

INSTALLATION OF FOAM BACKED HETEROGENEOUS VINYL SHEET

On receipt of rolls, check that colours correspond to those ordered, that quantities are correct and that there is no damage. In particular, check that rolls are from one batch, if that was requested on the order. On arrival at site, the rolls should be safely secured in an upright position and stored, together with the adhesive, at a minimum temperature of 18°C for at least 24 hours before laying.

Inflammable adhesives require special storage conditions. Contact the adhesive manufacturer or see current literature for details.

To achieve best results, site conditions should be as described in BS 8203. A working temperature of between 18°C and 26°C is required for at least 24 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. In installations where underfloor heating is used, this should be switched off from 48 hours prior to installation until 48 hours afterwards. It should then be slowly brought back up to the working temperature, a maximum of 27°C. Adhesives capable of withstanding temperatures up to 27°C should be used. Where direct sunlight, sometimes in conjunction with underfloor heating, creates high surface temperatures on the floor, a high temperature grade of approved adhesive should be used.

The work area should now be prepared to receive the vinyl sheet flooring. Ensure that all other trades have completed their work and removed all their equipment

and materials. Remove all debris and sweep or vacuum the whole floor 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.

It is important to note that commencement of work is deemed by many as acceptance of the site conditions as being suitable for laying floorcoverings.

1. LAYOUT OF FOAM BACK VINYL SHEET

The architect may have provided a drawing showing the direction in which the material should be laid. In this case, lay the vinyl sheet as directed. If the architect has left this to the discretion of the flooring contractor, it is advisable to show at the tender stage in which direction the material will be laid and state that your estimate is based on this. Always pay particular attention to where seams will fall, avoiding such occurrences as seams in the centre of doorways. If large windows are installed, minimise the effect of the joints by laying towards the window.

2. SLABBING THE VINYL SHEET

Polyflor recommends that all Polyflor vinyl sheet flooring be rolled out face upward, taking care not to damage the surface, and cut approximately to size. Allowance of at least 75mm should be made at the

ends for trimming in. The slabs must be allowed to condition for the recommended period of time.

3. FITTING THE FIRST LENGTH

Place the first sheet in position next to the wall with the outer edge approximately 15mm from the nearest point. Adjust the lie of the sheet so that the inner edge is parallel with the axis of the room (Figure 1).

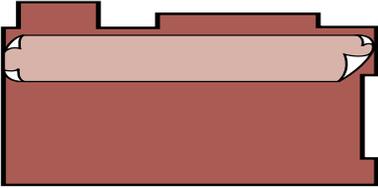


Figure 1 Lining up the first sheet

Depending upon the depth of the recesses, either a bar scribe or a pair of dividers should be used to trace the profile of the wall. The scribe should be set to allow for the deepest recess or rake of the wall. Holding the scribe vertically and square to the vinyl edge, trace the wall profile onto the face of the sheet (Figure 2). With this method, all irregularities of the wall will be accurately reproduced onto the surface of the vinyl sheet. If, because of the colour or decoration, the scribed line is difficult to see, rub suitably contrasting chalk dust into the line to highlight it.

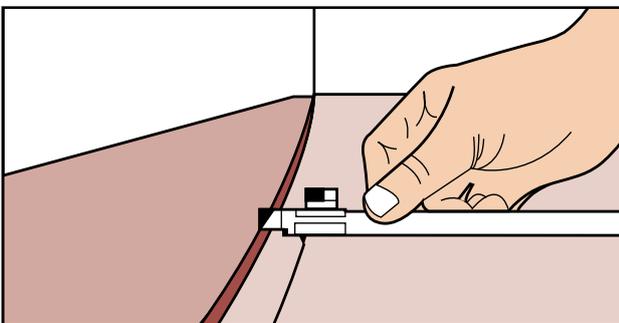


Figure 2 Scribing the wall profile

Ease the sheet away from the wall and, using a trimming knife with a suitable blade, cut off the excess vinyl to the scribed line. Slide the sheet back against the wall and check the fit, making any minor adjustments as necessary. When satisfied that the fit on the first edge is correct, use a pencil to trace the opposite edge onto the subfloor (line A-B in Figure 3). In the centre of the room, draw a line on both the vinyl and subfloor square to the main axis of the sheet (line C-D in Figure 3).

