



INSTALLATION HANDBOOK

ECOTILE FLOORING



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Installation Handbook

INSTALLATION

This handbook has been designed to guide you step by step through the installation process of the EcoTile E500 product range. We have compiled the manual as a benchmark to the best of our ability. Please note, however, that each project involves individual challenges which cannot be taken into account at this point.



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WHAT TO CONSIDER BEFORE INSTALLATION



1.1 CONSIDERATIONS



The following questionnaire was designed to help Ecotile employees find the appropriate flooring product for each project. When speaking to the Ecotile technical team, you may be asked any of the following questions.

PROJECT:		START DATE:		FINISH DATE:	
<u>TECHNICAL FACT FINDER</u>					
1. Do fork trucks or pallet trucks roll over your existing floor or over the area where the new floor is required?	YES NO – If yes, which type of fork truck? <input type="checkbox"/> Electric / Gas / Diesel / Manual <input type="checkbox"/> Aisle Stacker / Bendi Truck <input type="checkbox"/> Maximum load carried : _____ <input type="checkbox"/> Three or four wheels? <input type="checkbox"/> What type of wheels?				
2. Are chemicals or solvents used?	YES NO	If yes, which chemicals or solvents:			
3. Will there be any extreme temperatures or direct sunlight in the area?	YES NO	If yes, the floor will require adhesive:			
4. Do you require the floor to have a specific fire rating?	YES NO				
5. Do you require a specific anti-slip flooring?	YES NO				
6. Do you require the floor to be ESD?	YES NO				
7. What is the existing floor finish?					
8. Floor Condition?	GOOD FLAT & SMOOTH		DAMAGED		POOR

1.1 CONSIDERATIONS



The following questionnaire was designed to help Ecotile employees find the appropriate flooring product for each project. When speaking to the EcoTile technical team, you may be asked any of the following questions.

Age of Building			
How many floor levels?			
Adhesives REQUIRED?			
How will you be cleaning the floor?	ROTARY	HAND MOP	OTHER
Do you need access to the sub-floor?	YES NO		
Drains, Manholes?	YES NO		
Is the existing floor contaminated	YES NO		
Does the project require edges and ramps?	YES NO		
Is it feasible to close the area down?	YES NO		
What will the floor be used for?			

1.2 CHECKLIST

The following factors affect the installation process and should be taken into account:

1 DIRECT SUNLIGHT

- Direct sunlight can cause areas of the tiles to heat up and expand at a different rate to the rest of the floor. This will cause the edges of the tiles to curl up and/or push other tiles out of shape.
- If the area has roller doors, large windows, skylights or southern facing bays, then we strongly recommend that the tiles are glued down. This will stop the tiles from losing shape.



2 TEMPERATURE

- Please ensure that the floor is not subject to severe temperature fluctuations ($\pm 15^{\circ}\text{C}$). These temperature fluctuations can lead to significant expansion and shrinking of the tiles. Please also note that ovens and catalytic convertors radiate heat that can expand the floor.
- To counteract this, we recommend you leave a 5mm expansion gap between walls and fixed objects. Rooms must be over 15°C during installation or this may cause damage to the joints. If your room is too cold (below 15°C) we advise you use heaters to warm them up.



3 EXISTING FLOOR

- **Carpets** - We generally advise against installation on carpets. However, if this cannot be avoided, please use a polyethylene film between the substrate and the tiles.
- **Concrete Floors** - Installation on an existing concrete floor is problem-free. If the tiles have to be glued or taped, please refer to our EcoTile Gluing Guidelines which are available on our website.



4 TYRE MARKS

- Rubber tyres will stain almost every type of floor including bare concrete, painted and vinyl flooring. The stain is a chemical reaction and will not damage the tiles or impact on their durability.
- The stain is caused by a component used within the manufacture of car tyres called '6PPD' (phenaline diamine). 6PPD is an anti-oxidant and is added to rubber products to resist environmental attack by ozone and ultraviolet light. It also has other beneficial effects in the moulding of rubber itself.
- Because the stain is a dark grey/green it is far less obvious on darker colours and is almost indistinguishable from the colour of our Black and Graphite tiles. It is also less obvious in the green tiles. Light grey, yellow, white and red should be avoided.



