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Cushion Guidelines for Double Glue Installation of Commercial Carpet

The double-glue method is an excellent approach to installing cushioned carpet in the commercial setting. The process involves adhering the cushion to the floor, followed by adhering the carpet to the cushion. In both steps, manufacturer-defined adhesives are used, many of which are similar or identical to those used in the installation of direct-glue commercial carpet. This method allows for a choice of carpet and cushion to accommodate various end-use requirements and space configurations, while obtaining the usual benefits from cushion in improved comfort, appearance retention and wear-life, sound control and better vacuumability.

Carpet installation should be performed by professional installers with specific training in commercial double-glue installations. Certified installers can be found through the Floor Covering Installation Contractors Association or through Certified Floorcovering Installers.

CUSHION CHOICE

The starting point in commercial applications is choosing an appropriate carpet cushion for a particular application. Many cushion manufacturers offer several products designed for double-glue installation. These recommended cushions may have an increased density, special surface preparation or other appropriately engineered features to meet the needs of demanding commercial applications. You should speak with your chosen carpet cushion suppliers about their double-glue products and become familiar with the particular installation instructions they recommend. These guidelines are an overview of the methods and knowledge needed for successful installations.

There is no substitute for good communication between users, certified installers and carpet, adhesive and cushion suppliers to ensure the lasting benefits of double-glue installation in your facility.

PRE-INSTALLATION CONSIDERATIONS

Regardless of whether a concrete slab is new or aged, the potential for installation performance problems exists if excess moisture or alkalinity is present, causing degradation of the adhesive. When installing over a concrete slab, confirm that the moisture and alkalinity are within acceptable limits. A calcium chloride moisture test kit for this purpose is commonly available from installation product suppliers.

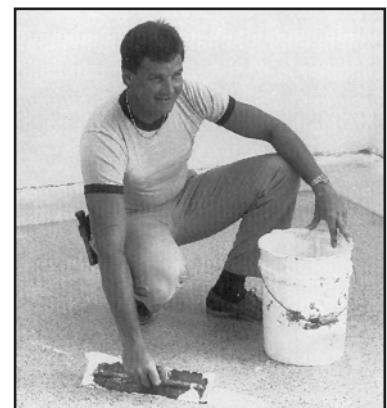
With careful use, this test can produce reliable results. Note that proper planning is critical, as the test requires 60-72 hours to conduct.

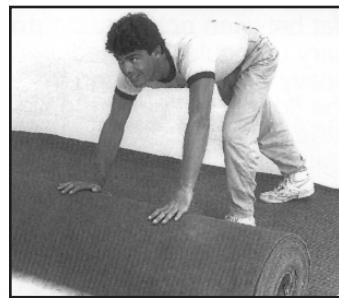
As a general guideline, a moisture emission rate of 3-lbs/1000 sq. ft./24 hours and a pH between 5 and 9 are acceptable for most carpets. Beyond these limits, the risk of moisture or alkalinity related problems increases. Corrective measures may be needed if limits are exceeded. Consult the individual carpet and cushion manufacturers to determine the acceptable limits for particular products and corrective measures.

Additionally, with the great variety of carpets, cushions and adhesives available for commercial installations, confirm that the products of interest are recommended by the manufacturers for installation by the double-glue method.

SITE CONDITIONS

The space in which the carpet is to be installed needs to have adequate temperature and humidity control to facilitate proper installation. Beginning 48 hours before the installation and continuing at least 72 hours following the completion of the installation, the temperature needs to be maintained between 65 and 95 degrees F. and the relative humidity between 10 % and 65 %. To achieve the best possible installation, according to The Carpet & Rug Institute's CRI 104 (2002) Installation Standard, all materials should be acclimated 48 hours prior to installation. If installing over concrete, the slab temperature should not be less than 65 degrees F. The completed installation



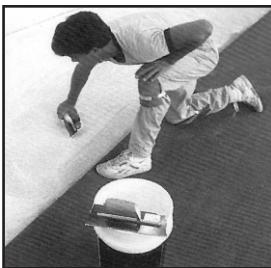
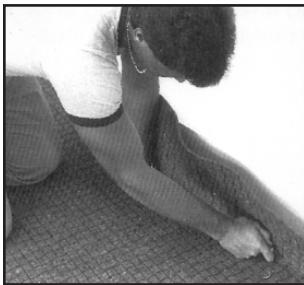


needs to be maintained at a minimum of 55 degrees F.

