MODULAR CARPET INSTALLATION INSTRUCTIONS

FUNCTION BACK

These instructions are for use ONLY with WellBAC® Function modular carpet. DO NOT use these instructions or any Milliken Adhesive to install carpet containing PVC.

APPLICABLE CRI INSTALLATION METHODS:

Except where exceeded or modified by this instruction, Milliken recognizes the CRI Carpet Installation Standard 104 Standard for Installation of Commercial Carpet, September 2015 as the minimum acceptable standard for the installation of its carpet products.

NOTE: Installation contractor is responsible for reasonable inspection of the product prior to installation and for maintenance of dye lot integrity during installation. Should problems be discovered during inspection, please contact your local Milliken sales representative or call Toll Free 1-800-528-8453 – Select Option #2. Milliken will not be responsible for visible defects after carpet has been installed.

GENERAL:

All Milliken modular carpet is designed for installation without permanent adhesives. This allows easy removal and reinstallation. Installation contractor should review these instructions before starting the actual installation.
As a first preference, Milliken strongly recommends the use of a Milliken Certified Installation Contractor to install its products. As an alternate source, companies that can document that they employ installers certified at the C-2 level or higher by the International Certified Floorcovering Installers Association (CFI) are also recognized as viable sources of quality installation.

TILE ORIENTATION:

Some Milliken designs require specific installation methods (Quarter-turn, Ashlar, etc.) to achieve the intended appearance.

PRIOR TO INSTALLATION: Always consult your local Milliken sales representative or Milliken Technical Services (1-800-528-8453 Option 3) if you have questions or concerns about the correct installation method. Due to the nature and construction of solution-dyed nylon (SDN), we are able to provide very unique, tufted design patterns. From time to time during installation, these products may require that tiles be shifted within the layout in order to avoid a dark line in one tile being positioned next to a dark line in another tile. The dark seam is not a carpet manufacturing defect and can be avoided by attention during the installation phase.

FLOOR PREPARATION:

NOTE: The following are guidelines. The Flooring Contractor has responsibility to assure compliance. Financial responsibility for bringing any floor into conformance with these guidelines must be determined prior to beginning work.

- Floor preparation in accordance with ASTM F710 (current version) unless specifically allowed per this document.
- All topical membrane forming concrete curing compounds must be removed prior to application of adhesive.
- Concrete subfloors must be structurally sound, clean, dust free, smooth, trowel finish (not burnished) and level. Cracks and holes in excess of 1/8" (3.2mm) should be filled with a Portland Cement based floor patching material such as W.W. Henry 547 Unipro™, DAP "Webcrete 98", Maipei "PlaniPatch", Ardex "Featherfinish" or similar. Gypsum based compounds are not recommended.
- Milliken modular carpet backings are non-reactive and contain no P.V.C. or plasticizers. This greatly simplifies the floor preparation process and typically eliminates the necessity of old adhesive removal. See adhesive Technical Data Sheet for specifics. Milliken is not responsible for subfloor conditions. The installer has the responsibility for obtaining a successful installation.
- No chemical incompatibility exists between Milliken modular carpet or Milliken Mosaic 95 Carpet Adhesive and any existing floor covering adhesive. This includes "cutback", asphalt emulsion, general-purpose adhesive, epoxy and any other commonly found flooring adhesives.
- The only physical requirement for existing adhesive films is that they be smooth, non-tacky, and that residual trowel notches be reduced to a point where they do not telegraph. This can typically be achieved by scraping to a stain or skim coating with proper Portland cement-based patch.
- Regardless of adhesive type, the existing layer should have minimal residual tack. There is no chemical reaction; however, excessive tack may cause the carpet modules to become bonded too aggressively to the floor over time. This tack can be minimized or eliminated by applying a very thin layer of Portland patch.
- NEVER scrape, sand or mechanically abrade any exposed black adhesive or any existing resilient floor. These may contain asbestos.
  - *Please follow applicable safety protocols and have adhesive tested for asbestos before proceeding.*
- If residual adhesive is not black, scrape or sand until smooth and non-tacky as required.
- Protruding objects must be removed. Floor must be flat (not undulating) to within 1/4" in 10' (6.4mm across 3.05m) with no abrupt changes.
- Sealing or other post treatment of concrete floors is at the discretion of the installation contractor. In general, properly cured (90 days minimum) steel trowel finished concrete requires no additional treatment. Excessively porous or dusty concrete slabs are the only exceptions. Please call Milliken Technical Services if you have questions. XL Brands Prelude is a recommended product should treatment of porous or dusty concrete slab be deemed necessary; however, any non-silicone based sealer will work acceptably with non-PVC backings. This treatment is NOT intended to be a corrective for out-of-specification water vapor transmission levels.
- When working with a Gyp-Crete or Gypsum subfloor, Milliken recommends sealing with a gypsum floor sealer prior to installation. Failure to do so will result in an unacceptable installation. Gyplock Sealer by Cornerstone Coatings International Inc. is a suitable sealer.
- Carpet should be stored between 40°F and 100°F (4°C to 38°C) and must be conditioned to between 60°F and 90°F (15°C and 32°C), or applicable service conditions prior to and during installation.
- Floor temperature should be 60°F (15°C) minimum for proper adhesive curing and performance.

