debonding and the ultimate failure of the installation, especially when submitted to extreme wheel traffic. *Note:* The quantity of adhesive applied to both the substrate and the cushion is more than that used during a direct bond installation.

Using the proper trowel and troweling technique is also imperative for ensuring the correct amount of adhesive. Hold the trowel at a 45° angle, and when troweling over the cushion, do not push so hard on the trowel that the cushion pushing into the notches interferes with the adhesive application. Lift the cushion and carpet corners occasionally to ensure sufficient coverage.

The open time will vary depending upon ambient temperature and humidity conditions. Increasing air circulation with indirect air movers aimed at an angle above the floor will shorten the open time. (*Note:* Ensure air movement is not excessive. Excessive air movement will have the same affect as a strong wind and will cause skinning of the adhesive which will not allow proper transfer of adhesive to the backing of the carpet.) Also ensure air is clean and no dust is present. Dust can settle on the surface of the adhesive and create an invisible layer, causing imminent bond failure.

Disappearing Glue Syndrome – Adhesive may “disappear” when it is applied over a cushion and the carpet is installed while the adhesive is still wet (rather than waiting for the appropriate tack). Heavy traffic will cause the adhesive to be forced into the recesses of the carpet backing and/or into the cushion (depending on the type of cushion used) and laterally along the cushion. The glue line is then starved and bond failure is imminent.

Use a lightweight roller (**ROBERTS 10-935 35 lb. Roller**) to roll the installation. Using a heavier roller can cause the adhesive to be pushed too far into the backing of the carpet.

Eliminate or restrict traffic for 24 hours. Adhesives should be given the chance to perform properly by using the correct amount of adhesive, allowing it to tack-up, and also allowing it to cure. Subjecting a Double Bond installation to immediate heavy traffic is extremely detrimental. If early traffic is unavoidable, use sheets of plywood in those areas.

Failure to follow all of the above procedures will ultimately lead to a failed installation.

Cushion Requirements

The cushion in a Double Bond installation is subjected to much more stress than a conventional stretch-in cushion. It is stressed not only vertically but also laterally because it is glued top and bottom. The density and integrity of the cushion must be such that it can withstand the additional stress. Further, the top and bottom of the cushion must be both practical and suitable for bonding with trowelable latex based adhesives. Please consult the cushion manufacturer to ensure they approve the use of their cushion for Double Bond installation.

Additional Installation Notes

Always ensure adequate ventilation during flooring installation.

The trowel notches referenced in this manual are the minimum size normally recommended. Surface conditions (roughness and porosity of substrate), type of carpet/backing and cushion will ultimately determine the required trowel notch size and coverage. Flooring manufacturer's products differ in characteristics and textures. Always check with the specific flooring manufacturer's recommendations for their specific trowel requirements. Less porous substrates typically require a smaller notched trowel and longer open time than porous substrates. Worn trowels should be thrown away. Re-notching trowels should not be attempted. Coverages will vary depending upon the type of carpet, cushion and porosity of the substrate.

Ensure 100% transfer of adhesive.

Note: Trowel notches listed in this manual are measured: Width of Notch x Depth of Notch x Notch Distance Apart.

Lack of adhesion caused either by the use of an unspecified adhesive, the wrong notched trowel, not allowing the adhesive to tack-up prior to laying-in the carpet, or by exposing the carpet to premature traffic, are the major causes of failure in a Double Bond installation.

CUSHION-TO-FLOOR APPLICATION

1. Install the cushion in longest possible lengths, taking traffic patterns into consideration. Ensure cushion seams are at a right angle to carpet seams. If that is not possible, lay the cushion so the seams will offset at least 6 in. from the carpet seams. Butt the seams of the cushion. *Note:* Do not tape or staple cushion seams for Double Bond installations.

2. Trowel the recommended adhesive to the subfloor (see appropriate section below for a *permanent installation* or *releasable installation*.)

Permanent Cushion-To-Substrate Installation

• For Standard Subfloors and Cushions:



Adhesive: **ROBERTS 3095 Carpet Adhesive** or **3300 Multipurpose Adhesive**

Proper Trowel Size: 15.8-17.6 m² per 3.78 liters, square-notch (**ROBERTS 10-810, 10-823, 10125**)

Approx. Coverage: 170-190 sq. ft. per gallon

• For Porous Subfloors and Cushions:



Adhesive: **ROBERTS 3095 Carpet Adhesive** or **3300 Multipurpose Adhesive**

Proper Trowel Size: 9.3-11.2 m² per 3.78 liters, flat top V (**ROBERTS 10-820, 10-833**)

Approx. Coverage: 100-120 sq. ft. per gallon

Releasable Cushion-To-Substrate Installation

• For Standard Subfloors and Cushions:



Adhesive: **ROBERTS 6300** or **6280 Pressure Sensitive Adhesive**

Proper Trowel Size: 15.8-17.6 m² per 3.78 liters, square-notch (**ROBERTS 10-810, 10-823, 10125**)

Approx. Coverage: 170-190 sq. ft. per gallon

• For Porous Subfloors and Cushions:



Adhesive: **ROBERTS 6300** or **6280 Pressure Sensitive Adhesive**

Proper Trowel Size: 9.3-11.2 m² per 3.78 liters, flat top V (**ROBERTS 10-820, 10-833**)

Approx. Coverage: 100-120 sq. ft. per gallon

3. Respecting the open time of the adhesive, lay the cushion into the adhesive.
4. Smooth out any bubbles in the cushion and press the pad into the adhesive using a tray, broom or a cardboard tube.
5. Trim the cushion flush to the wall.