FLOOR PREPARATION

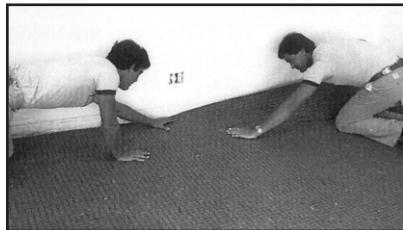
The floor should be free of holes and loose tiles or boards. Repairs should be

made as necessary to provide a smooth surface for carpet and cushion installation. The floor should be dry and dust free. All contaminants that may prevent good adhesion need to be removed. Floors should be vacuumed, mopped if necessary, and otherwise cleaned prior to carpet installation. Excessive use of water for cleaning is not recommended, though mopping with a slightly damp mop is useful to remove dust from the floor surface. Architectural tack strip, properly spaced and secured, may be used to hold the carpet edges in place. Setting cove base on top of carpet will also secure edges.



CUSHION LAYOUT

The cushion should be laid out in the longest lengths possible. Additionally the cushion seams should run perpendicular to the carpet seams. If the seams cannot be at right angles to the



carpet seams, the cushion seams should be kept at least 6 inches from the carpet seams. Cushion seams need to be butted without compression, leaving no gaps. Any excess along the perimeter walls should be trimmed and tightly fitted.

GLUING THE CUSHION TO THE FLOOR



Once the entire cushion has been laid out, fold it back and apply adhesive to the floor. Do not staple. Direct special attention to spreading the adhesive adjacent to the walls (cut-in) to prevent edge curling. Apply the adhesive with a u-notched trowel measuring 1/16 x 1/16 x 1/16 inches, or according to the adhesive manufacturer recommendations. Applying the adhesive with a paint roller can result in an inconsistent application.



Consult the adhesive manufacturer for the best application technique. For bonding, the cushion should be laid into the adhesive while in a "tacky wet" condition. For pressure sensitive adhesives, this point is often identified when the adhesive turns clear from its original opaque appearance. Smooth the cushion into the adhesive, working toward the seams. Trim in, eliminating any bubbles or wrinkles so that the seams are tight without overlapping.

CARPET LAYOUT

As the first step, cut the carpet to the proper length and spread it out in the area to be carpeted. The carpet should be 3-4 inches longer than the area measurement. Where applicable, allow for pattern repeat. Carpet seams should be at a right angle to cushion seams or offset at least 6 inches to either side. Align all carpet breadths to their proper position and trim seams.

GLUING CARPET TO CUSHION

It is imperative that the installer use the proper trowel notch and a premium multi-purpose adhesive formulated specifically for double-glue installation.

Spread the floor adhesive uniformly over the cushion with the appropriate U-notched trowel, leaving ridges of sufficient height to achieve full and complete coverage of the cushion and carpet backing, including penetration into the backing's deepest recesses.

Confirm amount and placement of adhesive by installing a small area, then lifting the carpet, noting adhesive transfer and coverage into the backstitch of the carpet. If insufficient coverage is seen, increase notch size and recheck.

Once the adhesive has been spread for a given section, lay carpet according to the adhesive manufacturer's recommendation for open time to allow even distribution and penetration of adhesive on all areas of backing.

Proper open time considerations are critical for a successful installation. Installing carpet into adhesive without sufficient open time may result in installation failure. The use of fans will reduce the required open time and promote tackiness. However, be aware that excessive moving of the air will accelerate the drying time and may not achieve a transfer of adhesive to the backing of the carpet.

Using an appropriate carpet roller, roll in both directions to promote complete adhesion of carpet to cushion. Rolling should be performed with the lightest roller that provides for proper transfer of the adhesive into the carpet back. Refer to manufacturer recommendation for roller weight. Eliminate any bubbles by pressing straight down prior to full adhesive set up time. Do not roll bubbles to edge. Woven carpet should be rolled a second time about 3 to 12 hours after initial rolling to make sure a strong bond is established. Generally, a 35-50 lb. roller is suggested. Due to dimensional instability, double-glue installation of carpet with a unitary backing is not recommended.



Prevent all traffic over carpeted area for a minimum of 24-48 hours after installation. Failure to do so may create areas where inadequate adhesion between carpet and cushion can lead to future performance problems.

