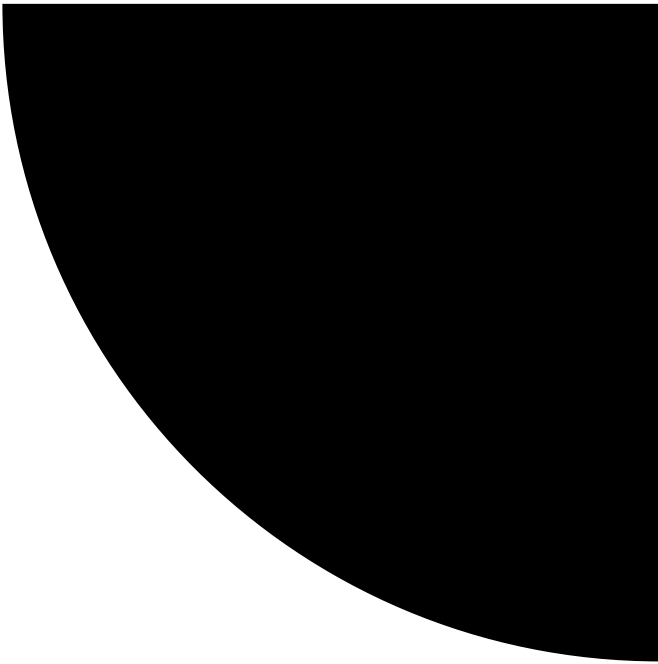


**ESD/Conductive
Vinyl Sheet Flooring**

**Installation and
Maintenance Guide**



ESD/Conductive Vinyl Sheet Flooring Installation & Maintenance Guide

Please read all instructions before you begin the installation.

PRE-INSTALLATION SITE CONDITION CHECKS

Subfloor conditions:

- Solid, dry, clean, smooth and free of cracks, holes and protrusions. If the surface is not satisfactory it should be repaired and levelled with a cementitious underlayment, applied according to manufacturer's recommendations.
- Hardness of floor can be tested using a sclerometer as shown below.



- Moisture content is equal or less than 3% (CM) when conducting the moisture test
- Levelness of the subfloor must be less than 2mm gap within the 2 meters length. (Accordance to BS 8204 Part2 SR1)
- Free from grease, foreign debris and dust.
- The unqualified subfloor must be treated prior to the installation.

Temperature and humidity checks:

- The indoor temperature should be maintained between 18°C to 38°C
- The relative humidity should be maintained between 40-75%.

*Condition the room/ floor's temperature for minimum 24 hours prior to installation for optimal conditions (if possible)

Production Batch number (Tonality) checks:

All rolls of Armstrong Flooring products are marked with a 'batch number' and are numbered in consecutive order. When using more than one roll make sure the rolls have the same 'batch number' when used side by side in the same area and are installed in roll number order.

Adhesives:

- Recommended Conductive Vinyl sheet adhesive

Examples:

Uzin , Ardex

Or any brands with equivalent usage/specifications

Trowel size:

- A2 or A3 trowel notch

Material checks:

1. Check for obvious transit damage or manufacturing defects in good daylight conditions.
2. Check material is correct colour code (SKU) and ensure sufficient quantity for the entire site.
3. Allow all the materials to acclimatise to job climatic conditions 48 hours before installation, unpack the materials 24 hours in advance to release the stress to minimize the dimension variance. Avoid immediate installation after unpacking.
4. After loosely laying the first two lengths and before adhering, step back and inspect the overall effect. If acceptable, then go ahead and adhere, but if there is a problem or doubt of any kind then stop immediately and call the distributor or Armstrong Flooring Representative.
5. Do not cut or install any damaged or defective material unless accepted, agreed and approved by all parties concerned.

Structural and Seams checks:

Expansion/ construction (Structural) joints

Armstrong Flooring does not recommend that resilient floorcoverings be installed across expansion/ construction joints. Various expansion/ construction joint covers are available and should be specified by the architect or agreed between the contractor and the purchaser.

Vinyl flooring sheet material set out (Seams)

Vinyl flooring sheet material direction, seam and cross join placement should be approved by the client prior to the installation. Avoid cross joins and seams in heavy traffic ways. Wherever possible lay the sheet down the length of the room to minimize the number of seams. Seams should run toward the main light source and or the length of the room.

PREPARATION OF THE VINYL:

Vacuum clean a cutting area. Armstrong recommend the use of a vinyl Dolly to roll out the sheet vinyl face up. Cut the required lengths, loosely roll up face in and stand in the area to be installed, this will help to further condition the vinyl to the area.

COVERED INSTALLATIONS:

Armstrong flooring recommend the use of the 20mm or 32mm cove fillet to support the covered vinyl. The standard cove height estimated 100-150mm based on site requirements.