NOTE: If your subfloor is contaminated with an oily residue either from removal of "cutback" during asbestos abatement or from a previous end use such as metal fabrication, this residue MUST be totally removed or covered prior to applying modular adhesive and carpet. In addition, If residual adhesive – either "cutback" or general purpose - has been damaged/reactivated by previously installed PVC-backed carpet, call Milliken Technical Services for guidance. The "Lifetime Floor Compatibility" warranty does NOT apply in these situations.

RECOMMENDED ADHESIVES:

- Milliken Mosaic 95 Adhesive, packaged in 4-gallon (15.1 liter) pails is recommended for the installation of all Milliken modular products with WellBAC® Function backing system when:

- **New Pour:**
  1. It is a new pour >45 days.
  2. No visible water on the surface.
  3. Slab is on or above grade.
  4. ASTME E-1745 Class B minimum conforming Vapor Retarder is in place in accordance with ACI 302-2001 and directly in contact with the concrete placement.
  5. Slab RH does not exceed 95%.
  6. Acclimatized to service conditions.
  7. Bond test required with archived photo documentation.
- **Renovation** – On grade, Above grade or Below grade
- **On Grade**
  1. ASTME E-1745 Class B minimum conforming Vapor Retarder is in place in accordance with ACI 302-2001 and directly in contact with the concrete placement.
  2. Slab RH does not exceed 95%.
  3. No visible water on the surface.
  4. Acclimatized to service conditions.
  5. Bond test required with archived photo documentation.
- **Above Grade**
  1. Slab RH does not exceed 95%.
  2. No visible water on the surface.
  3. Acclimatized to service conditions.
  4. Bond test required with archived photo documentation

COVERAGE RATES/APPLICATION METHODS:

Recommended target coverage rates are averages based on years of performance experience with various backing types and end use environments. The installation contractor MUST determine and be responsible for the exact coverage rate for a particular project. When estimating adhesive requirements for a project, it is recommended that the lower end of the coverage rate range be used. It is always better to have an extra pail or can than to run short. As a general rule when installing modular carpets, use the LEAST adhesive that will satisfy the requirements of the "adhesive verification" test outlined below.

- Milliken Mosaic 95 adhesive is applied with a long nap (3/8 - 1/2 inch – 9.53mm to 12.7mm) paint roller or a 1/32" x 1/32" x 1/16" (0.8mmx0.8mmx1.6mm) notched trowel.
- If coverage is required in square feet to conform to NIST standards, simply multiply square yards by 9 or square meters by 10.72.
- Milliken Mosaic 95 adhesive is a blue green coloration out of the container. It will dry to a translucent blue tint. This change in coloration is one of the indicators that the adhesive film is ready to receive carpet.
- In ALL situations, adhesive is allowed to dry completely before installing carpet – See "Bond Test Procedure" outlined later in these instructions for details on determining exactly when an adhesive film is ready to receive carpet. These coverage rates apply regardless of whether the adhesive is applied with a paint roller or trowel.

TARGET COVERAGE RATES BY PRODUCT:

Milliken Mosaic 95: WellBAC® Function back full spread for all tile sizes: 35 to 40 sq. yds./gallon (9.5 to 10 sq. m/liter).

ADDITIONAL CONSIDERATIONS:

- See each corresponding adhesive specification sheet for full technical data and detailed instructions for use.
- Use of non-Milliken adhesives does not affect carpet product warranties, however, any claim related to adhesive performance, bond, floor releasability, or workmanship and any damage caused by this would be the total responsibility of the party responsible for using the non-recommended product.
- Milliken Mosaic 95 adhesive is especially formulated to give superior performance with Milliken's non-PVC backing systems, contain no hazardous ingredients, and provide the best indoor air quality environment available. Adhesive should be purchased with the carpet for maximum convenience and lowest total cost.

