

# Installation Guidance Note: Marmoleum Sport

## General advice

The appearance, performance and durability of the installed floorcovering will be determined to a large extent by the quality of the prepared subfloor and the conditions in which they are laid.

The installation of Marmoleum® sport should be carried out in accordance with the national code of practice for the installation of resilient floor coverings if applicable. Areas to receive flooring should be clean, free from other trades, fully enclosed and weather tight. Subfloors should be clean, smooth, sound and permanently dry.

The open time of the adhesive will depend on site conditions and porosity of the base. It is best practice to conduct an adhesive bond test before starting the installation. Bond testing will assist in identifying both the working characteristics of the adhesive (waiting and working time) for the site conditions, and also any potential bonding problems.

Always conduct moisture tests on **all** substrates. All ground based level floors should have an effective moisture barrier.

Areas to receive flooring shall be adequately lit to allow for proper inspection of the substrate, installation and for final inspection.

It is essential that the laying area is at a steady temperature of minimum 18 °C, 48 hours before, during and 48 hours after installation. The material and adhesive should be conditioned in the same environment for at least 24 hours prior to the installation. Where the floorcoverings have been stored or transported immediately prior to delivery in temperatures below 10 °C the acclimatisation period should be extended to 48 hours. Where national codes of practice exist, they take precedence over these guidelines.

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.

**Since Marmoleum® sport doesn't have a coating like Topshield pro, installers should handle the floor with care to prevent scratches.**

Take the Marmoleum® sport rolls off the pallets.

Prior to installation rolls should be checked to ensure that the correct colour, batch number and quantity have been received and that the material is in good condition. No claim will be accepted for incorrect colour, pattern or obvious damage if the material has been fitted.

Use material from the same batch/dye lot and install in roll number sequence. The use of different production batches will always result in visible shade differences. The batch number is clearly marked on the material packaging and must be checked before commencement of installation.

Marmoleum® sport should be laid in the same direction for seaming.

As with all newly installed floor coverings Marmoleum® sport should be protected from heavy traffic, particularly high point load wheeled traffic, for 72 hours and must not be washed for 48 hours after installation.



### **Subfloor preparation**

Installation of Area elastic (type A) sport systems or Point elastic (type P) sports flooring systems must be made according to the installation guidances of the system manufacturers.

For Marmoleum Sport elastic installation please see the part related further down in this document.

### **Adhesive recommendation and application**

When installing Marmoleum® sport a low emission EC1 adhesive is required, such as Forbo Eurocol 611 Eurostar Lino Plus. If alternative products are to be used consult with the supplier for more information, guidance and warranty.

Use a trowel to apply the adhesive.

Note: Trowels will wear during use, check the trowel both before and during use to ensure that the proper, specified trowel notch is used and maintained.

Note: the adhesive must be spread evenly over the entire floor area with particular attention to edges – this will ensure that the sheet is fully bonded at the perimeters.

Install one length of sheet at a time, making sure to place the material into wet adhesive and roll afterwards with a 50-70 kg roller, rolling in all directions to ensure a firm bond. It is important to only spread sufficient adhesive that can be covered within the open time of the adhesive.

Areas that cannot be rolled with the large roller e.g. abutments such as door frames or skirting boards should be rolled with a hand roller or pressed into the adhesive with a rubbing hammer.

Always clean away excess adhesive with a damp cloth before it is allowed to dry.

### **Installation**

Forbo recommends Marmoleum® sport flooring to be installed one sheet at a time. Always install all Marmoleum® sport in the same direction. It is recommended that each sheet be scribed to fit and that the factory edge be properly removed before adhering (see below). Seams should always be under-scribed after the material has been placed into the adhesive and rolled. Following these recommendations will give the installer the best opportunity to manage the open and working time of the adhesive and ensure that the flooring material is placed into wet adhesive.

Cut the sheet material to the required lengths and then back roll each cut length before scribing to the long wall and length ends in order to release any roll tension from the winding of the sheet linoleum. Once the sheet has been back rolled stand the cut lengths upright in this state for approximately 15 minutes before unrolling for fitting.

