

# Installation Guidance Note: Colorex SD & EC tiles

## 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. As with any resilient floor covering irregularities in the subfloor will be apparent in the finished flooring.

The installation of Colorex SD & EC tiles 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 and free of contaminants, smooth, sound, even and permanently dry. Maximum residual moisture for subfloors without floor heating:

- 2.5% CM for concrete
- 0.5% CM for anhydrite screed

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 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 18 to 27°C for 48 hours prior to, during, and for 24 hours after installation. The material and adhesive should be conditioned in the same environment for at least 24 hours prior to the installation. In all circumstances, the tiles must be unpacked for acclimatisation and laid on the floor in small and straight stacks of max. 10 tiles each. Where the floorcoverings have been stored or transported immediately prior to delivery in temperatures below 20°C the acclimatisation period should be extended to 48 hours.

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.

Prior to installation tiles 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. 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.

As with all newly installed floor coverings Colorex 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.



## Underfloor heating

Forbo flooring products may be installed over underfloor heated floors providing the maximum surface temperature of the substrate does not exceed 27 °C under any condition of use. To enable a secure bond of the adhesive to the substrate, the underfloor heating system should be turned off, or set to the lowest temperature, for a minimum of 48 hours prior to installation of the Forbo flooring material. The temperature of the substrate must not exceed 18 °C during the installation of the flooring material. If necessary, an alternate heating source should be used to maintain the room temperature at a minimum of 18 °C prior to, during, and for 72 hours after installation. The temperature of the underfloor heating system can be increased 72 hours following the installation. When raising the floor temperature, do so gradually so the substrate and flooring material can adapt to the temperature change together. A rapid temperature change could result in bonding problems.

## Adhesive recommendations and application

When installing Colorex SD & EC tiles a low emission EC1 adhesive is recommended, such as Forbo Eurocol '641 Eurostar Special EL. If alternative products are to be used consult with the supplier for more information, guidance and warranty.

Note: Contact Forbo Flooring Technical Services department for further advice on adhesives and installation in areas liable to be subjected to abnormal temperature variation in use, for example, retail premises with glazed window fronts, conservatories etc.

Use a TKB S1 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. 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.

Place the material into the adhesive (after the appropriate waiting time) and roll 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.

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.

## Electrical grounding - installation and layout

### General recommendations:

Copper strip(s) for electrical grounding must be applied first, i.e. under the conductive adhesive. In normal conditions, no conductive primer is required, in any case follow the manufacturer adhesive instructions. Self-adhesive copper strips, are recommended. They are quicker to install and provide the best conductive adhesion to the subfloor. The electrical connection to the grounding point(s) must always be made by a qualified electrician.

### Layout for rooms smaller than 50 m<sup>2</sup>:

Lay a strip of copper tape extending approximately one metre onto the subfloor allowing sufficient excess to extend up to the nearest grounding point. (see fig.1 below)

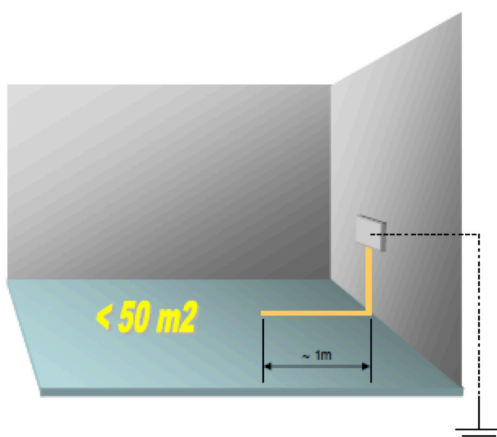


Fig. 1

### Layout for rooms larger than 50m<sup>2</sup> - Method A:

This layout is recommended for rooms where the shorter side of the room is less than 50m. Lay the copper tape to create a circuit as shown in Figure 2 below. Punch all strip intersections to ensure proper contact and test the conductivity of the copper strip circuit with an appropriate testing device prior to starting installation of the tiles.

