

Modular Carpet Installation Instructions - TractionBack® Plus

The following document describes the correct method for installing Milliken cushion back modular carpet manufactured with TractionBack® adhesion backing plus Milliken connectors. No additional pressure sensitive adhesive is required.

APPLICABLE CRI INSTALLATION METHODS: Except where exceeded or modified by this instruction, Milliken recognizes the Australian Standard AS2455.1 as the minimum acceptable standard for the installation of its carpet products.

NOTE: The installation contractor is responsible for reasonable inspection of the product prior to installation and for maintenance of dye lot integrity during installation. Milliken will not be responsible for visible defects after carpet has been installed.

GENERAL: Milliken modular carpet with TractionBack® is designed for installation without the use of adhesive. However, the TractionBack® adhesion backing system will ONLY function properly when the stringent floor preparation and installation guidelines outlined below are followed. For this reason, it is VERY important that a qualified installation contractor install this product. Milliken **strongly recommends** the use of a **suitable qualified Installation Contractor** to install TractionBack® modular carpets.

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 Customer Services if you have questions or concerns about the correct installation method.** 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 only. 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 AS2455.1&2 unless specifically allowed per this document.
- All Topical membrane forming concrete curing compounds must be removed prior to application of TractionBack® Plus.
- Subfloor: Subfloor must be structurally sound, clean, dust free, smooth and level. Cracks and holes in excess of 3.2mm should be filled with a Portland Cement based floor patching material such as Henry® 547 Unipro™, Bostik Webcrete® 98, Mapei® Planipatch®, Ardex Feather Finish® or similar. Gypsum based compounds are not recommended.
- Sealing of Floor: 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. Prelude from XL Brands is a recommended product should this type of treatment be deemed necessary; however, any non-silicone based sealer will work acceptably with non-PVC backings.
- Old Adhesive: Milliken modular carpet backings are non-reactive and contain no PVC or plasticizers, so it is typically not necessary to remove old adhesive from the floor prior to installing Milliken modular carpet with TractionBack®. No chemical incompatibility exists between Milliken modular carpet with TractionBack® 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 0.8mm or less. In most cases the removal of the existing floor covering accomplishes this with only normal sweeping, cleaning, and patching required prior to beginning installation. Milliken is not responsible for subfloor conditions.
- Dust Removal: For TractionBack® to effectively prevent lateral movement, it is REQUIRED that ALL dust and dirt MUST be removed from the floor prior to installation. A thorough wet mopping of the floor surface is REQUIRED prior to beginning installation of TractionBack®.
- Sweeping Compounds: Oil or silicone based sweeping compounds and similar products, except where specifically approved, must not be used during floor preparation. TractionBack® must not be installed over surfaces contaminated with oily residues.
- Oily Residue/Asbestos Abatement: 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 installing TractionBack® Plus. 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. NEVER scrape, sand or mechanically abrade any exposed black adhesive or any existing resilient floor. These may contain asbestos. If residual adhesive is **not** black, scrape or sand until smooth and non-tacky as required above and follow with a thorough mopping as directed above. If additional smoothing is required and residual adhesive is black (cutback or asphalt emulsion) smoothing **must** be accomplished by applying a very thin layer of one of the above patching compounds.
- Level Floor: Protruding objects must be removed. Floor must be flat (not undulating) to within 6.4mm across 3.66m with no abrupt changes. This is very critical with TractionBack® since there can be no differential adjustment of corner alignment as is possible when a general coverage of adhesive is present.
- 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.
- Carpet Storage and Conditioning: Carpet should be stored between 4°C to 38°C and must be conditioned to between 15°C and 32°C for at least 24 hours prior to and during installation.
- Floor temperature should be 15°C minimum for proper performance of TractionBack®. Floor temperature should not exceed 32°C.
- Milliken TractionBack® Plus is recommended for the installation of all Milliken modular products with WellBAC® Comfort Plus & WellBAC® Comfort backing systems that have the addition of TractionBack®:
 - It is new pour > 30 days.
 - No visible water on the surface.
 - Acclimatized to service conditions.
 - Bond test is required with archived photo documentation.