Note: Whether seams are to be welded or not, they should be cut to leave a nett fit (closed) seam. However, when cutting seams in linoleum sheet, allowance must be made for a fractional expansion in the width of the hessian backed material as it picks up moisture from the adhesive. This expansion is minute and will be halted by the curing of the special linoleum adhesive, but unless allowed for in cutting, tightly cut seams will peak and fail (this is not a product defect).

### **Fitting the first sheet**

Once scribed to the walls cut a true edge along the factory edge of the sheet, a Forbo 'strip and seam cutter' is designed to carry out this operation in one cut (Fig.1). Alternatively, the factory edge can be trimmed using a straight edge and utility knives with straight and hooked blades. Place the straight edge approximately 2cm in from the factory edge and score the Marmoleum® sport using a utility knife and a straight blade. After scoring the material cut through the sheet using a utility knife and a hooked blade holding the knife at an angle to give a slight undercut along the seam. After trimming the factory edge trace the line of the seam edge onto the subfloor with a pencil, this will serve as a guideline for spreading the adhesive.



Fig. 1

Pull the sheet back to approximately half of its length and spread the adhesive ensuring that the adhesive is spread right up to all perimeter edges and the marked pencil line Fig.2. Feed the sheet back into the adhesive and roll immediately first across the width of the sheet and then along the length to ensure that complete wet adhesive transfer is achieved. Again, pay particular attention to the perimeters Fig.3. A seam roller or rubbing hammer can be used to ensure the sheet is pressed into the adhesive around harder to reach areas such as door frames and overhangs from furniture or fittings.



Fig. 2

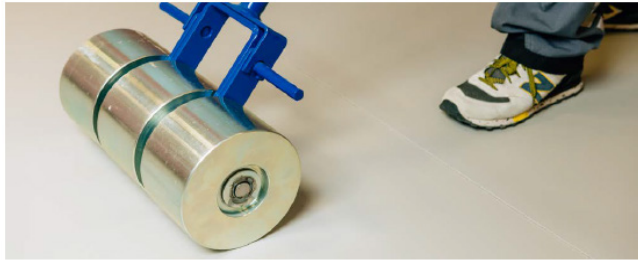


Fig. 3

Pull the other half of the sheet back and repeat the above process.

### Forming seams

#### Cutting the seam

Immediately after rolling the sheet trace the seam with recess scribes (Fig.3) along the trimmed edge of the first sheet and cut through with a utility knife and hooked blade, again with a slight undercut.



Fig. 4

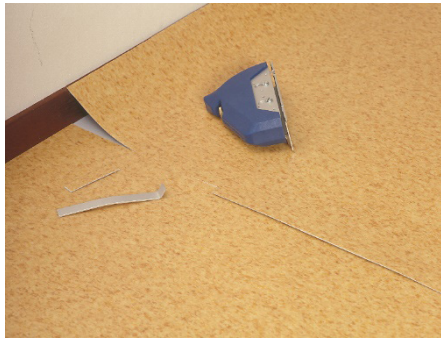
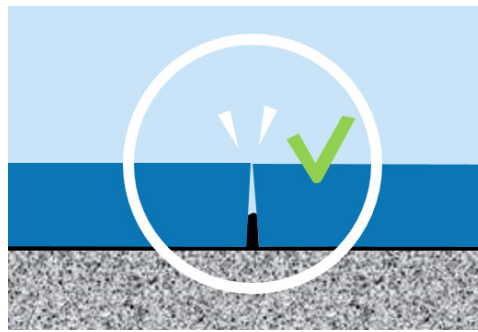
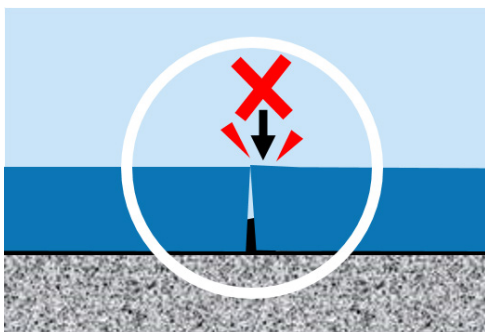


Fig. 5

Once the seam is cut, the cut edge should just fall into place alongside the edge of the first sheet (if the sheet needs to be pushed against the previously stuck sheet the seam is too tight and will peak).