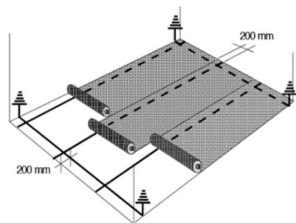


GROUNDING POINTS:

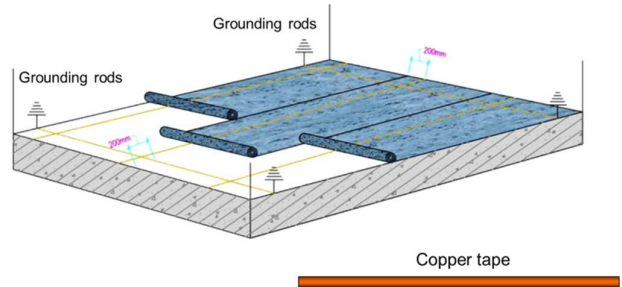
The distance from any random chosen grounding point on the installed floor to the copper tape must not exceed 10 meters and must not exceed the area coverage of 100 square meters. The grounding point need to be prepared by qualified electrical engineer. The grounding point need to be connected to the copper tape.

COPPER TAPES:

Lay out the copper tapes at the distance of 200mm from the wall and at least 200mm away between each seam joint, the thickness of the copper wire is recommended to be 0.01-0.05mm, and the width is 20-40mm. Ensure that the copper tape is cover on each piece of vinyl sheet and connected to the grounding point.



ADHESIVE APPLICATION:



Once the vinyl is pulled back to be glued. Spread the recommended conductive adhesive using the nominated trowel notch size. Allow adhesive to tack up or reach the "Opening Time", depending on site and subfloor conditions. Lay vinyl flooring into the adhesive making sure to achieve a full wet transfer onto the back of the vinyl, using a cork push board or similar, expel any trapped air, then roll the vinyl with a 50kg roller in both directions to flatten adhesive trowel lines and ensure full adhesive transfer.

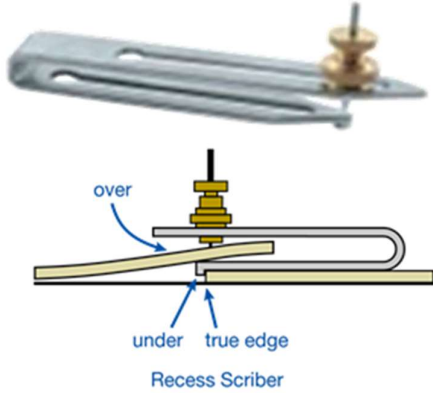


SEAM PREPARATION:

All factory edges should be removed during installation, trim the first side using the Edge trimmer.



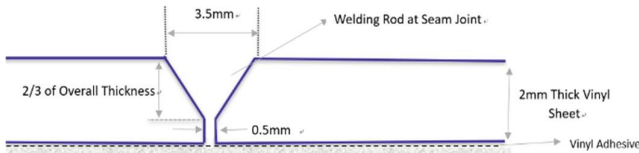
Or alternatively by cutting 10mm from the factory edge using a straight blade knife and straight edge. The second run of vinyl should overlap the first by 10 to 15mm. After the vinyl has been placed into the adhesive under scribe the join, scribe the seams using a recess scriber set to provide a gap of about 0.5mm.



Cut along the scribe line keeping the knife upright to achieve a square edge, roll cut edge of vinyl into the adhesive using hand roller. Roll entire floor using 50kg roller.

Routing or grooving and heat welding should only be done when adhesive has cured for 24 hours.

Rout or groove the seam in a "U" or "V" shape to a maximum depth of 2/3 of the material thickness using a grooving machine or hand groover.



HEAT WELD SEAM INSTRUCTIONS:

For optimal welding results and reduce damage to the surface of the vinyl Armstrong recommend the use of a fine airstream speed nozzle.



Leister fine airstream nozzle

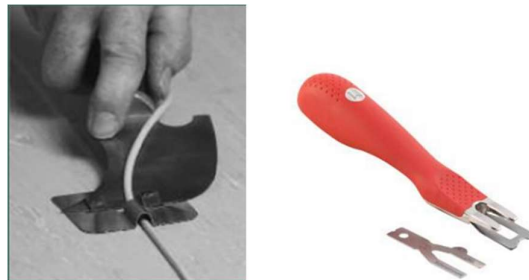
Set the temperature setting on the hot air welder, fitted with a speed nozzle, to deliver enough heat to fuse the weld rod to the sheet. Amperage of electrical supply, length of extension cord and wire size along with site conditions and subfloor temperature will

affect the temperature setting. As a guide, a Leister weld gun fitted with a speed nozzle should be set to heat setting of around 400 to 450 degrees. **Test weld on a piece of scrap material until correct setting is achieved.**

