

Nov 2020

INSTALLATION METHODOLOGY OF iQ TORO SC & iQ GRANIT SD TILES AND SHEETING

DESCRIPTION

iQ Toro SC and iQ Granit SD materials are static conductive and static-dissipative flexible homogeneous floor coverings respectively, available in both tile and sheeting form, with a conductive PU top and backing. They have been calendared and compacted with permanent anti-static properties to act as continuous dissipaters of static electrical charges. They are manufactured in accordance with EN 649 (ISO 10851) and comply with EN 1081 in terms of electrical resistance $R_2 5 \times 10^4 \leq R \leq 10^6 \Omega$ and $R_2 \leq 10^8 \Omega$ respectively. The tiles are sized to be suitable for use in raised access floor installations.

INTRODUCTION

The final appearance and durability of any sheeting or tile installation depends largely on the condition of the surface upon which it is laid. A little time and effort spent on the proper preparation of the sub-floor will often be repaid in terms of an installation of which all concerned can feel proud.

iQ Toro SC and iQ Granit SD materials require a smooth, hard, clean, sound and level surface, not only for appearance but also for achieving a satisfactory adhesive bond and long-term durability. The sub-floor should be swept or preferably vacuumed, to remove all dust and dirt. (Always brush the sweepings away from the area onto which the flooring is to be laid).

It is important to remove any traces or patches of oil, grease or any oil-based paint from the sub-floor surface. This can be done using either paint strippers or degreasing compounds. Once clean the sub-floor must be thoroughly washed to remove any stripper or residue and then allowed to dry thoroughly.

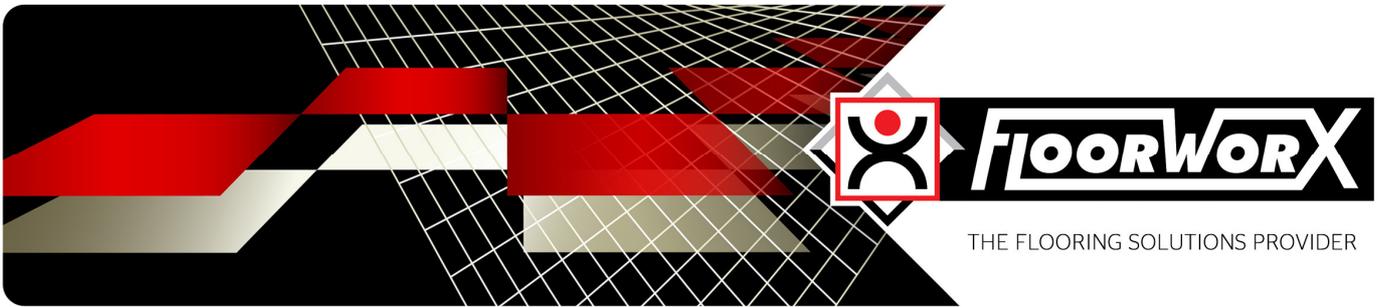
The specifier, main contractor and flooring applicator shall ensure that the sub-floor is acceptable to receive the sheeting or tiles in respect of levelness, smoothness, soundness and cleanness.

The minimum requirement is that the sub-floor is compliant to a Grade 1-floor finish as set out in SANS 10070 Code of Practice: The installation of resilient thermoplastic and similar flexible floor covering materials in terms of levelness. This optimum floor finish can be achieved using a high-quality, reliable, cementitious self-levelling compound, for levelling and smoothing work on interior surfaces.

The flooring contractor shall ensure that the sub-floor is sufficiently dry before the installation of the flooring material by testing with a suitably approved Concrete Moisture Meter. (*Tramex CME 4, Caisson / Romus VI-D4 Pinless Concrete Moisture Meter, GE Protimeter Mini or a Hygrometer*).

Laying flooring onto a wet subfloor will not only affect the adhesive but will also cause the flooring to curl and lift.

(See ***FloorworX Technical Bulletin No. 30: Moisture in Sub-Floors and Damp-Proof Membranes***).



APPLICATION

Ensure that all recommendations for substrate and job site conditions are met before 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.

The laying area must be 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 before the installation. Where the floorcoverings have been stored or transported immediately before delivery in temperatures below 10°C the acclimatization period should be extended to 48 hours.

The open time of the adhesive will depend on site conditions and porosity of the substrate. It is best practice to conduct an adhesive bond test before starting the installation, as this 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.