The Forbo Trimmer (Fig.4) or Wolff Linocut can be used to cut the seam in one operation.

Roll the seam with a seam roller to ensure full contact with the adhesive. Remove any excess adhesive with a damp cloth.

Repeat the process for the second half of the sheet length.

**Note:** it is important to cut and roll the seam whilst the adhesive is still wet (to avoid peaking seams). Remove any adhesive residues at the seam straight away with a damp cloth.

**Tip:** If the guide on your recess scribers is too thick (fig. a) it could remove adhesive from the subfloor when scribing the seam. Sanding the bottom of the guide on the recess scriber to reduce its thickness (fig. b) will prevent this and will also help to keep the guide clean and free of adhesive contamination.

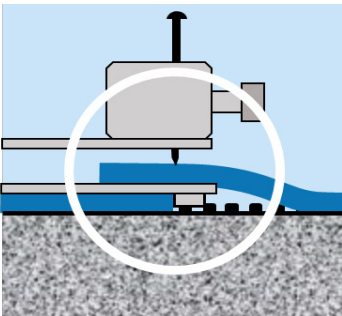
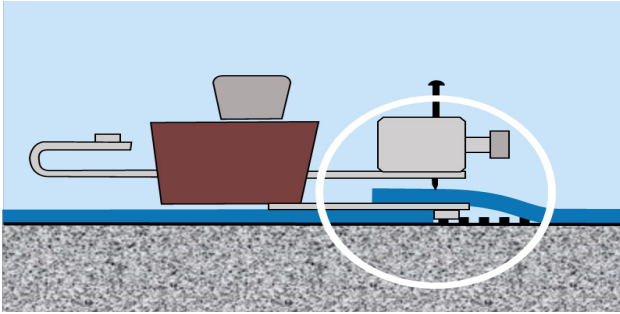


Fig. a

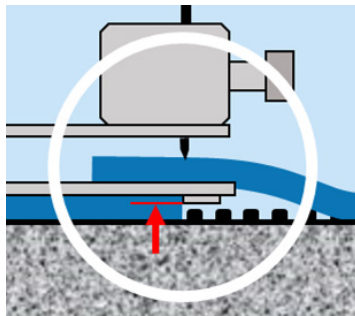


Fig. b

**Tip:** check the quality of the seam on completion. If there are any small, isolated, gaps in the length of the finished seam these may be filled using the following technique.

1. Clean the area of the repair paying attention to the removal of any loose linoleum fragments or dust.
2. Make up a paste by mixing fine shavings, ground or sanded to make a fine dust, from a piece of the original colour linoleum with a waterproof PVA adhesive.
3. Fill the area to be repaired with the paste using an appropriate tool such as a spatula, leaving the filler flush with the surface of the Marmoleum. Remove an excess with a damp cloth.
4. Smooth the finished repair with a spatula and allow to dry.
5. When the filler is completely dry, buff the surface to an even finish, applying a thin coat of diluted floor maintainer if required.

**Tip:** If applying floor maintainer use a small brush or similar to the filler only, thereby avoiding gloss variations in the flooring adjacent to the filler.

**Note:** The procedures and actions described above are suggested to assist in resolution of minor problems. They do not form part of any official Forbo installation recommendation, and Forbo cannot take responsibility for the long-term effectiveness of any such repairs, or warrant the repaired areas.

As with any repair, the quality and effectiveness of the work, which includes visual acceptability, will depend on the skill of the operator. The final acceptance of any repair is at the sole discretion of the client/end user.

### Welded seams

Welding of Marmoleum® sport can be done after 24 hours at the earliest (setting of the adhesive).