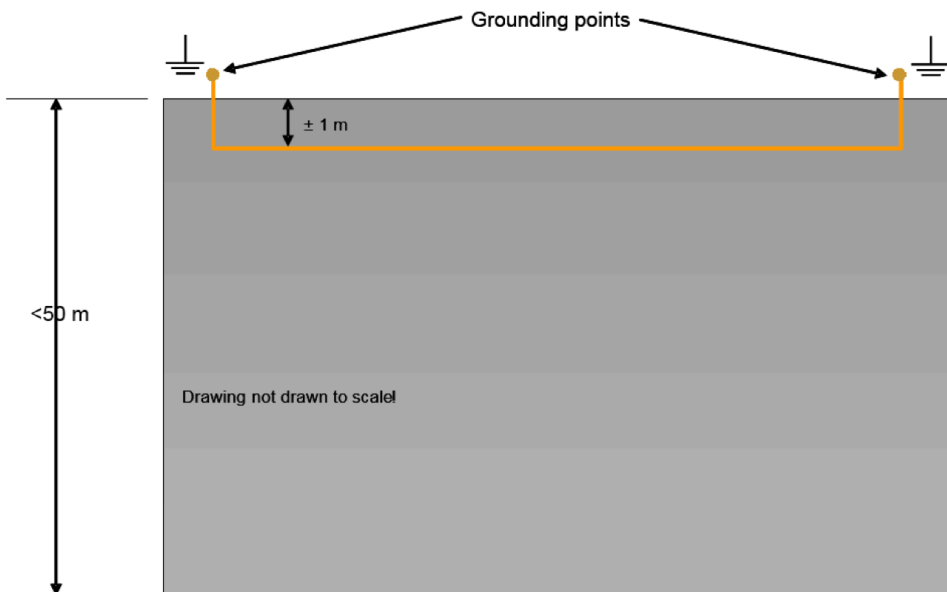


Fig. 2

### Layout for rooms larger than 50m<sup>2</sup> - Method B:

This layout is recommended for rooms where the shorter side exceeds 50m. Lay the copper tape to create two circuits on opposite side of the room as shown in Figure 3 below. Punch all strip intersections to ensure proper contact and test the conductivity of the copper strip circuit with an appropriate testing device prior to starting installation of the tiles.

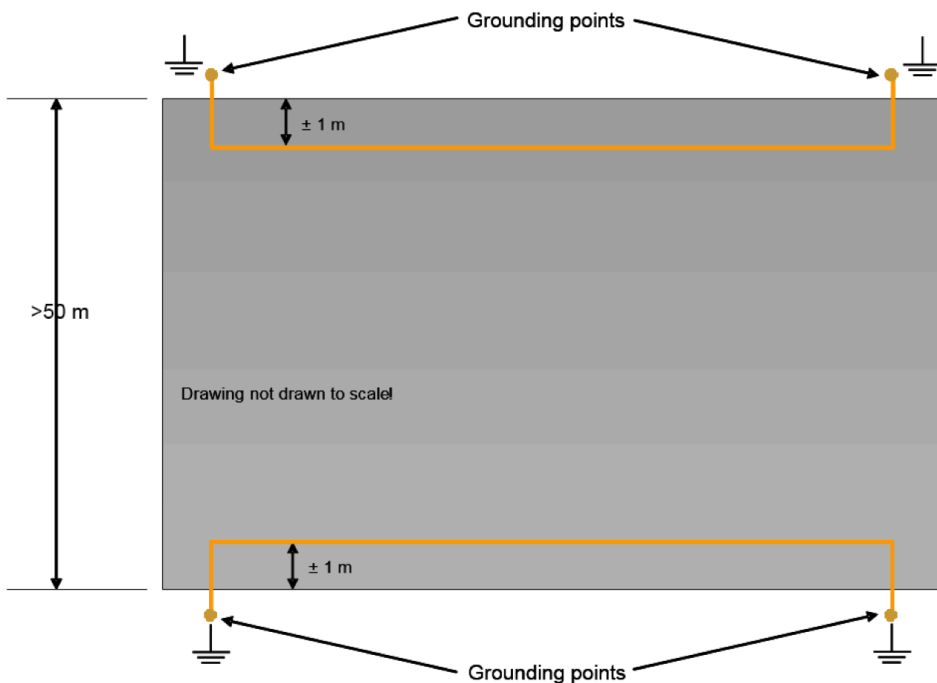


Fig. 3

### Installation

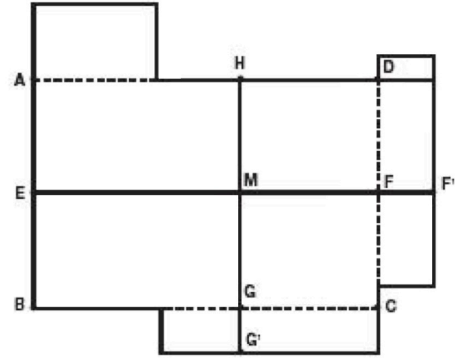
Colorex tiles should be installed in the same direction (monolithic). The arrows on the back of the tiles show the manufacturing direction.