INSTALLATION WITH A SPRAY ADHESIVE SYSTEM

Double-glue installation using a properly specified spray adhesive system should be performed by trained, skilled installers certified in this method.

Installation with a pressure sensitive spray adhesive system is an acceptable method for gluing cushion to floor. To be successful, this method should be performed by a Spray Certified Installation Technician. A firm cushion that is designed for double-glue installation is required for successful performance. Similarly, use of a pressure sensitive adhesive warranted by the manufacturer for spray application is recommended.

Use of a spray system for gluing carpet to cushion is a demanding operation. It is critical that a multi-purpose adhesive warranted for such use by the manufacturer is used. A pressure sensitive adhe-

sive is not acceptable for adhering carpet to cushion. It is necessary to spray both the top of the cushion and the back of the carpet. The adhesive must be sprayed uniformly and in sufficient amount to achieve full and complete coverage of the cushion and carpet backing, including penetration into the backing's deepest recesses.



OTHER INSTALLATION CONSIDERATIONS

The first 30 days following installation is a critical period. During this time, the adhesive is under-

going the final cure required for long-term installation performance. It is critical that the carpet not be exposed to water from cleaning or other sources during the first 30 days. Exposure to water during this period may interfere with proper curing of the adhesive and can lead to future problems. If cleaning is required, it should be done by a trained, skilled professional. Dry cleaning systems are preferred. Certain types of carpet backing and adhesives are not compatible. Follow manufacturer recommendations as to the correct adhesive and application.

Depending on carpet manufacturer recommendations, seams may be hand sewn, butt-steamed and glued, or hot melt taped using a low profile, non-silicone treated hot melt tape specifically designed for double-glue. Prior to the seaming, both trimmed edges of the carpet sections to be joined must be sealed with an appropriate seam adhesive. Latex seam sealer or thermoplastic adhesives are acceptable. Apply seam adhesive in a manner that encapsulates both primary and secondary backings.

DOUBLE GLUE PROCEDURES FOR STAIRS

Pre-cut and dry the stair carpet before beginning the installation. Position the tack strip on the tread and riser and install as with a conventional installation. Install specified cushion, extending completely over the bull nose, which is to be a radius of 3/4 inch. After the cushion is adhered, apply the double-glue adhesive on top of the cushion. Install carpet into the wet adhesive, while it is pliable and easy to stretch.

INSTALLING PATTERNED CARPET

It is critical that all parties discuss the pattern configuration, the backing system installation method, and pattern carpet expectations. During the development of specifications, the specifier, end user and the carpet installation contractor must all understand the manufacturer's tolerances for bow, skew, trueness of edge and pattern repeat variation. If tolerances exceed manufacturer's published specifications for these and other pattern carpet attributes, contact the manufacturer before proceeding.



Data presented is from studies jointly conducted by the Carpet Cushion Council and the Alliance for Flexible Polyurethane Foam.

The Carpet Cushion Council

**5103 Brandywine Drive
Eagleville, PA 19403**

**Phone: 484.687.5170
Fax: 610.885.5131**

**Email: info@carpetcushion.org
Website: www.carpetcushion.org**

THE CARPET CUSHION COUNCIL

Founded in 1976, the Carpet Cushion Council serves as the trade association of U.S. and Canadian carpet cushion manufacturers of prime polyurethane foam, bonded polyurethane, sponge rubber, natural fiber and synthetic fiber cushion; and suppliers such as chemical producers and equipment suppliers.

The Council has spent many years working with every aspect of the carpet industry, from carpet mills to professional installers to retailers.

Among numerous services, the Council:

- Provides retailers and installers the necessary information to sell and use quality separate carpet cushion
- Demonstrates how quality cushion can make carpet look better, longer
- Tests types of carpet cushion and establishes guidelines for use
- Monitors legislation and regulations to keep the industry informed of changes and to help officials understand carpet cushion
- Surveys the industry to gather statistics on amount of cushion sold.



RESOURCES:

**The Carpet Cushion Council
5103 Brandywine Drive
Eagleville, PA 19403**

**Phone: 484-687-5170
Fax: 610-885-5131**

**Email: info@carpetcushion.org
Website: www.carpetcushion.org**

Alliance for Flexible Polyurethane Foam

1-800-698-2373

E-mail: info@afpf.com Website: www.afpf.com