### General advice

Welding and trimming techniques for linoleum are the same as those used for vinyl products; however, the composition of linoleum weld cable requires a different welding temperature and speed. Problems encountered with welding are usually due to either welding at the wrong temperature and/or speed of application, or use of incorrect trimming techniques.

### Seam forming and grooving

Seams for welding should be formed in the same manner as above. A net fit seam is still required.

Marmoleum Sport having a thickness of 3.2 or 4 mm, seams should be grooved out to a depth of 2,5 mm max of the material (Fig.6). A 'P' Type groover (Fig.7) is recommended for manual grooving of seams, however, automatic or power groovers (Fig.8) may be more productive on larger installations. Fig.9 shows the Forbo Groover which uses a hot air to soften the surface of the sheet and built in grooving blades to cut the groove in one operation. If a grooving tool such as an electric grooving machine is being used a **small, consistent**, gap (<0.5mm) may be left to accommodate the guide wheels of the grooving machine

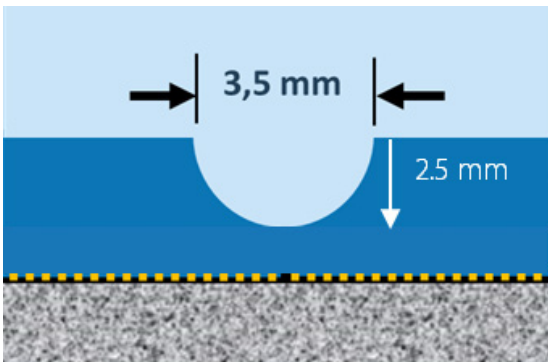


Fig.6



Fig.7



Fig.8



Fig.9 – Forbo groover



## Welding

Switch on the hot air gun and allow 5 to 7 minutes for it to reach the selected temperature. Linoleum should be welded at a temperature of approximately 350° C. (see weld gun manual for setting details). Fit the welding nozzle before switching on the hot air gun.

**If the gun is resting on the floor ensure that the nozzle is not directed at the floor or anywhere dangerous.**

Weld guns will vary, so it is always advisable to practice weld techniques first on a piece of waste material to match the correct air gun temperature with welding speed. Marmoleum should be welded with a 5mm Speedweld nozzle.

Make sure the groove is thoroughly clean before beginning to heat weld. Make sure that all electrical cables are laid out without tangles and that there are no obstructions along the seam to be welded.

Cut the welding cable to a consistent and generous length or unwind sufficient weld rod from the reel and put the reel in a position where you are working towards it. Have the power cable ahead of you if possible.

Start at a wall. Thread the cable through and weld moving backwards, away from the wall, maintaining a slight downward pressure so that the weld nozzle will force the weld cable into the groove. Do not let the cable melt in the nozzle.

A good weld is obtained by the correct combination of temperature, speed and downward pressure. The weld cable should be allowed to melt enough so that the melted rod reaches the bottom of the groove. The top of the welding rod should flatten slightly, and a small bead should form on either side of the welding tip (Fig.6 and 10). After the first 30cm check the weld adhesion is good by gently pressing the cable in the welded section from side to side. If the speed/heat/pressure combination is incorrect the weld will either come out or the cable will have melted over the sides of the groove, possibly with charred material either side of the groove. Fig.11 below is an example of a weld application that is too hot.



Fig.10

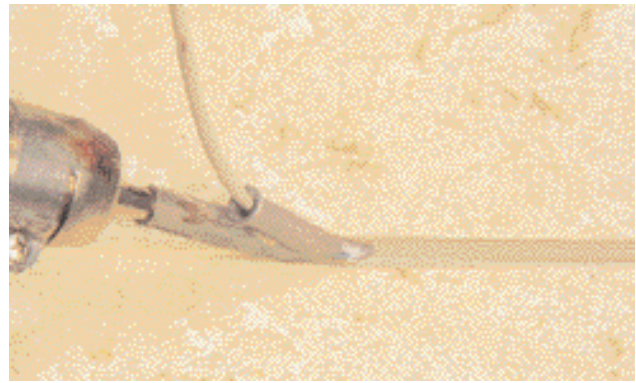


Fig.11

## Trimming

While the cable is still warm trim off most of the top half of the cable down to approximately 0.5mm using a sharp spatula and slide or Mozart knife which fits over the cable. This enables the cable to cool more quickly and enables a quick first cut to be made without risk of gouging the material.

