Inspired Floorcoverings Carpet Tile & Plank Installation Guide

July 2024

inspired floorcoverings

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Disclaimer

The content of this installation guide is provided for educational purposes only. The content is accurate at the time of issue. Content is regularly reviewed and updated to take into account changes in the use of technology, materials, systems and installation practices adopted by manufacturers, installers and the wider floor covering industry.

This installation guide has been prepared to assist professional contractors and floor covering installers in the installation of Inspired Floorcoverings carpet tile and planks. It is recommended that all Inspired products are installed by trained and experience floor covering installers preferably having completed the Certificate III in Flooring Technology qualification and or the unit of competency Install carpet tiles.

These instructions cover the most common installation circumstances. If a particular installation condition is not covered, the contractor should contact an Inspired Floorcoverings representative.

If Inspired Floorcoverings carpet tiles and planks is installed before construction is complete, any resulting staining, soiling, contamination or damage caused by building construction may void the end user’s product warranty. The contractor should inform their client of this warranty implication.

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Introduction

The current Australian Standards AS 2455.2:2019 Textile floor coverings – Installation Practices – Part 2: Carpet tiles in conjunction with AS 2455.1:2019 Textile floor coverings – Installation practice – Part 1: General, provides detailed commentary on the recommendations for the installation of Carpet Tiles on both new and existing subfloor surfaces. AS 2455.1:2019 and AS 2455.2:2019 are considered to be the best minimum industry standard for the installation of all carpet tiles/planks and is fully recognised by Inspired Floorcoverings. AS 1884:2021 – Floor coverings – Resilient sheet and tile – Installation practices provide further currency in moisture testing and preparation of subfloors for the installation tile and plank floor coverings

This installation guide is intended as a guide to all parties involved in the specification, installation and maintenance of Inspired Floorcoverings Carpet Tiles and planks. Inspired Floorcoverings always recommends the use of reputable flooring contractors, whose experience in installation and project management will prove invaluable at all stages of a project.

A successful installation not only depends on the skills of the floor covering installer, but also in the planning and management of the project prior and during installation. Open lines of communication between all parties concerned will minimise any problems and will ensure a successful installation, which meets the client expectation within the allocated time for the project.

Product selection

The occupational usage of the building and the building type must be considered at the preliminary specification stage.

The type and density of traffic (both pedestrian and wheeled), require particular attention as does any special acoustical, electrical resistance or slip resistance requirements, as well as reaction to chemicals and staining agents, and physical properties such as resistance to point and rolling loads. Critical to the longevity of the installation is colour selection. Darker patterned tiles will always show less dirt and stains than light colours

Please contact Inspired Floorcoverings if you have any concerns regarding the suitability of your selected product, Our Sales and After Sales Team can provide advice on the suitability, performance and application of any products from the Inspired floorcoverings range.

Before Starting

Labels and batch lots

Each box of tiles will have a label on it with details relating to the design, product type and batch number.

The batch number refers to the colour dyes used in that manufacturing run – often called the **dye lot**.

It is the responsibility of the person dispatching the tile to the work site to verify, before the installation, that material supplied conforms to purchasers' specifications, including correct product, colour and quantity.

#772 this refers to the product code.
Mist is the range
Oatmeal (X06Z) is the colour
0313EE-03 (03/12) this is the batch number

Labels on each carton contain important information including product, colour and manufacturing batch (dye lot information).

Take notice of installation codes printed on cartons as this indicates the manufacturers' recommended installation method. However, the client's preferred installation method should be confirmed and signed off by the installer before commencement of installation.

It's best not to mix different batch numbers in the same room, because there may be slight differences in colour from one dye lot to another. However mixing boxes from the same batch number will help blend any colour variations in the one batch.

Note that AS 2455.2: 2019 Textile floor coverings – Installation Practices – Part 2: Carpet tiles says that if you're using more than one carton of carpet tiles, they must all have the same batch number. The Standard also says that full boxes should be stored on-site in stacks for at least 24 hours or in accordance with the carpet tiles manufacturer's instructions to acclimatise/condition the carpet tiles to the microclimate of the installation area.

Conditioning

Before you begin an installation, you need to let the carpet tiles **condition** to the surrounding temperature and humidity in the room/s they are to be installed in. This process is also called **acclimatisation**.

manufactures specifications suggest that the installation location remains within 10 degrees C – 35 degrees C with relative humidity between 40% - 75% for a period of 48 – 72 hours before, during and after the installation. The heating and air conditioning system should be operational during this period. Always consult Inspired Floorcoverings regarding the temperature and relative humidity range required for the carpet tiles/planks you are installing.

All modular carpet tiles/planks must be removed from the cartons as part of the conditioning process and stacked not more than 12 tiles high. The stacked tiles must be allowed to condition to the job site ambient temperature relative humidity for 24 to 48 hours prior to installation or until the product has achieved an 'ambient room temperature' range of between 10^0 and 35^0 C and relative humidity between 40% - 75%. Any adhesives, if being used, must also be allowed to condition on site for a minimum period of 24 hours, at a minimum temperature of 10^0 C and a maximum temperature of 30^0 C.

This is particularly important if the tiles and planks have been stored or delivered in conditions of extreme temperature and/or humidity. Where the carpet tile/planks have been stored or transported immediately prior to delivery in temperatures below 10^0 C the acclimatisation period should be extended to 48 hours.

Carpet tiles/planks delivery to the work site, stored in boxes, should be stacked no more than five boxes high as the weight of additional boxes on the stacks cause damage to the tiles in the boxes on the bottom of the stacks. Further, tiles/planks at the bottom of large stacks will not acclimatise as quickly as the tiles at the top of the stacks.

Ensure that all recommendations for substrate and jobsite conditions are met prior to beginning the installation. Beginning the installation is an implied acceptance of site conditions by the parties involved and liability for any failure directly related to inadequate site conditions becomes the responsibility of the installer and/or flooring contractor.

Sub-Floor Condition and Preparation

The finished appearance of a floor covering will only be as good as the quality of the base over which it is installed. Any irregularities in the sub-floor will show through the finished floor. Careful sub-floor preparation is vital for an excellent floor appearance and good installation. The sub-floor must be hard, flat, smooth, clean, dry, and free from defects, contaminants and fit for purpose as per AS 2455.2:2019 clause 4.2 Subfloor condition and preparation.

(a) The subfloor is to be structurally sound, rigid, clean and dry and be free of materials that may adversely affect the carpet tiles.

(b) Where there is cable trunking, the finished surface is to be level with the subfloor.

(c) Surface quality: the surface of the subfloor is to be checked for the following:

- Planeness – when measured between two points over a 2.0 m distance on the surface at any position, no part is more than 4 mm below a straight edge
- Abrupt deviation tolerance- when a straightedge 150 mm long is placed on the surface at any position, no part of it is more than 1 mm below the straightedge
- Smoothness – The surface is to be regular with no holes, lumps or sudden rise or fall and with homogenous appearance.
- Soundness – The surface is to be without cracks, crazing, dusting, rain damage, spalling, efflorescence or blistering.

(d) The subfloor is to be tested for moisture content (RH%) and alkalinity (pH) as specified in AS 2455.1.2019 Appendix B or AS 1884:2021 Floor coverings- Resilient sheet and tiles – installation practices – (Appendix A, B, & C).

(e) Surface preparation

- removed the following from the subfloor by mechanical means, where present:
  - Materials such as grease, oil or paint.
  - Existing floor coverings and adhesive residue.
  - Curing or parting agents.

- Any surface treatment, particularly oxides, mark-out paints, or wax crayons, which could adversely affect adhesion, or cause discolouration or any other detrimental effect.
- all grooves, holes and other concave imperfections are to be filled with a suitable material

- ridges or protrusions likely to impair the subfloor surface should be removed by mechanical means to achieve the required surface quality
- filling or levelling materials used should be allowed to dry before carpet tiles or planks are installed

Concrete

A suitable levelling compound can be used to ensure that no irregularities show through to the surface of the finished carpet tiles/planks. However, the selection of suitable materials, including smoothing and levelling compounds and any ancillary products is dependent upon the end use of the completed carpet tile/planks, and must be agreed by the supplier of the preparative materials and the flooring contractor.

Any proprietary materials used for subfloor preparation must be used in accordance with the manufacturers' recommended instructions.

In all cases, the sub-floor must be sufficiently dry, and the relative humidity (RH) checked to ensure it is not greater than that of any proprietary materials that are being used when tested in accordance with ASTM F 2170.

Timber

New timber suspended floors should be constructed of either tongue and groove, plywood or particle board specifically manufactured for flooring. Spacing of the supportive joists should be in accordance with the manufacturer's recommendations in relation to the board's thickness and the NCC specifications.

When hard underlay sheeting is used, they must be of a hard underlay grade as per relevant Australian Standard for the type of hard underlay sheet being installed as specified and warranted by the manufacturer of the product. Hard underlay sheets must be fixed and fastened to the subfloor according to manufacturer's instructions. Completely sand the timber subfloor with a floor sander, so that the floor is smooth and flat before installing hard underlay panels. Without sanding properly, timber subfloors can have high and low spots throughout the floor that could telegraph through the carpet tiles/planks.

Inspired Floorcoverings recommends the use of an underlay or underlayment on all timber subfloors, to ensure stability and uniformity

Any failure of the hard underlay or floor covering due to the failure of the hard underlay is NOT the responsibility of Inspired Floorcoverings.

All timber subfloors must have a minimum earth clearance of 400mm in accordance with the NCC and have well- ventilated air space beneath it.

General

Where existing timber, plywood or particleboard subfloors are to be used as a substrate worn, rough, cupped or warped surfaces shall be sanded or filled, but must retain structural soundness. In some circumstances, it may be necessary to re-nail the old floor or to repair it by replacing the worn and unsound sections

Without good ventilation, the application of an impervious floorcovering could lead to dry rot in the structure beneath.

Several specialised cementitious smoothing compounds are now available for application over timber subfloors. Seek advice from the cementitious smoothing underlayment manufacturers for the correct grade of product for your specific application

Existing concrete

Existing concrete as described in NCC, if laid directly to ground, must contain an effective 200UM plastic damp proof membrane (DPM). A DPM, as the name suggests, is typically a waterproof barrier in the form of a thick plastic sheeting designed to prevent the passage of moisture through it. These are normally used beneath a foundation concrete slab.

If a DPM is not present or is suspected of being damaged, a suitable surface moisture barrier should be applied to the surface of the

Concrete subfloor.

Carpet Tile/planks Installations Over Concrete subfloors

1. Moisture in a concrete subfloor cannot be accurately determined without the use of accurately calibrated moisture testing equipment.
2. Regardless of age or grade-level all concrete subfloors emit some degree of moisture vapour and must be tested prior to installation.
3. The In-situ probe RH moisture testing is the primary criterion for determining moisture content of a concrete subfloor, since it is the only quantitative measurement of moisture as per AS 2455.1:2019 Textile floor coverings – Installation practice – Part 1: General (Appendix B).

4. Surface tests do not comply with current testing standards, and are only subjective, at best, in their interpretation.
5. Inspired Floorcoverings do not warrant against subfloor moisture and recognise the limits the maximum allowable amount of moisture content, must be compatible with any proprietary materials used for the installation such as cementitious levelling compounds and adhesives.
6. Not testing for moisture in the subfloor prior to carpet tile/plank installations runs the risk of total liability for a moisture failure for the flooring installation contractor/s

Other Surfaces

Terrazzo

The floor must be sound and firmly fixed, and any loose or powdery material removed from the joints. The surface should be prepared with a light grind to remove any surface contaminants and any cracks cleaned out and filled with a suitable resin bonded cement/sand mixture. In most instances, a cementitious smoothing or levelling compound of at least 3mm thickness must then be applied to provide surface porosity for acrylic adhesives prior to the installation of the carpet tiles and planks.

Screed bases

Weak sand/cement screed bases **are not a suitable substrate** for the installation of carpet tiles and planks and should be mechanically removed and a suitable levelling compound applied to the subfloor.

Ceramic tiles

Before installing over ceramic or quarry tiles, ensure the floor must be in good condition before you can begin installing carpet tiles. Check for loose, cracked or broken areas of ceramic tile. These areas will need to be removed with a hammer and chisel and thoroughly cleaned of all debris.

The floor must be sound and firmly fixed, and any loose or powdery material removed from the joints. The surface should be prepared with a light grind to remove any surface contaminants and any cracks cleaned out and filled with a suitable resin bonded cement/sand mixture. In most instances, a cementitious smoothing or levelling compound of at least 3mm thickness must then be applied to provide surface porosity for acrylic adhesives prior to the installation of the resilient floorcovering.

Information of the best method to prepare a ceramic or quarry tile floor should be sort from primer and levelling compound manufacturer/s.

Access Panels

A sub-floor that is commonly found in commercial settings is raised panel flooring in a variety of finish surfaces (metal, wood, concrete, vinyl and laminate). Make sure all panels are firmly in place with no un-levelled (rocking) panels.

Raised access flooring panels tend to settle shortly after installation and this should be considered when assessing the appearance of the carpet tile/plank installation fitted onto such flooring systems. Ridges between uneven raised access floor panels will telegraph through to the finished tile installation. Uneven or loose floor panels should be levelled or re-fixed before installing carpet tiles or planks.

Some flooring systems have screw down panels, while others set on alignment pegs and free lay. Layout is important since modular carpet tile joints and panel joints should not be allowed to align. Generally, floor panels should be level with each other to within 0.5mm and should have gaps of no more than 1.0 mm between the panels.