5 REACH TRUCKS, AISLE STACKER TRUCKS & RIDE ON ELECTRIC PALLET TRUCKS

- Most 3 & 4 wheeled forklifts with rubber tyres pose no threat to EcoTile, but we recommend caution or further investigation with the following types of trucks:

- 3 Wheel Electric Trucks with a single rear drive wheel (especially nylon wheels)
- Reach Trucks & Aisle Stackers with small, hard wheels
- Trucks with extremely high loads & small wheels



- The above vehicles are damaging to most floors including epoxy and concrete. To avoid any issues with EcoTile, the floor should be glued down in the areas vehicles move.

6 CHEMICAL RESISTANCE

- PVC offers excellent resistance to most chemicals in general, but caution should be taken with solvent based chemicals – especially if they are used as a degreaser or thinner.
- Petrochemicals including petrol and diesel can damage the elastomer in the tiles if they are left for extended periods of time. Fuel spillages should be wiped up quickly.

Health & Safety dictates that spillages should be cleaned up quickly. Minor spills are unlikely to damage EcoTile. The following points are designed for applications where there is potential for long term exposure to the chemicals:

- Check Chemical Packaging

If it is stored in a flexible plastic container (especially if the packaging is marked with a PVC symbol) you can rest assured the tiles will be fine.

- If the Chemical is stored in a rigid thick walled plastic container, be cautious.

We recommend testing the chemical on a small area.

- If the Chemical is stored in a metal container, caution is strongly advised.

The chemical is packaged in metal for a reason (probably) because the chemical will attack plastics such as PVC.

If in doubt, you can download the Ecotile chemical resistance chart from our website and/or test the chemical on a tile for 48 hours to see how the tile reacts.

1.2 CHECKLIST



7 DAMAGED FLOORS

EcoTile is designed to be installed over damp, uneven and damaged floors. The 7mm & 10mm versions can be laid over a tamped concrete finish. The 5mm tiles require a smoother substrate.

- Only large holes and cracks will usually need to be repaired.

8 ADDITIONAL POINTS TO CONSIDER

- **Static Shocks**

Ecotile is an insulative surface, so there is potential for people to build up static whilst walking on the floor. This can be overcome by the use of an anti-static floor polish.

- **Under Floor Heating**

- Ensure the heating has been on for 48 hours before starting installation.
- If practical lay the tiles on the floor but without interlocking the joints and allow them to acclimatise to the floor's heat before fitting the tiles together
- If the above is not practical, fit all the full tiles but do not do any cutting. Leave the floor for another 12 + hours to settle and acclimatise and only after that do the cuts making sure to leave a 5mm expansion gap between the tiles and any fixed point

- **External Applications**

E500 is not suitable for outdoor use, however we do supply an outdoor flooring range which you can find on our website – www.ecotileflooring.com

- **Welding**

You can perform simple welding, but the surface finish of the tile is damaged by sparks and charges.