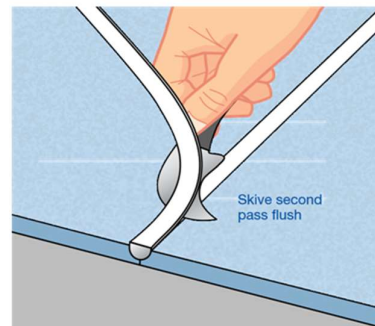
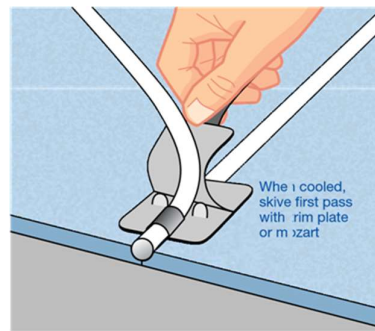
Insert weld rod into the speed nozzle and immediately insert the rod into the groove, hold the welding gun at an angle so that the tip of the speed nozzle is parallel with the material. A good weld will result when the weld just starts to flair on each side of the seam. If the weld joint flairs excessively you are going too slow. Scorching the material can occur if the heat setting is too high.

To change directions in welding, shave off excess weld rod, groove the end of the weld rod for approximately 20mm to create a splice. Start welding from the opposite direction and continue welding until you overlap the grooved weld rod and continue for another 20mm before lifting weld off.

Allow weld rod to cool to the room/ floor temperature, skive the excess weld rod off in two passes. The first pass using a quarter moon (spatula) knife with a trim plate or a Mozart trimming tool with the spacing plate.



Allow weld rod to completely cool before final skiving (trimming).



POST INSTALLATION

After installation is completed:

- Remove all debris and clean the floor using electrostatic duct mop or vacuum.
- Damp mop using neutral detergent.
- Remove all floor preparation materials, any adhesive residue from flooring and skirtings/ kick boards.
- Do not allow heavy rolling loads for at least 48 hours after installation.

Floor Protection:

- All vinyl flooring should be protected during the construction period by using protective covering of plain, undyed Kraft paper/cardboard. Ensure that the covering does not contain inks, marks or other agents to stain the new floor.
- For better protection of the floor, it is strongly recommended to apply conductive wax on the floor after installation.

MAINTENANCE AND CLEANING:

Cautions:

- Working staff should wear the work shoes with soft soles when entering the ESD places.
- Sharp edge tool rolling and scratching of the floor is prohibited. Prevent the high temperature objects (electric soldering iron, electric stove, etc.) and the low temperature object (liquid nitrogen, etc.) from directly contacting the floor. Avoid oils and corrosive chemicals to stain the floor.
- All the installation tools such as scaffold and ladder which directly contact the floor should be covered with insulated cotton or rubber at the wheel or ladder foot to avoid damages to the floor. The apparatus with sharp edge or rigid chassis must not be dragged directly on the floor. The heavy apparatus/equipment with narrow/sharp supporting edges need be added with additional protection.
- Prohibit the apparatus/equipment with heavy weight beyond the loading of the floor from dragging or putting directly on the floor and add a wood board with at least 10mm thick or metal plate with at least 5mm thick when necessary.

- Periodically inspect and timely repair the protective layer of the floor. Correct the incorrect behaviours on site and do the maintenance and inspection on the ESD protection equipment regularly (half year).

Daily/Regular Maintenance;

- Sweep, dust mop or vacuum daily to remove dirt, grit and soil that can damage the floor and become ground into the surface. Use walk-off mats that are as wide as the doorway and long enough to trap dirt and moisture before traffic reaches the resilient floor. Remember to clean walk-off mats regularly.
- Damp mopping of the floor should be performed on a regular or daily basis depending upon traffic and soil levels in the building. Use a properly diluted neutral detergent solution with pH between 6 to 8.

Periodic Maintenance:

- When needed, scrub the floor with a properly diluted neutral detergent solution using a single disc (300 rpm or less) or automatic floor machine and the appropriate scrubbing pad (red for light scrub) or equivalent brushes.
- Thoroughly rinse the entire floor with fresh, clean water and allow it to dry completely.

Restorative Maintenance—Stripping

Stripping is the process of removing existing layers of sealer and finish and should only be performed when routine daily/periodic procedures are no longer effective or the electrical performance of the flooring has degraded.

- Scrub the floor with a properly diluted stripping solution using a single-disc floor machine (300 rpm or less) equipped with a suitable scrubbing pad (3M blue/ green or equal) or equivalent scrub brush.
- Remove dirty stripping solution with a wet vacuum or mop.
- Thoroughly rinse the entire floor with fresh, clean water and allow it to dry completely.
- Apply coats of conductive floor polish in accordance to the floor polish manufacturer recommendations.

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