The edge of the of the carpet tile must be sufficiently far enough away from the access panels joins that it will not be affected by lateral movement.

Moisture & pH Testing

Inspired Floorcoverings Carpet Tiles and planks should only be installed on subfloors which are not subject to rising damp or hydrostatic pressure, and where the moisture level does not exceed that specified by the technical data sheet relevant to the levelling compound/s and or adhesive/s that are being used for the installation of the carpet tiles and planks when tested in accordance with AS 2455.1:2019 Textile floor coverings – Installation practice – Part 1: General (Appendix B) or AS 1884:2021 Floor coverings- Resilient sheet and tiles – installation practices – (Appendix A, B, & C).

Subfloors with a relative humidity and surface pH exceeding that specified by the technical data sheet relevant to the levelling compounds and adhesives being used for the installation will invariably cause failure of the bond between the substrate and carpet tile/planks.

To prevent these situations arising, Inspired Floorcoverings does not condone the practice of installing carpet tiles/planks on subfloors with a moisture content that exceeds the limitations of the levelling compounds and or adhesives being used for the installation and accepts no responsibility for non-performance of Inspired Floorcoverings products in such instances.

For RH and pH test results that exceed the specifications of levelling compounds and or adhesives that are being used for the installation contact the manufacturers of these products and or Inspired Floorcoverings for further technical advice regarding the use of a compatible moisture barrier.

Transitions

Edge trims

In many of the areas where Inspired Floorcoverings carpet tiles are installed, other types of floorcoverings will also be used. The junction between the Inspired Floorcoverings carpet tiles and planks and these other types of floorcoverings is a potential weak point, if not treated properly. Correct installation minimises problems such as trip hazards and damage to carpet.

The use of proprietary patching and levelling compounds is recommended to make the transition between floor surfaces smooth and gradual.

In installations where the carpet tiles abutting ceramic tiles or the like, it is important that a smooth transition is achieved at the junction. Aluminium edge trims are recommended for this purpose. They enable a flush cut with the trim, while providing an excellent guide to apply patching and levelling compounds when ramping is required adjust the height of the subfloor. (See Australian Standard AS 1428.1:2021 Design for access and mobility Part 1: General requirements for access – New building work)

Carpet transition

It is important that the junction between carpet tiles and broadloom carpet is clearly visible and that any trip hazard is minimised by using edging strips. A variety of edging strips are available for this junction. The relevant manufacturers can supply further advice on installation and use of these types of trims.

Diminishing strips

Diminishing strips should be used at all exposed edges of Inspired Floorcoverings carpet tiles when they are not abutting another flooring material to minimise trip hazards.

Expansion Joints

Expansion joints are placed in concrete substrates to allow for expansion and contraction of concrete during and after placement. They are designed as a movement joint and as such must never have floor coverings installed over them without an expansion joint cover. It is important that these joints extend through the carpet tiles/planks.

Adhesive

The list of Inspired Floorcoverings Recommended Adhesives can be found in the table below:

Manufacturer/ Suppler	Adhesive	Primer	Technical Data Sheet Link
Mapei	Ultrabond Eco fix (PS)* Ultrabond Eco Tack (PS)	No Primer list for this adhesive	Mapei website
Nexus	NA840 (PS)	Nexus 510 Acrylic Floor & Wall Primer	Nexus website
RLA	RLA GS300 (PS) RLA GS444 (PS) Polymer 999 (PS)	Green Solutions R400 Premium Commercial Floor & Wall Primer.	RLApolymers website
Roberts	Roberts 656 (PS) Roberts 585 (PS)	Roberts R48 Universal Primer	RLApolymers website

There is no single adhesive that's suitable for all types of carpet tiles/planks. Adhesive manufactures specify in their technical data sheets the limitations of their adhesive with regards to subfloor porosity, temperature, relative humidity and pH along with ambient temperature and relative humidity of the installation area as well as the square metre spread rate using a 10mm nap roller or V1 1.6 X1.6mm V notched trowel.

Pressure Sensitive adhesive

Pressure Sensitive Adhesives are solvent free and low odour. They are specially formulated for installing PVC backed and fibre backed, cushion backed carpet tiles and planks. There are many acrylic adhesives on the market. Most are water based, which means that the curing action occurs when the water evaporates into the porous substrate after the adhesive is applied.

They can be classified as **semi-soft set** or **pressure sensitive** for a semi-permanent installation.

Application of adhesive

If the subfloor is porous, it should be primed using a primer compatible with the adhesive, as recommended by the adhesive manufacturer.

Inspired Floorcoverings recommend the use of a 10 – 12mm nap roller to be used to apply the adhesive to the

Subfloor when installing PVC and PE backed carpet tiles when laid in a releasable mode. This roller needs to be maintained during the application of the adhesive in order to ensure an even coverage of adhesive.

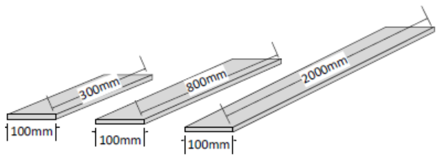
Installation of Cushion back tiles/planks

Adhesive should be applied with a V1 notch trowel as this is critical to ensure an acceptable adhesive coverage for the cushion back product.

Adhesive manufacturers provide details of the open time for their adhesive however these times will be influenced by ambient temperature, relative humidity in the installation area and subfloor porosity.

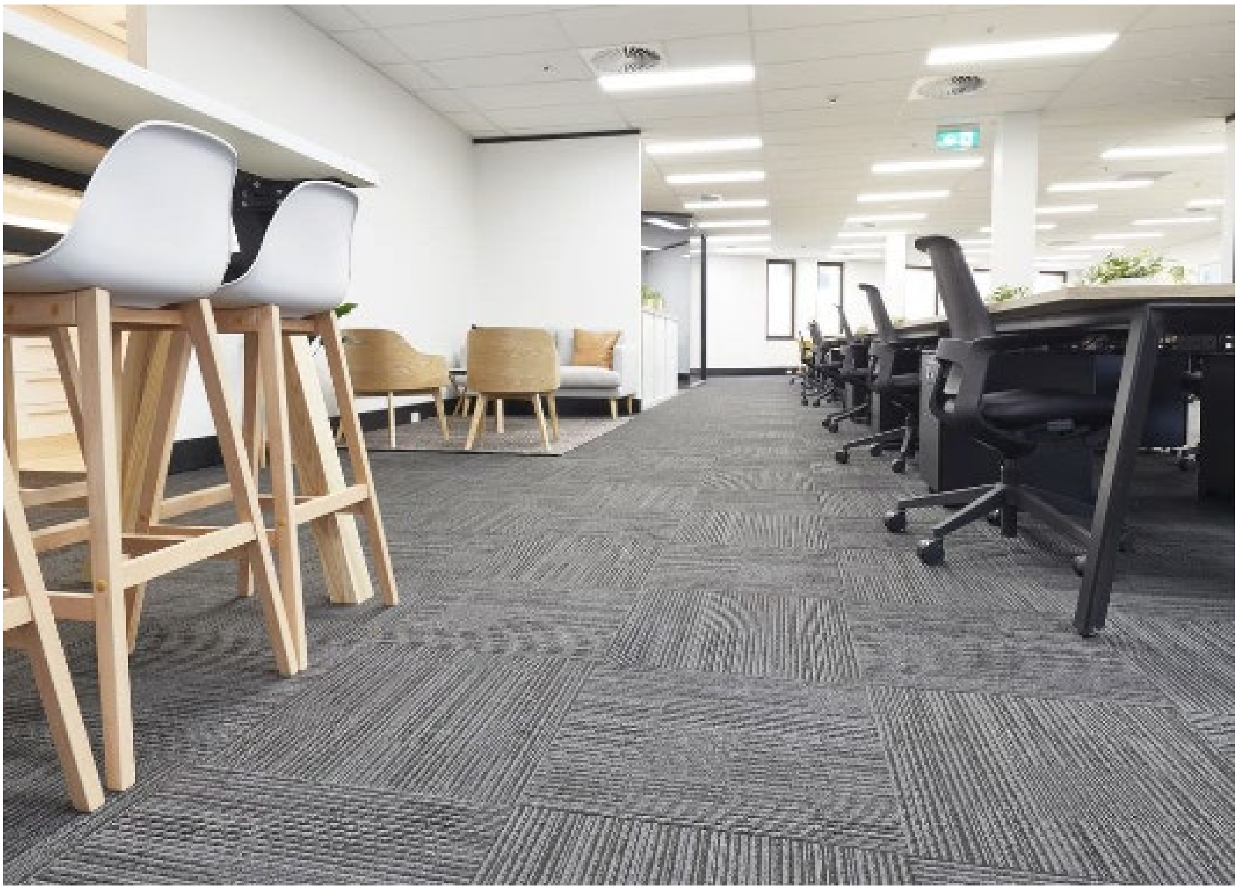
Best practice is to divide the installation area into workable sections.

Hand & power tools for carpet tile installation

		
Moisture test equipment	**pH test papers**	**Builders square 600mm**
		
Chalk and chalk line	**tape measure**	**Pencils**
		
Range of straight edges	**Bosch Layout Laser**	**Infrared thermometer**
		
Utility knife	**Wall trimmer**	**Carpet tile wall trimmer**
		
Carpet tile cutter	**V1 notched trowel**	**Long napped roller**

		
Pallet jack	**Flat tile trolley**	**Hand Truck**
		
Battery drill	**Hammer Drill**	**Hacksaw**
		
Hammer	**Hand Roller**	**Floor Roller**
		
Hand brooms	**Vacuum cleaner**	**Polyweave rubbish bags**

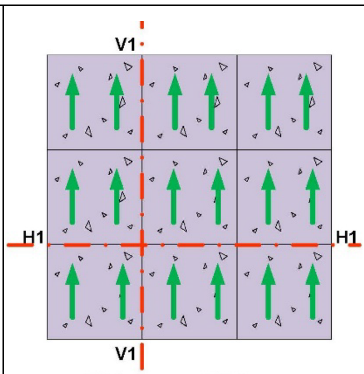
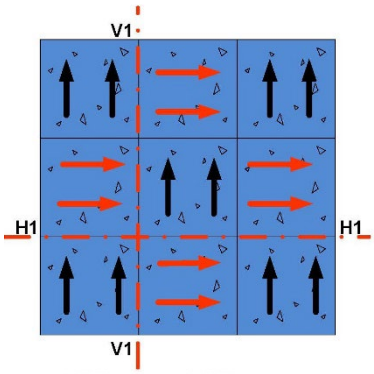
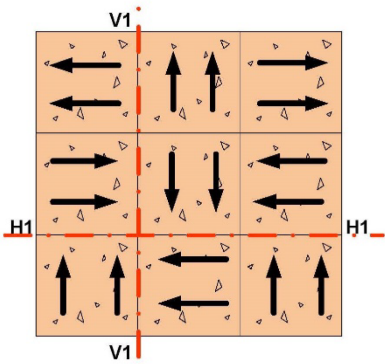
Installation of Carpet tiles & Planks

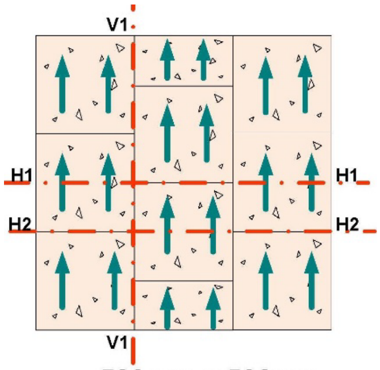
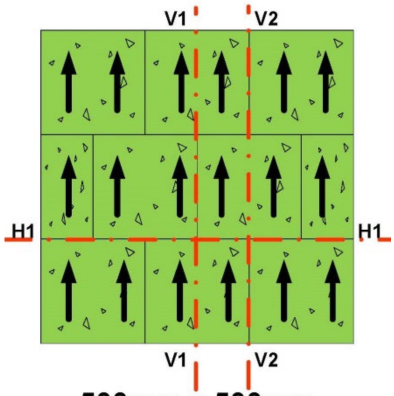


Carpet tile installation methods

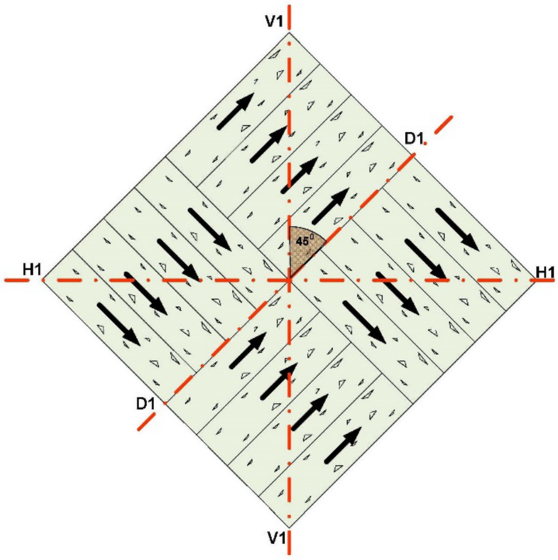
Consideration must be given to the design and construction of the carpet tiles, as well as the level of foot traffic they will be subjected to, when selecting the configuration of carpet tile installation. This will assist in maximizing the performance and appearance retention of the carpet tiles. Prior to the installation always refer to the Product Brochure for recommended pattern configurations and installation methods. Please contact your local area sales representative to discuss the installation options