9 GLUING GUIDELINE - IMPORTANT

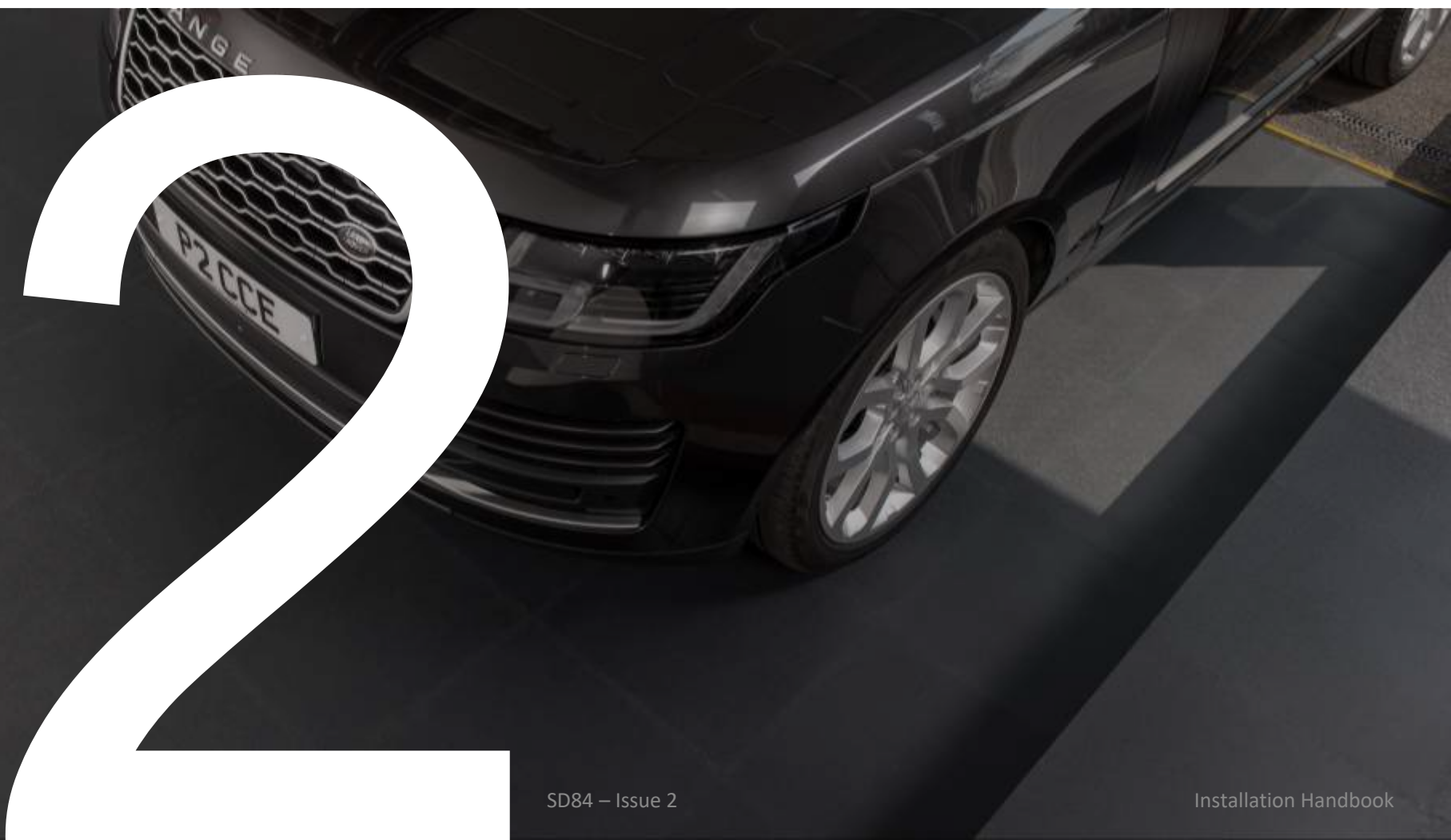
- Ecotile is intended to be loose laid without the need for adhesive. Our interlocking tiles have been designed to provide a solution for floors where adhering a floor covering or applying a resin based system to the original substrate is not possible, due to damp, contamination, dusty or weak substrate etc. OR where the down time and disruption that would be involved in preparing the existing floor to allow a glued or resin based system to be installed, makes the process too expensive or complex.
- There are certain situations where an adhesive is recommended **BUT** in the circumstances explained above (damp, contamination, dusty or weak substrates) we cannot and do not warranty the adhesive properties of the adhesive to the substrate.

An adhesive may be required, recommended or opted for by the customer in the following circumstances:

- Where the tiles will be installed and exposed to direct sunlight or an external heat source (roof lights, ambient heaters, utilities and especially hot water supplies or hot waste water running through drains under the floor) that may cause the tiles in that area to expand or shrink at a different rate to the tiles in the surrounding area.
- Where there are heavy loads or vehicle traffic (pallet trucks, fork trucks, Bendi trucks, aisle stackers etc.) that are carrying loads with either a high point load (extended forks or three wheel electric trucks with a single or twin drive wheel located under the battery compartment for example).
- Where there are tight turning circles (at the end of an aisle of racking) or where trucks need to manoeuvre between narrow racking for example.
- Where vehicles follow a very specific route in only one direction (e.g. Automatic guided vehicles) which may over time cause the tiles to ripple in one direction only.
- To mitigate or limit the potential for liquids to seep through the points of the tiles (for example wet areas, sluice rooms, areas prone to oil spills and leaks. By using an adhesive you will help seal the undersection of the joint to minimise the risk of excessive amounts of liquids seeping through the joints but we are unable to provide any guarantee or make any claim that the tiles will provide a liquid proof or seamless seal.

Please note that this list of examples is not exhaustive and is provided for guidance only.

