

INSTALLATION INSTRUCTIONS



MILLIKEN MODULAR CARPET CUSHION / COMFORT PLUS²® / FUNCTION PLUS® INSTALLATION INSTRUCTIONS

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Introduction

A comprehensive guide to subfloor preparations is contained in the Contract Flooring Association's "Guide to Installation of Floorings."

These instructions are **NOT** intended as a comprehensive guide to carpet tile installation, but point out areas where recommendations may differ from other methods. Milliken will not accept liability on any issues relating to poor fitting of the carpet.

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

Temperature & Storage

- Store materials in a clean, warm, dry and well ventilated place, kept in original packing until conditioning commences.
- Ensure floor temperature is a minimum of 15°C. Condition modules to 15-32°C for at least 24 hours prior to installation. Before, during and after laying, maintain temperatures

and humidity approximately at levels which will prevail after the building is occupied.

Floor Preparation

- Ensure sub floor is smooth, level, (not undulating) to within 6mm across 3.5m with no abrupt changes, hard and dry, It should be free from dirt, grease or other contaminants. Cracks and holes in excess of 3.2mm should be filled with a floor patching material, such as Latex screed or Ardex "Featherfinish" (or similar). Gypsum based compounds are not recommended.
- All floor preparation is the responsibility of the installer
- When installing on new wet-laid bases, ensure that the drying aids have been turned off for 4 or more days. Then, test the moisture content using a hygrometer in accordance with BS 5325 A or BS 8203 appendix A, as recommended by the C.F.A.
- Take readings in various points over the area being tested. Do not lay coverings until all readings show 75% relative humidity or less.
- There is no chemical incompatibility between Comfort Plus/ Function Plus/ TractionBack™ and any existing floor covering adhesive, or floor material. The only requirement is to smooth the old adhesive layer until residual trowel notches are less than 1mm.
- .For installation with under floor heating, the temperature of the floor must not exceed 28°C. The heating must be turned off 48 hours before laying the tiles.

Recommended Adhesives

- The following tackifiers are recommended for standard use.
 - Milliken Modular adhesive
 - F.Ball Styccobond F41
 - Uzin Universal adhesive.

- These release adhesives allow modules to be removed from the floor - they are not permanently adhered. The adhesive must be completely dry before modules are installed. To test whether the adhesive is dry: firmly press a tile into the adhesive and then uplift it; there should be no transfer of adhesive to the tile.

- In areas of heavy traffic/ rolling traffic and on ramps, etc, a stronger tack to prevent lateral movement may be required. We recommend F.Ball Stycobond F40.

- On stair treads the standard modular adhesive is suitable. A permanent contact adhesive is required for stair risers. We recommend F Ball Stycobond F3.

Adhesive Application

- Apply a full spread of adhesive using a short nap paint roller or spray in accordance with manufacturer’s recommendations and application rates.

- Take care not to allow adhesive to penetrate raised access flooring joints - it is good practice to stay 25mm away from panel joints.

Installation & Layout

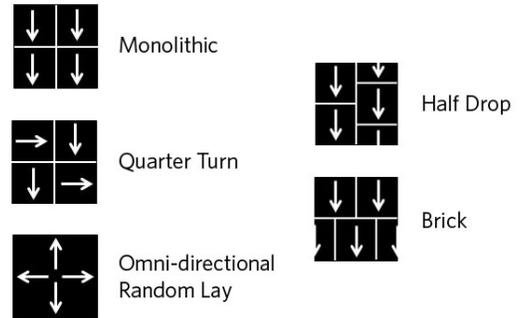
- Start near the centre of the area, at a point chosen to give maximum perimeter cut module size.

- Snap a chalkline parallel to the major wall, and the second chalkline exactly at the right angles. (See Appendix 1 Chalkline Application for detail instruction if required)

Begin installation of the first tile where the chalklines cross and work outwards using the pyramid method shown. *This method gives three alignment checkpoints on each tile placed and helps control spacing or “growth”, and keeps*

the entire layout closely referenced to the chalk lines.