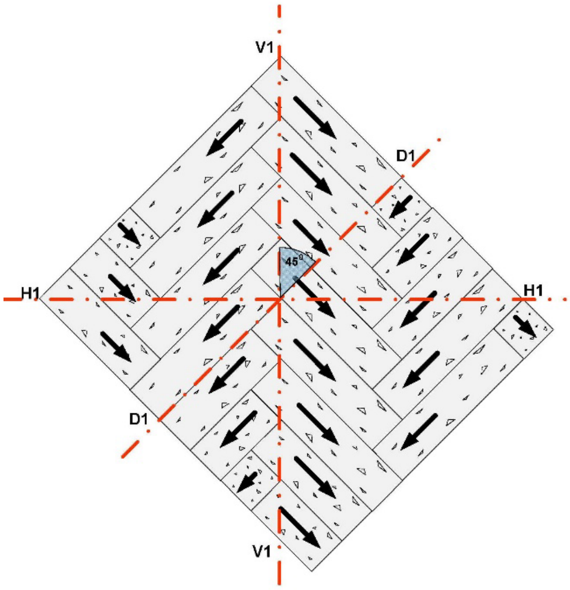
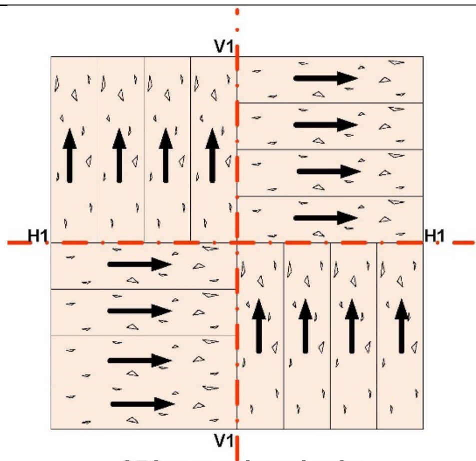
NOTE: Each carpet tile has a directional arrow printed on the backing to show the pile direction

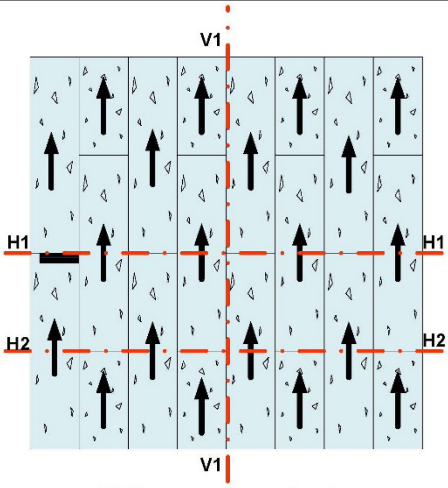
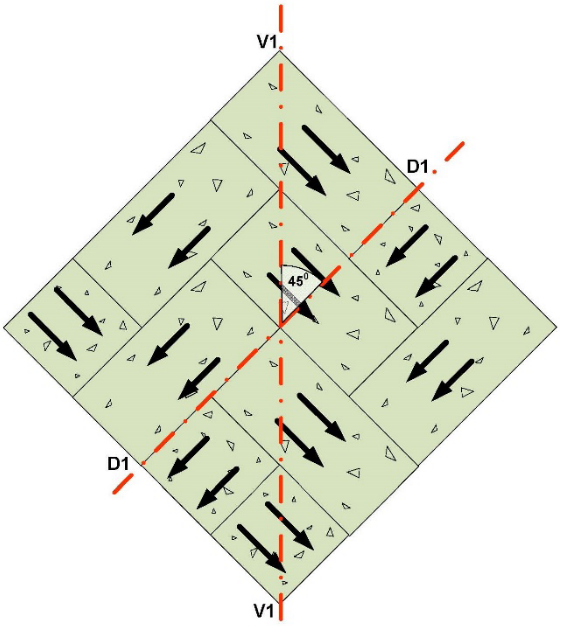
Single Directional Installation An arrow is printed on the back of each carpet tile to indicate pile direction, make sure the arrows point in the same direction throughout your installation. Note lineal patterns when installed directionally may produce an undesired effect when two lines of the same colour meet on two edges. **Suitable for Ultimate Range, Mist Range** **This installation method is suitable for Light-Medium Commercial traffic areas**	 **500mm x 500mm** **Single Directional**
Quarter Turn Installation In this case, the arrows should be turned 90^0 degrees every other modular tile. Each tile will appear to be slightly different colour when quarter-turned due to the varying pile direction **Suitable for Ultimate Range, Mist Range** **This installation method is suitable for heavy Duty Commercial traffic areas**	 **500mm x 500mm** **Checkerboard**
Random Installation This pattern allows installation of carpet tiles without regard to arrow direction, creating a unique pattern **Suitable for Ultimate Range, Mist Range** **This installation method is suitable for Heavy Duty Commercial traffic areas**	 **500mm x 500mm** **Random**

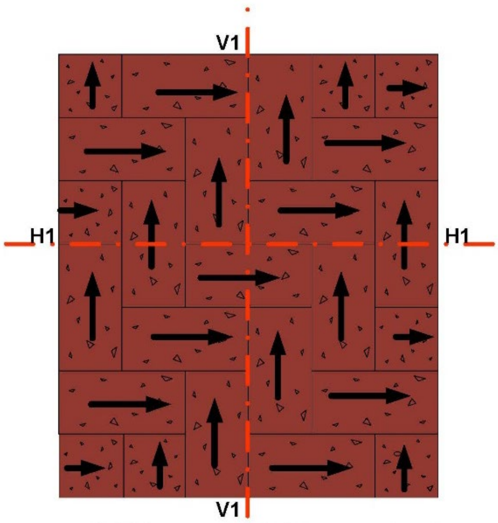
Ashlar Installation This pattern is created by offsetting the side joins of the carpet tiles. All arrows should point in the same direction **Suitable for Ultimate Range, Mist Range** **This installation method is suitable for Heavy Duty Commercial traffic areas**	 500mm x 500mm Ashlar
Brick bond Installation This pattern is created by offsetting the front and back joins of modular tiles. All arrows should point in the same direction **Suitable for Ultimate Range, Mist Range** **This installation method is suitable for Light-Medium Commercial traffic areas**	 500mm x 500mm Brick Bond

Here are some more elaborate designs using rectangular or plank carpet tiles

The **Basketweave** pattern requires three centre line or axis line as seen in the drawing a vertical (V1) a horizontal (H1) and a diagonal (D1) to establish the correct positing of the planks at the starting point of the installation **Suitable for the Urban Range, Austral Lights Range**	 **250 mm x 1m planks** **Basketweave**

Herringbone is another pattern that requires three axis lines vertical (V1) a horizontal (H1) and a diagonal (D1) to establish the correct positing of the planks at the starting point of the installation. The diagonal axis D1 is at 45^0 degrees to the vertical and horizontal centrelines as the pattern is simple turn at 45^0 to produce a different effect. **Suitable for the Urban Range, Austral Lights Range**	 250mm x 1m planks Herringbone
Some of the more standardised patterns using **Suitable for the Urban Range, Austral Lights Range**	 250mm x 1m planks Quarter Turn

Planks installed using an ashlar pattern **Suitable for the Urban Range, Austral Lights Range**	 250mm x 1m planks Ashlar
Another example of a herringbone pattern using a wider width plank again providing a variation to the way the pattern appears. **Suitable for the Knit Range**	 4572 mm x 9144mm planks Herringbone

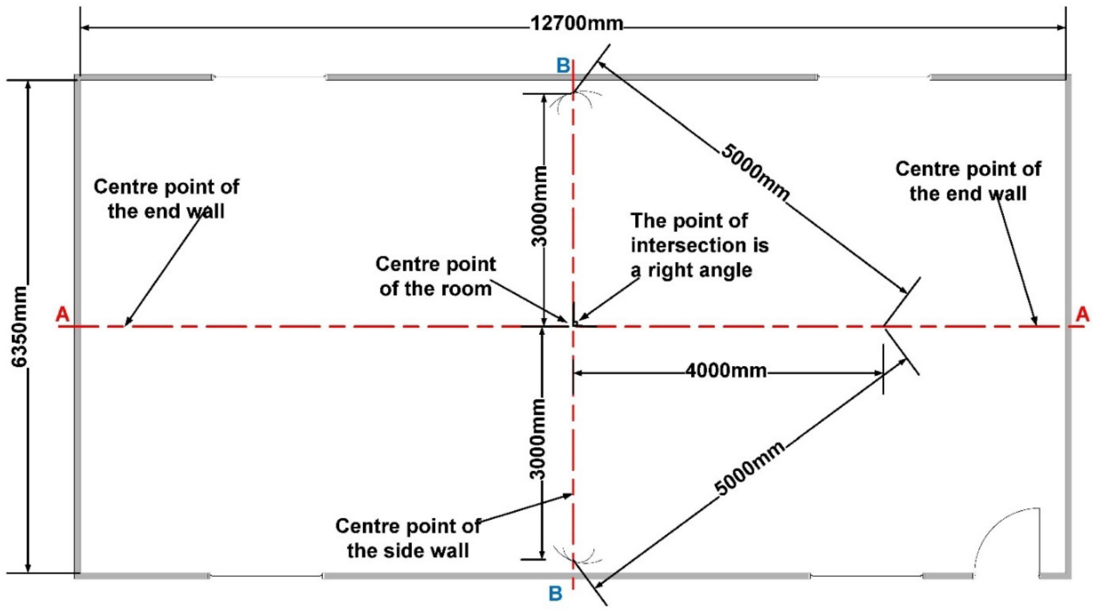
Rectangular pattern configuration **Suitable for the Knit Range**	 **4572mm x 9144mm planks** **Rectangular linstallation**

Site Layout

1. The starting point in a modular carpet tile installation must be as near to the centre of the room as possible and must be positioned to utilise the largest perimeter cut module size.
2. Snap a chalk line parallel to one major wall bisecting the starting point. It may be necessary to offset the centre chalk line to assure perimeter modules will be at least half size.
3. A second chalk line must be snapped from the starting point at 90° to the first line. This can be accomplished using a 3-4-5, 6-8-10, or larger triangle, depending on the room size (see Illustration A). Metres or feet may be used to lay out the triangle in these proportions.

When starting a modular carpet installation, proper layout is the most important consideration. Placing and working off good square chalk lines is just as important as with vinyl tiles. The starting point in a modular installation must be as near to the centre of the room as possible and must be positioned to utilize the largest perimeter cut module size.

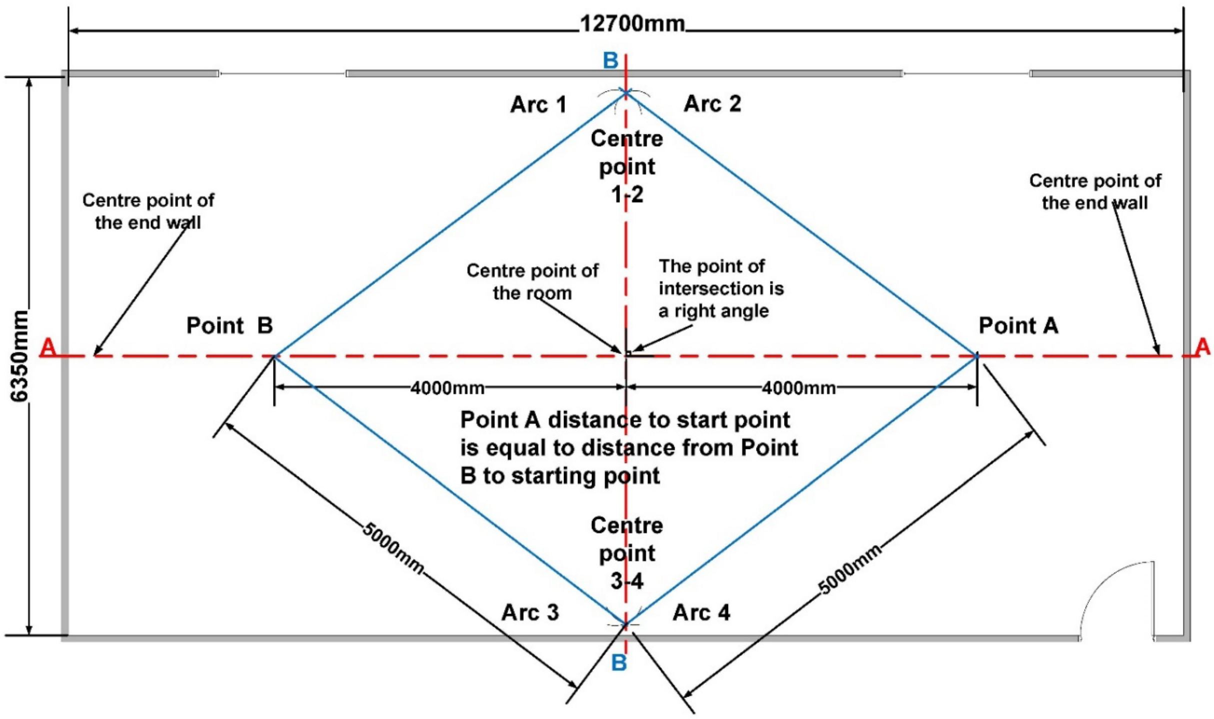
The use of lasers or transits offer the best results, however, the good old '3, 4, 5' triangle method still suits the purpose. When using the '3, 4, 5' method, always use the largest multiples possible. For example, you may use '9, 12, 15' which is 3 times the size of using 3 metres, 4 metre and 5 metre set-out. Try to extend your lines out as far as possible.



Setting out a right angle using the 3,4,5 method

Another easier method for establishing a 90-degree angle to your base line is technically known as constructing a bisector. This method also uses geometry just like the '3, 4, 5' triangle method, but does not require you to remember any numbers. In fact, it does not really require you to have a tape measure.

All you have to do, once you have established where on your baseline you want to start, is to measure from that point down the baseline exactly the same distance in both directions. Call this distance "A". Put a mark on the baseline at both of these points. From these two points, all you do is measure diagonally back toward the start point some distance greater than distance A and strike intersecting arcs just like in the '3, 4, 5'. Call this distance "B". The larger distance "B" is, the closer to the wall this intersection point will be just as in the '3, 4, 5' method, this procedure should be done on both sides of the baseline.



Setting out a right angle using the bisector method

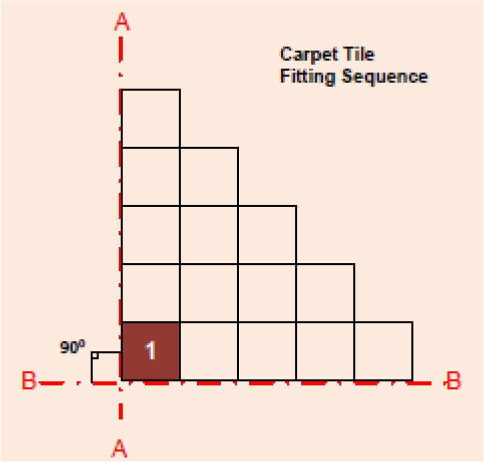
Using a laser

A laser is a great tool to assist in establishing you centre lines however it is best to mark your centre lines and working lines on the subfloor with a pencil and straight edge or chalk line so that you have a permanent record of where the line was established in the set-out process and cannot be loss if the instrument is bumped or the beam hidden while laying tiles to the laser line.

Sequence for lay square tiles

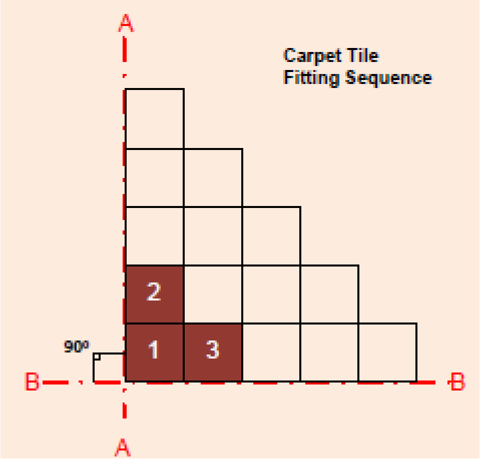
Always build your installation in a pyramid fashion checking your module corners for line up as you go. Different manufacturers have varying standards as to how far out of alignment the corners can be and still be acceptable.

As a general rule, no more than 2mm of misalignment should be tolerated on a reasonable non-undulating floor.



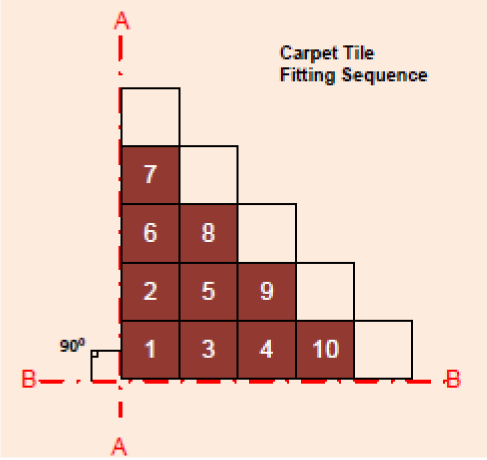
Keeping your installation close-fitting, square and properly aligned. Modules should not be compressed or forced into position. By the same token, modules are not just placed on the floor. They need to be snapped, clicked or racked into place with a firm hand.

Always place the module in from the side to prevent trapping the yarn in the joints. Pressure can be applied evenly to the ends or sides to adjust and maintain corner alignment and closeness of abutment.



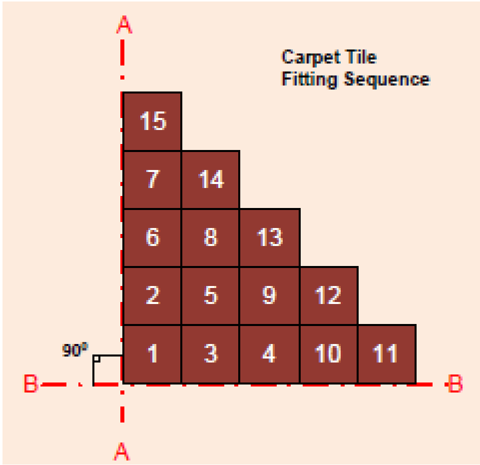
Concrete sub-floors are not flat. They roll, sag, and peak, and will influence tightness and keeping square. Your diligence and skill will keep this in check, and sometimes you just must work through variances.

Typically floor induced misalignment will come and go in a random fashion. Misalignment that continues to increase in the same direction indicates an out of square condition either in the layout or the product. If this condition arises, **DO NOT** continue. The condition will only get worse. Stop, diagnose, and correct the problem before proceeding.



When setting the modules on adhesive, a quick hand rub is usually sufficient to create a bond with the adhesive. Using a weighted roller is best practice when completing the installation.

A common rule of thumb with any 500mm x 500mm module is no greater than 3-5mm growth over 11 modules (10 seams). This figure must be kept within the specification provided by the manufacturer and must be consistent throughout the installation.



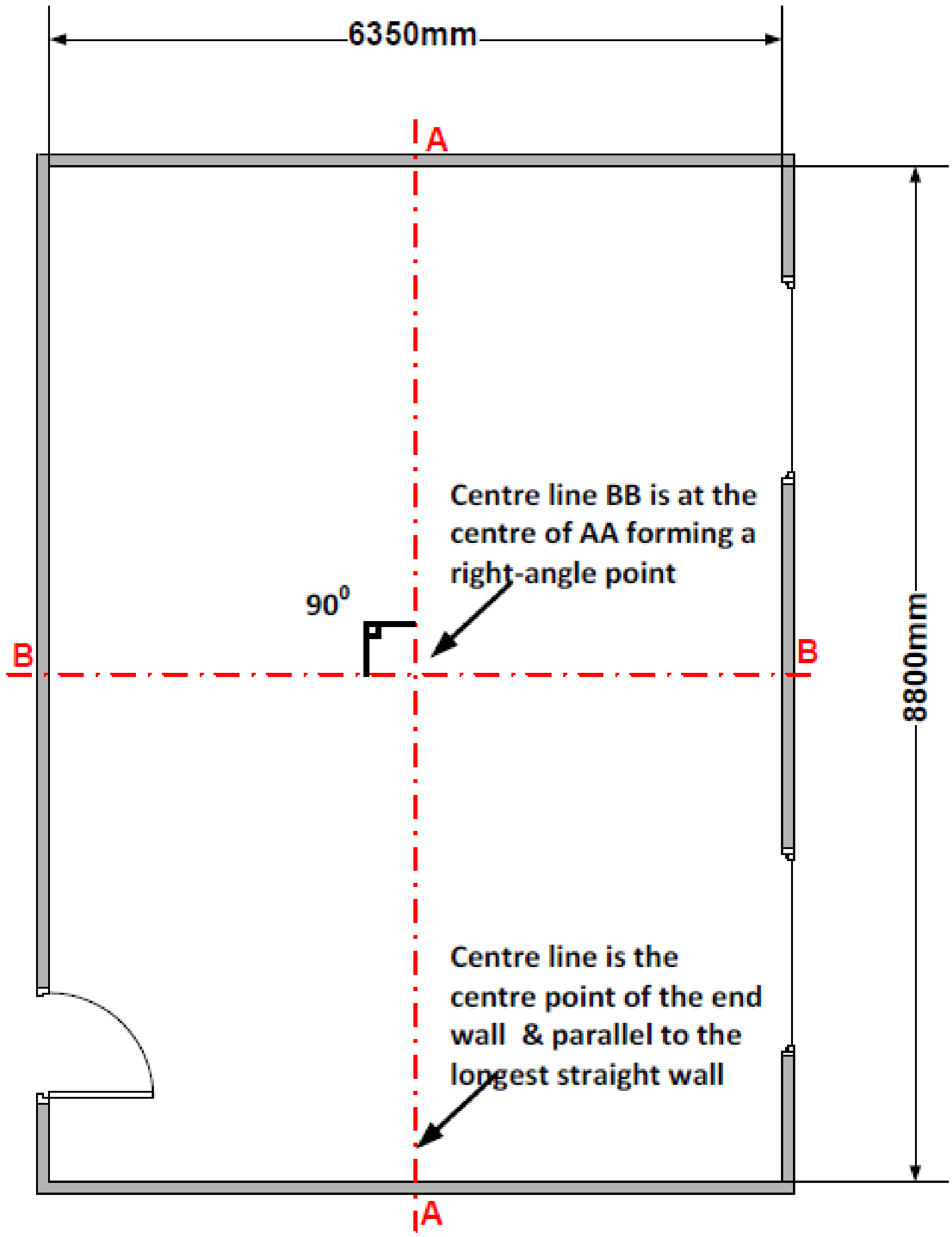
Working lines

Once you've marked out the two centrelines, you can look at the issue of where the tiles will fall at walls, fittings, and thresholds, and how wide the **perimeter tiles** to be cut at the perimeter of the installation will be. Ideally perimeter tiles will be slightly less than a full tile or slightly less than a half tile in a balance installation to minimise waste.

The 'perimeter tiles' – are the ones that go around the perimeter of the installation.

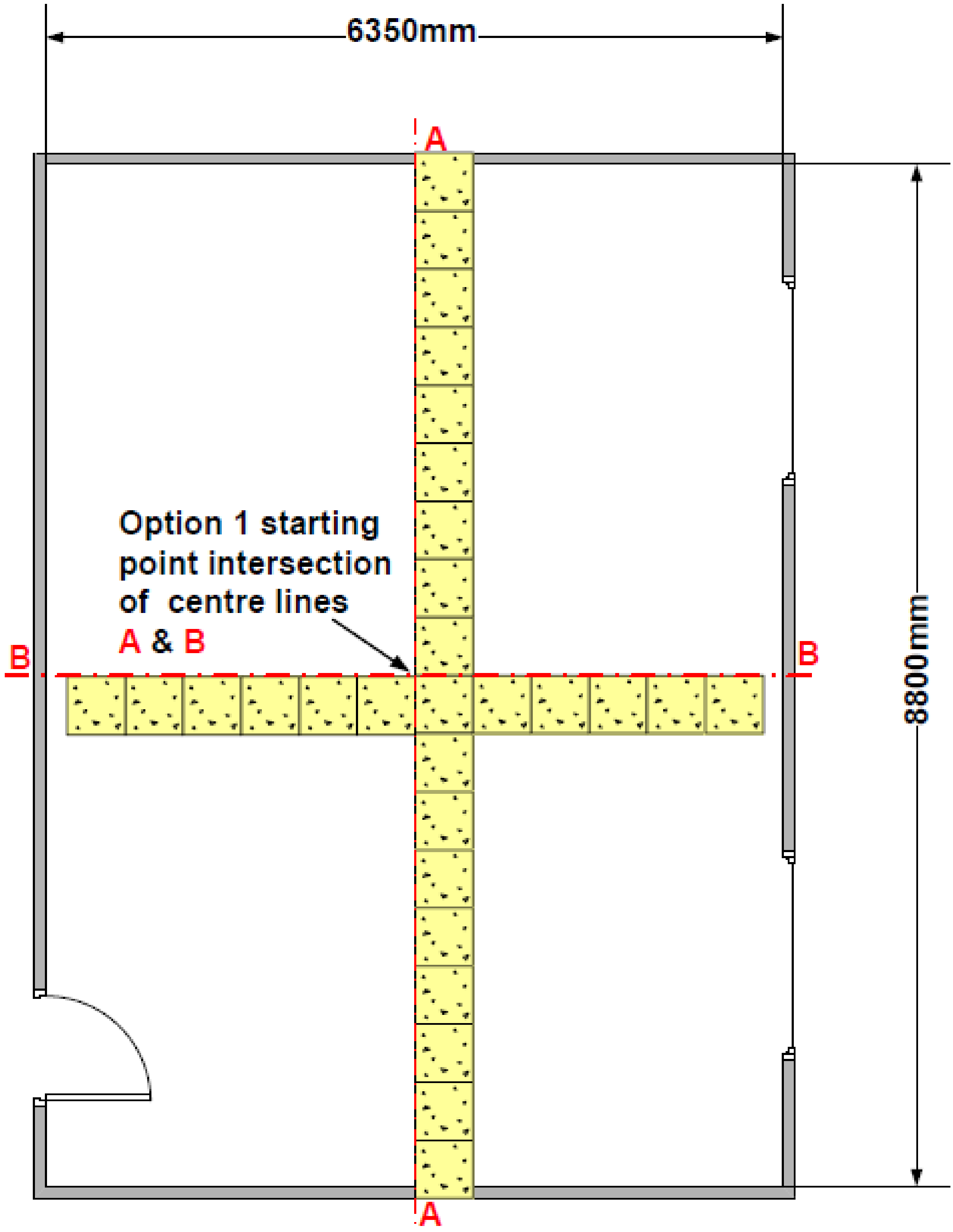
They enclose the **field tiles** that form the main body of the floor covering installation. What you're trying to avoid is a narrow strip of perimeter tile, which not only look less pleasing to the eye, and accentuates any taper that might occur if the perimeter walls are not parallel or run at an angle to the centre line. Narrow strips of tile at the perimeter are also more difficult to fix into place and can become dislodges during cleaning operations at some point.

- When seeking to minimise waste and balance the tile installation, start by finding the centre of the room in length and width.
- Setup the right angles axis as described above
- Measure or dry lay tiles from the centre axis to the perimeter walls to minimise waste and to access the best aesthetics for the finished installation
- To assess an alternate installation option measure and mark a working line offset by half a tile, from the vertical and horizontal centre line

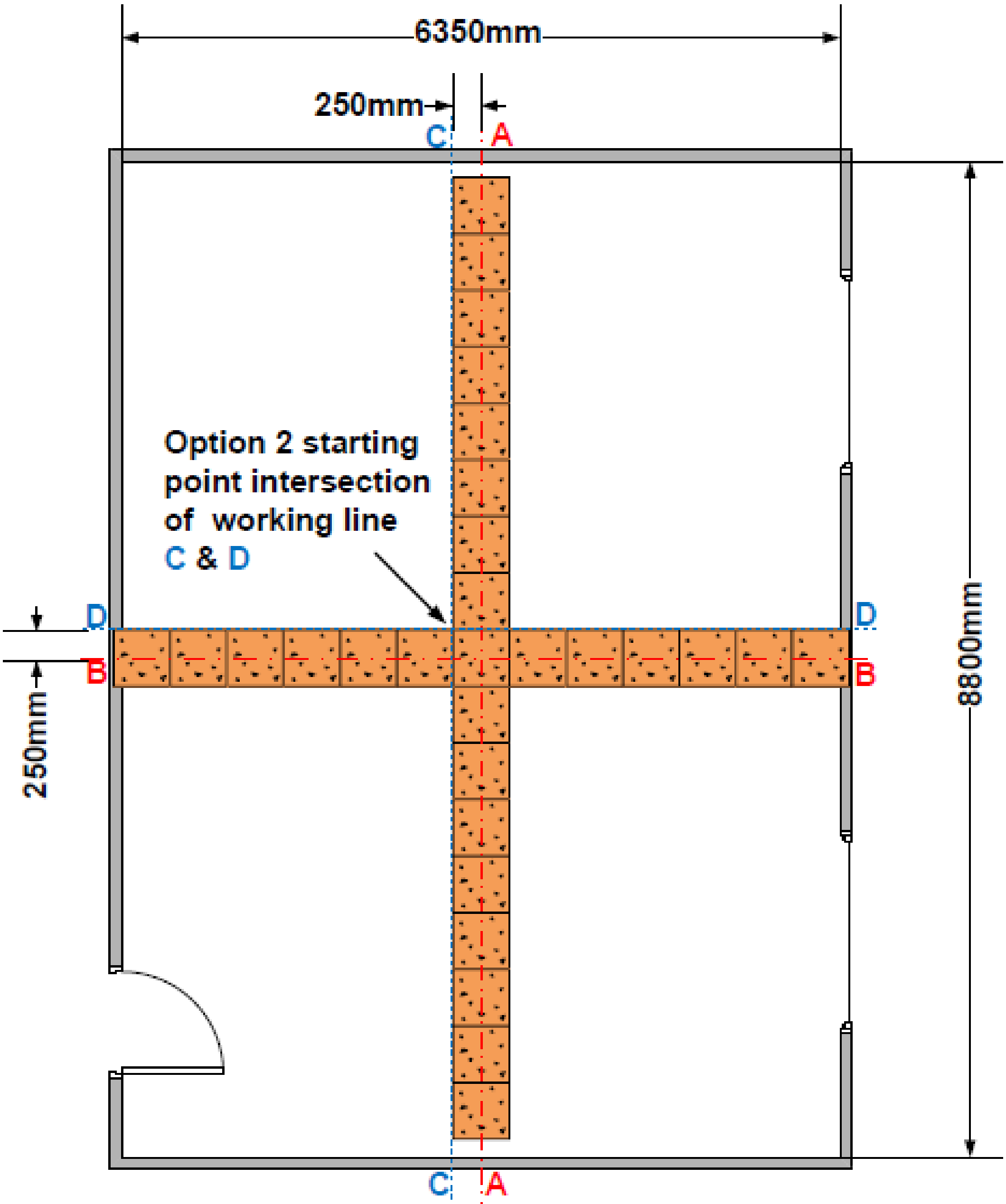


Initial installation set-out for square 500mm X 500mm carpet tiles is to establish a centre line in the length, A and width, B of the installation area

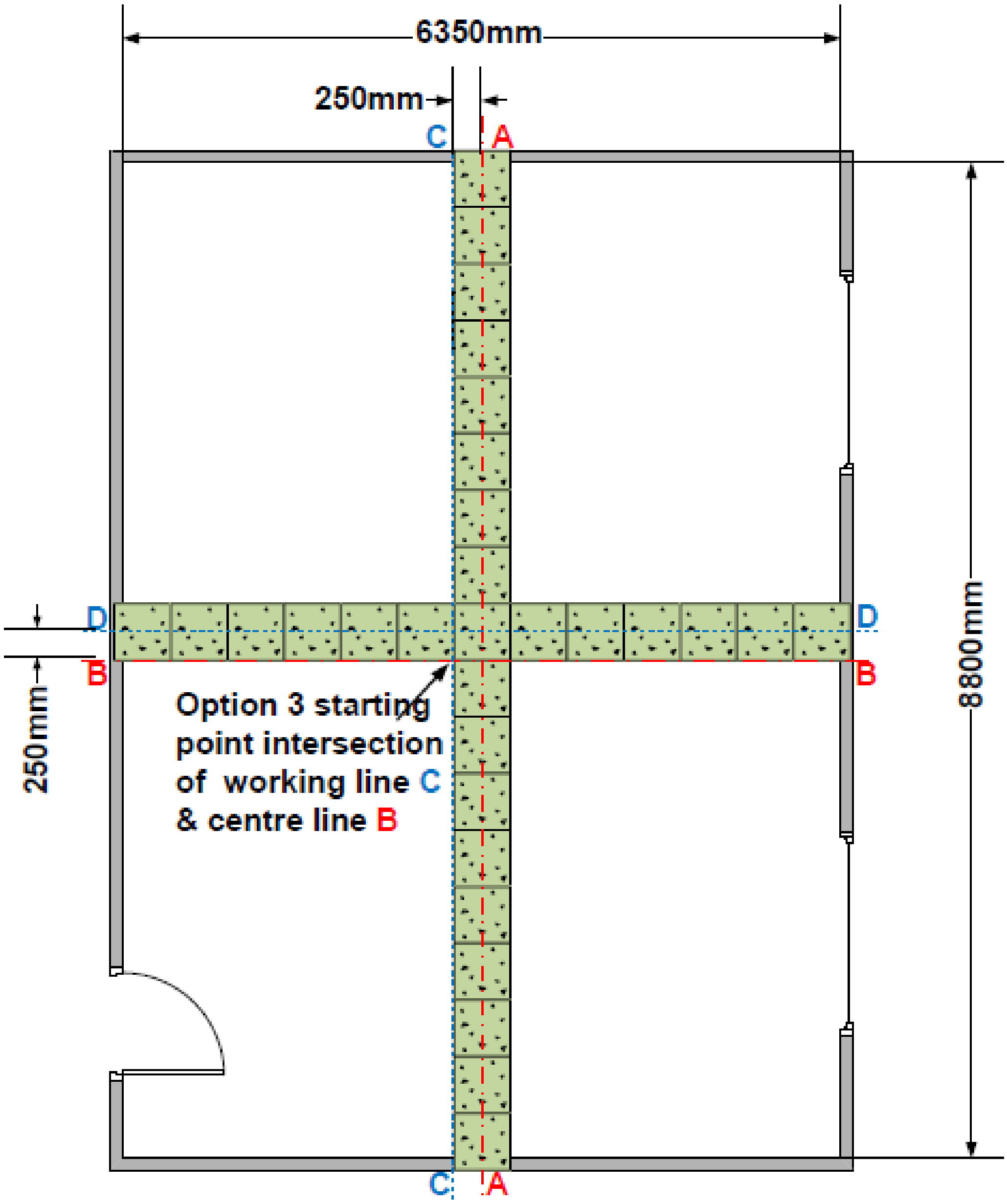
You also need to set out where the tiles will fall in relation to any architectural features in the room, such as columns, recesses, projections and entry doors.



Option 1 set-out is to use centre lines A & B to establish the position of the tiles at the perimeter walls as a balances installation will minimise waste



Option 2 set-out is to add two working lines C & D 250mm (half the width of the 500mm tile) from centre lines A & B to establish if this position improves the balance of the installation at the perimeter walls



Option 3 set-out using working line C and centre line B provides the best balanced installation of the three options as this position improves the balance of the tiles at the perimeter walls and minimises waste for this simple installation

If you can avoid awkward cuts or small fill-in pieces, the job will be easier to do, and the result will look more professional.

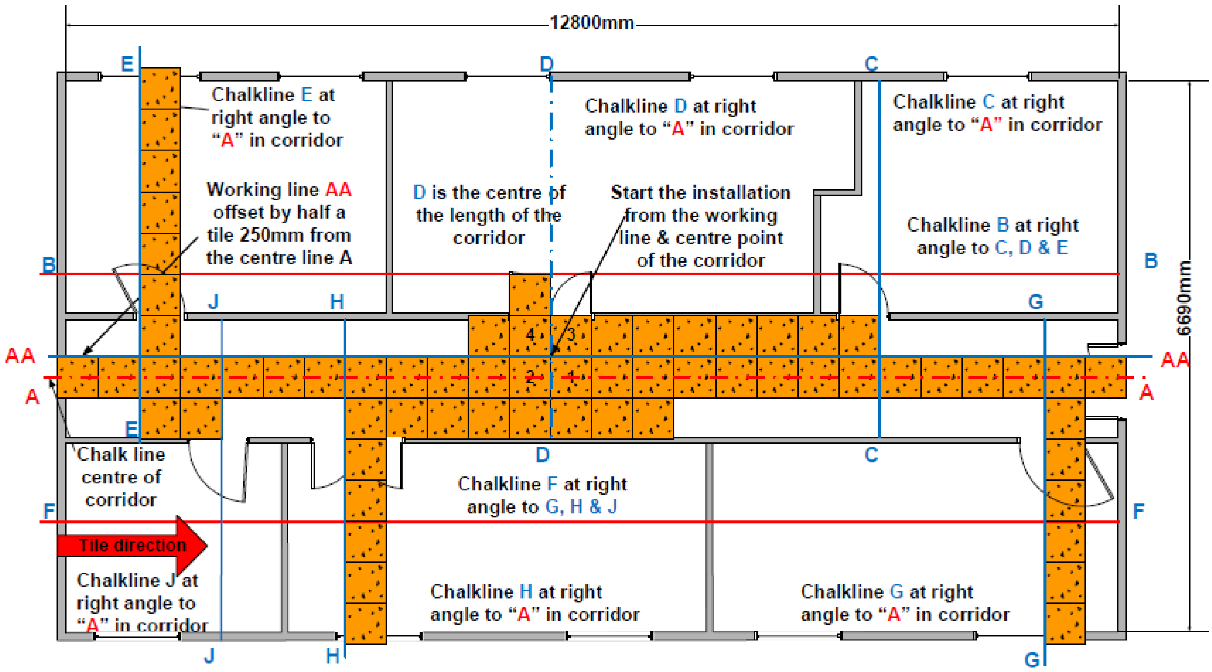
If it is decided to have the centre row of tiles straddle either for both centre lines, additional guidelines should be snapped on the floor half the width of the tile, on one side of the longest centre line or both A and B centre lines as required. (See Figure above.)

Minimising carpet tile waste

Centre lines are established in an installation area to maintain the vertical and horizontal integrity of the carpet tile installation regardless to the shape the carpet tile, it is the establishment of working lines that determines the balance and economy of the of the layout of the carpet tiles that allow the minimisation of waste. Several set-out drawings have been provided below identifying some general rules for square tile set-out. The same basic rules apply regardless to the tile shape. Specifics for individual carpet tiles/planks are provided in carpet tile manufactures installation instructions for specific patterns.

Setting out connecting rooms and corridors

The drawings below show rooms with a common corridor.