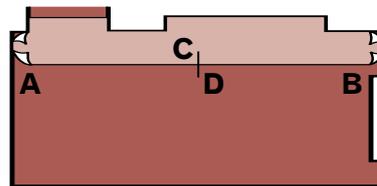


Figure 3 Marking the position

Keeping the inner edge of the vinyl on line A-B, slide the sheet back to clear the wall at one end of the room (Figure 4). Set the scribers to the distance now between lines C and D (Figure 5). Trace the end wall profile and cut to fit as described in preceding paragraphs.

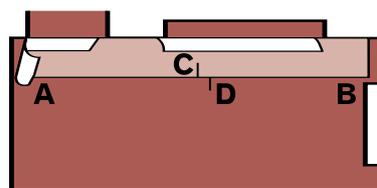


Figure 4 Moving the sheet clear

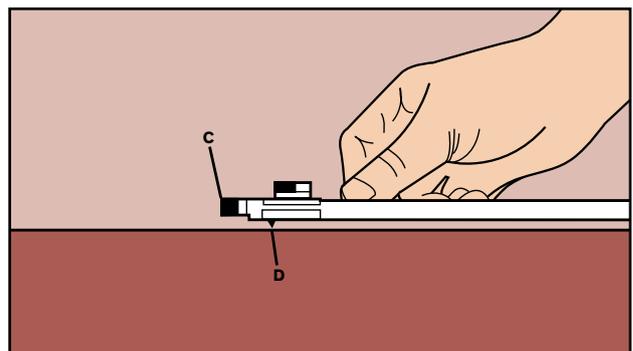


Figure 5 Setting the scribe

Repeat for the other end of the sheet. Once completed, the whole sheet – when slid back into position – should fit the wall profiles exactly.

4. ALIGNMENT OF DECORATION

This type of floorcovering may feature a print layer with a regular decoration (e.g. wood plank). To maximise the final appearance of the installation and ensure the decorative effect is not lost, it is important that care is taken to align each adjacent sheet, ensuring pattern match is achieved. For any non-wood designs, each adjacent sheet should be rotated 180 degrees and laid in the opposite direction.

5. FITTING SUBSEQUENT LENGTHS

Place the second length parallel to the first length, with a maximum 25mm overlap along the adjoining edges. On the opposite side, trace the edge along the whole length onto the subfloor. In the middle, draw a line C-D at right angles to the main axis, as previously described. Again, ensure pattern match is achieved.

Using the longitudinal line as a guide, slide back the sheet from the end wall and fit as described in Section 3. Repeat for the opposite end. Repeat the sequence for all remaining lengths. On the final length, which abuts the opposite wall, fit as described for the first length (Section 3).

Once the adjacent sheets are aligned, the seams should be cut using one of the following methods:

Using a straight edge and keeping the utility knife upright, cut through both layers, ensuring a tight seam. For wood designs, use the edge of the printed plank in the lengthwise direction as the guide. Once the seam is cut, discard the waste material and check the final appearance.

Or

Using a straight edge and utility knife, cut off the selvage of the top sheet, using the edge of the printed plank in the lengthwise direction as the guide. Discard the waste strip. Then, using the cut edge as a guide, set a proprietary seam cutter to cut the lower sheet. Discard the waste strip and check the final appearance. Once the seams have been dry cut, the vinyl sheets can be adhered to the substrate.

6. ADHESIVES

There are 2 types of adhesive typically recommended for use with foam-backed heterogeneous sheet, ensure the correct adhesive is used for each installation. Where extreme conditions apply, or for confirmation of the correct adhesive to use, consult the Polyflor Technical department.

6.1 Wet set adhesives

Wherever practical, start with central strips first, as these are usually easier, having fewer recesses or awkward fittings.

A

Fold back the sheet to half its length, making sure the remaining half retains its position.

B

Spread the adhesive using a notched trowel of the correct size, as recommended by the adhesive manufacturer.

Maintain the correct size of notch at all times, recutting or replacing the blade as necessary as work progresses.

Continue to fit as previously described.