INSTALLATION INSTRUCTIONS:

GENERAL: The most important part of any modular installation occurs before the first module goes on the floor or any adhesive is applied. Proper planning and layout are crucial to the success of all modular installations.

Due to the nature and construction of solution-dyed nylon (SDN), we are able to provide very unique, tufted design patterns. From time to time during installation, these products may require that tiles be shifted within the layout in order to avoid a dark line in one tile being positioned next to a dark line in another tile. The dark seam is not a carpet manufacturing defect and can be avoided by attention during the installation phase. SDN products require additional shuffling during installation to ensure random installation.

From time to time, our products will experience pile crush from the packaging process. This may cause some tiles to look light & dark during initial installation. This is not a manufacturing defect, and will acclimate with time, traffic and vacuuming.

ADHESIVE READINESS SHOULD BE VERIFIED AS FOLLOWS BEFORE BEGINNING INSTALLATION.
A bond test is a mock-up installation done prior to the general installation of the Modular Carpet tile to indicate whether the adhesive will bond satisfactorily to the substrate and floor covering. Bond testing will aid in identifying both the working characteristics of the adhesive, such as the appropriate open and working time for the site conditions, and also any potential bonding problems to the substrate.

Bond Test Procedure:

1. Select an approximately 6' x 6' area (approx. 4. square meters) in a typical location on the substrate or slab. The floor should be prepped and consistent with the installation plan per Milliken Modular carpet installation instructions.
2. Milliken Mosaic 95 adhesive should be applied to the substrate for a releasable installation in the recommended manner (trowel or roller) and application rate. The adhesive should be allowed to dry completely prior to installation of modular carpet.
3. Observe the adhesive drying time, which will vary with the floor porosity and ambient conditions. Properly dried adhesive will not transfer to the finger and will have a tacky feel.
4. After placing the carpet tile on the dried adhesive apply downward pressure to assure contact with the substrate. Tiles should be immediately locked in place inhibiting lateral movement.
5. After 24 hours, observe the mock-up installation to see if any obvious problems may exist. The modular carpet should be adequately bonded to the substrate, and inhibit lateral movement with adhesive remaining firmly bonded to the substrate. To test this attempt to slide each tile. Now lift each carpet tile and check backing for adhesive transfer. All adhesive should remain on the floor. There should be no adhesive transfer to the back of the tile.

- Document with photos that show floor prep, floor with adhesive, and back of tile upon tile removal after 24hr period.
- Testing should be conducted approximately 72 hrs prior to installation.
- If installation covers multiple floors a bond test should be conducted on grade.

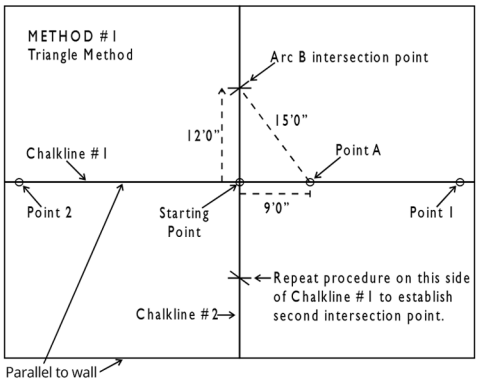
NEVER INSTALL ANY MILLIKEN MODULAR CARPET INTO WET ADHESIVE.

©2025 Milliken & Company | millikenfloors.com | Made in the USA

CHALKLINE APPLICATION:

Once floor preparation is completed, two working chalklines must be applied to the floor to insure a straight, square, and properly aligned installation. These chalklines intersect at the starting point and are exactly 90° to each other. Following are two methods for applying chalklines:

METHOD #1 - TRIANGLE METHOD:



Chalkline #1: Regardless of method, chalkline one – also referred to as the "baseline" - is snapped roughly parallel to some architectural feature (outside wall, column line, etc.) and generally runs the longer dimension of the area. This is done by placing two and only two points on the floor as far apart as possible within the area at the same distance from the selected architectural feature. (See Point "1" and Point "2" on the diagram.) This distance is determined by the installer to optimize cut sizes and minimize waste.