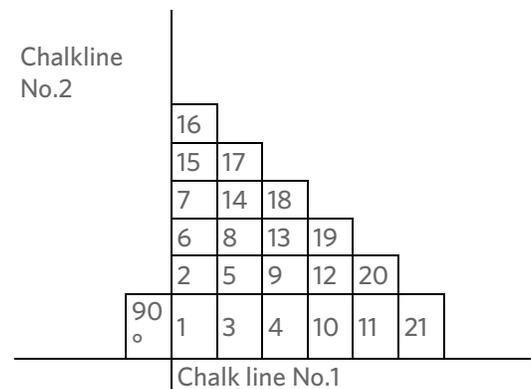
- Suitable installation methods for each Product /design are stated on product box labels & merchandising and are indicated by the following icons:



If you have any queries regarding correct installation method, please contact Customer Services on 0(44) 1942 826073. carpetenquiries@milliken.com

Installation - Monolithic & Omni Random Lay

The pyramid method is illustrated below:-



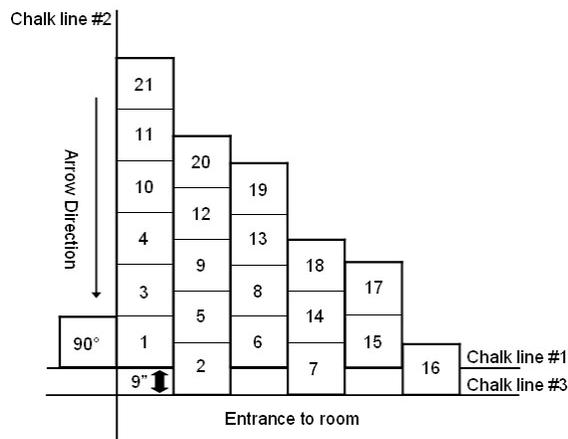
Monolithic - Arrows on the back indicate pile direction. These should all be in the same direction.

Omni - Tiles are delivered randomised. It is recommended that the arrows on the back of the tiles do not all point in the same direction. When laying Omni product, lay tiles randomly.

Installation - Half Drop Layout

- A third chalkline should be snapped parallel to Chalk line #1, half a tile length below it. (228mm)
- Modules should be installed starting from the centre, using the pyramid method. Modules must exactly follow the chalklines.

The pyramid method for half drop is illustrated below: -



Installation - Brick Layout

- Follow the method as per Half Drop, but with arrow directions at 90°.

Installation - Quarter turn

- Follow the method as per Monolithic, but with alternate tile turned 90°.

General Notes

- Modules should be slid into position from the side to avoid trapped tufts.
- Tiles should be butted tightly together to ensure good seamability.

- Wherever possible, (for Monolithic, Brick or Half drop designs) install modules with the arrows pointing along, not across, the heaviest trafficked walkway. Unless it is unavoidable, arrows should not run across hallways. It is important for subsequent maintenance of the carpet.

- At the perimeter of the room cut tiles using the parallel or scribe method (see Appendix 2) to create a good fit.

- Cut tiles from the face using new/sharp blades with firm pressure to create a clean cut. Old / worn blades may lead to frayed edges.

- When installing Comfort Plus² products on and around floor boxes, it **MAY** be necessary to remove the cushion backing before adhering the carpet to the lid (subject to site levels and conditions) to reduce any trip hazard. The cushion backing can easily be removed with a Fein Multimaster MSx63611 using the 178 scraper blade.

Stairs and Vertical Surfaces

- See Adhesive recommendation for suitable adhesives.

- In addition nosings must be used when installing modules on stairs. Nosings suitable for the profile of Milliken's cushion backed carpets are available from www.Gradusworld.com

- It is recommended that a 30 point visual contrast be achieved between the nosing and the carpet LRV Y value (see Milliken Light Reflectance specifications)

Transitions between flooring products

- Appropriate transition strips **MUST** be installed wherever there is potential for an edge to be exposed, or where Milliken Carpet finishes to another flooring type. The total thickness of Comfort Plus backed products requires a transition treatment capable of accepting the carpet without the necessity of

modifying or adapting the edge. Transition strips are available from Gradus, equivalent products from other manufacturers are also acceptable.

Use of improper and/or inadequately installed transition treatments may result in edge failure. Selection and installation of these products is the responsibility of the installation contractor.

Post installation Protection and Clean-Up

- Protect the carpet using heavy plastic sheets, with joints taped. Do not tape directly to the carpet, or use sticky backed plastic as some brands leave adhesive residues which can be difficult to remove.
- Use Plywood to protect the carpet where heavy furniture or supplies are moved through the installation.
- The carpet may be cleaned prior to handover using an upright rotating brush-type vacuum cleaner..
- Adhesive residues may be removed from the carpet pile using a solvent such as Prochem Solval (used according to the manufacturer's instructions) and Capture dry cleaning powder (or equivalent).

INSTALLATION INSTRUCTIONS FOR MODULAR CARPET WITH TRACTION BACK™

General

MILLIKEN MODULAR CARPET WITH TRACTIONBACK IS DESIGNED TO BE INSTALLED WITH NO ADHESIVE.

Milliken recommend a qualified installation contractor install this product. As a first preference, Milliken strongly recommends the use of a Milliken Preferred Partner to install TractionBack products.

To be fully functional, this backing system requires stringent floor preparation guidelines to be followed.

Firstly, follow the standard Milliken Floor Preparation guidelines, paying particular attention to the requirement for the floor to be smooth, level, dry and flat.

In addition a thorough mopping of the floor is required prior to the installation of TractionBack. If the floor is coated with construction dust the Tractionback will grip the dust rather than the floor

- In cases where modular carpet is removed prior to installing carpet with Traction Back™, very little preparation is required. The existing film of pressure-sensitive adhesive will not interfere with the Traction Back™. Pre-test several tiles to ensure they will release from the old adhesive prior to installing large areas. Ensure any residual trowel notches be reduced to 0.8mm or less. In most cases, the removal of the existing floor covering accomplishes this.
- Milliken modular Traction Back™ carpet backings are non-reactive and contain no P.V.C. or plasticizers. There is no chemical incompatibility between Milliken modular carpet with TractionBack and existing floor covering adhesive, including: "cutback", asphalt emulsion, general-purpose adhesive, epoxy, and any other commonly found flooring adhesives.

If your sub floor 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. If residual adhesive ("cutback" or general purpose) has been damaged/reactivated by previously installed PVC backed carpet, please call Milliken Technical Services for

guidance. Our warranty does NOT apply in these situations.

- **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.
- Some new towelled sand cement screeds may require sealing prior to installation of TractionBack – we recommend a small trial to determine suitability.
- Protruding objects must be removed. Floor must be flat. This is crucial when it comes to Traction Back™, as there can be no differential adjustment of corner alignment, which is possible when a general coverage of adhesive is present.

Installation Instructions

- After thorough floor preparation, simply follow the standard Milliken instructions for
 - Temperature and storage
 - Layout & Chalkline creation
 - installation direction
 - (Monolithic, Omni, Half Drop, Brick, or Quarter Turn)
 - Pyramid method
 - Scribe cut of perimeter pieces
 - Post Installation clean up.

Additional guidance for TractionBack

- Always **SLIDE** each module into position from the side to prevent trapped yarn. Set each module by firmly rubbing both joints.
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- Should TractionBack become contaminated with dust, the back of the module should be wiped with a damp cloth to

remove the contamination and restore the effectiveness.

- Modules should be tight but not compressed - peaking will occur when modules are too tight. Too loose means that 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.
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- **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.**
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- **Note that larger TractionBack installations may require a minimal locking grid of adhesive.**
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- **Edge cuts smaller than half a tile may require spray tackifier to prevent uplift if tub vacuum cleaners are to be used.**

In installation areas over which heavy wheeled equipment is used, we would recommend that modules be adhered with release adhesive.