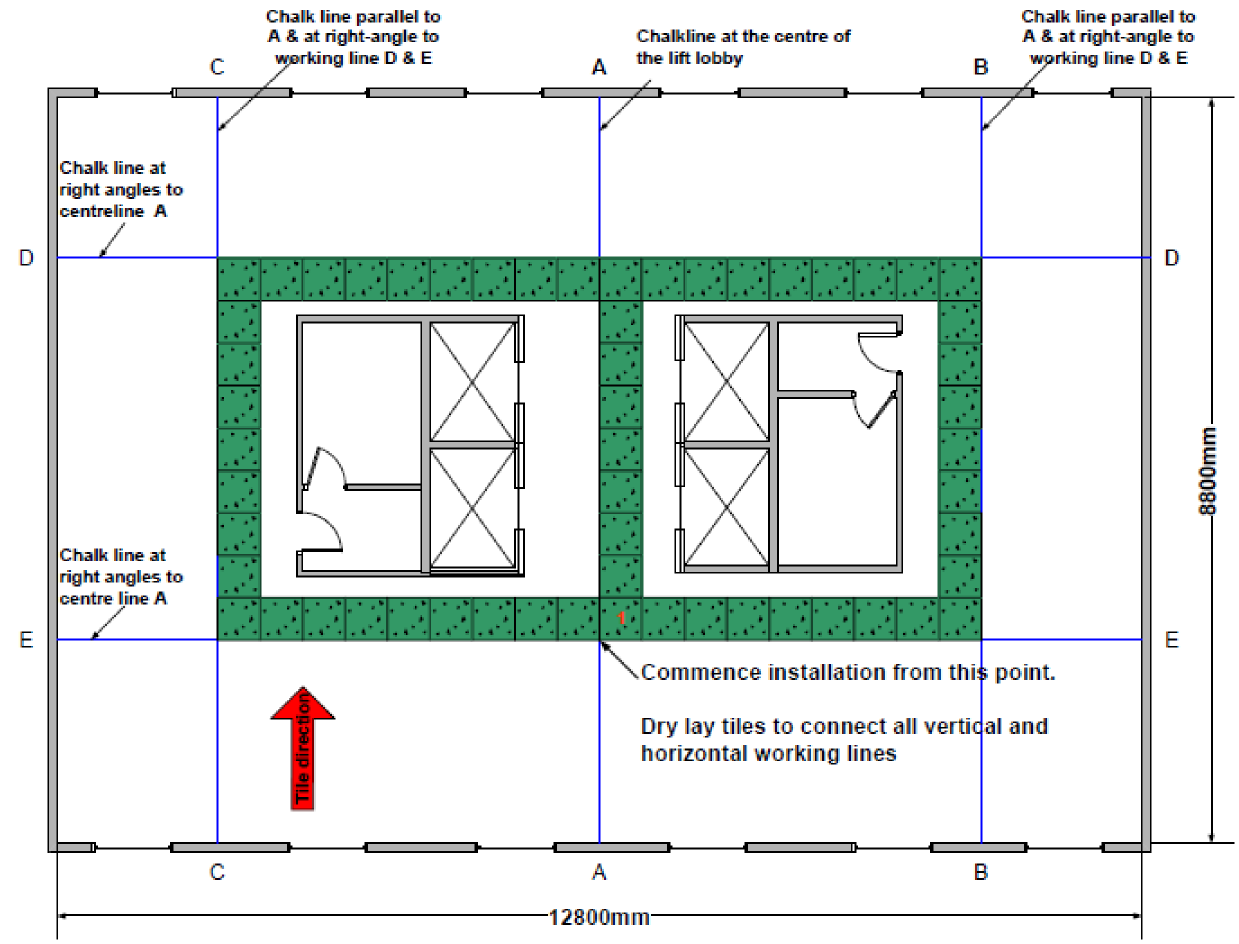
To set out this area out for 500mm X 500mm carpet tiles:

Multiple Room Setout

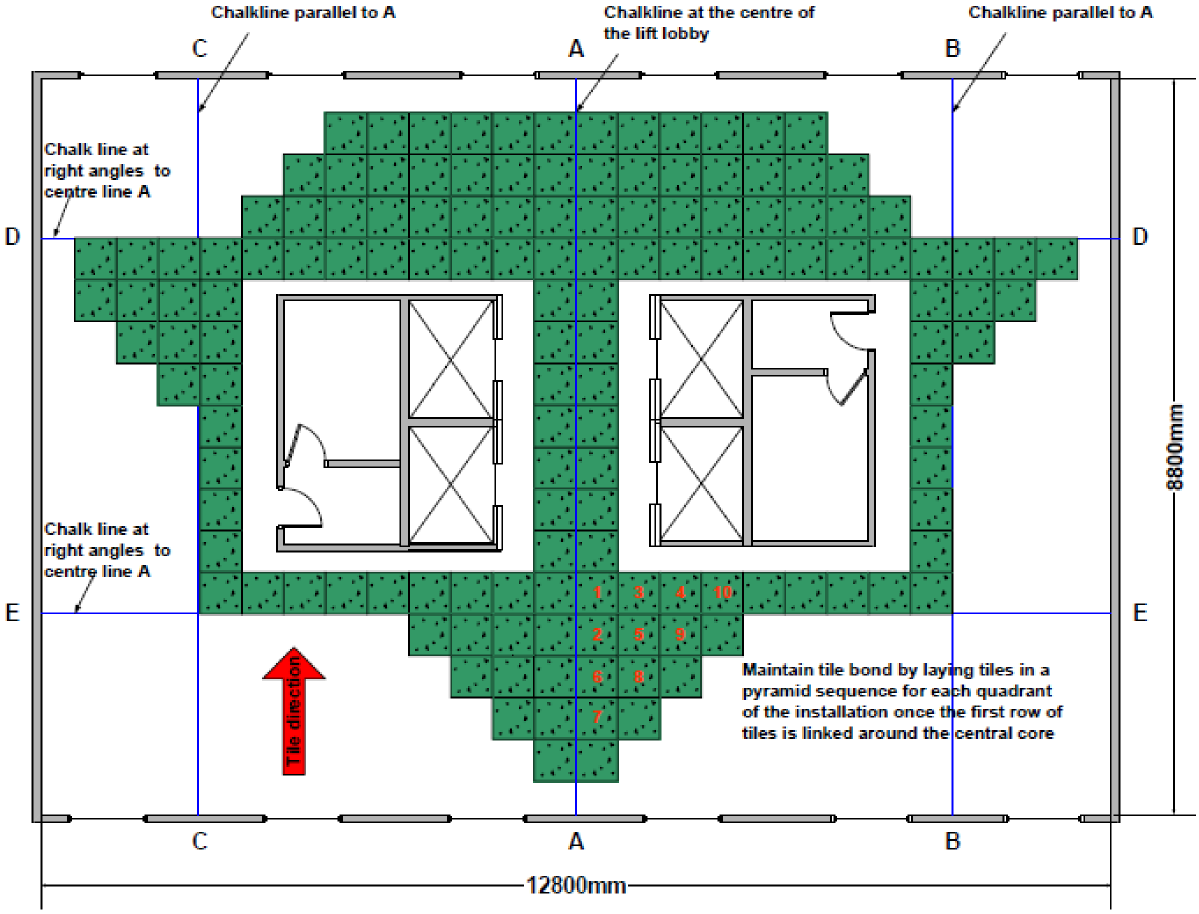
- Starting at the centre of corridor in both length and width with the centre lines allows the tile set out to be balanced.
- Adjusting the position of the 500mm X 500mm tile at the centre of the corridor by half a tile, 250mm, to the working line **AA** ensures a full tile in the main walkway of the corridor.
- Adding the working lines **B, C, D, E, F, G, & H** ensure the tile installation into multiple rooms remains square and in bond to the corridor.
- The length of the installation works to a full tile starting at the centre of the corridor
- The width of the installation works to a full tile starting from working line **AA**

Setting out for a link up

Once you have set- out your working lines it is important to loose lay the first row of tiles around the obstacles to make the required adjustments due to variations in the planeness of the subfloor to ensure tiles remain in bond.

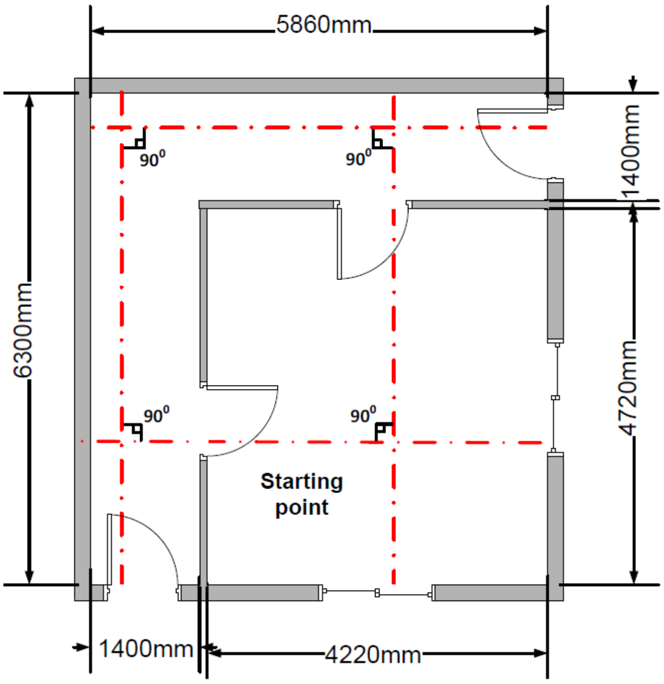


Link up of 500mm X 500mm carpet tiles around a central core

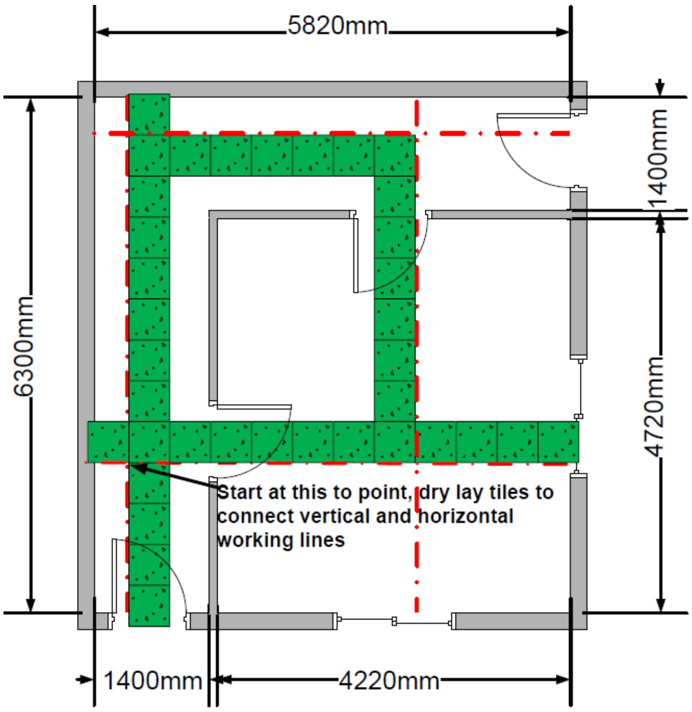


Link up of 500mm X 500mm carpet tiles around a central core

The drawings below show tiles dry laid in a partitioned office area, one to ensure the tiles remain in bond in forming the link up and the other to maximise the size of the tiles to be cut at the internal and perimeter walls.



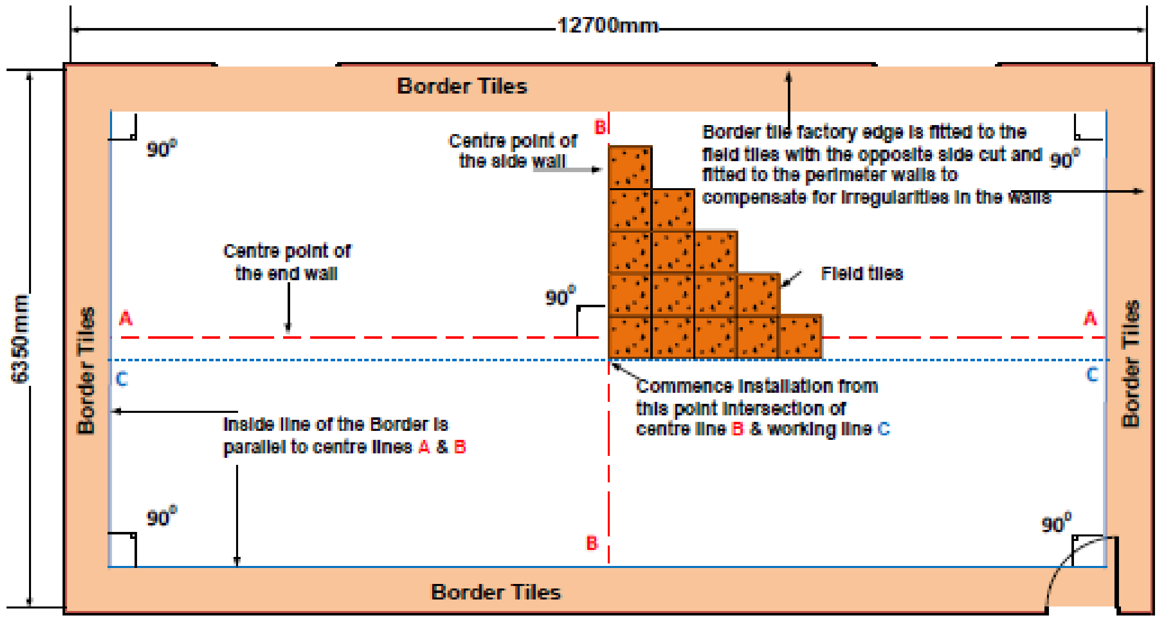
Partitioned office complex requiring a link up setting out 500mm X 500mm carpet tiles



Partitioned office complex requiring a link up setting out 500mm X 500mm carpet tiles

Borders

Borders often used at the perimeter of some of the more complex patterns identified above as this can simplify the perimeter cuts that are required while providing a contrasting finish to the complex design. Borders are used to frame field tiles to highlighting the design.



Layout for straight border installation

Setting out patterns

So far, we've covered the principles, involved in setting out square carpet tiles to single and connecting rooms. We have looked at balancing tile installations to minimise waste by setting out centre lines and working lines.