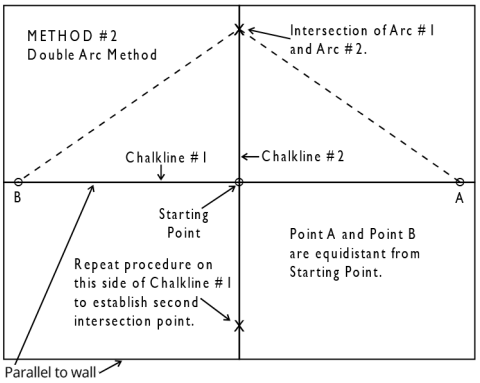
Starting point and Chalkline #2: Select a starting point somewhere on Chalkline #1. Location of starting point is usually but not always close to the true center of the area. It may be offset to optimize cut sizes. Using the largest possible multiple of a 3-4-5 triangle (6-8-10,9-12-15,12-16-20, 15-20-25, 18-24-30, 30-40-50 etc.) construct a chalkline through the starting point exactly 90° to chalkline #1 as follows:
NOTE: in this example we will use a 9-12-15 triangle measured in feet and inches, however, units of measure used do not affect the validity of the procedure.

Construct Chalkline #2 as follows:

1. Measure exactly 9'0" from the starting point along chalkline #1.
2. Measure exactly 12'0" from the starting point approximately perpendicular to the line #1. Mark an arc (line) on the floor parallel to chalkline #1 four to five inches long as indicated by Arc "B".
3. Measure exactly 15'0" diagonally from point "A" to Arc "B" as indicated.
4. That point on Arc "B" exactly 15'0" from point "A" when connected with the starting point gives a line exactly 90° to chalkline #1. For maximum accuracy, this procedure should be repeated on the opposite side of chalkline #1. A chalkline or a dry line should be stretched between the two intersection points created. If measurements are accurate, the string will go directly across the starting point.

Chalkline #1 - same as in triangle method.

METHOD #2 - DOUBLE ARC METHOD:



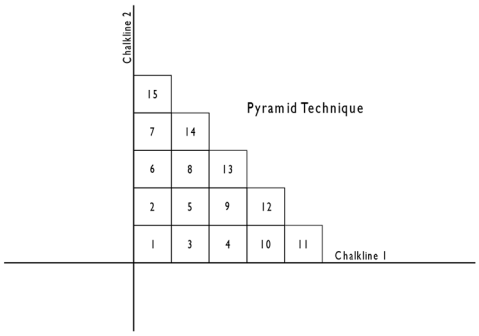
Chalkline #2 - select starting point same as triangle method and proceed as follows:

1. From the starting point, measure any convenient distance in both directions along chalkline #1 and mark point A & B on the floor (see diagram). These points should be as close as possible to the end walls of the area and must be the same distance from the starting point.
2. From points A & B, measure diagonally as indicated by the dotted lines allowing the tape measure to feed out until you are close to the side wall. Place a framing square or a carpet module at the starting point aligned with chalkline #1 to act as a visual guide to tell you when you are close to 90 degrees. Once you feel you are close pick a distance and remember it.
3. Strike an arc (Arc #1) measuring the distance determined above from point "A". Now working from point "B", measure diagonally using exactly the same distance used to strike Arc #1 and strike Arc #2. This intersection point connected to the starting point is a 90-degree angle to line #1.
4. As in the triangle method, this procedure should be repeated on the opposite side of line #1. Once accurate chalklines are applied, put down adhesive and install carpet as follows:

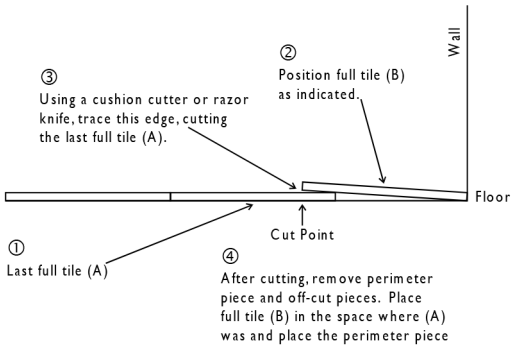
©2025 Milliken & Company | millikenfloors.com | Made in the USA
Call the Quality Assurance Team Toll Free 1-800-528-8453 – Select Option #2

GENERAL:

- The pyramid technique (see diagram below) gives three alignment checkpoints on each tile placed and should be used on ALL products regardless of module size or backing. This technique also helps control spacing or "growth" and keeps the entire layout closely referenced to the chalklines. Strict attention should be paid to corner alignment. Tiles out of alignment by more than 1/8" (3.2mm) on 50cm or 1m product should not be installed. Some "wandering" of edges due to undulation in the floor is unavoidable. This will be gradual and tend to come and go randomly, however, if corners become misaligned and this misalignment continues to increase, this indicates an out of square condition. The problem should be immediately determined and corrected.