### Setting out

Colorex tile products are installed using conventional tile installation techniques. The correct starting point for setting out a tiled floor is traditionally the centre of the area - although this may not be the final starting point when tile laying begins. Some adjustment of the starting point may be required, for example, to avoid small perimeter cuts, where the tiles are to be laid with a border, or with designs such as Hungarian Point.

In corridors and small spaces, it may be simpler to work lengthwise from one end, using the centre line as a guide.

The centre line is drawn as follows: a chalk line is snapped from centre of wall A-B (=E) to the centre of wall C-D (=F). The centre of line E-F is found (M). Draw a perpendicular line through M using the 3:4:5 method to establish G-H (Figure A).



Starting at centre point M, measure out lengthwise and width wise to the walls. Wherever possible, cuts of less than 60mm or so should be avoided as these are more likely to come loose at some stage in the life of the installation. Adjust the position of lines E-F and G-H if necessary.

### Laying tiles

Begin laying tiles at the starting point, ensuring that the tile is laid exactly along the layout lines. If the first few tiles are not installed accurately, the entire installation will be affected.

**Note:** In a large area, two or more fitters may be placing tiles at the same time. As finger pressure in butting the tiles or planks together may be slightly different, we suggest to start from a common point and work away from it to avoid tiles or planks going out of bond.

Lay the tiles into the adhesive after the required waiting time and within the open time applicable to the adhesive being used and roll 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.

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

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.

Remove fresh adhesive residue immediately with a clean white damp cloth. Dried adhesive residue can be removed with a clean white cloth and soapy water.

When laying fully adhered tiles the time it takes to mark and cut the border tiles must be taken into consideration when planning the installation. Without adequate planning, it is likely that the working time of the adhesive in the area of the border tiles will be exceeded before the tiles are installed, which will result in an inadequate bond of the border tiles. The successful installation of border tiles is best accomplished by following one of two strategies:

- a. When laying out tile, determine the edge of a field tile a comfortable distance from each wall and then snap chalk lines around the perimeter of the room. When spreading adhesive, use these lines as a guide to stop spreading adhesive and install the field tiles up to the adhesive spread lines. Once the field tiles have been installed, the border tiles can be “dry” fitted (before spreading the adhesive). After the border tiles have been cut, adhesive can be applied in the area of the border tiles and the tiles can be placed into the adhesive.
- b. Plan the sequence of spreading adhesive so that the border tiles can be cut and placed into the adhesive before the adhesive working time has been exceeded.

## Seam Grooving and welding

Heat welding of Colorex tiles is recommended for those areas where wet cleaning methods will be used or hygiene requirements for the installation area require it.

### Grooving

Groove the tiles along the tile joints with the grooving machine. Use hand grooving tool for difficult to reach areas. Pay maximum attention to stay on track.

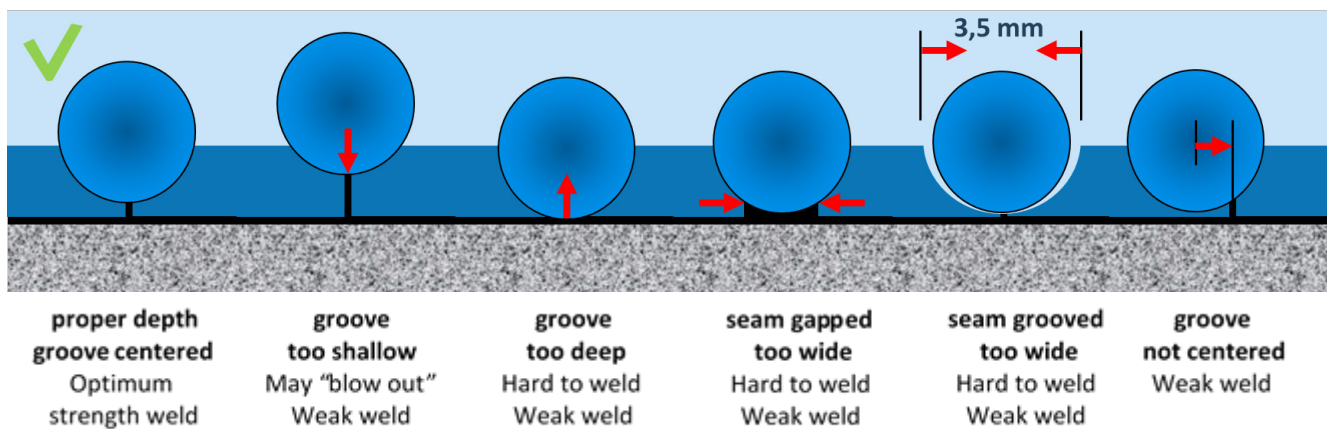
A 'P' Type groover is recommended for manual grooving of seams, however, automatic or power groovers may be more productive on larger installations.

