Section five

INSTALLATION OF LUXURY VINYL TILES

The installation of luxury vinyl tiles and planks.

5.1 RECEIPT & STORAGE

On receipt of tiles and/or planks:

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

▸ In particular, check that tiles/planks 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.

▸ For Design Floors, identify and check each element before work proceeds.

▸ To achieve best results, site conditions should be prepared as described in BS 8203 or prevailing local or national standards. A working temperature of between 18ºC and 27ºC is required for at least 48 hours prior to, and during, the installation period; and for 24 hours afterwards. Conditioning should be carried out in the same room or area as the installation, to prevent thermally induced dimensional changes.

5.2 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 and be fully cooled 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.

▸ Only specialist high temperature or epoxy 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.

5.3 PREPARATION FOR INSTALLATION

The decoration of tiles is randomly distributed and can be heavier on some tiles than others. To prevent 'heavy' and 'light' areas, the tiles should be unboxed and, if required, 'shuffled'. Alternating the direction of tiles may be required to avoid repeat patterns.

5.4 PRODUCT CONDITIONING

The majority of installation failures are not caused by poor fitting but instead simply by failure to condition the vinyl tiles and planks correctly prior to installation.

▶ The tiles and planks plus any other products such as borders, feature strips, design strips, tozzettos and adhesives and new plywood bases; should be conditioned together for at least 24 hours prior to installation.

▶ Boxes of tiles/planks must be stacked less than 5 boxes high and planks/tiles removed 30 minutes before use.

▶ The room temperature should ideally be between 18°C and 27°C but more importantly should be constant and not varying by more than 2°C.

▶ Conditioning should ALWAYS take place in the area that is to receive the installation.

▶ The conditioning time should be increased to at least 48 hours where the planks/tiles have been stored and /or delivered at temperatures below 10°C.

▶ As extremes of temperature can occur between day and night time, temperatures will fluctuate. It is essential that the effects of these fluctuations be avoided.

▶ South facing and full height windows; (Inc. patio & bi-fold doors) and all conservatory windows should be shaded or covered both during the conditioning period; the installation period; and for 24 hours after the installation has been completed to minimise this effect.

NOTE Complaints arising from the failure to correctly condition the tiles and planks, which result in shrinkage or lipping, will not be accepted by Polyflor Ltd.

Further information on operating temperatures can be found in section thirteen .

5.5 PREPARATION OF THE WORK AREA

KEY POINT
Commencement of work is deemed by many as acceptance of the site conditions as suitable for laying floor coverings.

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 that 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.

5.6 SETTING OUT AND INSTALLATION FOR TILES/PLANKS STRAIGHT FITTING

The optimum appearance can be produced by carefully planning and setting out of tiles and/or planks.

▶ It is advantageous to dry lay a section of the floor so that it can be determined whether the appearance of the pattern is acceptable and also to ensure any graining/texture within individual tiles is correct.

▶ Traditionally the starting point for tiling is the centre of the room.

Figure 5.1 Setting planks out

▶ Before adhering confirm that the overall appearance of the flooring is acceptable.

▶ If the room is irregular in shape it may be necessary to square up the tiles off the most important wall or a specific feature.

5.6.1 To set out Planks for straight fitting:

▶ Prior to laying the first plank, ensure all cuts are of an acceptable length (Min. 150mm).

▶ As the planks are not required to be laid 'in bond' in the length, it is possible to begin installing from an end wall.

▶ Planks must be staggered to obtain a random finish, however ensure that plank ends are not within 150mm of adjacent planks.

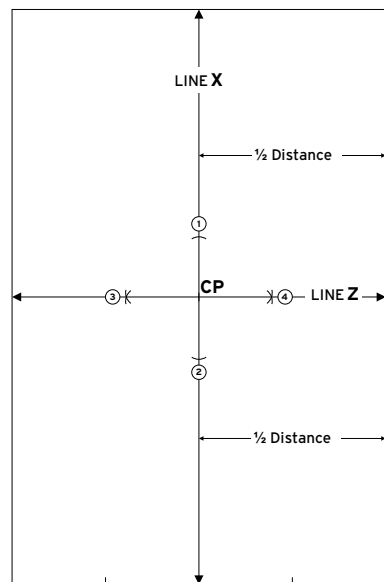## 5.6.2 Setting out and installation for straight tiling (Refer to Figure 5.2)

Figure 5.2

▶ Measure the room to be laid, in both directions, including any alcoves etc.