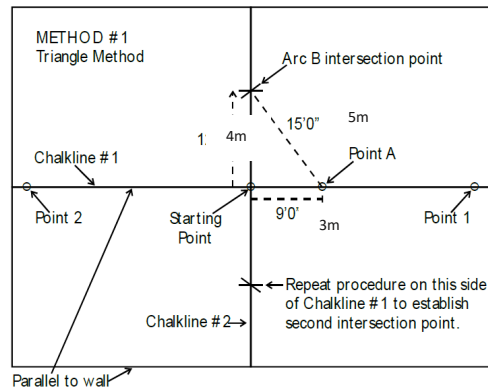
INSTALLATION INSTRUCTIONS:

GENERAL: The most important part of any modular installation occurs before the first tile goes on the floor or any adhesive is applied. **Proper planning and layout is crucial to the success of all modular installation.** Floor preparation should be verified before beginning installation.

1. Place a carpet tile on the cleaned floor and press the entire tile down firmly. Kneel beside the module and attempt to slide it across the floor by grasping the opposite edge and pulling. The tile should not move laterally.
2. Lift a corner of the tile and then lift the tile from the floor. The tile should easily separate from the floor surface.

CHALKLINE APPLICATION: Once floor preparation is completed and the floor thoroughly mopped with warm water, two working chalk lines must be applied to the floor to insure a straight, square, and properly aligned installation. These chalk lines intersect at the starting point and are exactly 90° to each other. Following are two methods for applying chalk lines:

METHOD #1- TRIANGLE METHOD:



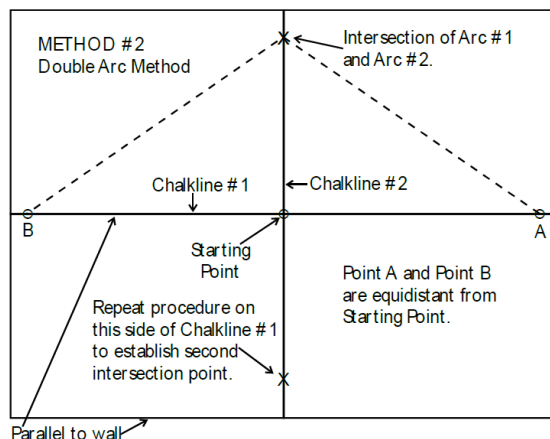
Chalk line #1: Regardless of method, chalk line one - also referred to as the "baseline" - is snapped roughly parallel to some architectural feature (outside wall, column line, etc.) and generally runs the longer dimension of the area. This is done by placing two and only two points on the floor as far 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 optimise cut sizes and minimise waste.

Starting point and Chalk line #2: Select a starting point somewhere on Chalk line #1. Location of starting point is usually but not always close to the true center of the area. It may be offset to optimise 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 chalk line through the starting point exactly 90° to chalk line #1 as follows:

Construct Chalk line #2 as follows:

1. Measure exactly 3m from the starting point along chalk line #1.
2. Measure exactly 4m from the starting point approximately perpendicular to the line #1. Mark an arc (line) on the floor parallel to chalk line #1 10cm to 12cm long as indicated by Arc "B".
3. Measure exactly 5m diagonally from point "A" to Arc "B" as indicated.
4. That point on Arc "B" exactly 5m from point "A" when connected with the starting point gives a line exactly 90° to chalk line #1. For maximum accuracy, this procedure should be repeated on the opposite side of chalk line #1. A chalk line 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.

METHOD #2 - DOUBLE ARCMETHOD:



Chalk line #1 - Same as in Triangle Method.

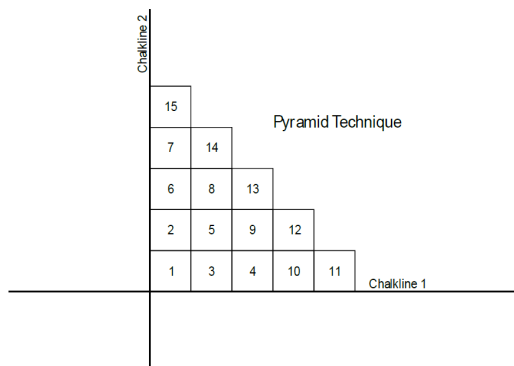
Chalk line #2 - Select starting point same as triangle method and proceed as follows:

1. From the starting point, measure any convenient distance in both directions along chalk line #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 chalk line #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° angle to line #1.
4. As in the Triangle Method, this procedure should be repeated on the opposite side of line #1. Once accurate chalk lines are applied, begin installation at the intersection point of the two chalk lines.

When working with TractionBack®, it is necessary to move across the newly placed modules very carefully until the installation can be locked in at the perimeter.

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 chalk lines. Strict attention should be paid to corner alignment. Tiles out of alignment by more than 1.6mm on 50cm product or 3.2 mm on 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.



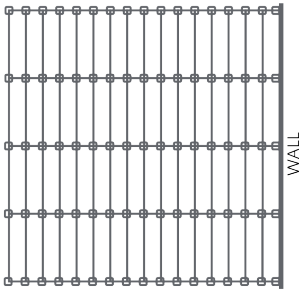
- Always **SLIDE** each module into position from the side to prevent trapped yarn. Set each module by firmly rubbing both joints. Should the TractionBack® become contaminated with dust, the back of the tile should be wiped with a damp cloth to remove the contamination and restore the effectiveness of the TractionBack®.
- 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 can show gaps over time as the looseness accumulates in one area.
- Tightness or "growth" should be determined by measuring the distance covered by 11 full modules (10 joints). This measurement should be no more than 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: 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.
- Installations receiving heavy rolling traffic should be locked in every 10m.
- When installing Milliken modular carpet with TractionBack® on inclined surfaces, a locking mechanism (Milliken Pressure Sensitive Adhesive) must be used for the entire incline area.

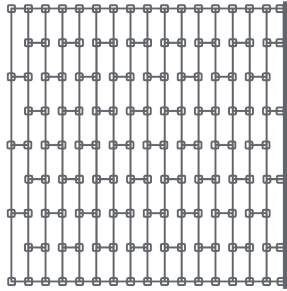
CONNECTOR PLACEMENT:

- A connector is centered under each corner for each tile size and each installation layout method.
- The non-tacky side of the connector goes against the floor.
- **Roll the installation before allowing traffic with a 75 to 100-pound roller to insure good contact with the connectors and the carpet tile.**

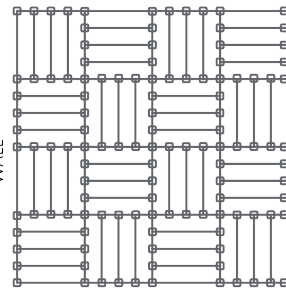
25cm x 1m Planks
Monolithic / Multidirectional



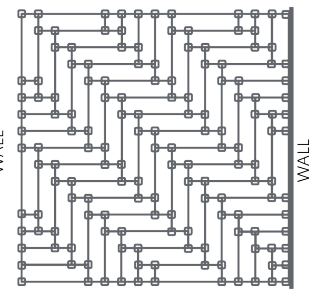
25cm x 1m Planks
Brick (Horizontal) / Ashlar (Vertical)



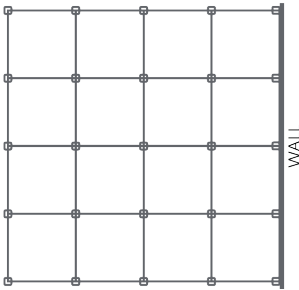
25cm x 1m Planks
Basketweave



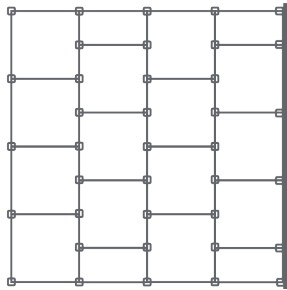
25cm x 1m Planks
Herringbone



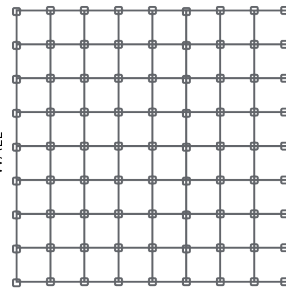
1 Meter Tiles
Monolithic / Quarter-Turn /
Multidirectional