The standard blade groove width for 4 mm welding rods is 3.5 mm.

**Note:** Triangular or square grooves are not acceptable

Seams should be grooved to a depth of:

- 1.3 - 1.6 mm deep for 2.0 mm tiles
- Max 1.8 mm deep for 3.0 mm tiles



### Welding

Switch on the hot air gun and allow 5 to 7 minutes for it to reach the selected temperature. Colorex should be welded at a temperature of approximately 400 – 450°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. Colorex should be welded with a 4mm Speed weld 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.

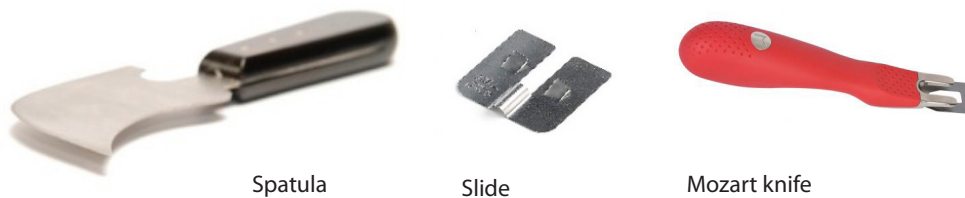
A good weld is obtained by the correct combination of temperature, speed and downward pressure. The weld cable should be allowed to melt enough so that the melted rod reaches the bottom of the groove, making a little burr along the sides.

## Trimming

**Note:** To avoid unintended damage to the floor covering Forbo recommends to use the Mozart knife for trimming the weld cable. If a sharp spatula is being used special care should be given to avoid damaging the sides of the seams.

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 Mozart knife or a sharp spatula angled slightly across the line of cut.



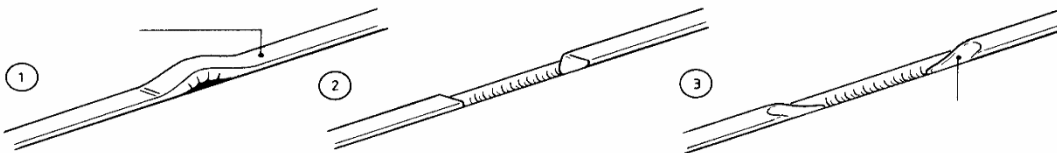
**Note:** Making the final trim while the welding rod and material is still warm can result in the weld cable dishing of the weld cable. This may result in subsequent seam soiling problems or cause permanent damage to the surface of the flooring.

## Welding at cross points

To obtain a visually perfect result, we recommend grooving, welding and slide trimming in one direction at a time. The final flush trim should only be carried when welding and slide trimming of both directions has been completed.

## Joining up a weld

To join a weld in the middle of a seam trim off the loose ends and chamfer down the section to be overlapped with a hand groover. Ensure hot air gets into the groove and heats the cable. As the gun travels over the un-welded section apply pressure and carry the weld on over the section to be joined. Allow to cool and trim as normal.



## 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.

In many cases it is customary for the initial floor preparation to be left, or subcontracted, to a professional cleaning and maintenance contractor who will have the staff and equipment to do the job thoroughly.

**Important note for conductive installations:** Do not apply any wax or emulsion floor finishes in ESD protected area as these may adversely affect the conductive properties of the floor.

**Electrical resistance testing after installation:**

Point-to-ground electrical resistance tests according to approved relevant standards should not be carried out earlier than 14 days after installation. First random control measurements can be made after 24 hours. Electrical resistance readings may be higher than specified on floor covering coated with wax, acrylic emulsions etc.

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:

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:

