Section four

INSTALLATION OF TILES

The installation of homogeneous or rubber tiles. For installation of luxury vinyl tiles refer to Section five.

4.1 RECEIPT & STORAGE

▶ Check that colours correspond to those ordered, that quantities are correct and there is no obvious damage.

▶ In particular, check that tiles are from one batch, if that was requested on the order.

▶ On arrival at site, the tiles should be stored indoors, together with the adhesive, at a consistent temperature of between 18ºC and 27ºC for at least 24 hours prior to laying.

▶ Following off-loading, boxes should be stacked no more than **five** high during the conditioning period. The boxes should be opened and conditioned in the area where they are to be installed.

Figure 4.1 Site Conditions

▶ To achieve best results, site conditions should be as described in BS 8203. A working temperature of between 18ºC and 27ºC is required for at least 48 hours prior to, and during, the laying period and for 24 hours afterwards. Conditioning areas and laying areas should be of similar temperature, to prevent thermally induced dimensional changes.

4.2 PRIOR TO INSTALLATION (UNDERFLOOR HEATING)

On installations where underfloor heating is used:

▶ The system should be fully tested and commissioned prior to the flooring installation commencing.

▶ Underfloor Heating systems should be switched off for a minimum of 48 hours prior to the installation commencing. The system should remain off and fully cooled during the installation and for a minimum of 48 hours afterwards. It should then be slowly brought back up to the working temperature incrementally over several days.

▶ A maximum subfloor temperature; (at the adhesive line) of 27ºC should never be exceeded.

▶ Specialist high temperature adhesives should be used in areas with underfloor heating, direct sunlight, and areas of high solar gain. Please refer to the Polyflor Approved Adhesive List or contact your adhesive manufacturer for more information.

4.3 PREPARATION OF WORK AREA

The work area should now be prepared to receive the tiles.

▶ Ensure that all other trades have completed their work and removed all their equipment and materials.

▶ Remove all debris and vacuum the whole subfloor area. Check the condition of the subfloor and make good as necessary.

▶ Stone or power grind any cementitious subfloor to remove any 'nibs' or ridges. Remove any surface contaminants, which may affect adhesion.

▶ Sweep or vacuum again prior to laying.

▶ If required by the contract, or if in doubt, check the moisture content of the subfloor and record the results and method used.

▶ Good lighting is essential.

Further information on subfloors and subfloor preparations can be found in Section two.

4.4 LAYOUT OF TILES

KEY POINT
When setting out tiles, always start from the centre of the room

Although many floor layers regard tiles as being easier to lay than sheet, the layout of the tiles can be critical to the success of the installation.
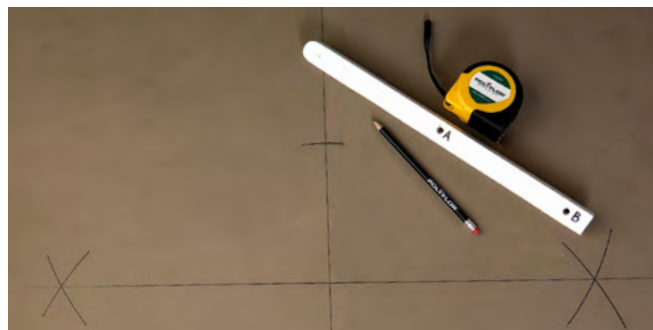

Figure 4.2 Measuring and marking out

• The regular form of tiles, especially when laid in contrasting colours, can accentuate deviations in the building line emphasising the need for detailed planning of the layout.

• Work from the centre of the room and loose lay tiles to check the layout will make the final appearance correct from any viewpoint. This is especially important where a geometric design is incorporated into the floor.

Find out more about **setting out tiles** on the 3 & 4 day Polyflor Floor Laying Courses

4.5 MEASURING AND MARKING OUT

4.5.1 Straight Tiling – Setting Out
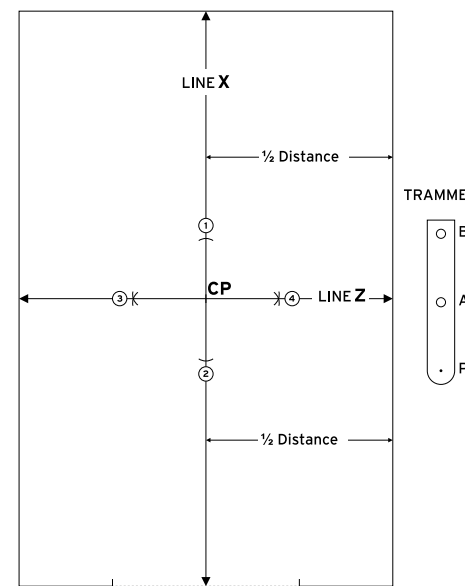
▶ Measure the room to be laid, in both directions, including any alcoves.

▶ Mark a centre line X. Ensure it is central to the room dimensions.

▶ Loose lay tiles to ensure there are no small cuts at the perimeter. If small strips are evident, move the centre line across half a tile in either direction to create an acceptable sized cut.

▶ Find the centre of line X and mark the Centre Point (CP).

▶ Mark arcs 1 & 2 at equal distances from CP on the centre line using point A on your trammel.

▶ With points 1 & 2 as centres, use point B on your trammel to draw further arcs intersecting at 3 & 4.

▶ Strike a line through point 3 & 4 ensuring it passes through CP.

▶ Line Z is now 90˚ to line X.

▶ Double check using the 3,4,5 method.

4.5.2 Diagonal Tiling – Setting Out
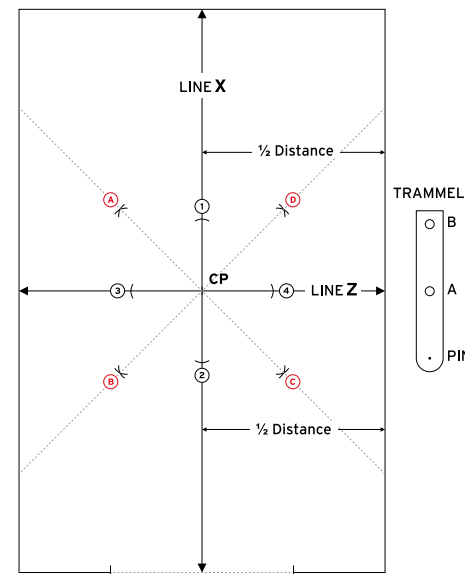
▶ Set out as overleaf for straight tiling. Ensure both lines are at 90˚ to each other.

▶ At CP (Centre Point), use point B on your trammel to mark arcs at 1, 2, 3 and 4.

▶ With points 1 & 3 as centres using point B on your trammel draw arcs to intersect each other at A.

▶ With points 2 & 4 as centres using point B on your trammel draw arcs to intersect each other at C.

▶ Strike a chalk line from wall to wall through points A & C; if no error has been made, this line will pass through CP.

▶ With points 1 & 4 as centres using point B on your trammel draw arcs to intersect each other at D.

▶ With points 2 & 3 as centres using point B on your trammel draw arcs to intersect each other at B.

▶ Strike a chalk line from wall to wall through points B & D; if no error has been made, this line should pass through CP.

▶ Double check using the 3,4,5 method.

4.6 SPREADING THE ADHESIVE

▶ Once the start point has been established, depending on the size of the area and the type of adhesive to be used, it may be necessary to section off the area so that the adhesive can be applied to areas that can be laid within the open time.

▶ Always follow closely the approved adhesive manufacturer's instructions.

▶ Spread the adhesive using a suitable trowel to the manufacturer's recommendations ensuring that the correct notch size is maintained throughout the installation.

▶ If the notches on the trowel shows signs of wear, renew immediately.

▶ If using a Polyflor approved pressure sensitive adhesive it may be necessary to flatten out any resultant serrated adhesive edges using a lambswool roller pre-wetted with adhesive to prevent 'grin through' once the installation has been completed.

▶ When a section has been laid, except for the perimeter, it should be thoroughly rolled in both directions with a 68kg articulated floor roller. Repeat for each section until the main field of tiles has been laid.

▶ It is advantageous to leave the last full tile or plank and the cut at the perimeter without adhesive until all planks have been cut to size.

4.7 ADHERING THE MAIN FIELD OF TILES

> **KEY POINT**
> Directional or marbleised tiles need 'shuffling', and require laying in alternating directions.

The decoration of tiles on some product ranges is randomly distributed and in marbleised styles can be heavier on some tiles than others. To prevent 'heavy' and 'light' areas, the tiles should be unboxed and, if required, 'shuffled'.

▶ Ensure the backs of the tiles are free from dust prior to laying.

▶ Once the adhesive is ready to accept the tiles, place the first tile at the starting point, which is the intersection of the two centrelines. Press well down in the centre of the tile and then run a thumb around the edge, ensuring that all air is expelled.

▶ Place the next tile in position, alternating the direction (tessellation) of marbling or colour, and proceed down the centreline, laying two tiles wide i.e. one tile either side of the centreline.

▶ It is essential to keep the tiles exactly on the centreline.

▶ **When using 'high tack' adhesives such as pressure sensitive adhesive, take care not to twist or distort the tile whilst laying. If a tile is stretched, dimensional stability will eventually return the tile back to its original shape and the adhesive bond will be broken.**

▶ Repeat the sequence along the centreline, at right angles to the first. Then, working from the completed centrelines, finish the section, taking care that tile bond is maintained throughout. Alternatively the pyramid layout can be followed (refer to figure 4.10, page 42).

▶ Any excess adhesive should be removed as work proceeds.

▶ When a section has been laid, except for the perimeter, it should be thoroughly rolled in both directions with a 68kg articulated floor roller.

▶ Repeat for each section until the main field of tiles has been laid.

4.8 CUTTING THE PERIMETER TILES (STRAIGHT LAID)

Two techniques are commonly used for cutting perimeter tiles. The choice is mainly dependent upon the run out of the wall.

4.8.1 Overlapping Method (Straight Laid)

Used when there is little or no run out of the abutting wall.

▶ Place the tile to be cut exactly over the last tile laid, ensuring the colour is correct and the decoration runs the correct way.

▶ Place another full tile on top of the tile to be cut with its 'top edge' against the wall or set-in coved skirting (refer to figure 4.5).

Figure 4.5 Measuring using an overlapping tile

▶ Scribe a line onto the tile to be cut, using the 'bottom edge' of the top tile as a guide.

▶ Cut the tile to the scribed line, loose lay into position and check the fit. Repeat along the whole wall.

4.8.2 Scriber Method (Straight Laid)

Used when the wall run out is quite severe or when the wall profile cannot be picked up using a straight edge.

▶ Place the tile to be cut exactly over the last tile laid, ensuring the colour is correct and the decoration runs the correct way.

▶ Set the bar scriber to the size of tile being laid.

CONTENTS

INTRODUCTION

SUBFLOORS

SHEET

TILES

LVT

LOOSE LAY

ESD

POLYCLAD

WELDING

BORDERS

FINISHES

CHEMICALS

TEMPERATURES

MAINTENANCE

▸ Trace the profile of the wall onto the tile to be cut, ensuring the bar scriber is kept upright and square to the edge of the tile.

Figure 4.6 Measuring a tile using a scriber

▸ Cut the tile to the scribed line, loose lay into position and check the fit. Repeat along the whole wall.

4.9 CUTTING THE PERIMETER TILES (DIAGONAL CUT)

Three techniques are commonly used for cutting perimeter tiles. The choice mainly depends upon the run out of the wall.

Both the Overlapping and Scriber Methods can be used to fit around projections such as door frames. Similarly, a template can be made or a profile gauge containing movable pins used for awkward shapes.

4.9.1 Overlapping Method (Diagonal Cut)

Used when there is little or no run out of the abutting wall.

▸ Place the tile to be cut exactly over the last tile laid, ensuring the colour is correct and the decoration runs the correct way.

▸ Place another full tile on top of the tile to be cut (diagonally) with the 'top edge' against the wall or set-in coving (figure 4.7).

Figure 4.7 Marking the perimeter tiles (diagonal cut)

▸ The corresponding point of the tile should then be followed to mark the underlying tile.

▸ The overlapping tile should then be moved over to mark the second part of the underlying tile.

▸ Following both marks, a straight edge can be used to line both marks and a cut can be made.

▸ Cut the tile to the scribed line, loose lay into position and check the fit. Repeat along the whole wall.

4.9.2 Template overlapping method (Diagonal Cut)

▸ Cut a template exactly to the size between the diagonal points (e.g. 423mm for 300mm tiles).

▸ Place the tile to be cut exactly over the last tile laid, ensuring the colour is correct and the decoration runs the correct way (refer to figure 4.8).

▸ Place the template tile on top of the tile to be cut with its 'top edge' against the wall.

▸ Scribe a line onto the tile to be cut, using the 'bottom edge' of the tile as a guide.

Figure 4.8 Cutting the perimeter tiles (diagonal cut)

▸ Cut the tile to the scribed line, loose lay into position and check the fit. Repeat along the whole wall.

4.9.3 Scriber method (Diagonal Cut)

Used when the wall run out is quite severe or when the wall profile cannot be picked up using a straight edge.

▸ Place the tile to be cut exactly over the last tile laid, ensuring the colour is correct and the decoration runs the correct way.

▸ Set the bar scriber to the size of tile between the diagonal points of tile being laid.