INSTALLATION – STEP BY STEP



2.1 TOOLS & EQUIPMENT



ALIGNMENT

In order to have a problem free installation, it is important that the first tiles are laid along a straight line - regardless of the wall's angle. To keep the tiles square to each other, you can use:

- Chalk Line
- Line Laser



TOOLS

Use a rubber mallet to tap the joints together, wear gloves to avoid skin discomfort.



CUTTING

EcoTile can be cut using several methods, a lot will depend on personal preference, experience and the tools you have available.

You can cut the tiles more easily when they are warm.

These are the tools that our installation team recommend:

- Magnum Shear Guillotine – Available to hire
- Stanley knife with concave blades – **Wear cut proof gloves.**
- Electric Jig Saw with a medium or rough wood blade
- Table or Band saw with a timber blade.



2.2 PREPARATION

1 TEMPERATURE

Please do not lay the tiles as soon as you receive them. Before starting installation, the tiles must acclimatise to the ambient room temperature. We recommend you leave the tiles out for at least 24 hours. If you want to speed up the process, split the tiles into bundles of 4-5 and spread them across the room. Tiles that aren't left to acclimatise might expand or shrink during the installation process.

2 PREPARING THE SUBSTRATE

Please clean the substrate lightly and free it from dust and stones by sweeping or using a vacuum. If you are worried about cracks and holes, smooth them over with a filler.

If the floor needs to be glued or taped, remove the existing screed or paint to ensure adhesion. Please allow 5-10L adhesive per 10m² depending on the quality of the substrate.



2.3 INSTALLATION



1 Measure the room and decide which wall the floor will be squared to. This will most likely be the most prominent area or possibly a walkway that will be a different colour

2 Measure off the starting wall at each end of the room and mark the floor. Bear in mind the size of cut that will be left on both sides.



3 Pluck a chalk line along the edge of your markings to make the cross easier to follow.

4 Position a tile near the end of the chalk line, bearing in mind the size of the cut that will be left at each end.



5 Lay three rows of tiles on the chalk line along its whole length and gently tap into position so that it is exactly on the chalk line.

6 Move to the centre of the rows and start to build a pyramid of tiles. Evenly build on both sides and continue in this manner with the remaining full tiles.

2.3 INSTALLATION



- 7** When a cut needs to be made, turn the tile upside down and push against the wall. Slide it slightly to one side to reveal the cut marker on the tile underneath.



- 8** Mark the tile where it meets the cut marker below. Do the same on the other side.



- 9** You can use an upside down tile as a cutting mat. Lay the tile down and align a metal rule with the marks you previously made.



- 10** Score the tile several times with a concave blade. After a while you should be able to pick it up and bend it back and forth until it snaps.

2.3 INSTALLATION



- 11** Alternatively, you can use a guillotine to make cuts. Once they are cut, they should fit perfectly, leaving a 5mm expansion gap between the tile and the wall.



- 12** We recommend you use silicone to finish around the walls.



2.4 ESD INSTALLATION

EQUIPMENT

Please check that you have ordered or received all the necessary equipment. The Ecotile ESD system requires grounding tape and a grounding kit for **every 60m²**.

- Grounding Plug
- Grounding Cord 1MΩ Resistor
- Tile with Grounding Stud

1 Decide which wall of the room the floor will be square to and snap a chalk line 1 – 1.5m away from the wall, taking into account the size of the cut to be left.

2 Lay the grounding tape as shown by the red lines (as per picture). The tape is laid every 5m in one direction and should run under the centre of the tile. Tape should also be laid at 0.5m intervals at 90° to this. This will ensure that every tile is touching the grounding tape.

3 Lay 2 or 3 rows of the tiles, starting exactly on the chalk line and then building from the centre of this in a pyramid shape, filling both sides evenly.

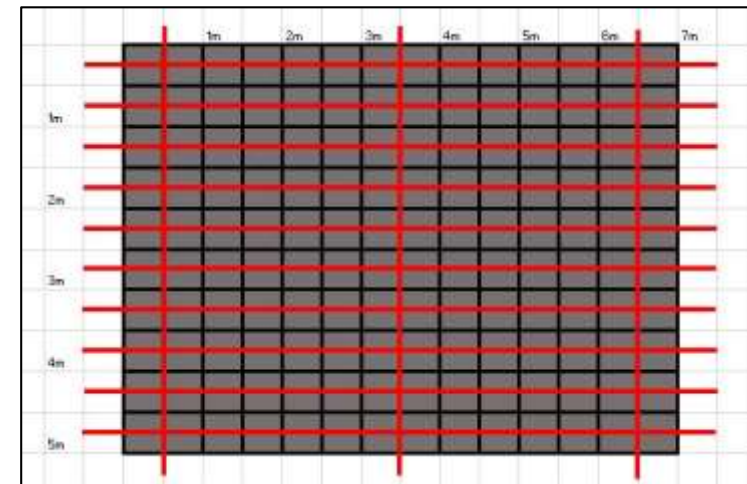
4 When all of the full tiles are laid, measure and cut the remaining tiles to fit leaving a 5mm expansion gap.

5 Fit the grounding tiles near the edge of the room and connect the cable and plug to a socket. A grounding tile should be fitted every 60-80m².

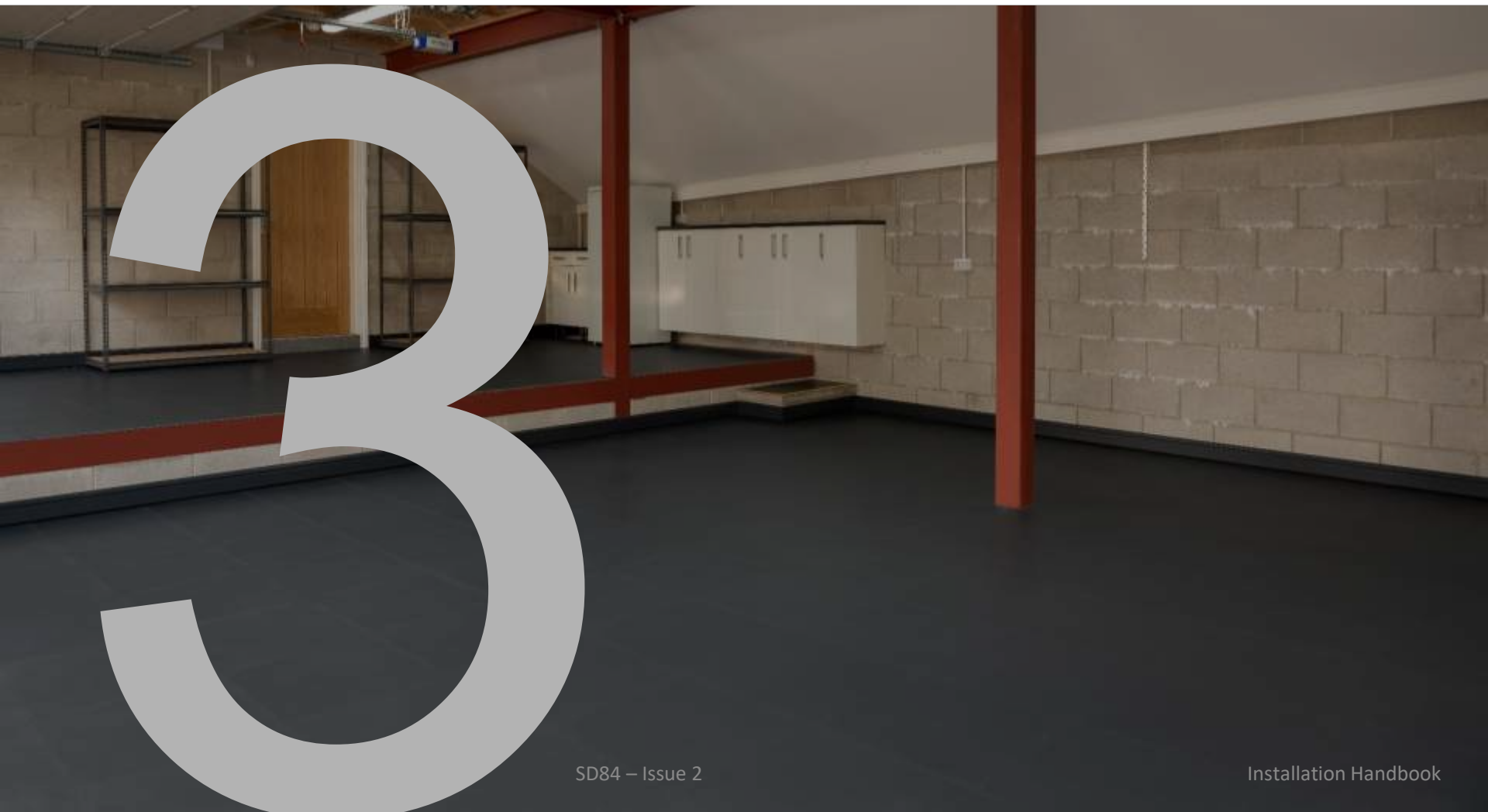
! *If the existing floor has already been grounded, insulation of the floor is necessary. If you are unsure about using the Ecotile ESD system, please contact our customer service team.*



For an area of 5 metre x 7 metre = 35m² multiply the total area by 2.5 to work out how much conductive tubing is required.



AFTER INSTALLATION



3.1 CLEANING & CARE



Maintaining Ecotile is often simple and cost effective. To ensure your floor stays as clean as possible, use ramps at entrances and doors, ramps prevent distribution of dirt from outside. We recommend you prepare a cleaning schedule to ensure regular cleaning.

1 AFTER INSTALLATION

After installation or heavy contamination, we recommend a deep or heavy clean using a Heavy Duty Degreaser in accordance with chemical manufacturers instructions. Clean the floor thoroughly with a wet mop or scrubber and then go over with clean water to remove the cleaning solution.

2 FREQUENT CLEANING

Sweep the floor frequently to remove dust and other dirt. Stains can often be removed by damp wiping. You can clean the floor manually or in large areas we recommend you use a rotary scrubber. If you use a rotary scrubber, limit the machine to a maximum speed of 440rpm.

- Clean the floor with a PH neutral detergent (40:1)
- Remove oil and chemicals as quickly as possible.

3 OUR PRODUCTS

We sell Neutral cleaning solutions perfect for Ecotile, please contact the sales team for assistance.



3.1 CLEANING & CARE

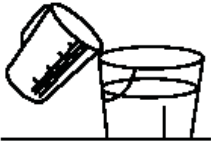


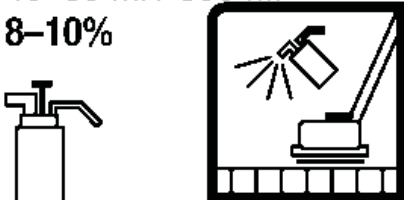
4 ESD

Please note that Ecotile ESD Flooring **must** be maintained regularly to ensure consistent performance.

INITIAL IN DEPTH CLEANING

After installation we recommend a deep clean using Statguard ESD & General Purpose Floor Cleaner (item no. 45.200). Please dilute the cleaner according to the instructions below and allow the mixture to stand for 10 minutes. Thoroughly clean the floor and remove the dirty cleaning solution with a damp mop. Rinse or wipe the floor with clean water to remove the last remains of the cleaning solution.



	800–1600 ml / 8 L 10–20%		1200–2000 ml / 40 L 3–5%		40–50 ml / 500 ml 8–10%	
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3.2 SEALANT

Ecotile does not require a sealant, however there are some advantages to sealing your floor.

PRINTED/COLOURED TILES

To prevent discolouring of printed tiles and bright coloured tiles, we recommend the use of a PU sealant (Anti-Colour).

ANTI SLIP

To strengthen the non slip properties of the floor, we recommend you use an Anti-Slip sealant

**We can provide all of the products above & more.
Please contact us if you have any questions about sealants and cleaning solvents.**

GENERAL INFORMATION



4.1 GENERAL INFORMATION



Ecotile has implemented an extensive quality control procedure into the manufacturing process and is ISO9001 certified. We do our utmost to ensure you don't have any issues with your floor.

Please keep in mind the following:

BATCH COLOURS

Although we aim to match PVC batches using RAL colours, it is not always possible to guarantee a 100% colour match in every batch. In most cases, a single order is shipped from one batch so there is no colour difference. However, if you re-order tiles, we can not guarantee the tiles we send you will be a 100% colour match to your previous tiles (if they are made from a different batch)

INJECTION MOULDING FLASH

Our manufacturing process is monitored carefully and has strict quality control guidelines. On occasion, the injection moulding machine can leave an imprint in the middle of the tile that does not appear immediately. This doesn't happen very often, but we cannot control when it does happen and sometimes damaged tiles slip through. Please check that the tiles are acceptable when the tiles are delivered.