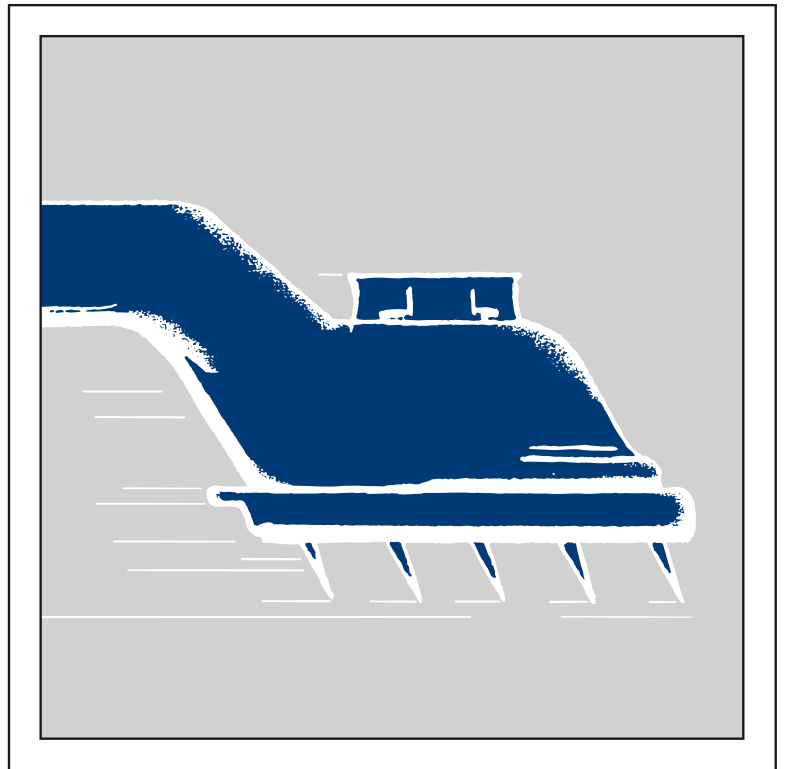




J & J INDUSTRIES *The art of fine carpeting*



Carpet Installation Handbook

*INVISION CARPET SYSTEMS
J & J COMMERCIAL
J & J CONTRACT SERVICES*

Installation

Pattern Carpet Considerations

It is imperative that all parties discuss pattern configuration, the backing system, installation method, bow, skew, and pattern variation to prevent the possibility of having a very dissatisfied customer.

Subsequent to the specification, the specifier, end user and the carpet installation contractor must all understand J&J's pattern match policy regarding tolerances for bow, skew, and pattern repeat variation (page 19). All parties must agree upon the expectations of each individual relative to the pattern alignment, pattern impact on quantities and the labor cost to install the pattern carpet.

Introduction

2-3

Direct Glue-Down Installations

3 - 27

- A. Preparatory Information For Adhesive Carpet Installations
- B. Procedures For Installing Lifespan MG, ActionBac® or ActionBac® LTP™ Carpet
- C. Procedures For Direct Glue-Down of Pattern Carpet
- D. Procedures For Stretching-In Patterned Carpet
- E. Pattern Match Policy
- F. Procedures For Installing Tufloc Unitary Backed Carpet
- G. Procedures For Installing Endure®

Stretch-In Installations

27 - 38

- A. Preparatory Information For Stretch-In Installations
- B. Installation Procedures
- C. Stepped Areas (Stairs)
- D. Protection of the Installation

<p>J&J Industries, Inc., J&J Commercial, Invision Carpet Systems and J&J Contract Services recommend that their carpet be installed by installation contractors certified by the FCIB (Floor Covering Installation Board).</p>

<p>For comprehensive warranty coverage, J&J Industries, Inc., J&J Commercial, Invision Carpet Systems and J&J Contract Services require a total compliance with all information contained within this publication.</p>

J&J Industries, Inc., J&J Commercial, Invision Carpet Systems and J&J Contract Services do not guarantee an exact or perfect match on any of their patterned qualities. Reasonable pattern match may be attained by using trained, FCIB certified craftsmen and by following our patterned installation procedures.

Introduction

This manual contains detailed instructions on how to properly install J&J Industries' commercial carpeting via the direct glue-down, Endure self-stick adhesive, or stretch-in methods. Also included is information on proper carpet storage and handling procedures, floor preparation for adhesive carpet installations.

Prior to any carpet installation, all trades must be out of the area to be carpeted and their work must be completed. Trades include electricians, acoustical ceiling installers, plumbers, masons, wall covering installers, etc.

CAUTION:

Do not attempt to seam dissimilar backing systems, i.e. Endure® to ActionBac®. The primary backings to be seam welded together must exactly align (join) at the seam.

CARPET STORAGE CONDITIONS

The carpet and adhesive must be stored in a secure, dry area having a maximum temperature and relative humidity of 90°F and 65% RH, respectively. The carpet must be stored on a flat, smooth surface and should not be stacked over three (3) rolls in height. Extended storage may produce roll crush. Roll crush is not a manufacturing defect; it is the result of extended or improper storage.

HANDLING

Use only tow motors equipped with carpet booms. Under no circumstances should fork lifts be used. Bending or folding of carpet is not recommended as to do so may damage the carpet. If the carpet must be temporarily folded for delivery purposes, ensure that the carpet is loosely rolled prior to folding. Immediately unfold and unroll the carpet upon delivery to the installation site. Under no circumstances should carpet be bent (horseshoed) or folded for over four (4) hours. Do not horseshoe or fold any carpet with a unitary back (such as Tufloc).

INSTALLATION CONDITIONS

The success of a carpet installation depends greatly on the temperature and relative humidity (RH) of both the carpet and the floor. For this reason, it is extremely important to strictly control the environmental conditions of the installation site. The temperature and relative humidity (RH) must be continually maintained at 65° to 95°F and 10% to 65% RH for a minimum of forty eight (48) hours prior to installation. These conditions should be constantly maintained during, and at least 72 hours after, installation. Ideally, building temperature and RH should be maintained within the stated ranges on a continual basis for the life of the carpet.

To maintain the temperature and relative humidity, heating and air conditioning systems must be in working order. Do not use space heaters as an alternate to a central heating system. Space heaters will not uniformly warm the floor. Once the installation area has a stabilized temperature and RH (between 65° to 95°F and 10% to 65% RH), with a minimum slab temperature of 65°F, spread the carpet

within the installation area and allow it to precondition for a minimum of 24 hours prior to installation.

Remember, the success of a carpet installation depends greatly on the temperature and relative humidity (RH) of both the carpet and the floor. If the humidity is above 65%, then the adhesive will not dry properly for a direct glue-down installation; and, if the floor is colder than 65°F, the adhesive will dry without becoming tacky.

Additionally, cold carpet cannot be sufficiently power stretched for a stretch-in installation. If a carpet has been installed by the stretch-in method and the heat or air is turned off, moisture will return to the carpet causing the carpet to swell or buckle. However, if the heat or air is turned back on, the moisture will be removed from the carpet and the carpet may flatten back out. Schools, churches, and other buildings where the central heat and air are often turned off for extended periods of time, should be advised of the possibility of the carpet buckling if it is installed by the stretch-in method.

PROTECTING THE CARPET EDGE

The carpet edge must be protected at the transition of carpet to other floor covering materials.

VENTILATION

Installers should be aware that whenever possible and environmental conditions permitting, carpet should be allowed to ventilate with the induction of fresh air. Avoid recirculation of indoor air; air should be exhausted to the outside. During installation, maintain fresh-air ventilation by using fans, by operating the building's ventilation fan system, and by opening windows and doors (if possible and if conditions permit). After installation, continue to fresh-air ventilate for 48 to 72 hours at normal room temperatures by operating the ventilation fan system at full capacity and by opening windows and doors, if possible. The key to minimizing any odors and speeding up the airing out process is ventilation. Most emissions drop significantly within 48 hours. Any odors, if noticeable at all, usually disappear within seven days.

This manual cannot possibly address all situations encountered by the commercial installer. If you have any questions, please contact the J&J Installation Department at 1-800-241-4586.

Direct Glue-Down Installations

A. PREPARATORY INFORMATION FOR ADHESIVE CARPET INSTALLATIONS

INTRODUCTION

There are six types of floors generally encountered by the commercial installer: below grade concrete, on grade concrete, suspended concrete, suspended wood, terrazzo, and metal. Each of these floor types must be properly prepared to receive both the adhesive and the carpet. Accurate floor preparation is mandatory for a successful adhesive carpet installation. Though some carpet systems are less forgiving than others as to the condition required of the subfloor, every adhered carpet requires a clean, sound substrate.

This section is structured into the following subtopics:

- Concrete Floor Preparation
- Priming of Concrete and Wood Floors
- Wood Floor Preparation
- Non-Porous Floor Preparation
- Existing Floor Coverings
- Existing Adhesives

CONCRETE FLOOR PREPARATION

- Surface Texture: All cracks 1/8 inch wide or wider must be filled with a suitable Portland Cement-based patch reinforced with polymers. The floor surface must be a sound, dry, clean, smooth, and even plane. It should also be free of dust, depressions, protrusions, all existing adhesive, curing agents, parting compounds, oil, grease, paint, sweeping compound residue, and any other contaminant that may prevent the required adhesion of the carpet system backing to the floor.

The 3M Scotch mesh disc driven by a 175 rpm floor machine makes short work of construction related contaminants that must be removed, paint and varnish over spray, cutting oils, joint compound, dried mud, etc. Both sides of the disc are used and the mesh does not load up like sandpaper. **CAUTION: *Do not sand or use a floor machine and disc on any product containing asbestos.***

- Density: Any adhesive carpet installation over concrete requires a minimum concrete dry density of ninety (90) pounds per cubic foot. Although lightweight concrete (concrete mixed with perlite or vermiculite) may be primed or skim coated to provide a sufficient slab surface density to prevent adhesive absorption into the floor, priming or skim coating will not prevent fractures in the slab surface. Lightweight concrete surfaces will also be a problem when the carpet is removed. A significant amount of the slab surface may remain attached to the carpet back which has been installed via direct glue-down. Carpet squares pulled up in pressure-sensitive adhesive areas may bring with them from 1/8 to 1/4 inch of the slab surface, especially in the heavier trafficked areas.

- Porosity Testing: To check the porosity of a concrete surface, pour a small quantity of water in several test areas. On a good, dense surface, the water will bead up and just sit there. Should the water be absorbed into the floor, the floor is not dense enough. This situation can cause failure of the installation. The same is true in the case of dusty concrete and newly sanded wood floors. When these conditions are encountered, the floor should be primed with a latex primer. Priming will also provide a better adhesive bond and increase the adhesive coverage.

NOTE: Primers should never be used in an attempt to correct a moisture problem.

- Moisture Testing: A moisture test is a requirement for any slab. All on or below grade slabs regardless of the age should be tested. Any moisture test must be performed with a minimum slab temperature of 55°F, because water movement is retarded at lower temperatures and test results will be inaccurate. To test for moisture use the calcium chloride moisture test.

- ASTM Designation: F1869-98 Standard Test Method for measuring moisture vapor emission rate of concrete subfloor using Anhydrous Calcium Chloride.

• Calcium Chloride Moisture Test: (Conditioning) the test site should be the same temperature and humidity expected during normal use. If this is not possible, then the test conditions should be $75 \pm 10^{\circ}\text{F}$ ($23.9 \pm 5.5^{\circ}\text{C}$) and $50 \pm 10\%$ relative humidity. Maintain these conditions 48 hours prior to, and during testing. Test concrete slabs for moisture using the calcium chloride moisture test. Follow test kit manufacturer's instructions. The moisture emission rate of a concrete floor is expressed in Lbs./1000 square feet/24 hours. Approximately 3 days are required for the test. An emission rate of 3.5 lbs. maximum is acceptable. Three test locations for areas up to 1000 sq. feet, add one additional test for each 1000 sq. ft. or fraction thereof.