CONTENTS

INTRODUCTION

SUBFLOORS

SHEET

TILES

LVT

LOOSE LAY

ESD

POLYCLAD

WELDING

BORDERS

FINISHES

CHEMICALS

TEMPERATURES

MAINTENANCE

▶ Trace the profile of the wall onto the tile to be cut, ensuring the bar scriber is kept flat to the floor and square to the edge of the tile.

Figure 4.9 Cutting the tiles using a scriber (diagonal cut)

▶ Cut the tile to the scribed line, loose lay into position and check the fit. Repeat along the whole wall.

4.9.4 Adhering the Perimeter Tiles

Once a wall edge has been fitted and loose laid, turn all the tiles inward so as not to lose their position.

▶ Spread the adhesive right up to the edges. When the adhesive is ready, lay the perimeter tiles.

▶ Wipe up excess adhesive as work progresses.

▶ Roll well with a 68kg articulated roller. Use a small hand roller in areas that are inaccessible.

▶ Repeat the process for all four walls.

▶ Finally, the whole floor should be given a second rolling, approximately one to four hours later.

4.10 INSTALLING TILES IN LARGE AREAS

Maintaining a clearly defined straight line over long distances can be difficult and often leads to inaccuracies. To eliminate this problem, an alternative technique is used when laying tiles in large areas:
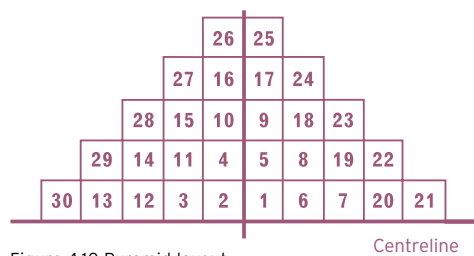

Figure 4.10 Pyramid layout

KEY POINT
Construction of a pyramid should always start at the centre of the baseline, working in the same sequence as shown in Figure 4.10

▶ Establish the central starting point, as described previously, minimising small cuts on perimeter tiles.

▶ Lay the first pyramid of tiles from the centrelines, using the sequence shown in figure 4.10. Ensure a close bond is maintained at all times.

▶ Repeat this sequence on the opposite side of the centreline shown as area 2 in figure 4.11. Continue working in larger and larger pyramids, as shown in figure 4.11, until only the perimeter tiles require fitting.
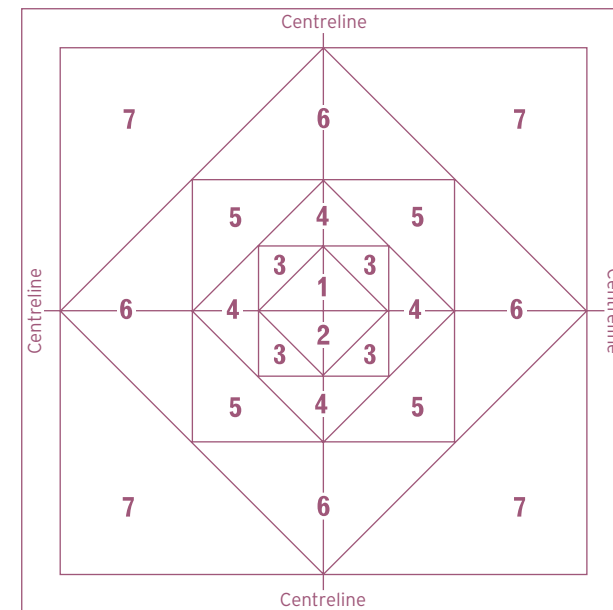
▶ Fit the perimeter tiles as described in Section 4.8.

Figure 4.11 Continue working in larger pyramids

4.11 ADHESIVES

Types & Suitability of adhesive are covered on 3 & 4 day Polyflor Floor Laying Courses

The use of the correct adhesive is essential for a successful installation.

Figure 4.10 Selection of the correct adhesive is essential

Polyflor provide a comprehensive approved adhesive list available at polyflor.com or by contacting the Polyflor Customer Technical Services Department (CTSD).

In areas subjected to direct sunlight or extremes/fluctuations in temperatures Polyflor always recommend the use of an approved polyurethane; epoxy or suitable high temperature adhesive. Polyflor provide this information only as guidance and the legal responsibility for the supply and performance is that of the adhesive manufacturer.

4.12 WELDING OF VINYL TILES

Polyflor recommend that all 608mm tile installations be heat welded. The use of a contrasting weld rod can be used to create simple design effects. To calculate how much weld rod is required for the installation, multiply the number of square metres laid by 3.3, to give you the number of linear metres of weld rod.

Further information on heat welding can be found in Section nine.