6.2 Pressure-sensitive adhesives

These adhesives are designed to go completely dry prior to laying into and are particularly well suited to dense subfloors where there is difficulty with moisture uptake. They have the advantage of very long open times but, because they are laid into dry, have the disadvantage that the adhesive ridges are not flattened when the vinyl is rolled. To eliminate this disadvantage, Polyflor recommends an

alternative method of application:

A

Fold back all the sheets to half their length.

B

Spread the adhesive with the correct notch trowel.

Maintain the correct size of notch at all times.

Then roll out the adhesive ridges with a long handled, short pile adhesive roller.

Note: To maintain the correct spread rate, the adhesive roller should be pre-wetted with adhesive. This will prevent it taking adhesive from the floor.

C

Wrap the roller in a polyethylene bag and hang up when not in use. This will prevent it from drying out. It also prevents flats being formed and avoids regular washing out and pre-wetting.

D

When the adhesive is completely dry and ready to lay into, it will change from opaque to clear or translucent.

The adhesive will be tacky to the touch. It is worth remembering that air flow is the most critical factor in the drying time and not temperature. Electric fans can be used to accelerate the drying time.

E

Place a length of 100mm wide polyethylene strip onto the edge of the adhesive adjacent to the fold in the vinyl sheet (Figure 6). This will prevent the sheet sticking to the last 100mm of adhesive.

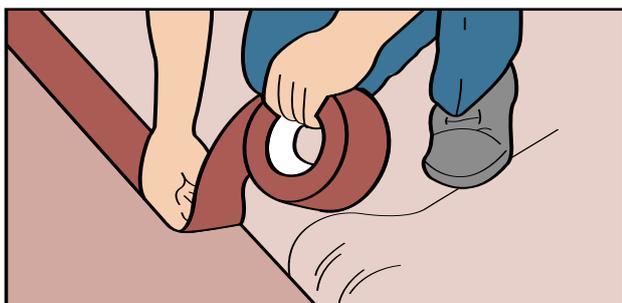


Figure 6 Polyethylene strip

F

Roll the central sheet back into place along the longitudinal line, taking care not to twist the roll or trap air bubbles.

(A length of wide polyethylene strip can be rolled out on top of the adhesive to enable it to be walked on. This can be helpful when fitting the first length up to the line. Roll it up from the far end on completion.)

G

Fit all the other sheets, working outwards from the central sheet, as described previously. Take extra care to ensure that seams are without gaps and remove any excess adhesive as work proceeds.

H

Fold back the second halves of the vinyl sheets and remove the polyethylene strip which was stuck to the edge of the adhesive. Repeat sequence of adhering vinyl sheet as described previously.

I

Roll thoroughly in both directions using a 68kg articulated floor roller. In corners and other awkward areas, use a hand roller.

7. PATTERN TEMPLATE METHOD

Areas which call for a considerable amount of fitting around obstacles, or which are too confined to lay down a sheet for fitting by normal methods, can be dealt with by templating the floor in felt paper.

Note: In new buildings, it may be worthwhile discussing installation with the main contractor who may agree to fitting WCs, sinks etc. after the vinyl has been laid.

A

Dry fit the area with felt paper, ensuring that paper is laid 'curl' side down, and firmly secured to the floor, leaving a gap of 15mm to 20mm around obstructions.

B

Draw around the fittings using either a compass set at 25mm or a suitable piece of equipment such as a rule and sharp pencil. Mark the template "This Side Up".

C

Place the vinyl sheet in a larger area with the face uppermost. Place the template on top ensuring the direction of decoration and pattern is correct. Secure the template firmly in position and, with a pair of scribes set at 25mm, mark the position of all obstacles using the template as a guide.

D

Using a sharp vinyl trimming knife, cut the vinyl sheet to the scribed lines and fit into position.

Note: Do not use the felt paper template as an underlay.

8. WELDING THE SHEET

Polyflor strongly recommends that all Polyflor vinyl sheet floorings are welded. Most specifications make welding mandatory, since it

prevents ingress of dirt and bacteria into seams and provides a floor surface which is impermeable to water. However, welding will only aid maintenance of high standards of hygiene if it is executed correctly. The guidelines provided below should be followed carefully, since short cuts taken in welding create potential problems with seam failures.