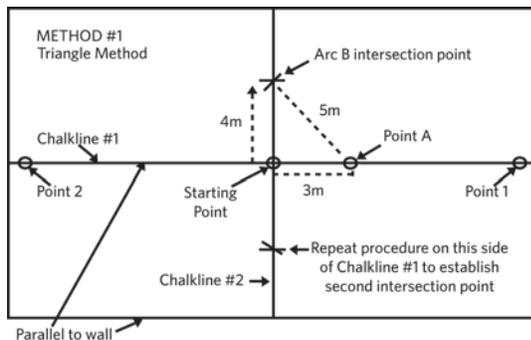
Properly installed installations with Traction Back™ can begin receiving foot and rolling traffic as soon as they are finished and locked into the perimeter of the area. Exposed edges should be protected when rolling heavy loads (such as pallets of carpet) across the installed portion. Plywood or Masonite should be positioned on the carpet when heavy furniture or supplies are moved.

Transitions and Stairs

Stairs should be installed using adhesive and nosing as per Milliken's standard instructions.

Appendix 1. Creating your Chalklines

The triangle method is illustrated below:-



Chalkline #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

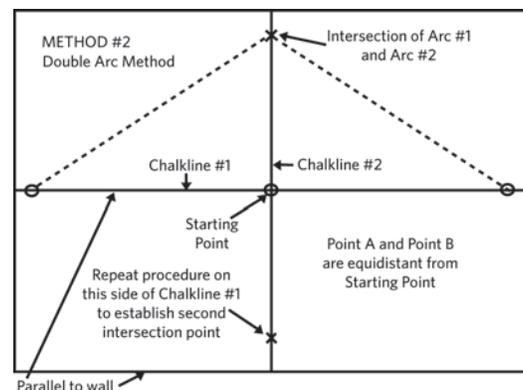
Select a starting point somewhere on Chalk line #1. The location of the starting point is usually, but not always, close to the true centre of the area. It may be offset to optimise cut sizes.

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:

Note: in this example we will use a 3-4-5 triangle measured in metres, however, units of measure used do not affect the validity of the procedure.

- Measure exactly 3m from the starting point along chalk line #1.
- 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 approx. 10-15cm long, as indicated by Arc "B".
- Measure exactly 5m diagonally from point "A" to Arc "B", as indicated.
- The 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.

The double arc method is illustrated below:-



Chalk line #1

Same as in triangle method.

Chalk line #2

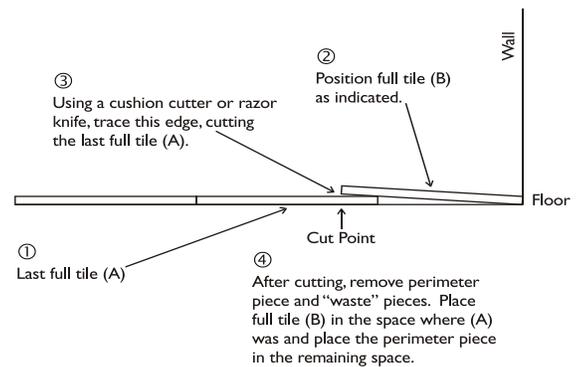
Select starting point in same way as triangle method and proceed as follows:

- From the starting point, measure any convenient distance in both directions along chalk line #1, then 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.
- 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°. Once you feel you are close, pick a distance and remember it.
- 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.

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.

Appendix 2: Cutting Using the scribe method

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. This method yields a good vertical cut that is snug but not compressed. This is essential on Traction Back to properly finish the locking in of the product. Any method that achieves this result is acceptable.



**Milliken Carpet,
Beech Hill Plant,
Gidlow Lane,
Wigan,
WN6 8RN, England
Tel: +44 (0)1942 612 735
Fax: +44 (0)1942 826 570
E-mail: carpetenquiries@milliken.com**

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.