CARPET-TO-CUSHION APPLICATION

All carpets should be dry laid at room temperatures between 18-35°C and acclimated for a minimum of 48 hours prior to installation.

1. Properly position the lengths of carpet, and then trim the seams. Refer to the cushion and carpet manufacturer recommendations for proper seam sealing and/or the use of seam tapes. If seam sealers are recommended by the carpet manufacturer, **ROBERTS 8502 Latex Carpet Seam Sealer** or **8015 Universal Carpet Seam Sealer** may be used to seal and protect the cut carpet edges.
2. Fold the carpet back the same way as during a direct bond installation.
3. Trowel the recommended amount of adhesive onto the cushion (see carpet type sections below). Do not spread adhesive underneath seaming tape. Respect the open time of the adhesive. *Note:* Drying time will be extended during humid and cold weather conditions and in areas of inadequate air circulation.

• For ActionBac® and Smooth Backed Carpets:



Adhesive: **ROBERTS 3095 Carpet Adhesive** or **3300 Multipurpose Adhesive**

Proper Trowel Size: 6-7 m² per 3.78 liters, U-notch

Approx. Coverage: 65-75 sq. ft. per gallon

• For Woven and Other Heavily Textured Backings:



Adhesive: **ROBERTS 3095 Carpet Adhesive** or **3300 Multipurpose Adhesive**

Proper Trowel Size: 3.25-5.1 m² per 3.78 liters, U-notch

Approx. Coverage: 35-55 sq. ft. per gallon

4. Lay the carpet into the adhesive after it becomes tacky, and complete the seam by using a **ROBERTS Heat Bond Iron** to melt the adhesive on the Double Bond heat bond tape.

Important – The adhesive must begin to tack-up before the carpet is set in place. If the adhesive is not allowed to tack-up, any weight or pressure applied to the carpet will force the adhesive into the cushion or away from the pad and be absorbed by the carpet's backing. This action may produce the disappearing glue syndrome, which results in a scarcity of adhesive at the critical points of contact of the carpet and cushion. Bubbling of the carpet will result and the installation will ultimately fail.

5. Roll the carpet using a lightweight roller (**ROBERTS 10-935 35 lb. Roller**).

Carpet-to-Cushion Notes:

- Woven carpet should be rolled again 3-10 hours after the initial rolling.
- Eliminate any bubbles by pressing straight down prior to full adhesive set up time. Do not roll bubbles to edge.
- Due to dimensional instability, Double Bond installation of carpet with a unitary backing is not recommended.
- Never use a roller heavier than 35 lbs., as this will drive too much of the adhesive into the pores of the pad and towards the edges of the carpet, decreasing the strength of the bond in the middle of the floor where the high traffic areas are.
- You must attain complete coverage and transfer of adhesive to the backing of the carpet in order for the installation to perform properly. Using the proper trowel will help you to achieve this.

AFTER INSTALLATION

Maintain installation temperature for at least 30 days, and then the temperature may be slowly readjusted as necessary while still remaining within the 18-35°C temperature range. Large temperature or humidity changes after the installation of the carpet will cause excessive expansion or contraction of the materials and/or substrate and may cause installation failure.

Protection of the Installation

Wheel and foot traffic should be restricted for a minimum of 48 hours to allow the adhesive to properly cure. Premature traffic WILL cause installation failure.

To protect the installation from dirt, paint, or additional work; cover the carpet with a non-staining building material paper after the adhesive has cured. Never cover the carpet with plastic sheeting as it will trap moisture and delay the curing of the adhesive. If necessary, protect the installation from rolling traffic by putting down sheets of plywood.

The use of protector pads under chairs with castors is mandatory.

Carpet Maintenance

Important – Overwetting and use of chemicals with a 9.0 or higher pH level must be avoided.

It is critical that the carpet not be exposed to water or cleaning agents during the first 30 days. Ensure all cleaning products used are neutral pH.

ROBERTS DOES NOT RECOMMEND STEAM CLEANING Double Bond carpet installations, as this breaks down the latex in the adhesive, which could lead to an early failure of an otherwise proper installation. ROBERTS recommends using dry systems (such as Host[®], Capture[®] or bonnet systems), which create a minimum wetting action, as approved by the carpet manufacturer.

ROBERTS will not be held liable for failures resulting from improper carpet maintenance procedures.

DOUBLE BOND INSTALLATION SUMMARY

- Use only ROBERTS recommended adhesives and trowels.
- Make sure the carpet backing and cushion are suitable for a Double Bond application.
- Check the subfloor moisture and alkalinity levels.
- Cut and roll out the carpet 48 hours prior to the installation. Allow the carpet and other materials to adapt to the site conditions.
- Ventilate the site during and after the installation.
- Allow the proper open time in order for the adhesive to develop tack. This is essential in Double Bond installations.
- Use only an approved Double Bond heat bond tape at seams. Seal all cut carpet edges with **ROBERTS 8502 Latex Carpet Seam Sealer** or **8015 Universal Carpet Seam Sealer**.
- Eliminate any bubbles by pressing straight down prior to full adhesive set up time. Do not roll bubbles to edge.
- Allow 48 hours of curing time before allowing heavy foot or wheel traffic.
- Never cover the installation with plastic.
- Do not expose installation to water or cleaning agents for a minimum of 30 days. Overwetting and use of chemicals with a 9.0 or higher pH level must be avoided.

For installation questions that are not covered please contact our Technical Services Department at (905) 791-4444.

See our ROBERTS Floor Covering Installation Tools Catalog for a complete listing of our ROBERTS installation tools and accessories.