8.1. WELD

Heat welding of vinyl floorcoverings has been used successfully for many years and employs the technique of heating both the vinyl flooring and the vinyl welding rod to a sufficient temperature to melt and fuse them together. Cold welding, where a non-heated welding liquid joins the two edges of sheet together, can also be carried out on foam-backed heterogeneous sheet.

8.2. CORRECT TOOLS

Having the correct tools in good condition is a prerequisite of good heat welding. The tools required are dependent upon preferred methods but as a guide the following are suggested:

2 metre rigid straight edge

Straight and hook bladed knives

Grooving tools - manual and powered

Welding equipment - manual and automatic

Spatula

Trimming guide

Exacto trimming tools

Under scriber

Feed roller

Chalk line

Wire brush

Seam cutters

8.3. CUTTING IN THE SEAMS

For two options of cutting in seams, see Section 6 Fitting Subsequent Lengths

8.4. GROOVING THE SEAMS

Prior to welding, some of the material must be removed from the seam, creating a groove that will accept the vinyl welding rod. Two shapes of groove can be cut:

①

“U” shape - which leaves a semi-circular groove in the vinyl.

②

“V” shape - which leaves a 60° triangular groove in the vinyl.

The groove on Acoustic flooring should only be cut in the vinyl wear layer. It is not recommended to cut through to the PVC foam backing.

Place the centre of the grooving tool over the centre of the seam. Bring up the straight edge to touch the side of the cutter, and align the straight edge, maintaining an even distance from the seam (Figure 7). Pulling the tool towards you, groove to the required depth. Move the straight edge as required and repeat until the whole seam is grooved. Sweep well to remove any dust and trimmings from the groove.

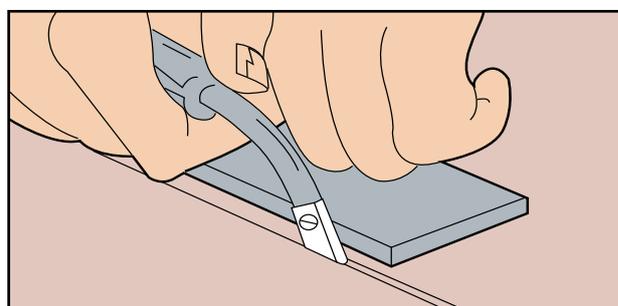


Figure 7 Grooving the seam

8.5. WELDING THE SEAMS

There are two methods of welding that are recommended for foam-backed heterogeneous vinyl sheet floorcoverings.

8.5.1 Hot welding

Before commencing heat welding, ensure that the adhesive has set sufficiently (normally 24 hours) to prevent it bubbling up when heat is applied.

If bubbling up occurs, it will adversely affect seam strength.

Prior to commencing welding:

A

Ensure the speedweld attachment is free of debris by cleaning with a wire brush.

B

Pre-heat the welding gun (setting 3 - 6 on a variable setting gun), ensuring that the nozzle is pointing upwards during this pre-heat period. Try out the welding rod on a scrap of material to ensure the temperature is correct and that fusion is taking place. Adjust accordingly. Remove all dust and debris from the floor prior to welding.

When you are satisfied that the temperature is correct, you can proceed to weld the joint:

C

Place the welding rod into the speedweld aperture (Figure 8). Starting as close as possible to the end of the room, press the welding rod down into the groove with the speedweld attachment, the toe of which should be parallel to the vinyl surface.

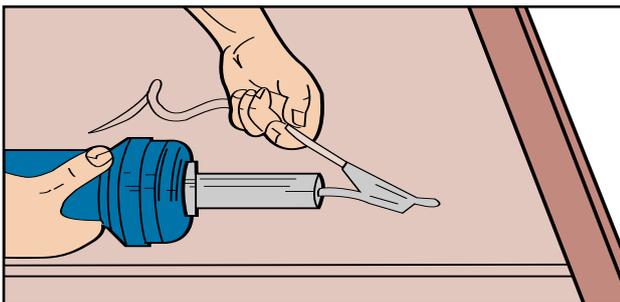


Figure 8 Welding rod and welding gun

Pull the gun towards you whilst maintaining the downward pressure (Figure 9). Ensure the gun is kept square to the floor. With your spare hand, alternately check the weld security (Figure 10) and that the welding rod is feeding freely.