▶ 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.

5.6.3 Setting out and installation for diagonal tiling (Refer to Figure 5.3)

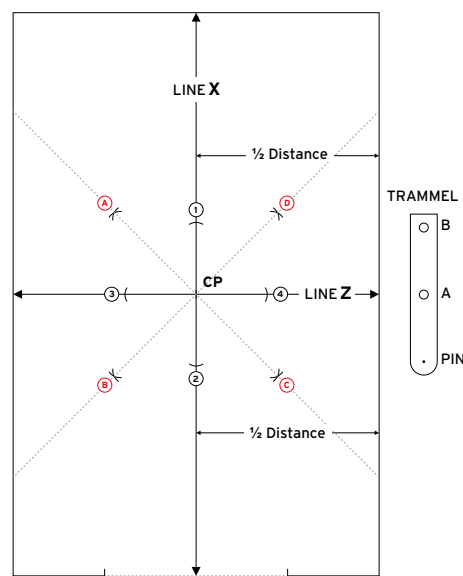Figure 5.3

▶ 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 accurate, this line should pass through CP. Double check using the 3,4,5 method.

5.7 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 notch on the trowel shows signs of wear it should be renewed immediately.

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

▶ Always read carefully the adhesive manufacturer's application instructions as these can change from brand to brand.
NB: This can be especially important when planks/tiles are being bonded to an absorbent substrate such as sand and cement screeds; plywood etc. in order to ensure an adequate bond strength.

▶ 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.

5.8 SETTING OUT AND INSTALLATION OF BORDERS

The inclusion of borders or design strips is a simple way of enhancing the appearance of an installation. Borders and design strips come in various widths and styles but the installation technique is similar in all cases. Borders fit around the field tiles but do not attempt to abut pre-made borders to a wall.

Most designs will have a contrasting yet complimentary border. It is preferred, where possible, that full tiles are fitted up to the borders, in the case of diagonal, exactly half tiles should be used. This gives a more geometric appearance to the installation. It does, however, mean that, in almost all cases the border will have to be adjusted on adjacent walls.

In the case of diagonal tiles and for the sake of appearance, the colour of the cut half field tile should contrast with the border.

▶ Mark a centre line as described earlier (figure 5.3).

▸ Determine width of borders.

▸ Dry tile to ensure cuts are acceptable and of the correct colour and adjust where necessary.

▸ Using centre lines as guides measure to the position of the border and mark with chalk lines.

▸ Spread adhesive up to the border lines and fit field tiles. (Remember only spread adhesive to areas that can be laid within the open time).

▸ Dry fit perimeter cuts before adhering, as described earlier.

NOTE This is the normal method of setting out for borders, however it is also possible to set out off a prominent wall or unit, for example. If there is any doubt the border should be discussed with the end user prior to installation.

5.9 INSTALLING 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 in large areas.

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

▸ Lay the first pyramid of tiles from the centre lines, using the sequence shown. Ensure a close bond is maintained at all times (figure 5.4).

▸ Repeat this sequence on the opposite side of the centre line. Continue working in larger and larger pyramids until only the perimeter tiles require fitting (figure 5.5).

▸ Fit perimeter tiles as described in section 5.10, page 53.

KEY POINT
Construction of a pyramid should always start at the centre of the baseline, working in the same sequence as shown in Figure 5.4
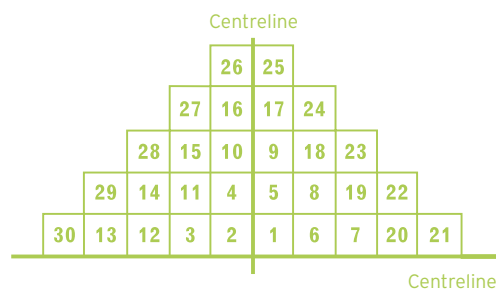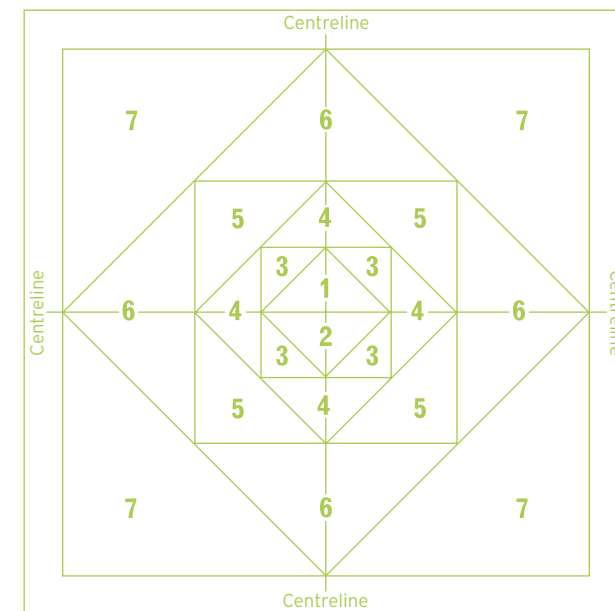
Figure 5.5 Floor layout

Figure 5.4 Pyramid layout

5.10 INSTALLATION OF PERIMETER TILES/PLANKS (STRAIGHT LAID)

5.10.1 Cutting the perimeter tiles/planks (Straight Laid)

To avoid run out of the bond, cutting of perimeter row should start at the centre of the wall and work out towards corners. The choice of technique used for cutting perimeter tiles/planks is largely dependent upon the straightness of the wall.

5.10.2 Overlapping Method (Straight Laid)

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

Figure 5.6 Measuring using an overlapping tile

▸ 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 skirting/base board.

▸ 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.

5.10.3 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.

Figure 5.7 Scribing a line

▸ 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.

▸ 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.

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

5.11 CUTTING THE PERIMETER TILES (DIAGONAL CUT)

5.11.1 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 5.8).

▸ 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.

Figure 5.8 Marking using an overlapping template on diagonal laid tiles

▸ 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.

5.11.2 Template overlapping method (Diagonal Cut)

▸ Cut a template exactly to the size between the diagonal points (e.g. 428mm for 305mm 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 5.9).

▸ 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.

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

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Figure 5.9 Cutting the perimeter tiles (diagonal cut)

5.11.3 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.

▸ 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.

5.12 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.

5.13 ADHESIVES

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.

Use of the correct adhesives is important if the installation is to be successful. Polyflor provide a comprehensive approved adhesive list available at polyflor.com or by contacting the Polyflor Customer Technical Services Department (CTSD).

5.14 INLAY STRIP CALCULATION

Developed to add fine detailing to an overall floor covering, inlay strips include Grouting Strips, Marquetry Strips, Cross Grain Marquetry Strips and Feature Strips.

Due to the extensive range of Tile and Planks sizes currently available in the Polyflor ranges we recommend that you call Polyflor CTSD for advice regarding Inlay Strip Calculation on +44 (0) 161 767 1912.

5.15 TILE AND PLANK FLOOR DESIGNS

Decorative Design Floors like design 3, 4, 6 and 7 can be achieved quite simply on site with little or no cutting required whilst more ambitious and sophisticated designs like designs 1, 2 and 5 can be created with the help of Polyflor's bespoke cutting service.

These diagrams represent only a small selection of flooring designs possible with Luxury Vinyl Tiles, discover more ideas and designs in the product brochures.

Design 1

Herringbone Design (typically third length planks)

CAMARO
2202 Nut Tree

Design 2

Off-set chevron cut tiles

CAMARO
2345 Glacier Slate
2346 Highland Slate

Design 3

Full Plank Herringbone

EXPONA COMMERCIAL
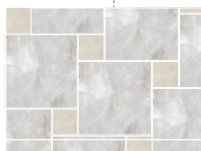4063 Grey Pine

Design 4

Double Plank Tramline

EXPONA COMMERCIAL
4102 Wild Teak

Design 5

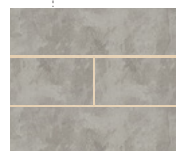Off-set keysquare design
with strip

CAMARO
2341 Arctic Slate
2332 White Metalstone

Design 6

Brickwork Layout

EXPONA COMMERCIAL
5058 Dovestail Slate
0037 Beige Grouting Strip

Design 7

Brickwork Wood Tile Effect

EXPONA COMMERCIAL
4107 Natural Barnwood
5110 Brown feature Strip