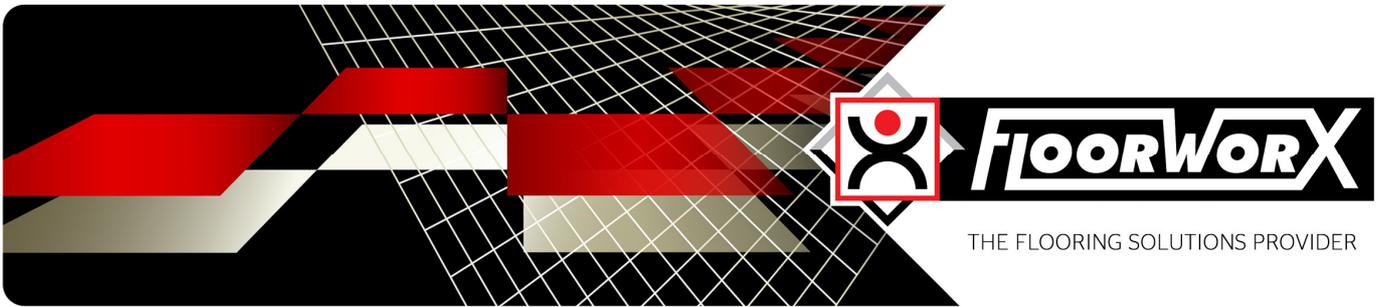
Never subject a newly installed floorcovering to heavy wheeled traffic at an early stage, as this will disperse trowelled applied adhesive from below the floorcovering which may result in future problems. (Castor / Wheels should be + 30mm and preferably made of neoprene. If it is necessary to traffic the floorcovering at an early stage, protect the installation with hardboard or plywood)

UNDERFLOOR HEATING

iQ tiles and sheeting may be installed over underfloor heated floors providing the maximum surface temperature of the substrate do 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 before installation of the tiles or sheeting 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 before, 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. Failure to follow these guidelines can result in the floorcovering de-bonding, joints opening, and on some occasions discolouring, all which can occur within a long or short period.

ACCLIMATISATION

- The rolls must be stored in an upright position and tiles should not be stacked more than 5 x boxes high.
- Twenty four hours before use, the material should be cut to the desired lengths and acclimatised within the area to be installed by laying flat on a prepared, clean subfloor at a room temperature of 18°C - 26°C. (This temperature should be maintained throughout the installation and thereafter).
- The minimum temperature of the subfloor should be 15° C.
- Care should be taken when handling all types of floor coverings to ensure that safety procedures are followed and damage does not occur to the material.

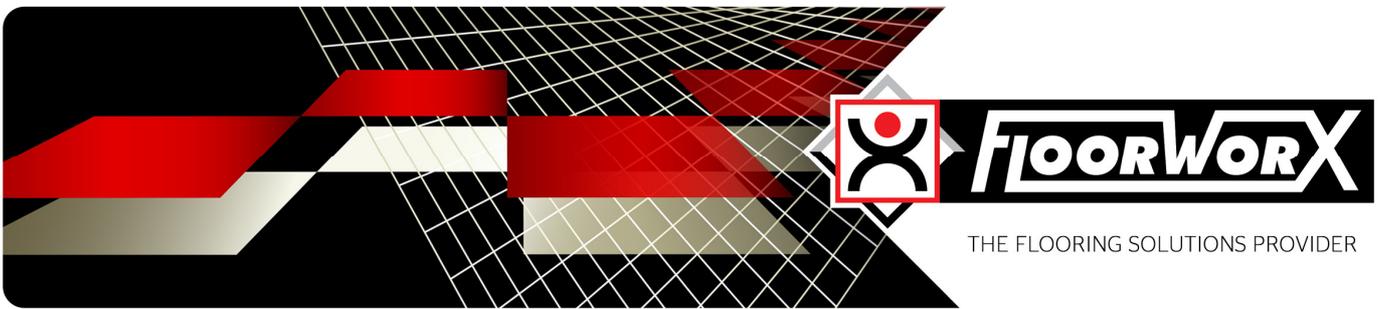


INSTALLATION OF SHEETING

- Remove all traces of debris and ensure that all recommendations for substrate and job site conditions are met before beginning the installation
- Before 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.
- Use material from the same batch/dye lot and install in the roll number sequence. (The use of different production batches will always result in visible shade differences. The batch number is marked on the material packaging and must be checked before commencement of installation).
- Plan the sheet direction of the area to be installed to ensure whenever possible that joins do not coincide with doorways or main traffic lanes.
- Plan, mark and position the copper or aluminium grid system. **[See Illustration 3]**
- **Warning: When cutting the material, be careful not to cut into or damage the copper or aluminium foils below.**
- Cut the lengths of the material 10cm longer than the size of the measured length of the room.
- Scribe the first sheet down the length of the room with the two ends lapped up the wall. Cut down the scribe mark using utility knives with straight and hook blades removing the scrap material and place into position.
- Place the sheet tightly against the wall; draw a pencil line down the edge of the sheeting onto the subfloor lengthways opposite the scribed wall.
- When in position draw a pencil line at 90° to the edge of the sheet from the sheet onto the subfloor using a ruler. This cross mark should be approximately 20cm away from one of the ends still lapped up the wall.
- Slide back the sheet along the first pencil line until the end of the sheet lies flat on the subfloor and slightly short of the wall. The two cross lines will now have moved apart.
- Set the long scribes at the distance between the two lines and scribe this size from the wall onto the sheet at the same time keeping the scribe parallel with the sheet edge. With the scribe adjusted to this setting, the end of the sheet is now scribed and cut and the surplus removed.
- Slide the sheet back into its previous position with the material now fitted to the long wall and one end wall. Repeat this last procedure at the end still lapped up the opposite wall.
- **All consecutive sheets should be installed in the reverse direction to the previous sheet installed** (Reverse sheets) i.e.: 1st sheet facing north, 2nd sheet facing south, etc. Print or arrows on the reverse of the material can identify the direction of the sheets.
- Overlap the next sheet by 2.5cm with one end already 2-3cm short of one wall. Adjust the scribe to scribe a small amount off this end of the sheet and cut to size. Slide this end of the sheet into position against the wall just fitted to. Now repeat the procedure adopted for fitting the previous sheet where the sheeting is still lapped up the remaining wall.
- This entire procedure should be copied for all consecutive sheets apart from the last sheet, which should be installed in the same manner as the first.
- Just before adhering the sheeting, all joins should be re-cut. Strike a chalk line 1cm in from the overlapped edge of the material and re-cut using a knife and straightedge by cutting through 2/3rds of the thickness before cutting with a hook knife. Use this good edge to now guide a pin-vice down the edge. Deepen this cut with a utility knife and finally undercut with a hook knife.

ALTERNATIVELY

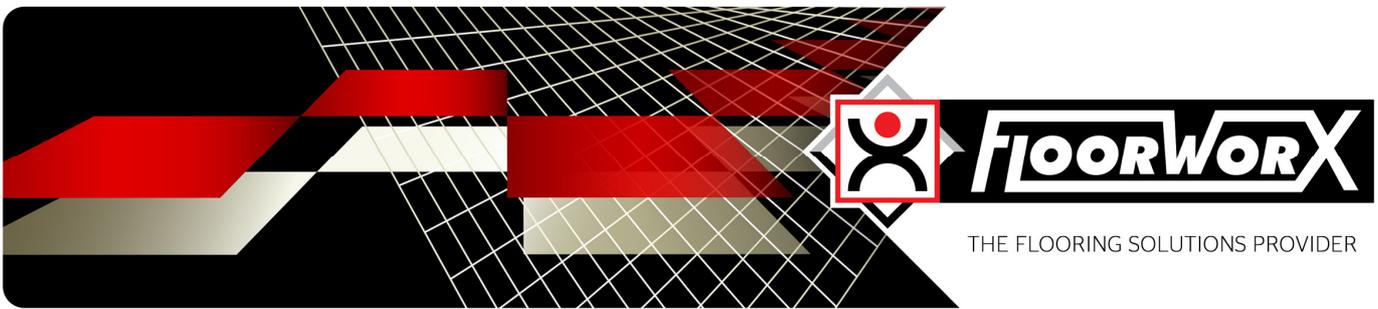
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- Cut a good edge on the material and then overlap uncut edge on top. Scribe bottom edge of the top sheet by using a short scribe. (over & under).
- Carefully pull the sheets back half their length and re-sweep the back of the sheeting and the subfloor to ensure that no debris is present that may visually impair the installation and cause premature wear.
- Adhere the copper or aluminium foils and the sheeting using the appropriate adhesive. (See options)
- **Adhesive application options:-**
 - **FloorworX No 27 Conductive Adhesive is to be applied to copper or aluminium foil using a brush.**
 - **FloorworX No 62 Acrylic Adhesive is to be applied to the subfloor - field area only. (This is primarily due to the make-up of the product which has a conductive backing).**
- **ALTERNATIVELY**
 - **Apply FloorworX No 27 Conductive Adhesive to both the copper or aluminium foil and the subfloor.**
- It is extremely important that the sheeting once installed is rolled with a 68Kg articulated three sectional roller in both directions. (**Refer Smoothing out & Rolling - Illustrations 1 & 2 below**).
- Repeat the procedure for the second half of the sheets as soon as the first half has adhered.
- Repeat rolling at 15-minute intervals until fully bonded to the subfloor, paying close attention to the seams, cross-joins, ends of the sheets and any inaccessible area. Wipe any excess of adhesive away with a cloth moistened with water or if dry, nothing stronger than white spirit.
- After a lapse of at least 24 hours, hot seam weld the sheeting. (Refer to FloorworX Technical Bulletin No 41 on Seam Welding of Vinyl Flooring).

INSTALLATION OF TILES

- Remove all traces of debris and ensure that all recommendations for substrate and job site conditions are met before beginning the installation
- Before 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.
- 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 marked on the material packaging and must be checked before commencement of installation).
- Plan the area to be installed to ensure whenever possible that small cuts of tiles are not used, especially near doorways.
- Choose the longest wall in the area to be installed.
- Measure out from this wall at either end, across to the other side of the room.
- If there is a significant difference in both these sizes choose the larger of the sizes.
- Again measure out from the same wall at both ends. This time measure only half the size previously chosen. Mark this size on the subfloor in pencil.
- Strike a chalk line between both pencil marks. This chalk line indicates the centre of the width of the room.
- Repeat procedures above on the shortest wall. This now indicates the centre of the length of the room.
- Although the centre point of the area to be installed has now been identified, this procedure does not calculate the size of the part tiles that will have to be inserted at the edge of the walls. They may be too small to be acceptable. (-10cm)
- To adjust the size of the perimeter tiles, move the centre chalk-line half the size of the tile. E.g.: - tile size 61cm, move chalk-line 30.5cm from its present location. By doing this, the tile size at the



perimeter of the walls will increase or decrease in size whilst still achieving a balance tile size on either side of the area being installed.

- When the chalk-lines are in their final position, butt a straightedge up against them and draw a pencil down the edge of the straightedge onto the subfloor.
- Plan, mark and position the copper or aluminium grid system. **[See Illustration 4]**
- **Warning: When cutting the material, be careful not to cut into or damage the copper or aluminium foils below**
- Apply the adhesive up to the edge of the pencil mark, which represents the chalk-line.
- When applying adhesive to the subfloor to receive the tiles, only the amount of square metres that can be comfortably covered by the tiles within the open time of the adhesive must be applied.
- **Adhesive application:- (FloorworX No 27 Conductive Adhesive).**
 - **The conductive adhesive is to be applied to the subfloor to secure the copper or aluminium foil (if it is not self-adhesive) and over the surface of the foil to form a connected secure bond.**
 - **The conductive adhesive must also be applied to the subfloor.**
- Place the first tile carefully at the intersection of the two chalk lines.
- Place successive tiles outwards from the first and along both chalk lines building a “castle”. Lay each tile with the “grain” (marbling) at right angles (tessellated) to the adjacent tile.
- It is extremely important that the tiles once installed are rolled with a 68Kg articulated three sectional roller in both directions. **(Refer Smoothing out & Rolling - Illustrations 1 & 2 below).**
- Repeat rolling at 15-minute intervals until fully bonded to the subfloor. Wipe any excess of adhesive away with a cloth moistened with water or if dry nothing stronger than white spirit.

POTENTIAL PROBLEMS

When the correct procedures have not been upheld a variety of problems will arise.

- If the tiles are laid into the adhesive too late then no bond will occur and the tiles will not adhere to the sub-floor.
- If the tiles are laid into the adhesive too early, any volatile that has not flashed off will be trapped. This will prevent the adhesive from curing and will result in a poor bond. Should this happen the tiles will peak or lift.
- If the trowel notches are too small, insufficient adhesive will be applied to the sub-floor resulting in a poor bond.
- If the trowel notches are too large, an excessive amount of adhesive will be applied to the sub-floor, resulting in adhesive weeping between tiles.
- When installing tiles, try to leave the perimeter area dry of adhesive, especially in large areas. Fit the tiles dry, then remove and apply the adhesive or apply the adhesive just before cutting to size.

SMOOTHING OUT AND ROLLING (TILES & SHEETING)

Smoothing and rolling must be done in two passes:

- The first pass should be done manually using a smoothing block.
- The second pass should be done carefully by smoothing over the entire surface using a 68 Kg articulated roller to flatten the lines of adhesive and to ensure that the adhesive coats the back of the flooring properly. This is done immediately as the flooring is laid, and again after work is finished.

(Refer Illustrations 1 & 2.)

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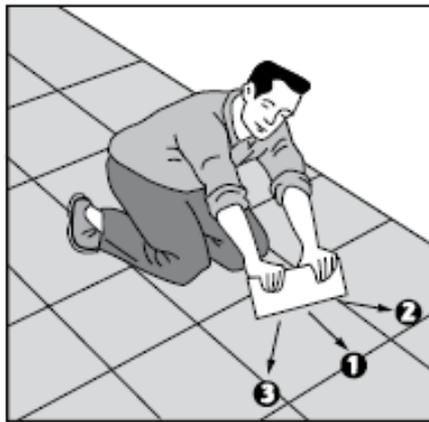


Illustration 1.

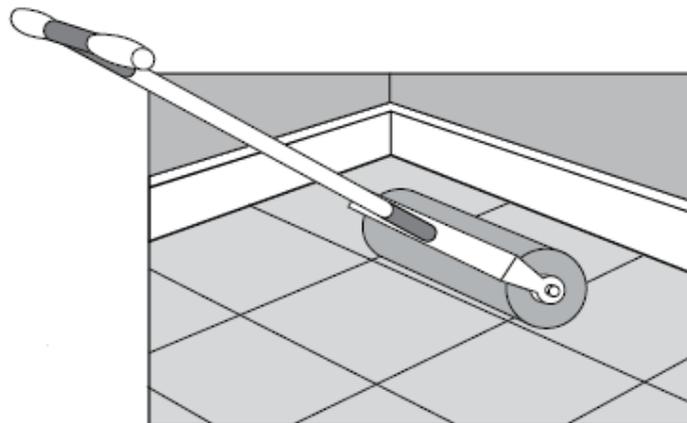


Illustration 2.

COVING

- This product can be coved. Refer to FloorworX Installation Methodology of Homogeneous PVC Material to form a Coved Skirting, which is available on our website.

JOINT WELDING

- It is recommended that all Sheeting installations be heat seam welded.
- The **welding of tiles is optional** and can be carried out if necessary. Welding will however offer aesthetic and maintenance benefits.

(See *FloorworX Technical Bulletin No. 41: Seam Welding of Vinyl Flooring*).

COPPER OR ALUMINIUM FOIL INSTALLATION

NB - FloorworX No 27 Conductive Acrylic Adhesive must be used on the copper or aluminium foil grid system to maintain electrical continuity between the foil and the back of the product.

SHEETING

There is no requirement to install a full copper or aluminium grid system, it is only necessary to install copper or aluminium foil placed crossways under the short ends of the sheets, approximately 200mm in from the wall, however,

- Any **transverse or cross-joins** should have a **100cm** length of copper or aluminium foil equally positioned in the centre of the sheets, crossing from one sheet to the other.
- If the **area is less than 10 lm** in length, only install the copper or aluminium foil at one end of the sheets.
- If the **area is more than 20 lm** in length, then install the copper or aluminium foil crossways in multiples of 20 lm.
- Ensure that the copper or aluminium is connected to earth at each of the copper or aluminium foil ends.

Refer to Illustration 3.

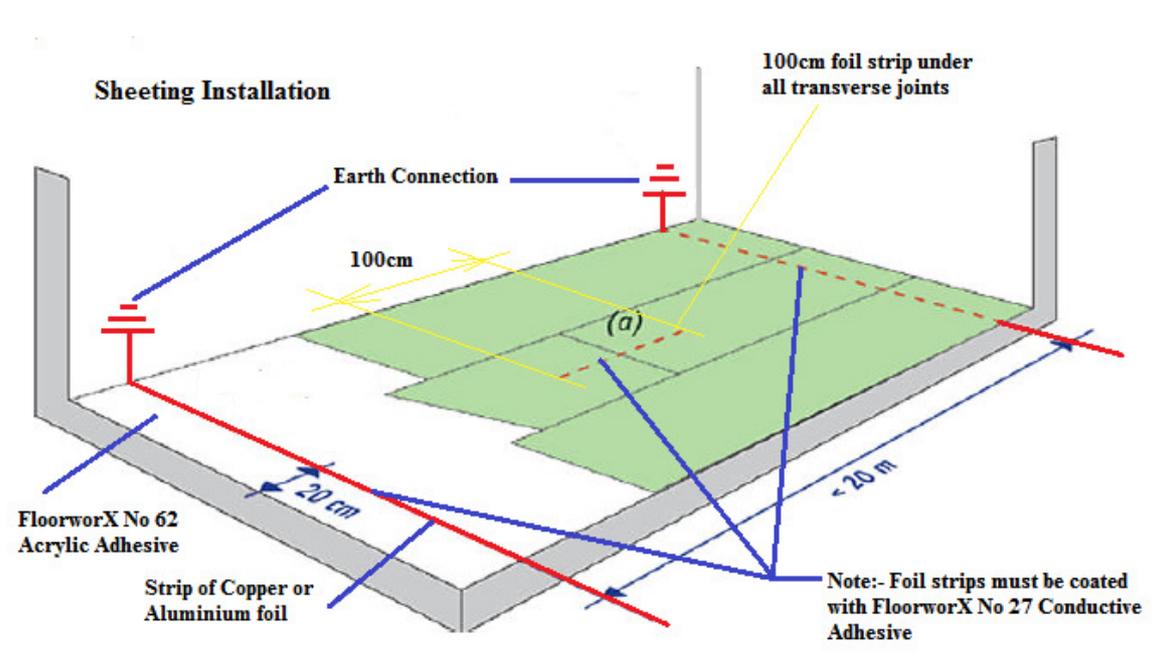


Illustration 3

TILES

- **There is no requirement to install a full copper or aluminium grid system.**
- **It is only necessary to install copper or aluminium foil placed across the shorter dimension of the room, starting under the first row of tiles,**
 - If the **area is less than 10 lm** in length, only install the copper or aluminium foil at one end of the tiles.
 - If the **area is more than 20 lm** in length, then install the copper or aluminium foil crossways in multiples of 20 lm.

Refer to Illustration 4

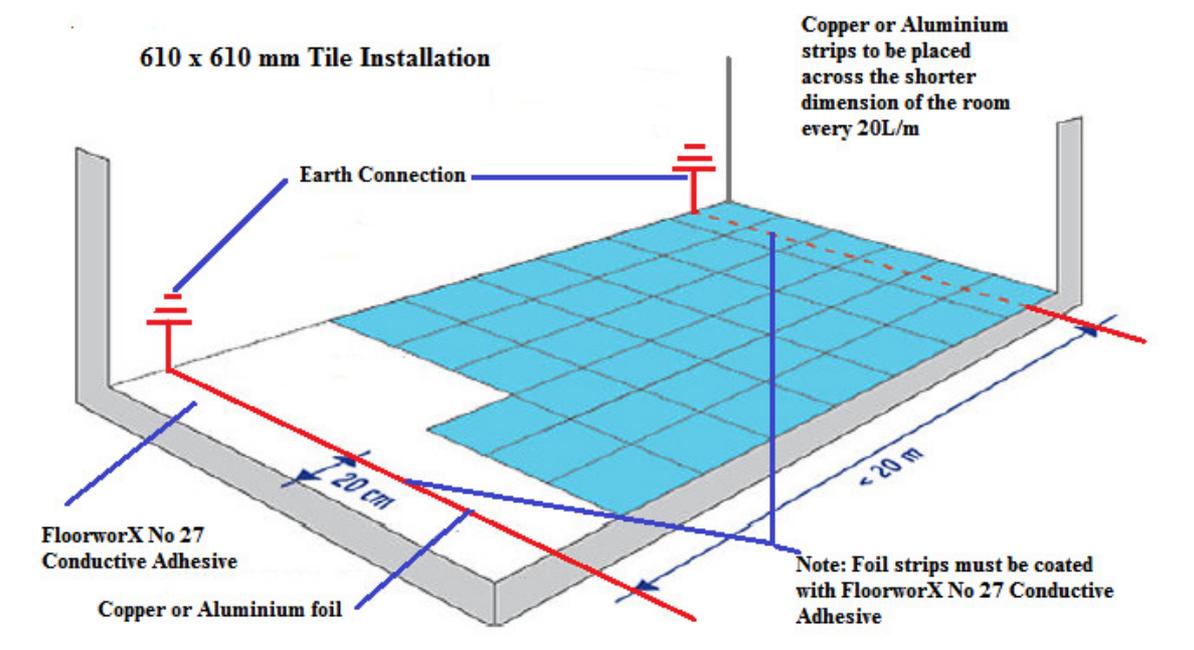


Illustration 4

EARTHING CONNECTIONS

The below Illustrations (7 – 11) are some examples of how the copper or aluminium strips and grid can be terminated. Note these are not the only options.

It is highly recommended that all earth connections are done by a qualified electrician.

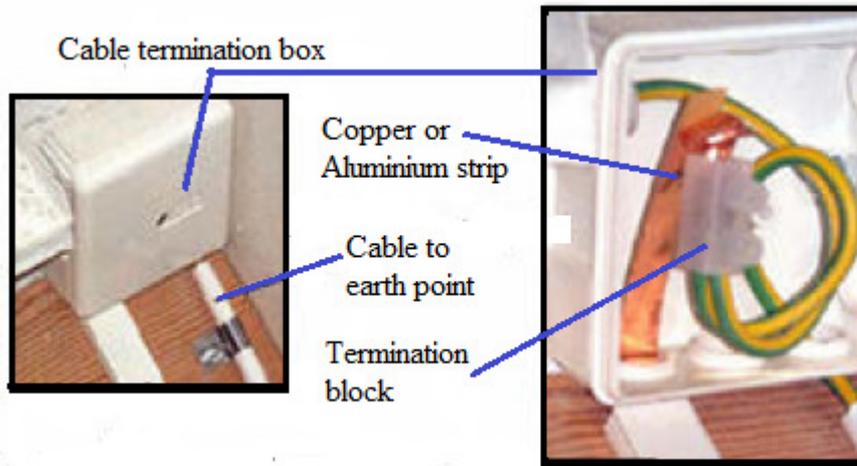


Illustration 7.

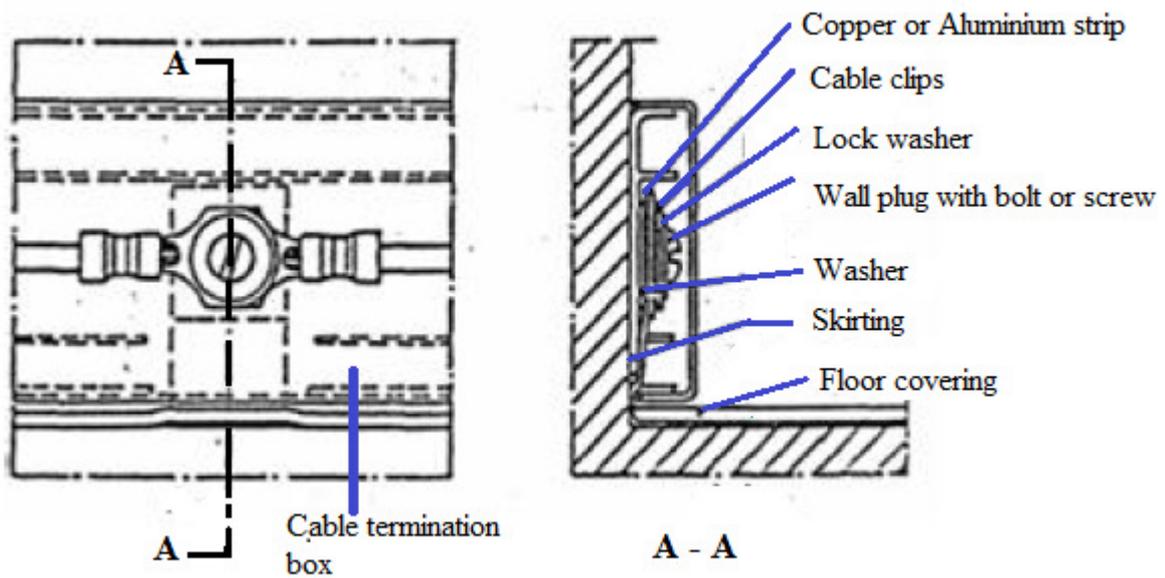


Illustration 8.

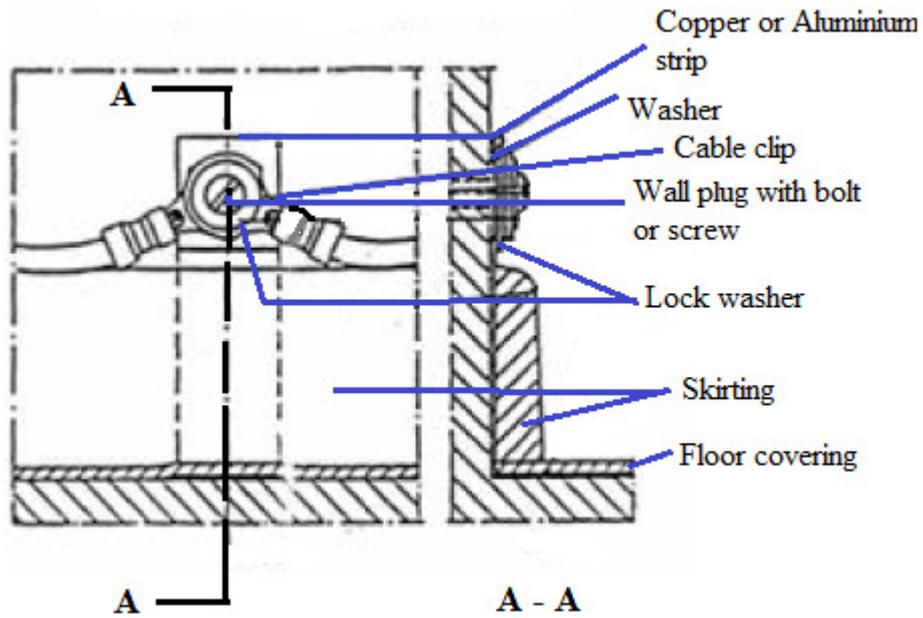


Illustration 9.

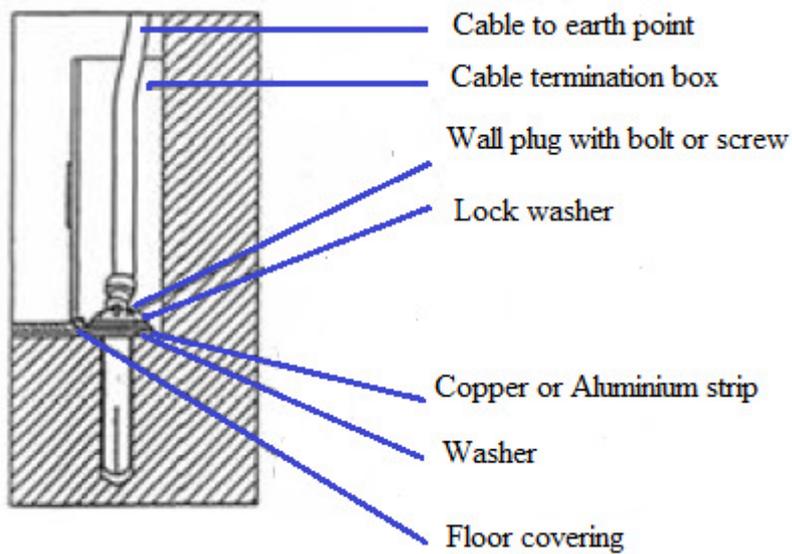


Illustration 10.

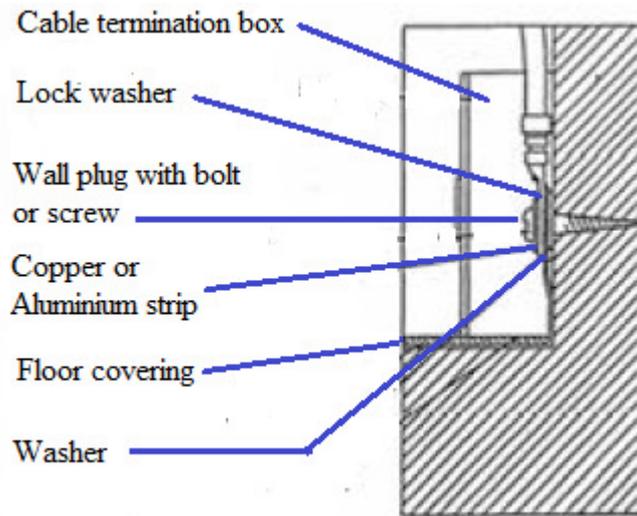


Illustration 11.

TIME BEFORE FIRST USE

- For normal foot traffic, the floor can be used 48 hours after completion of work.
- For installing furniture or moving loads on wheels, wait 72 hours after completing the work
- It is advisable not to use rubber feet on the furniture.
- In cases where underfloor heating has been installed, then it should only be switched on 7 days after the completion of the installation.

DISCLAIMER

THIS INFORMATION IS BASED ON OUR EXPERTISE AND IS GIVEN IN GOOD FAITH BUT WITHOUT WARRANTY. WE CANNOT ACCEPT LIABILITY FOR ANY DAMAGE, LOSS, OR ACCIDENT CAUSED DIRECTLY OR INDIRECTLY BY THIS PRODUCT.

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