• Alkalinity Testing: A pH reading of 5-9.0 is satisfactory. Alkalinity is often a direct result of moisture migrating through the concrete slab. This water movement almost always carries alkaline salts with it and on occasion evidenced by a white residue left on the slab after the moisture evaporates. One may also encounter a hot slab (highly alkaline) which yields no visible signs of alkalinity. Since high alkalinity may cause an adhesive failure, its presence should always be tested for. pH testing should be performed in accordance with ASTM Standard Practice F-710. Any pH reading above nine (9) will require neutralizing the slab with a mild acid solution, followed by a thorough rinsing with water. **Moisture and pH test results obtained reflect only the concrete condition at the time.** Testing of concrete subfloors for moisture or alkalinity is the responsibility of the owner or general contractor. Testing should be performed by an independent specialist certified by appropriately recognized organizations such as IICRC or EQUAL.

• Other Considerations: Radiant heated floors are concrete slabs into which either electrical or hot water heating coils have been embedded and should present no real problems for a glue-down installation. If the installation is done with the heat on, the temperature of the surface will probably be too warm. If this is the case, adhesive set-up would be accelerated and open-time reduced; therefore, it would be necessary to reduce the floor temperature. The floor temperature should never exceed 85°F .

Painted concrete slabs are hazardous to work with because so many different types of paint are on the market, and many of them are not intended for use with carpet floor adhesives, thus affecting the carpet bond. Wet sanding is the preferred method for removing paint from a concrete slab, followed by thorough porosity testing.

Other surface coatings such as curing compounds, hardeners, sealers, and parting compounds are widely used in new construction and can interfere with the bond of carpet floor adhesives to the slab. Although curing compounds are frequently made of an oil, wax, or resin base and are usually eroded by foot traffic prior to carpet installation, care must be taken to ensure that all residue is removed. Hardeners do not usually cause trouble, but excess amounts should be removed. In lift-slab and tilt-up construction, parting compounds (intended to prevent adhesion to permit separation of the slabs) must be removed also. If grinding or sanding is necessary to treat any of the above conditions, run a porosity test to determine if a primer is required. **The warranties and performance guarantees are the responsibility of the sealer, primer, or underlayment manufacturer and not the carpet manufacturer.**

PRIMING OF CONCRETE OR WOOD FLOORS

Priming a subfloor, either concrete or wood, is intended to eliminate, or at least moderate, minor surface dusting. Priming also reinforces the concrete surface, makes adhesive spread easily thus increasing coverage, and improves the adhesive bond. Priming should never be used to overcome a moisture condition. To prime a subfloor effectively, two coats may be required. The primer may be applied by roller, trowel, or airless at the rate of up to 500 square feet per gallon (depending on the roughness and porosity of the subfloor).

NON-POROUS FLOOR PREPARATION

Terrazzo and other non-porous floors require a special consideration as subfloors for carpet since the adhesives used depend on evaporation of moisture to achieve a set, which means the water vapor must have a path to the atmosphere. With conventionally backed carpets, evaporation will proceed through the carpet. Endure and Tufloc backed carpets have non-permeable backs, additional open-time considerations need to be made for proper moisture evaporation.

EXISTING FLOOR COVERINGS

Many resilient floors provide an excellent base for an adhesive carpet system installation if the floors are soundly constructed, securely bonded, free of all finishes, and not cushioned or embossed. Identifying the type construction of the existing resilient floor is critical for insuring successful adhesion. For example, a securely bonded VAT or VCT floor 3/32 inch minimum thickness provides a good adhesive subfloor; yet, a vinyl floor or rubber floor may not. If it is necessary to adhere to quarry tile, or other tile with recessed grout lines, the floor must be skim coated with a fortified Portland Cement underlayment to bring the grout lines flush and level. Follow the underlayment manufacturer's instructions regarding application, thickness, and priming requirements.

EXISTING ADHESIVES

All existing adhesives should be removed. An existing carpet latex floor adhesive with the adhesive trowel ridges eliminated can in many cases produce a secure bond. Install several 3' x 3' test areas. Test bond to floor after 72 hours. If extraordinary force is required to pull the carpet from the floor, leaving the floor and carpet back fully covered with adhesive the installation could proceed. However, do not attempt installation over cut-back or other dissimilar adhesives unless a barrier coating similar to J&J Commercialon 877 Premium Barrier Coat is used. A Portland Cement underlayment similar to Ardex SD-L. Ardex, Inc., 800-899-6698 or Dependable Skimcrete, Dependable Floor Underlayments 800-227-3434 may also be utilized over existing adhesives. Follow manufacturers instructions.

LIQUID ADHESIVE REMOVERS

The use of liquid adhesive removers is not recommended as any residual left on or in the concrete slab is capable of producing a failure of the new floor adhesive. Removal of residual adhesive is recommended by either wet - scraping or by using a terrazzo floor machine. When using a floor machine, use clean sharp, coarse cutting sand mixed with detergent and water. Ensure the mixture stays wet and do not allow any dusting. Thoroughly rinse floor with clear water. Ensure that the concrete slab is thoroughly dry prior to installing the carpet.

WOOD FLOOR PREPARATION

All existing wood surfaces must be free of chemicals applied under pressure to prevent outdoor deterioration or enhance flame retardancy, oil, wax, paint, varnish, and old adhesives and any other contaminant that may prevent the required adhesion of the carpet backing system to the floor. Additionally, all wood floors must be suspended a minimum of eighteen (18) inches, be cross ventilated, and have an appropriate vapor barrier installed. Wooden subfloors bonded directly to, or laid over, sleepers on concrete that directly contact the ground are not an acceptable substrate for any carpet installation. Possible moisture contained in the concrete can cause the wood to swell, buckle, or eventually rot.

A double-layer wood subfloor suspended over open wood joists (sixteen inches on center or less) and made of 1/2 inch plywood rated as either APA underlayment INT (interior type), APA underlayment INT (with exterior glue), APA underlayment CC plugged ext. (exterior type), is acceptable as an adhesive subfloor. Single layer tongue and groove with a maximum three (3) inch face should be covered with a 1/4 inch APA underlayment grade plywood. Single layer floors not of tongue and groove construction and having more than a three (3) inch face should be covered with a 1/2 inch APA underlayment grade plywood. An uncupped, double-layer tongue and groove wood floor is a suitable subfloor for adhesive carpet installations.

The warranties and performance guarantees are the responsibility of the plywood underlayment manufacturer and not the manufacturer of the carpet.

J&J does not recommend the use of chipboard or particle board as carpet underlayment material.

PRIOR TO INSTALLATION

Before actual installation begins, check the following list to insure compliance with every detail:

CAUTION:

Carpet performs best when the major traffic runs the carpet length. It is not recommended that the carpet length be run the corridor width, producing a seam every 12 feet across the corridor.

- (a) Carpet transported to the job site in rolls free of any wrinkles or creases. DO NOT BUNDLE! Bundling will cause creases and wrinkles which may prove difficult to remove during installation. If loose bundling or bending is absolutely necessary to transport the carpet to the installation site, unroll the carpet as soon as it is delivered. Do not bend or fold any carpet with a unitary back (such as Tufloc).
- (b) Floors properly prepared.
- (c) Building and carpet preconditioned for 48 hours prior to installation at a constant temperature and relative humidity between 65° to 95°F and 10% to 65%, respectively.
- (d) Carpet laid out according to specifications.
- (e) Shop drawing/plan prepared for the area to be carpeted.
- (f) Plan checked against the available roll lengths and dye lot numbers to keep cross seaming to a minimum. If using more than one dye lot, record on the shop drawing the exact location where the dye lot change will occur to minimize possible color differences.

- This transition point must be recorded on the shop drawing.
- (g) Seam locations planned so that no perpendicular seams will occur at doorways or entries. All doorway seams should be centered directly under the door.
 - (h) Seams should run with the flow of traffic. The only exception occurs when windows allow incoming daylight to highlight seams from the side. In this situation, run the seams into the daylight to reduce the visibility of the seam.
 - (i) All seams trimmed.
 - (j) Pile running in the same direction.
 - (k) J&J 600 carpet floor adhesive on hand and correct trowel notch size determined.
 - (l) Enough manpower available to professionally complete the installation.

CAUTION:

Do not attempt to seam dissimilar backing systems, i.e. Endure® to ActionBac®. The primary backings to be seam welded together must exactly align (join) at the seam.

•**NOTE:** Prior to beginning a direct glue-down installation, the installer must be familiar with all information contained in the section titled, ***Floor Preparation for Adhesive Carpet Installations.***

Direct glue-down installations can involve carpets with several types of backings; those with ActionBac®, ActionBac® LTP™, Lifespan MG, Tufloc Unitary, and J&J's Endure® backing.

Regardless of the type carpet backing applied, direct glue-down installations require a clean, sound substrate.

This section is divided into four major topics:

- A. Preparatory Information for Adhesive Carpet Installations
- B. Procedures for Installing Lifespan MG, ActionBac®, and ActionBac® LTP™ Backed Carpets
- C. Procedures for Installing Tufloc Unitary Backed Carpets
- D. Procedures for Installing Endure®

CARPET LAYOUT

In order to allow the carpet to become relaxed and conditioned to the room environment, dry lay the carpet in the area a minimum of 24 hours prior to the actual carpet installation.

Ensure that the area's temperature is a minimum of 65°F and the relative humidity is between 10% & 65%.

J&J APPROVED ADHESIVE AND MINIMUM TROWEL NOTCH SIZE

J&J 600 carpet floor adhesive is approved for all direct glue-down installations. The floor adhesive shall be spread uniformly over the subfloor with the correct trowel leaving adhesive ridges of sufficient size to achieve full and complete coverage of the carpet backing.

THIS REQUIREMENT IS NOT OPTIONAL!

ActionBac® and ActionBac® LTP™ installations require a **minimum** trowel notch size of 1/8 inch x 1/8 inch x 1/16 inch. Multi-level loop on Tufloc will require a minimum notch size of 1/8 inch wide x 3/16 inch deep and spaced at 1/8 inch. All other backings require a minimum 1/8 inch wide x 1/8 inch deep notch spaced at 1/16 inch. If in doubt about what trowel notch size to use, spread some adhesive onto the floor that is to be covered for a test area. Lay the carpet into the

adhesive and roll the carpet with the appropriate roller. Then, pull the carpet off the floor and see if there is full and complete coverage of the carpet backing while still maintaining complete adhesive floor coverage. If necessary, adjust notch size to achieve the required 100% transfer.

SEAM PREPARATION

Seams shall be prepared by trimming off the mill, or factory edge. This cut is to be made far enough in from the carpet edge so that a clean and even seaming edge is achieved. Cutting tools with razor-type blades, such as cushion-back cutters, should be used for seam preparation. All recommendations for seam preparation and cutting must be followed.

All edges cut for seaming with the exception of Lifespan MG backed carpet must be treated with a 1/8 inch bead of J&J 557 carpet seam sealer. The sealer should be applied along the edge of the carpet at the point where the face yarn goes into the back. Any excess sealer which contaminates the carpet face must be removed immediately using white cotton toweling wet with soap and water.

SEAM TRIMMING

•**Loop Pile Constructions:** If the carpet is a straight row, level, or multi-level loop construction, insert a screwdriver or the nose end of the cushion-back cutter (with the blades retracted) between tuft rows. Run it the entire length of the carpet, separating the yarn and opening a path for the cutter. Trim into the body of the carpet far enough from the factory edges to obtain full face weight and good lamination of the backing system. This distance will vary from 1 to 2 inches from the edge on straight row constructions to as much as 3 inches on some graphic constructions. Using the cushion-back cutter, trim both seam edges by cutting between the tuft rows. Cut close to the main body to obtain a tight seam by trimming with the blade close to the seam edge.

•**Cut Pile Constructions:** Cut pile carpet is sheared in the final stages of manufacturing; therefore, the only thing keeping the cut pile yarn in an erect position is the yarn tuft beside it. Along the factory edges, this face yarn naturally lies to the outside of this edge (no support side). To obtain a uniform pile height on both seam sides, it is always necessary to trim in further on cut piles than on level loops. Depending upon pile height, this distance will range from 1 inch to 1 1/2 inches into the body of the carpet.

•**Graphic Constructions:** These carpets must be trimmed from the face using either a loop pile cutter (Roberts #10-152) or a cushion-back cutter. Trim into the body of the carpet far enough from the factory edges to obtain full face weight and good lamination of the backing system.

- (a) Because of the shifting mechanism of graphics tufting equipment, there may be a variance of 2" to 6" in width after selvage edges are trimmed. To separate the rows, either use a cushion-back cutter with the blades retracted or a screwdriver with the blade corners rounded off, and run the instrument the length of the seam.
- (b) Always be sure the blade on the trimmer is on the seam side. This precaution is necessary to prevent trimming the width of the tool beyond the tuft row, thus causing the backing to protrude this distance beyond the face yarn.
- (c) In those situations where tuft rows are not true enough to

enable a tuft row on one seam edge to tightly join the tuft row on the opposite seam edge, an alternate seam trimming method is used only on non-pattern constructions.

- (d) This alternative method involves row cutting the first seam edge that has the pile lying toward the seam. Slide the second breadth about 1 1/2 inches under the first trimmed edge, or far enough to obtain full face weight. Be sure this overlap is uniform throughout the length of the seam. Using the first trimmed edge as a guide, trace cut the second breadth to the first seam edge. This method is to be used when the edges will not conform when row cut.

• **For Over Tuft and Printed Patterns:** Find the match point (where extra pattern is left on both sides) and cut into the width to the match point-then cut 1 inch into the length. At the match point, you now have a cut shaped like an "L". Perform this trimming procedure at all match points along the entire length of the seam. Turn the previously cut "L's" face up. Lay a straight edge against the "L's" two at a time. Cut between these two, reset the straight edge between two more "L's", and cut again. (For cut pile carpet, you may want to fold the carpet face down, cut through the secondary back only so as not to bevel cut the face yarn.) This procedure permits you to cut the carpet from the back side and still know where the match is.

SEAM CHARACTERISTICS

Regardless of the seaming method, a properly constructed seam:

- Has cleanly trimmed edges properly secured with 557 Seam Sealer where applicable.
- Has tightly abutted edges without gaps.
- Maintains reasonable pattern match where applicable.
- Will not be invisible.

B. PROCEDURES FOR INSTALLING LIFESPAN MG, ACTIONBAC® AND ACTIONBAC® LTP™ SECONDARY BACKED CARPET

Lifespan MG must be installed only by the direct glue down method. The following procedures are to be used as a guide to proper direct glue-down installation of Lifespan MG, ActionBac® and ActionBac® LTP™carpets. Prior to beginning the installation, ensure that you understand and have complied with all information presented in **Topic A., Preparatory Information for Adhesive Carpet Installations.** The following instructions are for the installer who is an experienced and qualified professional.

ADHESIVES:

The use of J&J 600 carpet floor adhesive is recommended.

TROWEL SIZE:

The minimum trowel size to be used for the installation is 1/8" x 1/8" spaced at 1/16". Floor conditions may require a trowel with deeper notches.

ADHESIVE APPLICATION:

The floor adhesive shall be spread uniformly over the subfloor

with the correct trowel leaving adhesive ridges of sufficient size to achieve full and complete coverage of the carpet backing.

SITE CONDITIONS:

The floor temperature must be a minimum of 65°F and the humidity a maximum of 65%. These conditions must be maintained a minimum of 48 hours prior to installation and continually maintained 24 hours a day, 7 days a week and at least 72 hours following completion of the installation.

HANDLING:

Use only lift trucks equipped with carpet booms. Bending or folding is not recommended.

PREPARATORY INFORMATION

- **Adhesive:** J&J 600 Carpet Floor Adhesive
- **Adhesive Trowel Size:** Minimum notch size 1/8" x 1/8" spaced 1/16". The floor adhesive shall be spread uniformly over the subfloor with the correct trowel leaving adhesive ridges of sufficient size to achieve full and complete coverage of the carpet backing. This requirement is not optional! If necessary, adjust notch size to achieve the required full and complete coverage of the carpet backing.

INSTALLATION (Read all instructions below prior to proceeding.)

1. Dry lay the area to be carpeted, checking against the available roll lengths and dye lot numbers to avoid extra cross seaming. Take into consideration all support columns, entrance areas, and other obstructions to attain the best carpet layout.
2. Then select a starting point near the center of the area. Strike a white chalk line on the floor to mark the first seam location. Be sure this first seam is parallel to the outer walls.
3. Check the carpet for direction of pile lay, being careful to keep all the carpet pile laying the same direction.
4. Cut two lengths of carpet allowing about 1 1/2 inches to run up the walls for future trimming, and position the lengths of carpet side by side along the chalk line with the pile lay of both in the same direction.
5. Perform seam trimming operations as described in **Seam Preparation and Seam Trimming Information for Adhesive Carpet Installations**.
6. Move the first length of carpet up to the starting chalk line and stay-nail along its center line, parallel to the seam. During this procedure, work out any wrinkles allowing the carpet to lie smoothly on the floor. Stay-nail at approximately 12 to 18 inch intervals following the center line of the carpet along its entire length. Make sure the carpet does not shift from the chalk line. Drive the nails into the floor just far enough (approximately 1/8 inch) to hold the carpet in place. Use the strip of carpet that was trimmed from the width as a "marker" and stay-tack through it. In this manner, the stay-nails will be clearly visible, and none will be lost in the carpet as the installation proceeds.
7. Now check the yarn alignment of the second cut against that of the first and decide whether the yarn will align properly to produce a tight seam. **Non-pattern styles only:** When the tuft rows are slightly serpentine, trim one

seam edge, then slide the second seam edge a minimum of 1 1/2 inches under the first trimmed edge. Using the first edge as a guide, trace cut the second seam side so that it conforms to the first trimmed seam edge. The first trimmed edge must be the edge (breadth) that has the face yarn pile lay in the width direction, laying into the seam. If this cut is reversed, the second traced cut seam edge will be bevel cut.

8. A compression of 1/16 inch is recommended for compression seam set up. Ensure that both lengths of carpet lie perfectly flat and tension-free.
9. Stay-nail the second length as in Step 6.
10. Carefully fold back both lengths toward stay-nails. Carpet may become torn or ripped if pulled against stay-nails.
11. The exposed floor between the folded cut should be swept and vacuumed, if necessary.
12. When installations are on very dry concrete, it is recommended that water be used to damp mop the floor. (Be certain to remove all puddles or excess moisture.) For relatively non-porous surfaces such as epoxy-terrazzo, vinyl, or steel, it is important to allow sufficient time for the adhesive to become tacky before applying the carpet.
13. With a notched trowel (minimum size of 1/8 inch x 1/8 inch x 1/16 inch), spread the J&J 600 carpet floor adhesive evenly and without interruption using a sweeping semi-circular motion. Apply the floor adhesive using as many craftsmen as necessary to ensure uniform adhesive open time the length of the seam area. Spread the adhesive in a straight line at the folds so that there are no scalloped edges to spread to when the uncemented portion is turned back. The trowel must be kept clean and periodically renotched as required. The floor adhesive shall be spread uniformly over the subfloor with the correct trowel leaving adhesive ridges of sufficient size to achieve full and complete coverage of the carpet backing.
14. In most installations J&J 600 Carpet Floor Adhesive requires no open time. Conventional adhesives will require sufficient open time to provide green grab (light adhesion to the floor). Do not let the adhesive skin over. Use the tacky wet installation method. Open time will vary depending upon environmental conditions, generally 20 minutes but not to exceed one hour. Lay the folded edge of the first cut into the adhesive. To do this, the installers should position themselves at intervals along the entire length of the fold, grasp the folded edge, lift it up, and walk towards the seam. The installer in the middle of the roll walks ahead thus forming a wedge. A cardboard carpet roll core cut into 2 foot lengths can be used for smoothing the carpet into place.
15. Carefully apply a 1/8 inch continuous bead of J&J 557 carpet seam sealer to the cut edge at the proper height to lock in the tufts and seal the edge of the first cut. **NOTE: Lifespan MG backed carpet does not require the use of seam sealer.**

16. Next, grasp the folded edge of the second breadth and place it over the adhesive as in Step #14 with the exception that this flap should be “walked in” evenly rather than using the wedge method. “Walk in” all but 1 foot of the second breadth and fold this amount back again.
17. The installers should now step onto cut #1, face cut #2, and holding thumbs up, grasp the 1 foot fold of cut #2 and place it into the adhesive approximately 1/4 inch from the edge of cut #1. Slide this edge until it tightly abuts the edge of the first roll. The 1/16 inch overage will help achieve a tight, compressed seam. Do not let the seam peak.
18. Hold the edge in place by kneeling on it and work the excess created by the 1/16 inch overlap out toward the stay-nails. The seam adhesive on the edge of the first length will transfer to the seam edge of the second length to seal the seam and prevent fraying. In case of slight peaks or gaps, a knee-kicker may be needed to move the carpet *slightly* to obtain a closed and even seam. Immediately clean up wet 557 sealer from face yarn with a clean white cotton cloth wet with soap and water. Do not allow sealer to dry in any area in need of clean up. Brush or roll any looseness and trapped air bubbles away from the seam with a light roller or carpet tractor. This complete procedure must be done before the adhesive sets up.
19. Turn the unglued portion of the first length of carpet back toward the seam. Spread adhesive for a 6 foot width along the entire length. Lay the carpet onto the adhesive. Brush or roll out looseness and trapped air toward the wall, i.e., away from seam.
20. Cut the next and continuing lengths of carpet and position each. Repeat the above procedure to complete the installation.
21. While the adhesive is still tacky, the carpet must be pressed down along the wall. As each length is installed, trim and fit at walls and around jogs, pillars, etc. using the Roberts 10-905 wall trimmer and Roberts 10-440 hooked blades. The carpet can now be rolled with a 75 pound roller.
22. If cross seaming is necessary, follow the procedures outlined in the next subtopic entitled **Cross Seaming**.
23. The exposed edges should always be protected either by a suitable edge molding. Resilient moldings can be fastened to the floor by contact cement or a similar material. The metal can be fastened with concrete nails or other appropriate fastening devices.
24. Clean up J&J 600 carpet floor adhesive while still wet with soap and water. Apply with a clean, white cotton cloth using a blotting action. Do not saturate the carpet by pouring water directly onto the carpet’s surface. Blot with a dry white cotton cloth.
25. The removal of “air bubbles” under previously installed carpet can be quickly accomplished by the use of a large needle and syringe. Puncture the bubble and extract the air.

CROSS SEAMING

If cross seaming is necessary, insure that the direction of the pile is the same for all pieces and lay each piece into position allowing a minimum of 2 inches overlap at the seam area and 1 1/2 inches for trimming at the wall. Trim all lengthwise edges, and fit the trimmed edges to the trimmed edge of the last full width. Reverse roll both seam sides prior to trimming to establish carpet curl towards the floor. If the carpet will allow, trim the first seam edge of the cross seam between the stitch rows and trace cut the second seam edge to fit the first. (The seam edge will most likely not be straight; however, a less obvious seam will result using this technique.) Pattern carpet must be matched.

A second acceptable method is used when following stitch rows would produce an obvious seam on a slant. Cut the carpet from the face with a cushion back cutter using a straight edge as a guide, trimming the seam edge at a 90° angle to the length seam. Use this trimmed edge (with the pile sweeping toward the seam edge) as a guide for trace cutting the second edge.

On all seams, length or cross, all edges, with the exception of Lifespan MG, must be sealed with J&J 557 carpet seam sealer to prevent raveling or fraying. This step must be followed and is not optional.

PATCHING

In general, carpet glued directly to the floor lends itself to patching rather than burling. The recommended patching procedure is as follows:

- *For patching purposes, it is best to use a previously installed piece of carpet, if available* •
- (a) First, determine pile direction and cut between pile rows, removing the area to be replaced and being careful to avoid cutting the pile yarns. (For cutting purposes, use a slotted blade knife or cushion-back cutter, whichever suits the situation best).
- (b) With an awl, lift out the damaged section and remove any adhesive from the floor.
- (c) Determine the size of the replacement patch by increasing its dimensions slightly as compared to the dimensions of the damaged section of carpeting.
- (d) Apply J&J 600 carpet floor adhesive to the floor and J&J 557 carpet seam sealer to edges of the patch.
- (e) Insert the patch by bending the edges inward. Smooth the pile with the back of a knife and finish by tractoring the seam areas.

CAUTION:

- ~Carpet should not be subjected to traffic for at least 24 hours after the completion of the installation.***
- ~Do not wet clean any direct glue-down carpet until the installation has been completed for thirty (30) days.***
- ~Do not cover a direct glue-down installation with a moisture barrier protection such as plastic, as it will cause buckling and possible mildewing by "trapping" moisture in the adhesive. Protect the installation with a nonstaining building paper similar to Traffic Lane Paper By Bane-Clene® 800-428-9512, or cover the carpet with Host Dry Absorbent Compound.***
- ~Flooding voids manufacturer's warranties.***

PATTERN CARPET

Patterned Carpet Considerations

It is imperative that all parties discuss pattern configuration, the backing system, installation method, bow, skew, and pattern variation to prevent the possibility of having a very dissatisfied customer.

Subsequent to the specification, the specifier, end user and the carpet installation contractor must all understand J&J's pattern match policy regarding tolerances for bow, skew, trueness of edge, and pattern repeat variation. All parties must agree upon the expectations of each individual relative to the pattern alignment, pattern impact on quantities and the labor cost to install the patterned carpet.

Sequence Pattern Carpet by Size

Patterned carpet should be sequenced by the pattern size not by manufacturing roll numbers; however, do not mix dye lots.

Patterned carpet is a textile product, and as such, will seldom perfectly match at the seams. The flooring contractor should (a) know what product he is installing prior to opening the carpet at the job site and (b) have the qualified personnel, equipment (power stretchers, etc.) and training to properly install the specified product to the customer's realistic expectations.

J & J Industries' patterned carpet must be installed working from the longest pattern in the dye lot to the smallest pattern:

The goal is to minimize the labor cost in bringing the pattern into register at seams. Install the longest pattern in the dye lot to the next longest pattern - continuing in this manner to the shortest pattern in the dye lot. We cannot shrink carpet. We can stretch carpet.

- A) Dry lay the entire area before gluing any carpet; this process allows for documentation of panel sizes and fine-tuning of pattern sequencing.
- B) As a minimum check, measure the pattern repeat at the open end of each roll. All measurements should be to the nearest 1/4". Example 14' 11 1/4", 14' 11 1/2", 14' 11 3/4", etc.
 - 1) Measure from an exact match point of the pattern to the corresponding match point in the length direction of the carpet. Measure the pattern nearest the carpet edge.
 - 2) Patterns with length repeat of 7/16" - 3"; count 60 patterns and record the measurement.
 - 3) Patterns with length repeat of 3.1" - 9"; count 20 patterns and record the measurement.
 - 4) Patterns with length repeat of 9.1" - 18"; count 10 patterns and record the measurement.
 - 5) Patterns with length repeat of 18.1" - 48"; count 5 patterns and record the measurement.
- C) If possible rolls 60' and longer should be checked at open end, roll center, and core end.

J&J INDUSTRIES, INC., J&J COMMERCIAL AND INVISON CARPET SYSTEMS DO NOT GUARANTEE AN EXACT OR PERFECT MATCH ON ANY OF THEIR PATTERNED QUALITIES. REASONABLE PATTERN MATCH MAY BE ATTAINED BY USING TRAINED, FCIB CERTIFIED CRAFTSMEN AND BY FOLLOWING OUR PATTERNED INSTALLATION PROCEDURES.

C. PROCEDURES FOR DIRECT GLUE-DOWN OF PATTERN CARPET

Seam Trimming Note: Do not trace cut or double cut seams of any styles having a published pattern repeat

- 1. Over Tuft and Printed Patterns: Note over tuft and printed patterns do not conform to the carpet tuft rows.**
Find the match point that is closest to the selvage edge and cut into the width to the match point - then cut 1-inch into the length. At the match point, you now have a cut shaped like an "L". Perform this trimming procedure at all match points along the entire length of both seam sides. Turn the previously cut "L's" face up. Lay a straight edge against the "L's" two at a time. Using a cushion back cutter trim between these two, reset the straight edge between two more "L's", and cut again. (For cut pile carpet, you may want to fold the carpet face down, cut through the secondary back only so as not to bevel cut the face yarn.) This procedure permits you to cut the carpet from the backside and still know where the match is.
- 2. Graphic Patterns/ Techno Weave patterns:** Select the match point far enough in from the factory edges to obtain full-face weight and good lamination of the backing system. Graphic patterns are to be row cut so that when the carpet panels are seamed together, the pattern will be completed (i.e., a diamond pattern should be seam-trimmed point to point, thus splitting the diamond into halves). Use a row finder or a cushion-back cutter with the blades retracted down the length of the selected tuft row. This procedure will open the face yarn and clear a path for easier seam trimming. By staying between the selected tuft row with the cushion-back or loop pile cutter, there will be no deviation from the selected match point as long as the selected tuft row is not crossed. Keep the blade of the seam-trimming tool close to the seam side. **Do not trace cut, or double cut pattern carpet having a published pattern repeat.**

Note: Manufacturing equipment used to tuft patterned carpets may create visible lines in both the length and width directions. This characteristic will not always be detectable in small samples and is not considered a manufacturing defect. Because of the shifting mechanism of graphics tufting equipment, there may be a variance of 1" to 3" in width after selvage edges are trimmed.

Note: Some pattern loop constructions that have no published pattern repeat may produce dark or light splotches along seams as similar colorations are aligned (seam zippering). This seam zippering condition may be substantially reduced by double cutting seams in a shallow serpentine configuration.

Pattern Alignment Tips for Direct Glue-Down Installations

1. Determine seam locations and cut sufficient lengths of carpet to cover the installation area. Be sure to allow for pattern match, plus enough extra carpet along each wall (approximately 2 to 3 inches) for trimming.
2. Sequence the cuts, count 30 patterns and compare the measurements to determine the best pattern sequence.
3. Align the breadths so the best possible match occurs. Align the rolls working from the largest pattern repeats down to the shortest patterns. Virtually the only way to achieve proper pattern match is to dry lay entire area before proceeding.
4. Align the pattern along the wall and balance the pattern within

- the room so the best effect is obtained. For instance if 1/3 of the pattern is showing on one wall, have 1/3 showing on the opposite wall.
5. Strike a chalk line on the floor the total length of the seam nearest the center of the area to be covered. Ensure that this seam line is square with the area.
 6. Align the trimmed seam edges to the chalk line. Match the pattern at the seam center.
 7. Should the pattern not match along the length of the seam it will be necessary to power stretch the short pattern seam edge into register with the long pattern seam side.
 8. Turn back the seam side with the long pattern. Apply the J & J 600 carpet floor adhesive 4 feet to 6 feet wide the full length of the seam side to the chalk line. Ensure that the trowel will supply enough floor adhesive for the required full and complete coverage of the carpet back. (Too little adhesive will not allow the carpet to be moved into alignment.)
 9. Following the correct open time, lay this first seam side into the adhesive. Stretch and adjust so that this seam edge is aligned with the chalk line.
 10. Ensure that the second seam side is matched at center of seam length. Check pattern alignment as far toward each end as the pattern matches. Mark the floor at these points.
 11. Turn back the second seam side and apply the floor adhesive 4 feet to 6 feet wide down the length of the seam to the pattern matched marks on the floor.
 12. Apply the J&J 557 carpet seam sealer toward each end in the area that is now matched.
 13. Drop in and close up the seam in the pattern matched area.
 14. Clean any carpet seam sealer from the carpet face yarn immediately with white cotton toweling moistened with soap and water.
 15. Tractor seam area, and roll the carpet both directions with the appropriate roller. You may want to stay nail carpet in place.
 16. Roll up the second seam side from both ends to the area of the applied floor adhesive.
 17. Apply the floor adhesive 4 feet to 6 feet wide down one end of the rolled up seam length about 10 feet.
 18. Apply the J&J 557 carpet seam sealer to the first seam side the same distance.
 19. Roll the carpet into the adhesive, close the seam and use a power stretcher to align the pattern.
 20. Use a dead man, made of a wooden pallet with a 3/4" piece of plywood nailed to one side of the pallet, completely covered with "C" tackles strip nailed in with all pins facing the same direction. The pallet being tiered allows for easy positioning of the dead man. The dead man may then be stretched from any angle or location. Only 2 stretcher sections will be needed. Use care when positioning the dead man. Lifting it in a slight sweeping motion toward the power stretching direction to avoid pulling out any carpet face yarn.
 21. Stay nailing may be required to hold carpet in place until adhesive sets up.
 22. Complete the seam makeup working from the seam center towards each end.
 23. Power stretch, align, check diagonals and stay nail to complete seam.

D. PROCEDURES FOR STRETCHING-IN PATTERNED CARPET

ActionBac® and ActionBac® LTP™ are the only J&J backing systems to be installed by the stretch in method.

•**NOTE:** Pattern carpet generally is most easily aligned by sequencing the rolls according to pattern size. (See Pattern Alignment Section)

Achieving pattern match on printed or graphics carpet requires substantial installation experience, labor, and expertise. Patterned carpet may be installed by the direct glue-down method. The stretch-in method provides the greatest flexibility and control when installing carpets with a pattern.

1. Determine seam locations and cut sufficient lengths of carpet to cover the installation area. Be sure to allow for pattern match, plus enough extra carpet along each wall (approximately 2 to 3 inches) for trimming.

Pattern Carpet Considerations

It is imperative that all parties discuss pattern configuration, the backing system, installation method, bow, skew, and pattern variation to prevent the possibility of having a very dissatisfied customer.

Subsequent to the specification, the specifier, end user and the carpet installation contractor must all understand J&J's pattern match policy regarding tolerances for bow, skew, and pattern repeat variation (page 18). All parties must agree upon the expectations of each individual relative to the pattern alignment, pattern impact on quantities and the labor cost to install the pattern carpet.

PATTERN ALIGNMENT

2. Sequence the cuts, count 30 patterns and compare the measurements to determine the best pattern sequence.
3. Align the breadths so the best possible match occurs. Align the rolls working from the largest pattern repeats down to the shortest patterns. Virtually the only way to achieve proper pattern match is to dry lay the entire areas before proceeding.
4. Align the pattern along the wall and balance the pattern within the room so the best effect is obtained. For instance, if 1/3 of the pattern is showing on one wall, have 1/3 showing on the opposite wall.
5. Should the pattern not match after completing the preceding steps, it will be necessary to power stretch the short pattern to the longer pattern. It is generally better to start in the center of the length of carpet and work the pattern in opposite directions until a match is obtained.
6. After the match is obtained in the center of the length of the two breadths to be joined, stay-nail across both widths. Set up the power stretcher so the head of the stretcher will be 2 or 3 feet in front or ahead of the stay-nails on the side with the short pattern. Stretch the short pattern to the long pattern until a match is obtained, and stay-nail the carpet on both sides of the seam to hold the match in place.

Reset the stretcher by moving it 2 or 3 feet and stretch until the two sides match, then stay-nail. The carpet must be stretched at 2 to 3 foot intervals. There are occasions when it will be necessary to swap sides of the seam with the stretcher. The short pattern will be long and the long pattern will become short. For this reason, it is necessary to stay-nail both sides as you power stretch.

7. Once the patterns are matched and both edges are butted together, butter both edges with J&J 557 carpet seam sealer. Take the carpet roll core and place it under the seam. The carpet core will keep the seam edges separated until the 557 dries.
8. When the sealer dries, remove the core and seam the carpet together. Allow the adhesive (hot melt or latex) to cure; then remove the stay-nails.
9. The area is now ready to power stretch. (See **Power Stretching Procedure**.)

E. PATTERN MATCH POLICY

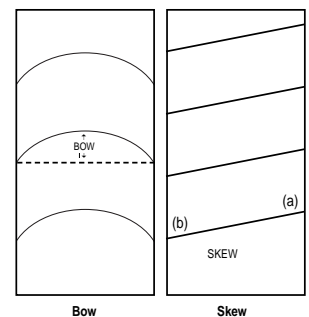
- **J&J INDUSTRIES, INC. AND INVISION CARPET SYSTEMS DO NOT GUARANTEE AN EXACT PATTERN MATCH ON ANY OF OUR PATTERNED CARPET.**

Carpet is a flexible textile material and some degree of shrinkage and/or stretch occurs during the manufacturing process. For this reason, an exact pattern match can not be assured on patterned carpet. The installation of carpet with a pattern requires more time, expense, and expertise than installing carpet with no pattern. J&J Industries, Inc. and Invision Carpet Systems recommend that our carpet be installed by F.C.I.B. certified installation contractors. A reasonable pattern match should be attainable using the J&J/Invision pattern installation procedures.

- **PATTERN BOW** - *Maximum bow is 1"*.
To measure, stretch a string across the width of the carpet from match point on one side to the corresponding match point on the opposite side. Measure the match point of the greatest separation from the string.

- **PATTERN SKEWING** - *Maximum skew is 1 3/4"*.

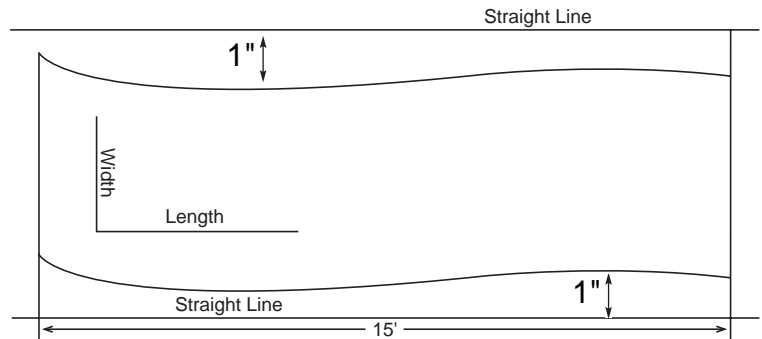
This is sometimes referred to as being on the bias. Square the carpet on one end. If the pattern on one side (a) is farther from the squared end than the pattern on the opposite side (b), then the pattern is skewed or on a bias.



- **PATTERN RUN OFF OR REPEAT VARIATION** - *Maximum lengthwise repeat variation is 2 inches in 15 feet of carpet.*

Maximum lengthwise repeat variation is 2" in 15 feet of carpet. Exactly match the sequenced carpet pattern at any point along the seam length. The pattern mismatch should be no more than 2" in 15 feet.

- **TRUENESS OF EDGE** - Maximum variation is 1" in 15' of length. This is sometimes referred to as serpentine edge. This condition is most visual along the carpet edges, but will to a lesser degree be obvious into the body of the carpet. Do not attempt to correct trueness of edge by cutting the carpet to a straight line. The carpet must be nudged or stretched back into a straight line. **STOP** - If you have any doubts about installing this carpet to meet the customer's expectations. Call J&J Industries 800-241-4586



F. PROCEDURES FOR INSTALLING TUFLOC UNITARY BACKED CARPET

Tufloc must be installed only by the direct glue down method.

The following instructions are to be used as a guide for proper direct glue-down installation of J&J's Tufloc (unitary) backing. The background information already presented concerning subfloors, moisture, priming, etc. all applies and is pertinent to Tufloc installations. Additionally, ensure that you understand and comply with all information presented in **Topic A., Preparatory Information for Adhesive Carpet Installations**, prior to beginning the installation.

ADHESIVES:

The use of J&J 600 carpet floor adhesive is recommended. Tufloc backed carpet should not be installed by the double glue down method or stretch-in over separate cushion.

TROWEL SIZE:

The minimum trowel size to be used for the Tufloc® installation is 1/8" x 1/8" spaced at 1/16". Floor conditions may require a trowel with deeper notches.

ADHESIVE APPLICATION:

The floor adhesive shall be spread uniformly over the subfloor with the correct trowel leaving adhesive ridges of sufficient size to achieve full and complete coverage of the carpet backing.

SITE CONDITIONS:

The floor temperature must be a minimum of 65°F and the humidity a maximum of 65%. These conditions must be maintained a minimum of 48 hours prior to installation and continually maintained 24 hours a day, 7 days a week and at least 72 hours following completion of the Tufloc® installation.

HANDLING:

Use only lift trucks equipped with carpet booms. Bending or folding of the Tufloc® back is not recommended. Do not horseshoe or fold the carpet.

TUFLOC® PREPARATORY INFORMATION

- Adhesive: J&J 600 carpet floor adhesive
- Adhesive Trowel Size: Minimum notch size 1/8" x 1/8" spaced 1/16". The floor adhesive shall be spread uniformly over the subfloor with the correct trowel leaving adhesive ridges of sufficient size to achieve full and complete coverage of the carpet backing. This requirement is not optional! If necessary, adjust notch size to achieve the required transfer.

GENERAL

Tufloc backed carpet is designed to meet high tuft bind requirements that are being specified for hospitals, schools and other commercial areas where hard, abusive wear is expected. In order to meet these specifications, the carpet must be installed in a different manner than carpets with conventional backs.

Two important considerations when installing Tufloc are as follows:

- (a) Tufloc is relatively nonporous, which means it will resist evaporation of chemicals and moisture, both of which are in adhesives. To overcome this resistance, use J&J 600 Carpet Floor Adhesive, or allow conventional adhesives to tack up prior to laying the carpet into the adhesive, use the tacky installation method.
- (b) Tufloc is less flexible than conventional backed carpets, especially if it is not preconditioned prior to installation. Therefore, **Tufloc must never be folded, creased, bent, bundled, or stretched as its rigidity will resist all efforts to return the carpet to its flat status.**

SEAM TRIMMING

- Loop Pile Constructions: If the carpet is a straight row, level, or multi-level loop construction, insert a row finder or the nose end of the cushion-back cutter (with the blades retracted) between tuft rows. Run it the entire length of the carpet, separating the yarn and opening a path for the cutter. Trim into the body of the carpet far enough from the factory edges to obtain full face weight and good lamination of the backing system. This distance will vary from 1 to 2 inches from the edge on straight row constructions to as much as 3 inches from the edge on some graphic constructions. Using the cushion-back cutter, trim both seam edges by cutting between the tuft rows. Cut close to the main body to obtain a tight seam by trimming with the blade close to the seam edge.

In those situations where tuft rows are not true enough to enable a loop row on one seam edge to tightly join the loop row on the opposite seam edge, an alternate seam trimming method is used.

This alternate method involves trimming the edge with the pile lying toward the seam so that a loop row is left on this edge. Slide the second breadth a minimum of 1 1/2 inches under the trimmed edge. Be sure this overlap is uniform throughout the length of the seam. Using the first trimmed edge as a guide, trace cut the second breadth

to the first seam edge. This method is to be used on both length and cross seams when the edges will not conform when row or stitch cut.

• **Graphic Constructions:** These carpets must be trimmed from the face using either a loop pile cutter (Roberts #10-152) or a cushion-back cutter. Trim into the body of the carpet far enough from the factory edges to obtain full face weight and good lamination of the backing system.

Because of the shifting mechanism of graphics tufting equipment, there may be a variance of 2" to 6" width after selvage edges are trimmed. To separate the rows, either use a cushion-back cutter with the blades retracted or a screwdriver with the blade corners rounded off, and run the instrument the length of the seam.

Always be sure the blade on the trimmer is on the seam side. This precaution is necessary to prevent trimming the width of the tool beyond the tuft row, thus causing the backing to protrude this distance beyond the face yarn. Overlap the seam edges 1/16" for the compression seam set up.

INSTALLATION (Read all instructions below prior to proceeding.)

1. Start with the seam nearest the center of the area. Mark the floor on both ends of the seam.
2. Stretch a white chalk line from the previously marked spot on each end of the floor where the seam will be and snap a line. Align the seam edges to this chalk line. Turn back both carpet panels from the chalk line. Measure 6 feet on either side of this seam line and snap another chalk line.
3. Spread the J&J 600 carpet floor adhesive between the last two chalk lines (12 ft. x length of the seam). If you are not using the J&J 600 carpet floor adhesive, allow the adhesive sufficient open time to provide green grab (light adhesion to the floor). Do not let the adhesive skin over. Use the tacky wet installation method. Open time will vary depending upon environmental conditions, generally 20 minutes but not to exceed one hour when using conventional adhesives.
4. Lay the first carpet panel into the adhesive. Apply a 1/8 inch continuous bead of J&J 557 carpet seam sealer along the trimmed seam edge without interruption at the point the face yarn enters the back.
5. Lay the joining breadth into the tacky adhesive and make the seam. The previous compression seam set up will ensure the two edges are well butted together so the seam sealer from the first edge will transfer to the second edge to weld the seam and prevent fraying.
6. Roll the carpet with a 75 to 100 pound roller to achieve full and complete coverage of the carpet back (while still maintaining complete adhesive floor coverage).
7. Check the next seam for alignment. Start with step #1 and repeat the steps until all the carpet is adhered to the floor.

CAUTION:

~Carpet should not be subjected to traffic for at least 24 hours after the completion of the installation.

~Do not wet clean any direct glue-down carpet until the installation has been completed for thirty (30) days.

~Do not cover a direct glue down installation with a moisture

barrier protection such as plastic, as it will cause buckling and possible mildewing by "trapping" moisture in the adhesive. Protect the installation with a nonstaining building paper similar to Bane-Clene® Traffic Lane Paper 800-428-9512. ~Flooding voids manufacturer's warranties.

G. PROCEDURES FOR INSTALLING ENDURE®

Endure is to be installed only by the direct glue down method.

The following instructions are to be used as a guide for proper direct glue-down installation of J&J's Endure® backing featuring The Enhancer® Polyurethane carpet cushion. The background information already presented in **Section II** concerning subfloors, moisture, priming, etc. all applies and is pertinent to Endure® installations. Additionally, ensure that you understand and comply with all information presented in **Topic A., Preparatory Information for Adhesive Carpet Installations.**

Read all instructions below prior to beginning installation.

ADHESIVES

J&J 600 carpet floor adhesive, and 557 carpet seam sealer.

TROWEL SIZE:

The minimum trowel size to be used for the Endure® installation is 1/8" x 1/8" spaced at 1/16". Floor conditions may require a trowel with deeper notches.

ADHESIVE APPLICATION:

The floor adhesive shall be spread uniformly over the subfloor with the correct trowel leaving adhesive ridges of sufficient size to achieve full and complete coverage of the carpet backing.

SITE CONDITIONS:

The floor temperature must be a minimum of 65°F and the humidity a maximum of 65%. These conditions must be maintained a minimum of 48 hours prior to installation and continually maintained 24 hours a day, 7 days a week and at least 72 hours following completion of the Endure® installation.

HANDLING:

Use only lift trucks equipped with carpet booms. Bending or folding is not recommended.

ENDURE® PREPARATORY INFORMATION

• Adhesives: J&J 600 Carpet Floor Adhesive, 557 Carpet Seam Sealer

• Adhesive Trowel Size: Minimum notch size 1/8" x 1/8" spaced 1/16". The floor adhesive shall be spread uniformly over the subfloor with the correct trowel leaving adhesive ridges of sufficient size to achieve full and complete coverage of the carpet backing. This requirement is not optional! If necessary, adjust notch size to achieve the required transfer.

INSTALLATION OF 12 FOOT ENDURE®

1. Dry lay the area to be carpeted, checking against the available roll lengths and dye lot numbers to avoid extra cross

seaming. If using more than one dye lot, record the exact seam location where the dye lot change will occur to minimize possible color differences. Take into consideration all support columns, entrance areas, and other obstructions to attain the best carpet layout.

2. Then select a starting point near the center of the area. Strike a white chalk line on the floor to mark the first seam location. Be sure this first seam is parallel to the outer walls.
3. Check the carpet for direction of pile lay, being careful to keep all the carpet pile laying in the same direction.
4. Cut two lengths of carpet allowing about 1 1/2 inches to run up the walls for future trimming, and position the lengths of carpet side by side along the chalk line with the pile lay of both in the same direction.
5. Perform seam trimming operations as described in **Topic A., Preparatory Information for Adhesive Carpet Installations.**
6. Move the first length of carpet up to the starting chalk line and stay-nail along its center line, parallel to the seam. During this procedure, work out any wrinkles allowing the carpet to lie smoothly on the floor. Stay-nail at approximately 12 to 18 inch intervals following the center line of the carpet along its entire length. Make sure the carpet does not shift from the chalk line. Drive the nails into the floor just far enough (approximately 1/8 inch) to hold the carpet in place. Use the strip of carpet that was trimmed from the width as a “marker” and stay-tack through it. In this manner, the stay-nails will be clearly visible, and none will be lost in the carpet as the installation proceeds.
7. Now check the yarn alignment of the second cut against that of the first and decide whether the yarn will align properly to produce a tight seam. When the tuft rows are slightly serpentine, trim one seam edge, then slide the second seam edge a minimum of 1 1/2 inches under the first trimmed edge. Using the first edge as a guide, trace cut the second seam side so that it conforms to the first trimmed seam edge. The first trimmed edge must be the edge (breadth) that has the face yarn pile lay in the width direction, laying into the seam. If this cut is reversed, the second traced cut seam edge will be bevel cut.
8. Then position the second length ensuring that both lengths of carpet lie perfectly flat and tension-free.
9. Stay-nail the second length as in step #6 so that it tightly joins the first length. A maximum overlap of 1/16 inch will produce ample seam compression and allow the absorption of the excess carpet in a compressed seam set-up.
10. Now check to see that both breadths of carpet are the same height at the seam. Variations can be detected in the Endure® back by looking into the end or side of a cut of carpet. Such variations in the backing, if any, will generally be in the outer edge of the breadth—the last few inches near the factory edge. When a variation in height exists at the seam, shim up the low breadth of carpet.
Gauge Control: J&J's Endure® back is manufactured with outstanding gauge control with a tolerance of plus or minus

.015 inch. Minor gauge variations are inevitable and it is expected that the installation contractor will shim as required to ensure levelness at seams.

11. Carefully fold back both lengths toward stay-nails. Carpet may become torn or ripped if pulled against stay-nails.
12. The exposed floor between the folded cut should be swept and vacuumed, if necessary.
13. When installations are on very dry concrete, it is recommended that a mixture of one tablespoon of household ammonia in a bucket of water be used to damp mop the floor. (Be certain to remove all puddles or excess moisture.) For relatively non-porous surfaces such as epoxy-terrazzo, vinyl, or steel, it is important to allow sufficient time for the adhesive to become tacky before applying carpet.
14. With a notched trowel (minimum notch size of 1/8 inch x 1/8 inch spaced at 1/16 inch), spread the J&J 600 carpet floor adhesive evenly and without interruption using a sweeping semi-circular motion. Apply the floor adhesive using as many craftsmen as necessary to ensure uniform adhesive open time the length of the seam area. Spread the adhesive in a straight line at the folds so that there are no scalloped edges to spread to when the uncemented portion is turned back. The notches of the trowel must be kept clean and periodically renotched as required. Full and complete adhesive coverage of the Endure® backing is required (while still maintaining complete adhesive floor coverage).
15. After the adhesive is allowed sufficient open time to provide green grab (light adhesion to the floor). Do not let the adhesive skin over. Use the tacky wet installation method, lay the folded edge of the first cut into the adhesive. To do this, the installers should position themselves at intervals along the entire length of the fold, grasp the folded edge, lift it up, and walk towards the seam. The installer in the middle of the roll walks ahead thus forming a wedge. Cardboard carpet roll cores cut into 2 foot lengths can be used for pressing the carpet into place.
16. Using a seam sealer squeeze bottle equipped with a cushion back tip carefully apply the seam sealer to the trimmed seam edge. Apply the seam sealer in a continuous 1/8 inch bead at the point where the face yarn enters the Endure® cushion backing.
17. Next, grasp the folded edge of the second breadth and place it over the adhesive as in step #15 with the exception that this flap should be “walked in” evenly rather than using the wedge method. “Walk in” all but 1 foot of the second breadth and fold this amount back again.
18. The installers should now step onto cut #1, face cut #2 and holding thumbs up, grasp the 1 foot fold of cut #2 and place it into the adhesive approximately 1/4 inch from the edge of cut #1. Slide this edge until it tightly abuts the edge of cut #1. Do not let the seam peak.
19. The previous compression seam set up will ensure that the seam adhesive on the edge of the first length will transfer to the seam edge of the second length to weld the seam and prevent fraying. In case of slight peaks or gaps, a knee-kicker may be needed to move the carpet *slightly* to obtain

a closed and even seam. Brush or roll any looseness and trapped air bubbles away from the seam with a light roller or a 2 foot section of carpet cardboard roll core. This complete procedure must be done before the adhesive sets up. Tractor every seam area.

20. If there is a slight variation in carpet pile height, do the following: One installer works the seam in while a second installer follows the first with an awl. By inserting the awl into the carpet width that is low, the second installer lifts that section of carpet up to maintain an even pile height between the two widths. By this time the seam sealer will be tacky enough to weld the Endure® backs together at a level pile height.
21. Turn the unglued portion of the first length of carpet back toward the seam. Spread adhesive for a 6 foot width along the entire length. Lay the carpet onto the adhesive. Brush or roll out looseness and trapped air toward the wall, i.e., away from the seam.
22. Cut the next and continuing lengths of carpet and position each. Repeat the above procedure to complete the installation.
23. While the adhesive is still tacky, the carpet must be pressed down into the adhesive along the walls. As each length is installed, trim and fit at end walls and around jogs, pillars, etc., using the Roberts 10-905 wall trimmer and Roberts 10-440 hooked blades. The carpet can now be rolled. All Endure® backed carpet should be rolled with a 35 to 75 pound roller, or a 2 foot section of a carpet core can be used to press the backing into the adhesive.
24. If cross seaming is necessary, follow the procedures outlined in the next subtopic entitled **Cross Seaming**. Do not attempt to double-cut Endure® backed carpet.
25. The exposed edges should always be protected either by a suitable vinyl or metal edge. The vinyl edge can be fastened to the floor by contact cement or a similar material. The metal can be fastened with concrete nails or other appropriate fastening devices.
26. Wet J&J 600 carpet floor adhesive or J&J 557 carpet seam sealer can be removed by using soap and water applied with a clean, white cotton cloth using a blotting action. Do not pour the water directly onto the surface of the carpet or the carpet will become saturated.
27. The removal of "air bubbles" under previously installed carpet can be quickly accomplished by the use of a large needle and syringe. Puncture the bubble and extract the air. To re-cement the loose area, use a well stirred portion of J&J 600 carpet floor adhesive. After filling the syringe half full with the adhesive, inject the adhesive under the carpet and press the carpet down.

CAUTION:

~Carpet should not be subjected to traffic for at least 24 hours after the completion of the installation.

~Do not wet clean any direct glue-down carpet until the installation has been completed for thirty (30) days.

~Do not cover a direct glue-down installation with a moisture

barrier protection such as plastic, as it will cause buckling and possible mildewing by “trapping” moisture in the adhesive. Protect the installation with a nonstaining building paper similar to Bane-Clene® Traffic Lane Paper 800-428-9512. ~Flooding voids manufacturer’s warranties.

NOTE: Prior to beginning a stretch-in installation, the installer must be familiar with the information presented in the **Introduction on page 2.**

ActionBac® and ActionBac® LTP™ are the only J&J Industries backing systems to be installed by the stretch-in method. This section contains information on proper preparatory and installation techniques for installing ActionBac® backed carpet via the stretch-in method. These instructions are for the installer who is a qualified professional. Carefully read all instructions prior to beginning the installation, and ensure all proper tools and materials are readily available.

This section is structured as follows:

- A. Preparatory Information for Stretch-In Installations
 - 1. Floor Preparation
 - 2. Tackless Strip and Carpet Moldings
 - 3. Separate Cushion Specifications
 - 4. Stretching Considerations
- B. Installation Procedures
 - 1. Prior to Installation
 - 2. Tackless Strip and Separate Cushion Installation
 - 3. Recommended Seaming Materials
 - 4. Seam Preparation
 - 5. Seam Trimming
 - 6. Hot Melt Tape Seaming Procedures
 - 7. Power Stretching Procedures
- C. Procedures for Stretching-In Patterned Carpet
 - 1. Procedures
 - 2. J&J’s Pattern Match Policy

A. PREPARATORY INFORMATION FOR STRETCH-IN INSTALLATIONS

FLOOR PREPARATION

- (a) Fill all floor cracks or gaps over 1/4" wide with a latex base underlayment.
- (b) Fill and level all low or shallow places with a latex base underlayment.
- (c) Level all high spots or ridges to prevent excessive carpet wear.
- (d) Sweep the area clean.
- (e) Floor temperature must be a minimum of 65°F and relative humidity a maximum of 65% for at least 48 hours prior to installation. Additionally, these conditions should be constantly maintained both during and after installation.

TACKLESS STRIP AND CARPET MOLDINGS

Carpet installed over a separate cushion will use a tackless strip of water-resistant plywood with two rows of rust-resistant angular pins. The pins will be of sufficient length to penetrate through the carpet backing, but not so long as to be seen from the surface or to be

Stretch-In Installations

a safety hazard. The thickness of the tackless strip will be the minimum suitable for the thickness of the cushion specified; yet, under no circumstances will the dimensions of the tackless strip be less than 1/4 inch thick and 1 inch wide. For large areas subjected to heavy traffic, or when any dimension exceeds 30' use a tackless strip with three rows of pins. (Architectural Strip) Install the tackless strip using one of the following methods:

- (a) Pre-nail for wood or concrete floors.
- (b) Adhere with a quality adhesive as recommended by the tackless strip manufacturer.
- (c) Drill and pin by driving square aluminum pins into round holes to form a permanent anchor on an approximately 6-inch center.

Securely fasten the carpet to the tackless strip so that all the pins have penetrated the carpet backing and will hold the carpet stretch. Secure all raw cut edges behind the tackless strip so that no frayed ends or edges show.

Carpet moldings must be specified prior to installation. All carpet moldings will be anchored using the same methods described for installing tackless strips. Carpet moldings used to finish carpet edges in doorways, etc., must be marked on shop drawings and approved by the owner's representative prior to installation.

SEPARATE CUSHION SPECIFICATIONS

The cushion should be specified with a scrim, fabric, or film cover. This cover provides a skidable surface so that the cushion will remain in place as the carpet is shifted during installation. This cover also provides sufficient reinforcement to stop the staples from pulling through the cushion. Generally speaking, a carpet cushion which has some "give", yet is still firm, is preferable. A cushion with excessive vertical flexing can produce a loose or wrinkled carpet, split seams, delamination of the secondary backing, foot and leg fatigue, and accelerated wear out.

Minimum recommended criteria for satisfactory carpet cushion performance in commercial installations for Class I, Moderate Traffic; Class II, Heavy Traffic; and Class III, Extra Heavy Traffic are as follows:

FIBER:	CUSHION TYPE:
1. Rubberized Hair	Wt. 50 oz.; Th. .375" - 5% min.; D 11.1 pcf
2. Rubberized Jute	Wt. 40 oz.; Th. .34" - 5% min.; D 11.1 pcf
3. Synthetic Fiber	Wt. 36 oz.; Th. .35" - 5% min.; D 8.0 pcf
4. Resinated Recycled Textile Fiber	Wt. 38 oz.; Th. .375" - 5% min.; D 8.0 pcf
RUBBER:	CUSHION TYPE:
1. Flat Sponge	Wt. 62 oz.; Th. .150" - CR@25%=4.0 psi min; D 26 pcf
2. Textured Flat Sponge	Wt. 80 oz.; Th. .250" - CR@25%=1.75 psi min; D 26 pcf
3. Reinforced Rubber	Wt. 54 oz.; Th. .200" - CR@25%=2.0 psi min; D 22 pcf
POLYURETHANE:	CUSHION TYPE:
1. Grafted Prime	D 14 pcf - 5% min.; Th. 0.25 - 5% min.; CLD 25% 130 lb.
2. Densified Prime Polyurethane	D 14 pcf - 5% min.; Th. 0.25 - 5% min.; CLD 65% 7.0 psi
3. Bonded	D 14 pcf - 5% min.; Th. 0.25 - 5% min.; CLD 65% 36.2 psi; Particle size 1/2" max. Polyester foam content 50% max.
4. Mechanically Frothed Polyurethane	D 19 pcf; Th. .183"; CFD 65% 30.5 psi

• *J&J Industries will not honor any claims relating to seam splitting, edge raveling, buckling, or accelerated wear for separate cushion installations not complying with the cushion specifications depicted in this manual.*

STRETCHING CONSIDERATIONS

ActionBac® and ActionBac® LTP™ require 1.0% to 1.5% (1 to 1 1/2 inches) of stretch per 10 feet of carpet in both the length and width. Stretch-in installations will be accomplished by using power stretchers and other devices as necessary to properly stretch the carpet.

B. INSTALLATION PROCEDURES

PRIOR TO INSTALLATION

Before actual installation begins, check the following list to insure compliance with every detail:

- (a) Carpet transported to the job site in rolls free of any wrinkles or creases. DO NOT BUNDLE! Bundling will cause creases and wrinkles which may prove difficult to remove during installation. If loose bundling or bending is absolutely necessary to transport the carpet to the installation site, unroll the carpet as soon as it is delivered.
- (b) Floors properly prepared.
- (c) Building and carpet preconditioned for 48 hours prior to installation at a constant temperature and relative humidity between 65° to 90°F and 35% to 65%, respectively.
- (d) Carpet laid out according to specifications.
- (e) Shop drawing/plan prepared for the area to be carpeted.
- (f) Plan checked against the available roll lengths and dye lot numbers to keep cross seaming to a minimum. If using more than one dye lot, plan the exact seam location where the dye lot change will occur to minimize possible color differences. This transition point must be recorded on the shop drawing.
- (g) Plan seam locations so that no perpendicular seams will occur at doorways or entries. All doorway seams should be centered directly under the door.
- (h) Seams should run with the flow of traffic. The only exception occurs when windows allow incoming daylight to highlight seams from the side. In this situation, run the seams into the daylight to reduce the visibility of the seam.
- (i) All seams trimmed.
- (j) Pile running in the same direction.
- (k) All necessary installation equipment available.
- (l) Enough manpower available to professionally complete the installation.

TACKLESS STRIP AND SEPARATE CUSHION INSTALLATION

•**Tackless Strip:** Fasten the tackless strip to the floor, leaving a gully or tuck-in space equivalent to about 2/3 of the carpet thickness but not to exceed 3/8 inch. A commercial-rated tackless strip three rows of pins must be used when dimensions exceed 30 feet or in areas designated for Extra Heavy Commercial Traffic.

•**Separate Cushion:** Install cushion in the largest possible lengths using the minimum number of sections. If a foam or sponge cushion is used, all seams must be taped using a minimum 2-inch wide industrial tape. Paper tape is not recommended. A slight stretch must be applied to the cushion to flatten and free it from bubbles and wrinkles. Cushion seams are to be positioned so the carpet seams will not fall directly on them. The cushion is to be trimmed flush to the inside edge of the tackless strip. For wood subfloors, the cushion must be stapled; random staple through the tape so as not to leave a depressed strip along the seam. On concrete floors, the cushion must be securely adhered to the subfloor with a good quality cushion cement to prevent shifting and buckling.

RECOMMENDED SEAMING MATERIALS

- Hot Melt Seaming Tapes
 - Orcon Corporation
 - Orcon Super 3 Hot Melt Carpet Seaming Tape
 - Orcon 3S Wide
 - Seam Masters Industries
 - Wide Track 3" Seaming Tape
 - Level 6 Peakless Seaming Tape
 - Roberts Consolidated Industries
 - 50-11T Heat-Bond Tape
 - 50-500 Heat-Bond Tape
- Double Glue Down Seaming Tapes
 - Orcon CT-7 D.S. (Double Stick)
 - Seam Master D.S.P.S. (Double Stick Pressure Sensitive)
 - Roberts 50-325 (Double Bond)
- Seam Adhesives
 - J&J 557 Carpet Seam Adhesive
 - Orcon Fast Lock Applicator
 - Roberts 0502 Latex Carpet Seam Adhesive

SEAM PREPARATION

All required seams will be sewn, latexed and taped, or hot melt seamed. Seams should have a breaking strength of not less than 100 pounds, and all seam tape should have a minimum width of 3 inches and be of good quality. When stretched, some carpet constructions tend to promote seam peaking; such peaking tendencies can often be minimized by using a 6-inch wide seam tape, (i.e., Level 6 by Seam Master Industries). Prior to the seaming operation, all seam edges must be sealed with carpet seam adhesive to prevent edge delamination and loss of face yarn. Seams will lie flat and will not pucker. Matched seams will be straight and patterns will match in every respect.

Recommended seaming methods in order of priority are the hot melt method, the latex and tape method, and lastly, the handsewn method. The hot melt tape seaming method is covered in detail in a later paragraph. If using the latex and tape method, only slight modifications from the basic hot melt tape method are required. Handsewn seams will be sewn with a suitable carpet thread such as linen 18. Stitch rate should be no less than three stitches per inch with a 1/2 inch to 5/8 inch depth from the edge. All back stitchings should be ironed flat and coated with a suitable latex adhesive.

SEAM TRIMMING (Read all instructions below prior to beginning seam trimming.)

Cut the desired lengths of carpet and position them side by side ensuring uniformity of pile lay. If the carpet is patterned, allow for pattern match. Trim into the body of the carpet far enough from the factory edges to obtain full face weight and good lamination of the backing system. This distance will vary from 1 to 2 inches on straight row constructions to as much as 6 inches on some graphic constructions.

On all seams, length or cross, bead both edges with a good quality natural latex adhesive before joining. This step must be followed and is not optional. Bead at the base of the pile where the face yarn enters

the primary backing. Press the latex into the seam edge with your thumb, ensuring that there is no build-up of excess latex to prevent the two seam edges from joining tightly together.

•**Length Seaming Loop Pile Constructions:** If the carpet is a straight row, level, or multi-level loop construction, insert a screwdriver or the nose end of a face cutter (with the blade retracted) between tuft rows. Run it the entire length of the carpet, separating the yarn and opening a path for the cutter. Trim into the body of the carpet far enough from the factory edges to obtain full face weight and good lamination of the backing system. Using a loop pile cutter, trim both seam edges by cutting between the tuft rows. Cut close to the main body to obtain a tight seam by trimming with the blade close to the seam edge.

Non-pattern carpet only: When the rows are not straight enough to produce a good tight seam, trim one seam edge between tuft rows; then slide the second seam edge 1 1/2 inches under the first trimmed edge. Using the first edge as a guide, trace cut the second edge with a cushion-back cutter.

•**Length Seaming Cut Pile Construction:** Cut pile carpet is sheared in the final stages of manufacturing. The only thing keeping the cut pile yarn in an erect position is the yarn tuft beside it. Along the factory edge, the face yarn naturally lies to the outside (no support side). To obtain a uniform pile height on both seam sides, it is always necessary to trim in further on cut piles than on level loops. Depending upon pile height, this distance will range from 1 inch to 1 1/2 inches into the body of the carpet.

•**Cross Seaming:** *Cross seams should be made before making the lengthwise seams.* Cross seams should be kept to a minimum and placed appropriately so that they are not in heavily-trafficked areas. Well-made cross seams are as serviceable as well-made length seams; however, because of the construction direction of the carpet pile, cross seams will be more noticeable. Insure that the direction of the pile is the same for all pieces and lay each piece into position allowing a minimum of 2 inches overlap at the seam area and 1 1/2 inches for trimming at walls.

If the stitch rows across the width of the carpet are reasonably straight, do the following:

- (a) Trim both edges to be seamed from the face using a cushion-back cutter. Trim the edge with the pile sweeping toward the seam first. Follow carefully between the stitch rows keeping the blade close to the seam edge of the carpet.
- (b) Then trim the adjacent edge in the same manner.
- (c) Lock in all face yarn by buttering both edges with J&J 557 carpet seam sealer before joining. Bead at the base of the pile, where the stitch enters the primary backing. Press the sealer into the seam edge with your thumb, ensuring that there is no build-up of excess sealer to prevent the two seam edges from joining tightly together.
- (d) Stretch and stay-nail in place as for length seams; then proceed with hot melt tape seaming.

If the stitch rows are not straight enough, an alternate method for cross seaming is as follows:

- (a) Trim the edge with the pile sweeping toward the seam edge first, following carefully between the stitch rows.
- (b) Overlap this edge by about 1 1/2 inches onto the edge of the second section of the carpet to be seamed.
- (c) Trace cut to fit the second section to the first, a cushion

back cutter must be used to prevent bevel cutting. Do not cut into the carpet cushion.

(d) Butter edges and proceed with hot melt seaming.

This alternate method will show a slight pattern variation at the seam, which is a characteristic of this style of carpet. This method should be used on both length and cross seams when edges are slightly serpentine.

HOT MELT TAPE SEAMING PROCEDURE

Installers must have prior hot melt tape seaming experience. If proper techniques are not used, the seam will be a failure. It is very important to ensure that the seaming iron is equipped with a heat shield to avoid the possibility of damaging the backing and the face yarns. The installer must use the proper seam cutting tools to obtain a precision cut edge for seaming. Do not double-cut edges for seaming. Prior to beginning the hot melt tape seaming procedures, the installer should have installed the tackless strip and the separate cushion, as well as completed seam trimming operations. Read all instructions prior to proceeding.

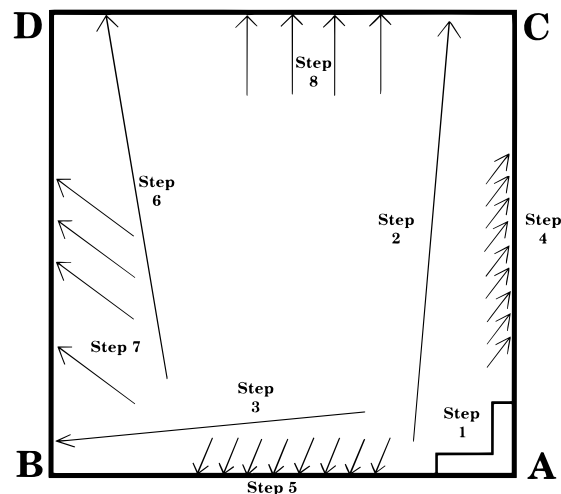
1. Set up seaming so all seams are made in the direction of the pile lay.
2. Stretch the carpet lengthwise at both seam edges and stay-tack to hold the tension. Place the thermoplastic tape so that it is centered under the seam's edges. Align and stay-nail the seam edges to straighten any bowing that may be present. Any buckles formed by this procedure can be stretched-out after the seam is completed.
3. On all seams, length or cross, butter both cut edges at the proper height with a good quality seam adhesive to prevent raveling or fraying.
4. Move the lengths of carpet into position, slightly overlapping them by 1/32 inch at the seam area. Do not hook on pins at the seam, but leave the seam area open by 6 inches on each side. On each side of the seam at each end, hook the carpet lengths on pins for about 12 inches and stretch lengthwise to remove buckles and slackness.
5. Center the hot melt seam tape under the carpet seam edges. Set the heat regulator on the seaming iron at the lowest possible temperature that will still give full adhesive melt. The temperature control on seaming irons is often far from precise. To eliminate temperature deviations, either determine the proper temperature setting in the shop, or test the iron on a small piece of the carpet to be installed.
6. Place the hot melt iron with heat shield attached under the carpet and on the tape. Move the iron slowly and continuously in the direction of the pile lay at approximately 2 feet per minute. To obtain a level and tight seam, adjust and position the carpet seam directly behind the iron; this procedure must be done before the hot melt adhesive begins to cool.
7. To press the carpet into the adhesive, use a 1 inch x 6 inch board approximately 18 inches long to follow the iron and flatten the seam. This board may be weighted or knelt upon as the seaming work progresses. Avoid placing any localized pressure on the seam until the seam is completely cool. A common installer mistake may occur by pressing the

hot seam with the foot or dragging a toolbox over the seamed area while the face yarns are still warm, thus causing pile depression and shading.

8. Trim loose yarns from the seam and remove the stay-tacks.
9. Cut, trim, and seam the additional lengths needed for the installation.

• **Seam Peaking:** A correctly prepared hot melt tape seam will be flat and will not peak. Physics dictates that every taped seam will peak to some degree once power stretching is applied across the seam. This peaking has nothing to do with either the quality of the carpet or the quality of the installation. The use of 6-inch seaming tape or thermoplastic seam sealers will minimize any seam peaking complaints. Additionally, seams on level loops are more visible than on cut pile constructions, and heavier carpets will usually peak more than lighter weight carpets. Stretch the carpet tighter in the direction parallel to the seam. A lighter stretch across the seam will help in reducing seam peaking.
THE USE OF POWER STRETCHERS IS MANDATORY

POWER STRETCHING PROCEDURE



(Please refer to the chart above. Read all instructions below prior to power stretching.)

1. Hook 18 inches of carpet in one corner along two walls AB and AC.
2. Using a power stretcher, stretch the carpet along wall AC. Hook the carpet onto the tackless strip at the opposite wall near Corner C. *Stretch Uniformly.* Stretch enough to achieve a firm, tight installation. This generally requires between 1 to 1 1/2 inches of stretch for every 10 feet of carpet. Uniform stretching at proper stretch levels can be estimated by chalking a white line across the carpet at the wall to which the carpet is being stretched. Measure (or estimate) the amount the carpet rides up the wall during stretching.
3. Stretch from the original corner A along wall AB and hook onto the tackless strip along wall BD at corner B. Now the carpet has been stretched along walls AB and AC and hooked in at corners A, B, and C.
4. Set in wall AC with a knee kicker at a slight angle (10° to 15°).

5. Next, set in AB in the same manner. **Note:** it is generally easier to stretch carpet in the filling direction, so this should be done first. This also gives a tighter installation.
6. Stretch from wall AB along wall BD and temporarily hook to wall CD at corner D.
7. Starting from corner B, power stretch from wall AC to wall BD at a 15° angle to AC and hook in. As you approach corner D, restretch and hook.
8. Power stretch carpet from wall AB to wall CD at a right angle, starting at corner C.

Be sure to power stretch all areas regardless of their size in both the width and length directions. In large areas it may be necessary to stay-nail the middle of the length and stretch toward one end, and then repeat on the other half so that a uniform stretch through the whole length is achieved. ActionBac® and ActionBac® LTP™ must be stretched from 1 to 1.5 percent and is more difficult to stretch than jute, especially under cold, dry conditions. If sufficient stretch is not applied, then restretching may be necessary when the temperature or humidity increases.

CAUTION:

~Flooding voids manufacturer's warranties.

C. STEP AREAS (Stairs)

Auditoriums - Altars - Teaching Wells - Stairs

All stair nosings to receive carpet should have a minimum radius of 3/4". This minimum curvature is necessary for all installation systems to prevent sharp stair edges from cutting the carpet and/or cushion, and to provide full contact of the carpet back in adhesive installations.

A. Carpet Direction

1. The carpet machine direction should run the length of the stair.
2. The pile lay up the stair makes a safer stair.

B. Direct Glue Down - Stair With A Return Nosing

1. Each step is two (2) separate pieces of carpet, one piece for the tread and one piece for the riser. The carpet for the tread is measured the stair width by tread length measured from riser across tread over and under stair nosing back to riser below. The riser portion is measured the stair width by the riser height.

C. Two Adhesive Systems

System #1

Commercialon® floor adhesives as contact adhesive.

1. Trowel adhesive onto the stair, work from the top to bottom of stair. Use a 1/8" x 1/8" notch spaced at 1/16".
Barricade top & bottom of stair to exclude traffic.
2. Trowel Commercialon® floor adhesive onto back of carpet.
3. Allow adhesive on stair and carpet to dry until it does not transfer when touched. This may require 8 hours or more.

4. Install stair working from bottom to top. First install the carpet cut for the tread. Using a carpet seam roller ensure that the carpet is fully contacted, especially on the under side of the nosing return.
5. Place the carpet cut for the first riser into the adhesive of the first riser under the previously installed stair tread. Roll riser section.
6. (a) Install second step tread.
(b) Install second step riser.
7. Complete stair working from bottom to top of stair.

System #II

Carpet Floor Adhesive In Conjunction With Contact Adhesive

1. Cut carpet tread and riser per B #1.
2. Apply nonflammable contact adhesive to stair nosing so that 2 inches of adhesive is on the step portion with a continuous application back under the stair nosing return to the riser below. Next apply the contact adhesive to the adjoining bonding area of the carpet back on the precut tread carpet. Allow adhesive to dry. There is enough contact adhesive if the adhesive area on both surfaces have a glossy finish when dry.
3. Apply J&J 600 carpet floor adhesive to the balance of the tread with a trowel that will supply enough adhesive for the required full and complete coverage of the carpet back.
Trowel floor adhesive onto riser portion of stair. After adhesive has sufficiently tacked, install the tread portion first. Then install the riser portion. Thoroughly roll the tread and riser.
4. Complete the stair installing from the bottom of stair to top.

* **NOTE: If the stair is not enclosed, bind or serge any open sides of the stair prior to installation.**

D. Direct Glue Down Waterfall Stair

1. Each step is one piece of carpet. The stair is installed from the bottom to top.
2. Each step is cut stair width by length of step as measured from the stair riser over tread, nosing, and riser to tread below.
3. Bind or serge any open stair sides.
4. Install stair using either of the two previously described adhesive systems section C and D.

E. Separate Cushion Stretch - In

- Cushion
 1. Carpet folded under one side, both sides, or cut net determines cushion width. Cut cushion 1 1/2" short at each folded side.
 2. Cut cushion 1/4" short of wall if carpet is to be cut net to wall.
 3. Install cushion net to tackless strip on tread and riser.

- Tackless Strip
 1. The tackless strip length is determined by carpet edge finish. Cut tackless strip into lengths the same width of the carpet cushion.
 2. Tackless strip is securely anchored on both the tread and riser portion of the stair.
 3. The tackless strip is installed on the riser with the pins pointed toward the tread.
 4. The tackless strip is installed on the tread with the pins pointed toward the riser.
 5. The gully between the leading edges of the tackless strip in the stair crotch should be slightly less than double the carpet thickness.
 6. The stair width and/or the carpet construction may require tackless strip installation at one or both sides of the stair tread.

- Carpet Installation
 1. Run the carpet machine direction the length of the stair.
 2. Turn under any carpet edges to be folded.
 3. Unroll the carpet onto the stair.
 4. Align the carpet along the stair length working from the bottom to the top.
 5. Secure the carpet to the bottom riser at the floor line via tackless strip or tacking.
 6. Using a knee kicker, stretch the first step carpet into the first crotch. Stretch first to the stair center, and finally toward each side.
 7. Drive the carpet into the crotch of the stair using a stair tool and Rubber Mallet.
 8. The folded edges may require a tack into the crotch.
 9. Complete the stair working from the bottom to the top.

- Stretching Via Stair Stretcher
 1. Secure the carpet into the crotch at the top of the stair.
 2. Stretching from the top riser center, stretch the carpet with the stair stretcher over the stair nosing and hook into the crotch below.
 3. Stretch and hook the right and left sides of the step.
 4. Using a stair tool and mallet, drive the carpet into the stair crotch.
 5. Complete the stair working from the top to the bottom.

D. PROTECTION OF THE INSTALLATION

Traffic over adhesive installation should be restricted for a minimum of 24 hours.

Plastic sheeting should not be placed over any carpet installation. Any vapor barrier material may trap moisture, retard adhesive cure, and promote mold and mildew growth.

Plastic films utilizing adhesives should be used with caution. Adhesive residue may transfer to the carpet surface resulting in rapid

soiling. Check with the manufacturer of these protective films for warranty information regarding adhesive transfer and removal.

Anytime heavy items are to be rolled over the carpet, protect the installation using sheets of plywood or hardboard in these areas.

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