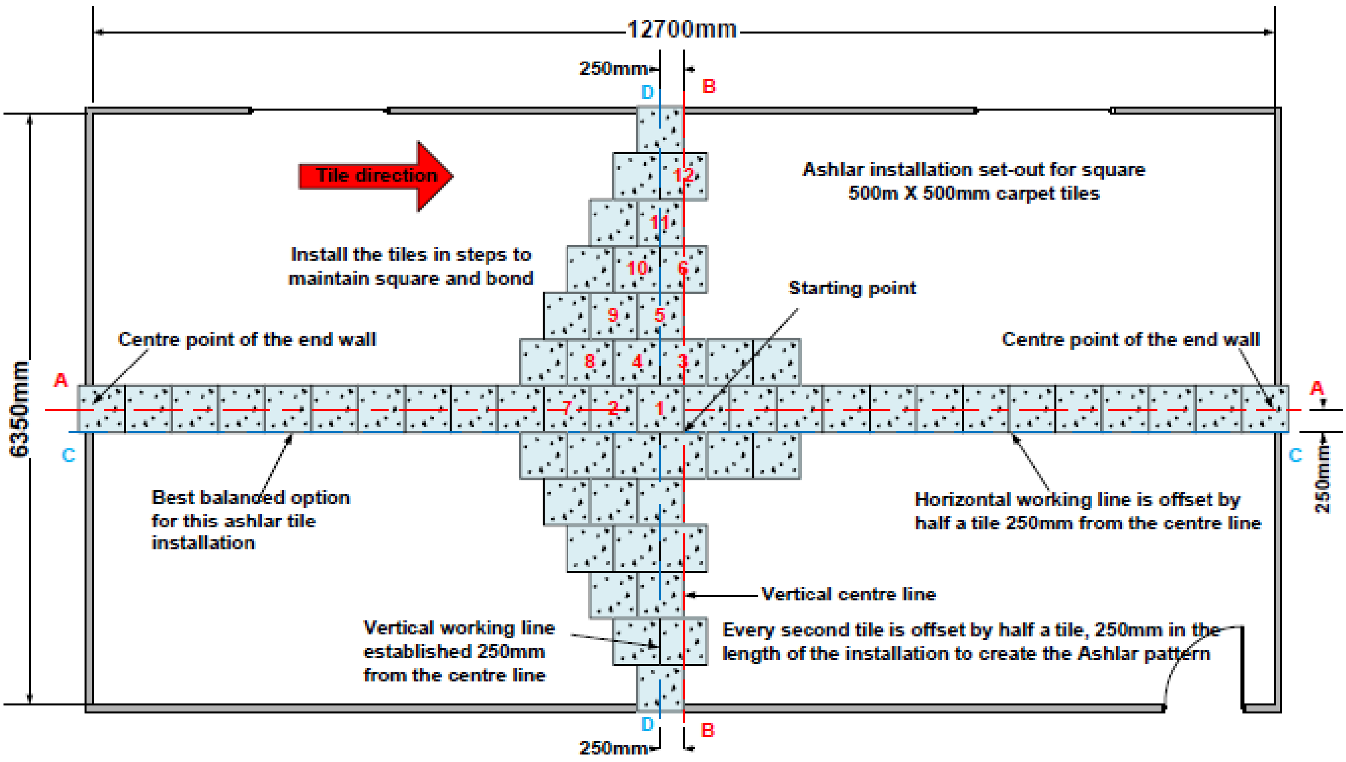
Now we extend these techniques a little further to include the use of simple patterns when laying square carpet tile modules, to create a variety appearance when installing the tiles in the same direction or in a checkerboard fashion.

It is important to understand the pattern specified by the tile manufacturer for each tile type, to maximise the presentation of the tile in the installation area when complete.

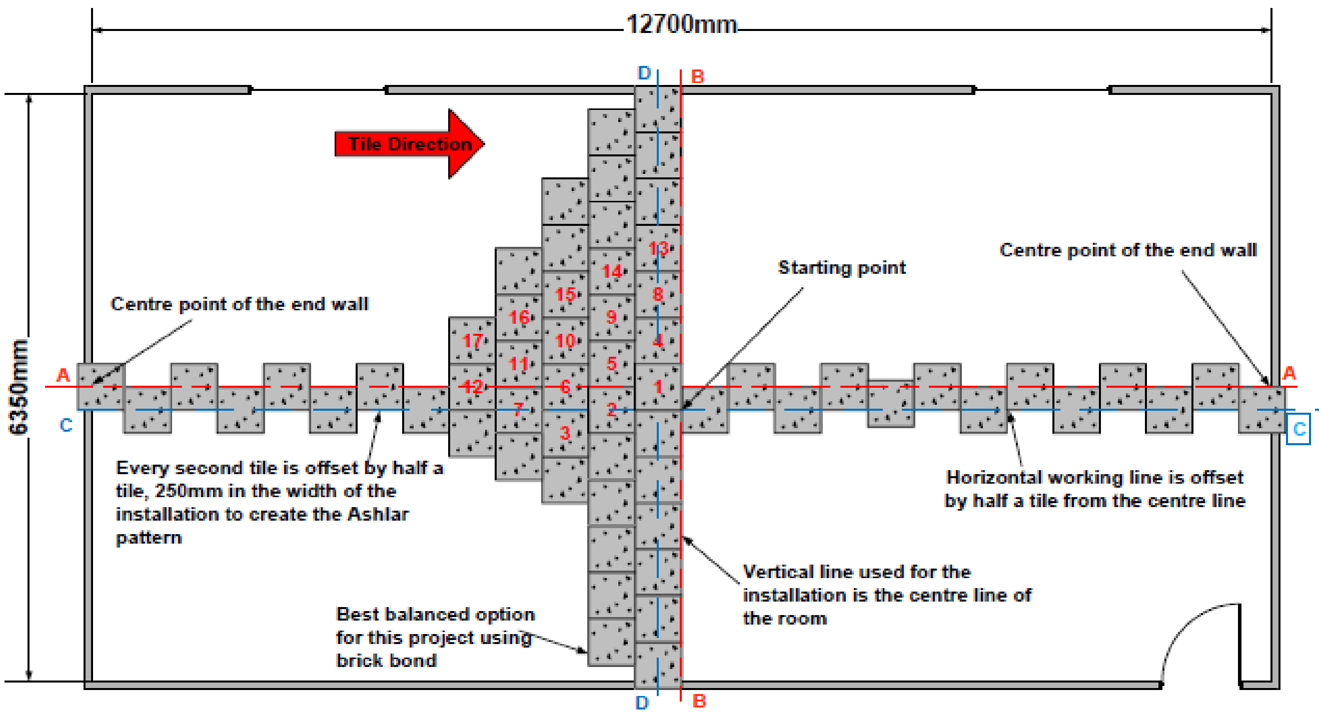
Pattern variations may include **Single Directional, Installation, Ashlar Installation, Brick bond Installation, Quarter Turn Installation and Random Installation.**

In this section we will discuss the procedures required to create each of the pattern types listed above, then extend the use these patterns a little further and look at lay tiles to single and multiple rooms.

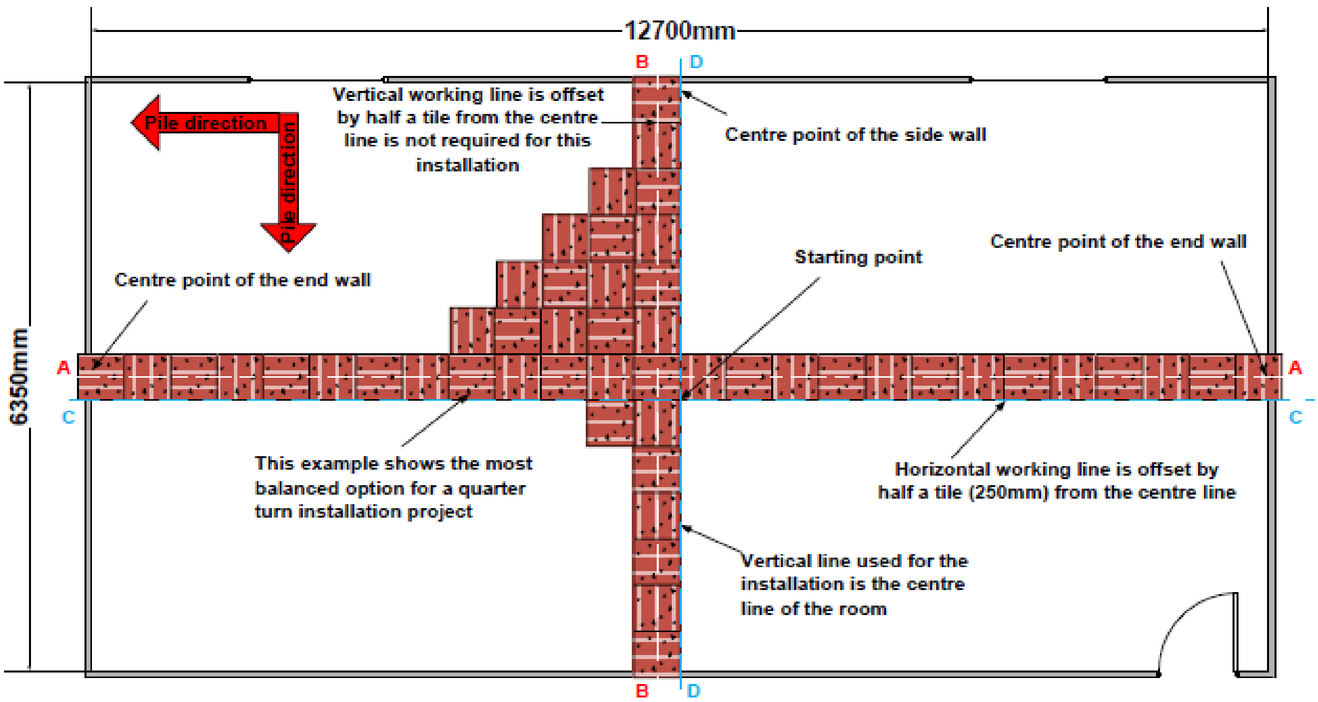
To complete this basic coverage of carpet tile installations, we'll talk about some common installation procedures to be able to continually maintain required production output and product quality on all tile projects you are involved in.



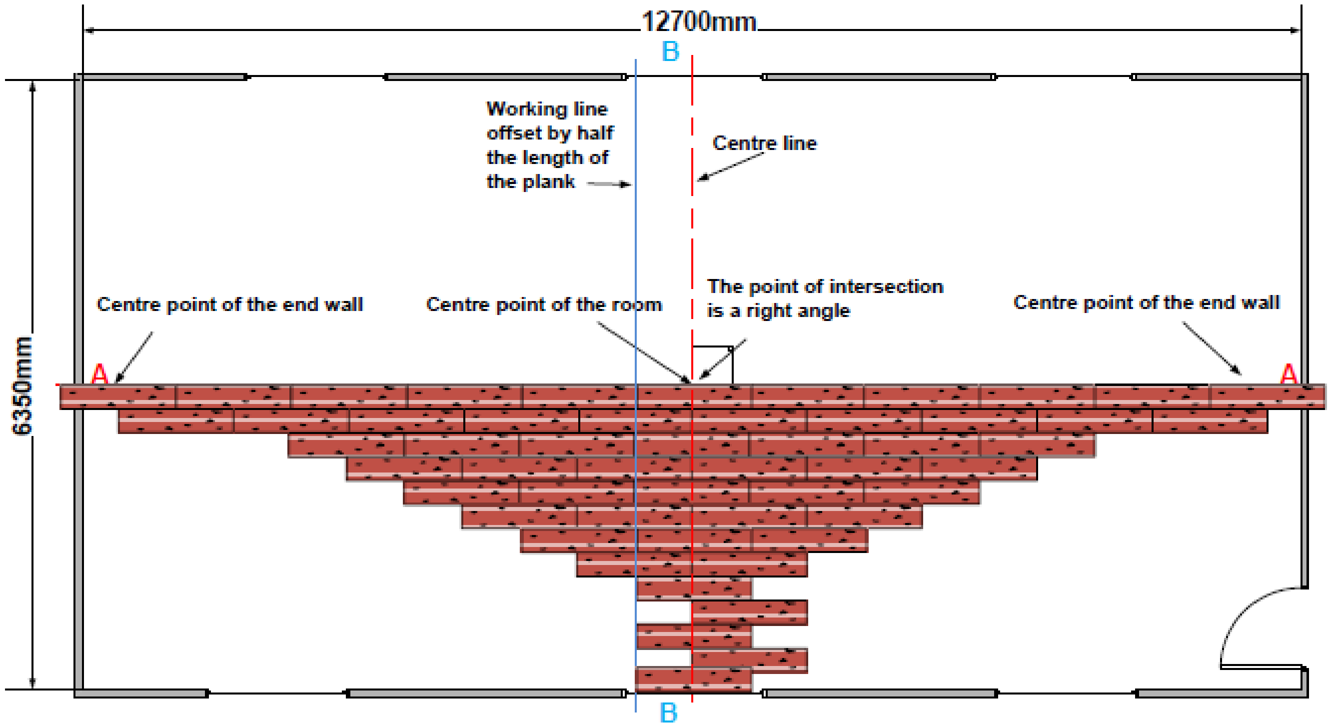
Ashlar installation set-out for square 500mm X 500mm carpet tiles