The welding cable will dish slightly (concave downwards) as it cools. Wait until the material is completely cool before trimming flush with the surface of the sheet with a sharp spatula angled slightly across the line of cut or Mozart knife. Alternatively, trim flush with a flat profile 'X-acto' router blade. This blade is slightly concave, so blunt the corners to avoid scratches on either side of the weld. If trimming pulls out the weld this shows it is unsuccessfully adhered and the seam should be re-done with fresh welding cable.



Spatula



Slide plate



Mozart knife

**Note:** Making the final trim while the welding rod and material is still warm can result in the weld cable being pulled out of the groove and/or dishing of the weld cable. This may result in subsequent seam soiling problems or cause permanent damage to the surface of the flooring.

When Marmoleum and Linoleum products are installed adjacent to a vinyl flooring product, Marmoweld welding rod must be used to heat weld the seam if heat welding is specified. A vinyl welding rod will NOT bond to Marmoleum and Linoleum products, but Marmoweld will achieve an adhesive bond to most vinyl flooring products.

#### **Steps following the installation of marmoleum sport**

Following steps are required to complete the installation:

- Preparation for coating
- Application of game lining
- Coating of prepared Marmoleum® sport
- Maintenance of (freshly) installed Marmoleum® sport

**Therefor please contact the local sport installers or lacquer companies specialized in game lining and lacquering.**

Forbo Eurocol propose a complete range for these different installation steps. These can be found on the website <https://www.forbo.com/eurocol/en/products/sport-floor-installation-products/sports-flooring-systems/ppnpyg>

#### **Marmoleum sport elastic**

This system called **Marmoleum Sport Elastic** is a combination of Marmoleum® sport with an advanced rubber underlay (e.g. 7 mm Regupol mat). The Regupol underlay mat is used for this purpose and is available at Forbo Flooring. First, the individual sheets are roughly cut to size and acclimatised under the above-mentioned conditions. Regupol should be rolled out completely first before installation. For bonding the sheets are folded back halfway. The adhesive is applied with an adhesive suitable for Regupol, e.g. Forbo Eurocol 640 or equivalent. Please observe the processing instructions of the adhesive manufacturer. Following these recommendations will give the installer the best opportunity to manage the open and working time of the adhesive and ensure that the flooring material is placed into wet adhesive.

After applying the adhesive with the trowel recommended by the adhesive manufacturer, the sheets are laid without tension in the fresh adhesive layer and carefully rolled with a linoleum roller (50 - 70 kg).

The edges of the sheet are laid against each other tight but not compressed. After approx. 30 - 45 minutes, the sheets should be rolled again with the linoleum roller.

The Marmoleum sport sheets are laid as described above at the earliest 24 hours after the insulation underlay has been glued down in the same direction but offset from the base.

#### **On completion of the installation**

First impressions may have more impact on the client than hours of skilled fitting.

The completed installation should be cleared of scrap material and debris, the floor swept or vacuumed, and any traces of adhesive residues removed from the floor and skirtings.

If the floor covering is to be protected from other trades or site traffic prior to project completion, a protection product should be chosen that is appropriate for the type and level of traffic likely to be experienced and the potential for impact, scratching or indentation damage.

The use of the wrong type of cleaning products and /or abrasive cleaning pads can damage the flooring.

If the optimum performance of any new floor covering is to be achieved, it is important that the correct cleaning and maintenance procedures are used from day one. Cleaning and maintenance guides for all Forbo Flooring products are available for download at:

**[www.forbo-flooring.com/downloads](http://www.forbo-flooring.com/downloads)**

Cleaning and maintenance guides should be passed onto the main contractor, client, or end user as appropriate on completion of the installation, and before any hand over clean is started.

#### **If in any doubt, contact us:**

Question@forbo.com