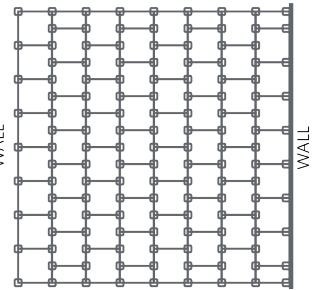
1 Meter Tiles
Brick (Horizontal) / Ashlar (Vertical)



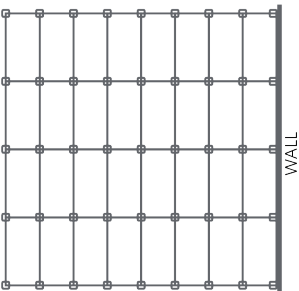
50cm Tiles
Monolithic / Quarter-Turn /
Multidirectional



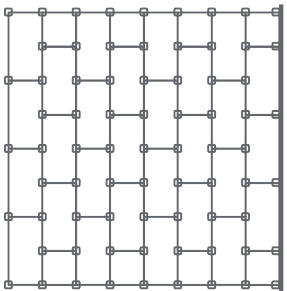
50cm Tiles
Brick (Horizontal) / Ashlar (Vertical)



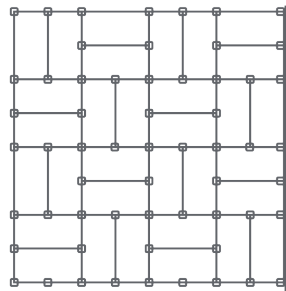
50cm x 1m Planks
Monolithic / Multidirectional



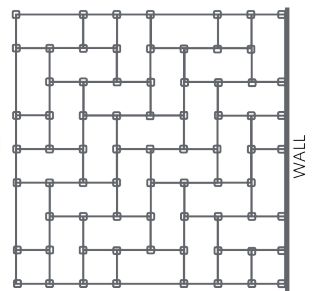
50cm x 1m Planks
Brick (Horizontal) / Ashlar (Vertical)



50cm x 1m Planks
Basketweave



50cm x 1m Planks
Herringbone



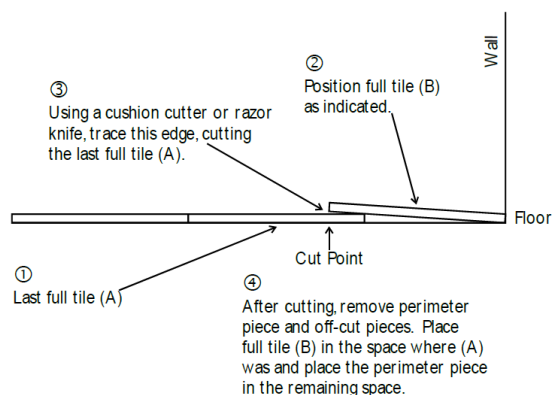
CONNECTOR APPLICATION RATE:

The chart below shows the coverage rate (by square yard) based on 1 box of 500 connectors.

TILE SIZE	INSTALLATION METHOD		
	Monolithic/ Quarter-Turn / Multidirectional	Horizontal (Brick) Ashlar / Vertical Ashlar	Herringbone
50cm square	108m ²	54m ²	n/a
1m square	438m ²	230m ²	n/a
25cm x 1m plank	108m ²	54m ²	54m ²
50cm x 1m plank	225m ²	112m ²	112m ²

CUTTING:

- 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 and yields a good vertical cut that is snug but not compressed. Any method that achieves this result is acceptable.



- Properly installed installations with TractionBack® Plus can begin receiving foot and rolling traffic as soon as they are finished with a connector placed at each corner and the installation is rolled with the 25-45kg roller. 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 the carpet when heavy furniture or supplies are moved.
- The recommended casters for desk chairs should have a tread width of 19mm to 25mm, and a wheel diameter of 5cm - 6cm tapered. Hard polyolefin composition is recommended. For more detailed information, contact Milliken Technical Services.

TRANSITIONS:

- 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 wherever there is a potential for an edge to be exposed or where Milliken modular carpet finishes to another flooring type. The total thickness of WellBAC® Comfort Plus and WellBAC® Comfort products requires a transition treatment capable of accepting the carpet without the necessity of modifying or adapting the edge.

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.

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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.

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