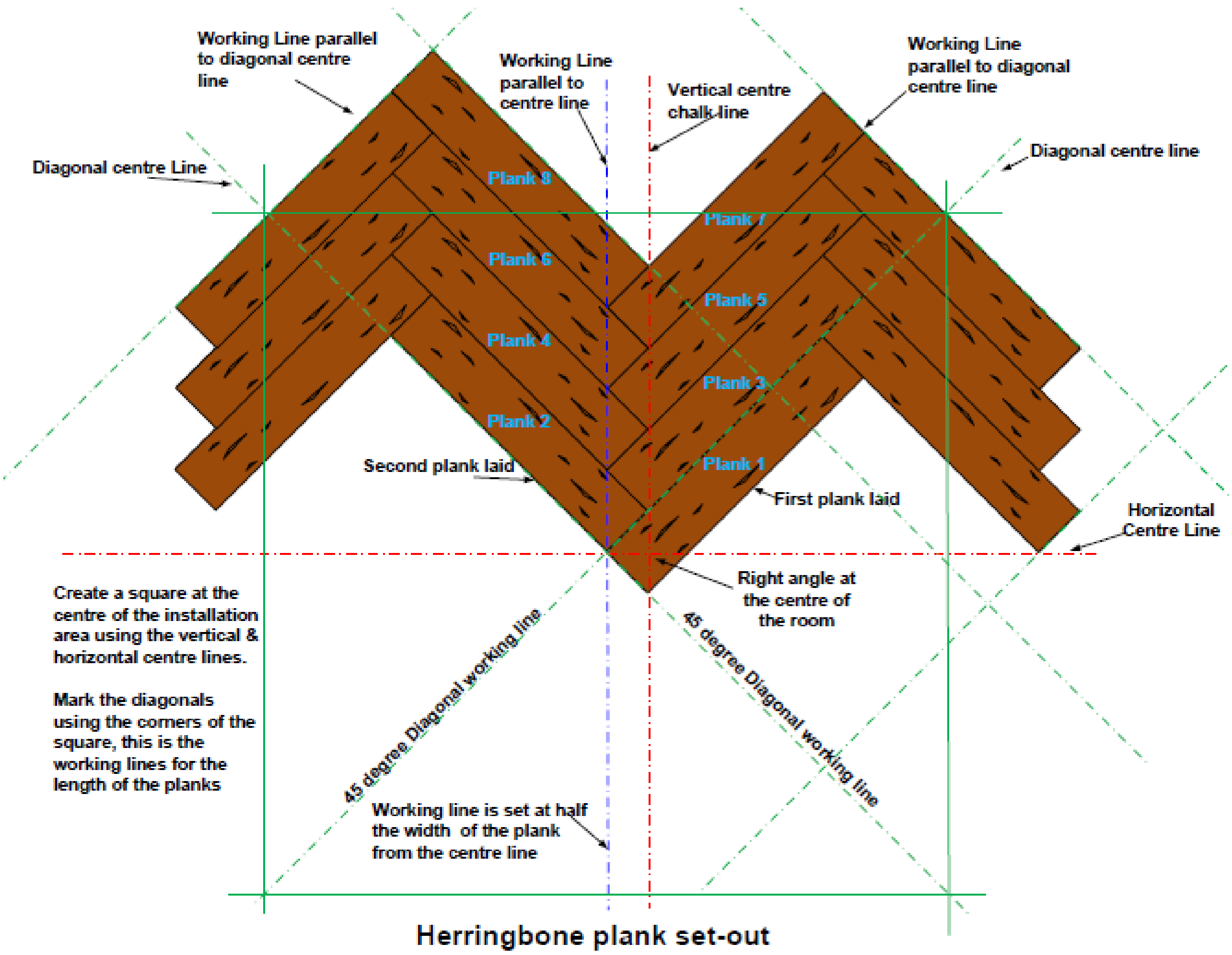
Brick bond installation set-out for
square 500mm X 500mm carpet tiles



Quarter turn installation set-out for
square 500mm X 500mm carpet tiles



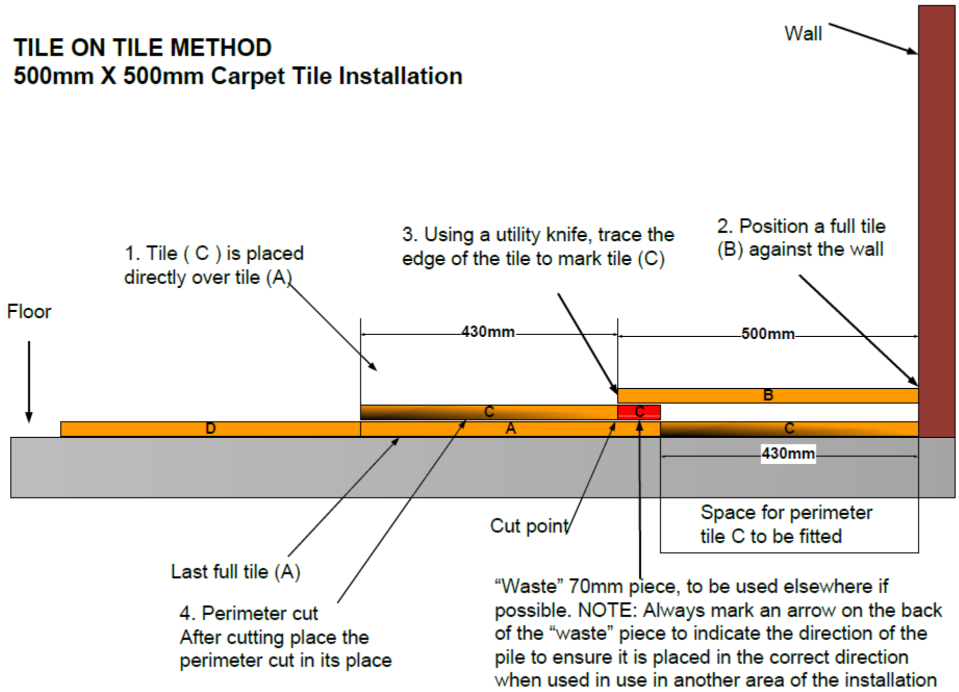
Carpet plank set-out using a brick bond pattern



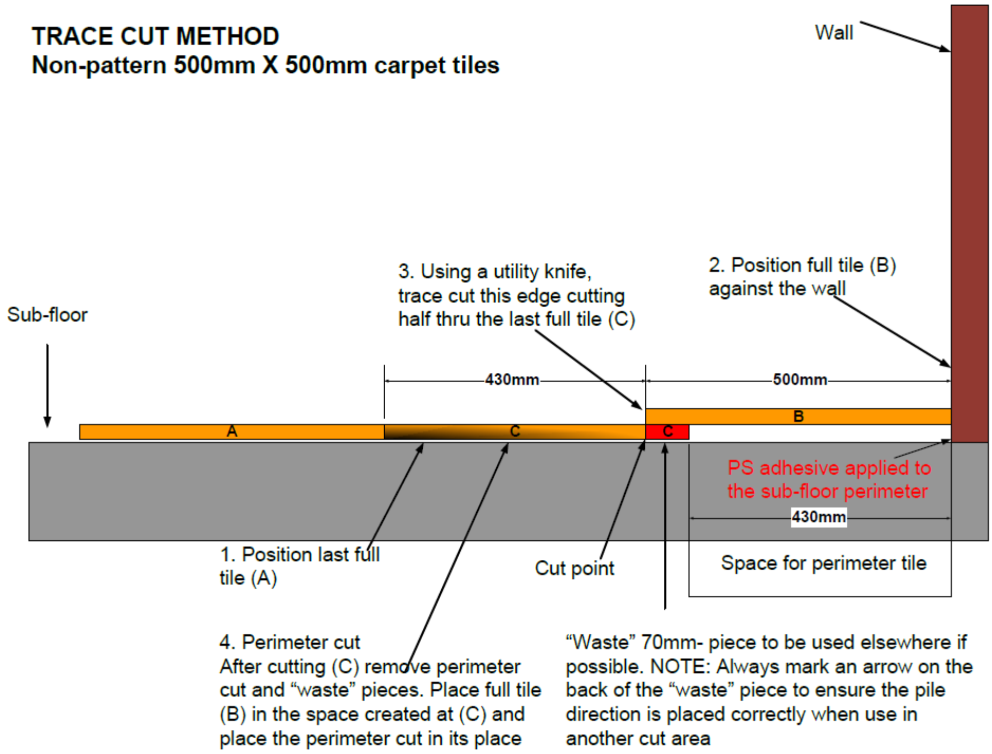
Herringbone plank set-out

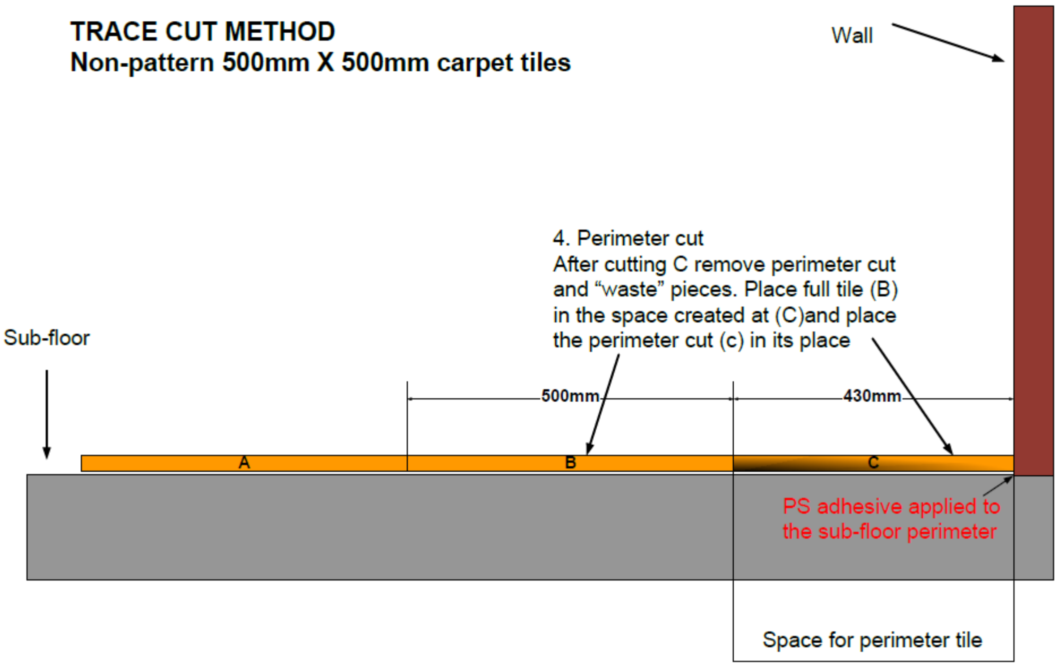
Cutting Tiles

TILE ON TILE METHOD
500mm X 500mm Carpet Tile Installation



TRACE CUT METHOD
Non-pattern 500mm X 500mm carpet tiles





Both wall trimmers shown here on the right and below use hook blades to cut thinner type carpet tiles flush to perimeter walls.

Use a wall trimmer with a rounded style base plate. This trimmer is referred to as a resilient trimmer or a multipurpose trimmer. A hook blade is used rather than a slotted blade to yield better results.

When cutting multiple cuts of the same size a "Carpet tile cutter" may be a viable alternative to using a knife or a wall trimmer

Completion of a carpet tile/plank installation

On completion of the installation of carpet tiles, the following procedure should be followed:

- Ensure that no carpet pile is caught between the carpet tile/plank joints and at perimeters.
- Remove any excess adhesive and nap loose pile.
- Ensure that all cut pieces are firmly fixed into position.
- Ensure that the whole work area is cleared of tools and waste.
- Conduct a visual test of the installation's appearance before leaving the site.
- Where required, for commercial installations, the installed carpet tiles/plank shall be protected by a suitable material.

Protecting the new floor covering

Depending on the type of worksite you're at, you might need to put up signs or barriers to stop people from entering the area until the adhesive has fully cured.

In high traffic areas you can also put a protective covering over the floor to minimise the chance of damage. This must be a breathable covering such as Polyweave to prevent condensation forming under the covering, damaging the surface of the tiles.

If you do, make sure the covering doesn't have an adhesive that might leave and adhesive residue of the surface of the tile leading to discolouration of the surface of the carpet tile.

On projects where it's your job to move heavy appliances back into position, use plywood panels or other board products as protection underneath the appliance.

Slide the first board under the object as you lift it off the floor one side at a time. Then put another board beside the first one and push the object over the boards. Don't roll or drag the object directly across the new flooring covering.

If you're leaving the client to move the appliances themselves, give them instructions on how to do it properly so they don't put a tear or buckle in the floor covering. Even objects on wheels or casters need to be pushed across wood panels, because if the adhesive isn't fully cured, they'll leave grooves in the floor surface.

Commercial floors should be protected from rolling loads for at least 72 hours after the installation is finished.

Installation on stairs

Inspired Floorcoverings carpet tiles and planks can be installed on stairs. Separate pieces of carpet tile are to be cut and fixed to the tread and riser of the step. NCC approved stair nose moulding should be fixed to the nose of each step both for aesthetic value and safety. Size of cuts and types of nosing will depend on the configuration of staircase and type of foot traffic to access the stairs.

Stair Riser - Always ensure that the arrow on the back of the carpet tile is pointing down the riser of the step. The riser of the carpet tile is securely held in position by the adhesive, the carpet tile fitted to the tread and stair nosing.

Stair Tread - Arrow must run at a right angle from the crotch of the step towards the nose of the step. Apply adhesive to the entire tread. The tread should be fitted after the riser to allow the tread carpet to hold the riser,

Fit stair nosing as per nosing manufactures instructions.

To support the leading edge of the nosing and prevent it rocking and coming loose fit the carpet tile flush to the underside of the nosing, flush with the tread, as this will minimize any movement due to heavy foot traffic. Do not fit carpet tile over the stair tread, stair nose, stair riser in one piece of carpet tile.

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