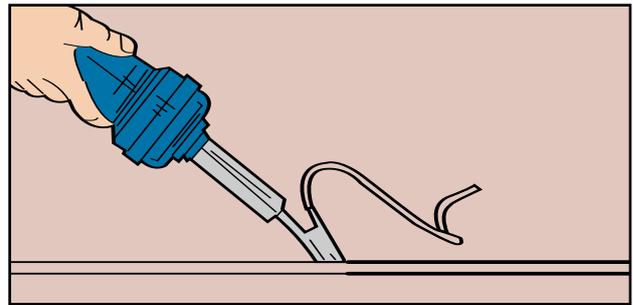


Figure 9 Applying the weld

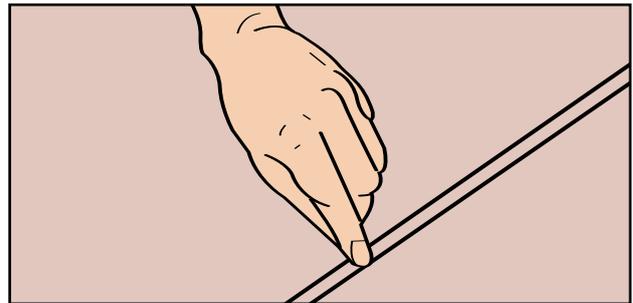


Figure 10 Check the weld

When you reach the end of the room, you will find that your arm touches the wall before the weld is complete. At this stage, pull the gun away from the groove and cut off the welding rod.

Using a utility knife, trim off the excess welding rod and cut a tapering "V", approximately 25mm long, into the existing weld. Commence welding as before, from the opposite end of the room. Run out the weld into the pre-cut "V" and cut off the excess welding rod (Figure 11).

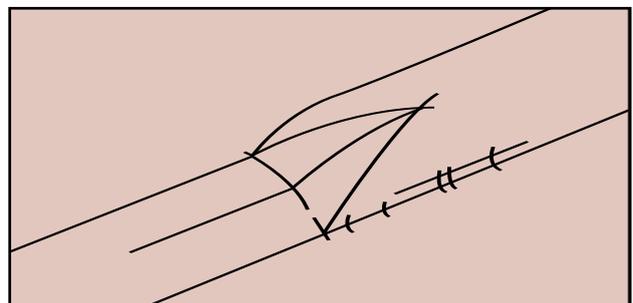


Figure 11 Weld joins

It is important to ensure a constant rate of welding. Moving too slowly will "burn" the vinyl and moving too quickly will not fuse the welding rod.

The finished width of the weld may also vary and detract from the appearance.

8.5.2 Cold Welding

Once the seam has been accurately cut, remembering that this type of welding should not be considered as gap filling, the seam can be welded.

A

Cover the seam with masking tape or similar to prevent any excess welding liquid coming into contact with the vinyl surface.

B

Cut through the tape at the seam, using a utility knife fitted with a sharp blade. Apply the welding liquid, as per the manufacturer's instructions, ensuring both hands are controlling the tube (Figure 12).

Keep fingers away from the needle applicator.

C

After approximately 10 minutes and once the welding liquid has cured, the masking tape can then be removed.

Note: Any proud parts of the cured welding liquid can be left, as they will be removed with the effects of maintenance and traffic.