- Always SLIDE each module into position from the side to prevent trapped yarn. Set each module by firmly rubbing both joints. With 1m x 1m and 36" x 36" (.91m x .91m) products, a very fine mist of water applied to the dry adhesive will facilitate sliding and positioning the product. Do not over wet. It should not be possible to slide the module after 30 to 40 seconds.
- Modules should be tight but not compressed. Peaking will occur when modules are too tight. Too loose an installation will never achieve the best possible overall appearance, and, on grid installations, modules can slip, "snowplow" and create obvious gaps with use.
- Tightness or "growth" should be determined by measuring the distance covered by 11 full modules (10 joints). This measurement should be no more than 1/8" (3.2mm) over the calculated distance for eleven tiles. In some cases this distance may be less than calculated. This distance may also vary between the length and width of the product. Once this "growth" figure is determined, it must be maintained throughout the installation.
- Directional arrows are applied to the back of each tile indicating pile direction. This allows the customer/installation contractor to choose the method of installation preferred – Parquet (Quarter-Turned), Monolithic (Corner-to-Corner or Ashlar), Random, 180-Degree Turned, Checkerboard, Mosaic or a mixture. Some Milliken designs REQUIRE that specific installation methods be used to achieve the desired visual. Always check with your Milliken representative or call Technical Services if there is any question.
- Whenever possible it is recommended that arrows be run parallel to major traffic lanes. Unless it is unavoidable, arrows should not run across hallways.
- The parallel or "scribe" cutting technique is one method of easily and accurately cutting modular carpet. (See diagram below.) This method is valid regardless of backing system.



- Off-cut pieces should be used elsewhere if possible. **NOTE:** Always mark an arrow on the back of off-cut pieces to facilitate using them in another area. Any piece that is large enough to fill the available space and maintain arrow direction and pattern match should be trimmed and used. It is permissible to carefully re-trim a cut piece and use this field cut edge to butt to a factory edge. Quality of cut and pattern match MUST be maintained for this to be done.
- Properly installed full spread installations can begin receiving foot and rolling traffic immediately. Exposed edges should be protected when rolling heavy loads such as pallets of carpet across the installed portion. Plywood or Masonite should be positioned on carpet when heavy furniture or supplies are moved on jobs.
- The recommended casters for desk chairs should have a tread width of 3/4" to 1" (19mm to 25mm), and a wheel diameter of 2"- 21/2" (5cm - 6cm) tapered. Hard polyolefin composition is recommended. For more detailed information, contact Milliken Technical Services.

TRANSITIONS AND STAIRS:

- For the most attractive finish with its modular products Milliken recommends the use of top set cove base after carpet installation is completed.
- Appropriate transition strips MUST be installed where there is potential for an edge to be exposed to or where Milliken modular carpet finishes to another flooring type.

PROTECTING CARPET AFTER INSTALLATION:

Milliken recognizes the CRI Carpet Installation 104 Standard for Installation of Commercial Carpet, September 2015 as the standard guideline for protecting carpet and associated materials after installation. The CRI Standard specifically states: "It is recommended that carpet be the last trade on any job site. However, if it is required to protect the finished floor covering from soil or paint, or if any additional work is required to be done after installation, the carpet should be covered with a non-staining building material paper. Protect the installation from rolling traffic by using sheets of hardboard or plywood in potentially affected areas." Also, CRI cautions: "Self-adhering plastic films may leave residues that result in rapid soiling after removal. Do not place plastic sheeting over any carpet installation because it may present a slip hazard. Most importantly, plastic coverings will trap moisture, retard adhesive curing and may promote mold growth."

NOTE: THE ABOVE INSTALLATION INSTRUCTIONS ARE GENERAL IN NATURE AND ARE NOT COMPLETE FOR EVERY MILLIKEN MODULAR CARPET PATTERN. SOME MILLIKEN PATTERNS REQUIRE SPECIFIC INSTALLATION METHODS (QUARTER-TURNED, ASHLAR, ETC.) TO ACHIEVE THE DESIRED APPEARANCE. ALWAYS CONSULT YOUR MILLIKEN REPRESENTATIVE OR TECHNICAL SERVICES IF THERE ARE QUESTIONS ABOUT THE CORRECT INSTALLATION METHOD.

The above instructions represent the best available data and are deemed to be correct and complete; however, Milliken assumes no liability for installation-related problems. 1/2026