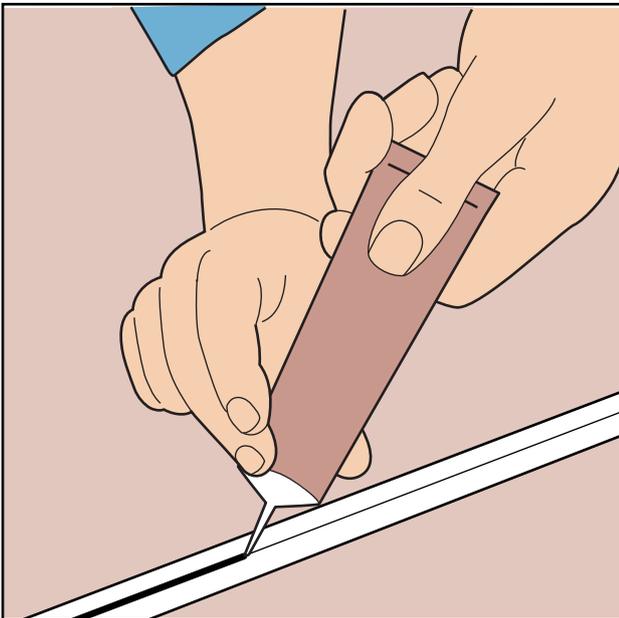


Figure 12 Tape seams before cold welding.

8.6. TRIMMING OF WELDING ROD

Prior to commencing, it is advisable to stone or hone the trimming spatula knife on one side only. This keen edge will make trimming easier and minimise the risk of "digging in". Trimming of the weld must be

carried out in two stages. Failure to follow this procedure will result in dished welds which are prone to dirt pickup.

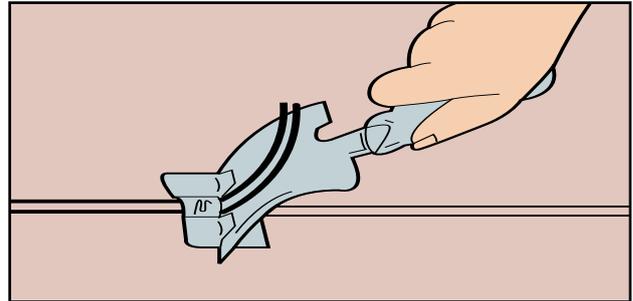


Figure 13 Trimming off the weld top layer

Place the trimming guide over the welding rod. Insert the spatula knife into the two lugs with the honed edge uppermost. Push the knife forward and trim off the top layer of welding rod (Figure 13). This can be done whilst the weld is still warm. Trimming the weld speeds up the cooling time.

When the remaining weld has cooled to room temperature, the excess weld should be trimmed. The spatula knife, again honed edge uppermost, is used without the trimming guide. Keep as shallow an angle as possible between blade and floor to avoid the risk of "digging in" (Figure 14).

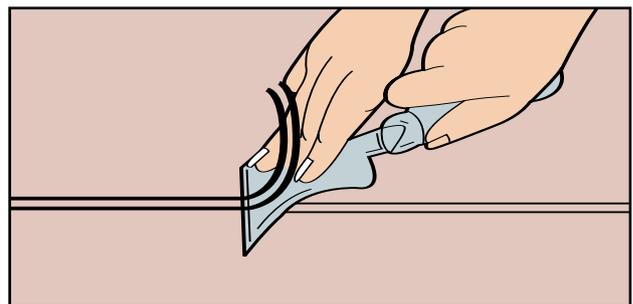


Figure 14 Final trim after the weld has cooled

Note: Polyflor foam-backed vinyl sheet flooring is liable to compression and sometimes, even after the final trim, the weld is proud of the floor. In this case, use an Exacto cutter with a large circular blade to scrape away any high spots.

8.7. GLAZING THE WELD

Due to different methods of manufacture, the surface of a trimmed weld is liable to soil in a different way from the surface of the vinyl flooring. To improve resistance to soiling, a glazing technique should be used. With the speedweld attachment removed, but still on the same heat setting, place the gun nozzle over the trimmed weld. Repeat over the whole length of the weld, keeping the gun moving constantly to prevent burning.

9. PREMATURE TRAFFICKING OF NEWLY LAID FLOORS

Early trafficking may disturb the adhesive bond and weaken it, resulting in the associated problems of tracking, indentation, debonding etc. After the vinyl sheet has been installed, only light foot traffic should be allowed for at least 24 hours. Where liable to be subject to heavy trafficking, the vinyl should be protected with hardboard or plywood for at least 48 hours.

For further technical support, you can contact Polyflor in any of the following ways:

- Technical section of the Polyflor website:
www.polyflor.com
- Telephone the Polyflor Customer Technical Support Team: **+44 (0)161 767 1111**
- Email the Polyflor Customer Technical Support Team: tech@polyflor.com

