



# Interlocking ESD Floor Tiles

**The World's No.1 Interlocking ESD Floor Tile.**

Fully compliant with BS EN 61340-5-1:2001 & IEC 613/10 for use as your primary ground.

**PATENTED ESD TECHNOLOGY FLOOR TILES**



## ESD Interlocking Floor Tile

### INTRODUCTION:

A world leader in the manufacture, supply & installation of ESD & anti-static flooring, the success at home & abroad is due to an absolute commitment to quality, customer service & product innovation. In line with customers' changing needs there has been heavy investment in the design & development of ESD tiles to create a range of tough, low maintenance, environmentally friendly & extremely durable ESD flooring.

### ESD PERFORMANCE:

Integrity ESD Interlocking Floor Tile is offered with a life time guarantee that it will retain its ESD performance & that the tiles will create a safe conductive floor surface that can be used as your primary ground. These tiles have been extensively trialled & tested, the resistance to ground ( $R_g$ ) is between  $10^6 - 10^8 \Omega$  & the surface resistance falls between  $3.0 \times 10^4 \Omega$  &  $3.4 \times 10^4 \Omega$ . The contact resistance is between  $3.6 \times 10^5 \Omega$  &  $9.5 \times 10^5 \Omega$ . The test results guarantee that these ESD tiles comply with British Standard BS EN 61340-5-1:2001 & the internationally recognised standard IEC 61340.

### PERFORMANCE & TEST RESULTS:

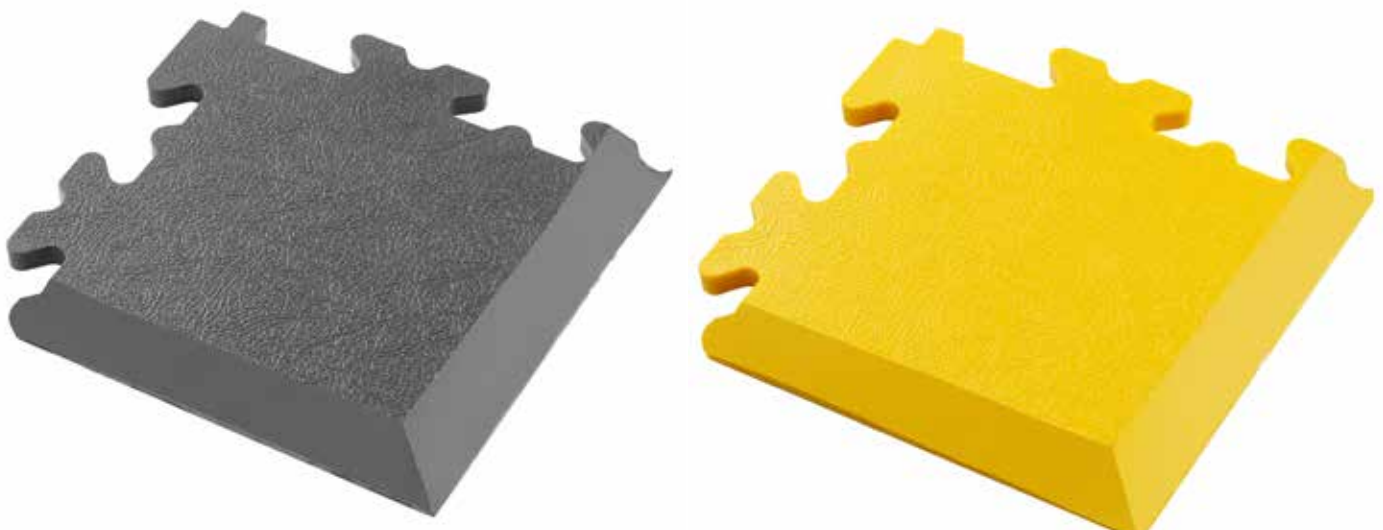
TEST ITEM:	TEST METHOD:	RESULT:
Surface Resistivity	EN 61340-5-1:2001 & IEC 61340	$2.2 \times 10^4 \Omega$ to $3 \times 10^6 \Omega$
Resistance to Ground	EN 61340-5-1:2001 & IEC 61340	$2.9 \times 10^4 \Omega$ to $5.7 \times 10^5 \Omega$
Electrostatic Propensity	EN 61340-5-1:2001 & IEC 61340	$< 10 \text{ V} / < 2.0 \text{ kV}$
Static Decay at 15% Humidity	EN 61340-5-1:2001 & IEC 61340	0.01 sec

### MANUFACTURE & INSTALLATION:

Integrity ESD Interlocking Floor Tiles is manufactured using an injection-moulding process during which thousands of tiny stainless steel fibres are added to the compound. This method ensures that the fibres are evenly distributed right the way through each tile guaranteeing the permanent ESD performance of the tile. The ESD tile can be laid over any hard surface without the need for gluing making it very quick & easy to install, providing an instant hardwearing, attractive ESD floor that can be used immediately. ISO 9001:2000 & ISO14001:2004 accredited.

### FEATURES:

ESD Interlocking Floor Tiles are a tough, flexible & modern flooring solution. Can be used as your primary ground & are guaranteed to give ESD performance for the life of the tile. These electrostatic dissipative, interlocking floor tiles are ideal for use in electronics & telecommunications factories, computer server rooms, production plants; such as pharmaceutical, paint, petrochemical & certain food production facilities with risk of dust explosion (sugar, floor dust etc).

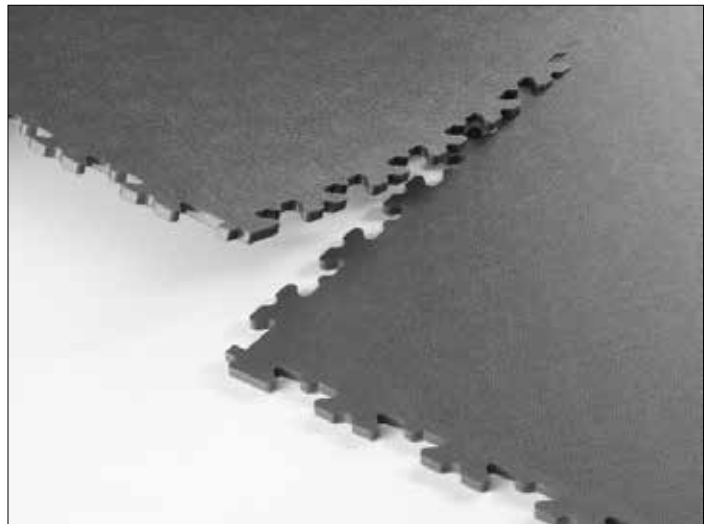


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## ESD Interlocking Floor Tile

### **BENEFITS:**

- > **GUARANTEED ESD PERFORMANCE**  
Guaranteed to meet BS EN 61340-5-1:2001 & IEC 61340 for the life of the product.
- > **SIMPLE INSTALLATION**  
Minimal disruption to site, just overlap & tap ... no adhesive required.
- > **SMART MODERN APPEARANCE**  
Precision engineered interlocking joint.
- > **FLEXIBLE**  
Place directly over existing & uneven floors ... hides cracks, damage & stains.
- > **CHEMICALLY RESISTANT**  
Resists most chemicals & fluids.
- > **REDUCES DUST**  
Keeps equipment, products & work areas cleaner.
- > **EXCEPTIONAL DURABILITY**  
Resistant to impact, vibration & abrasion.
- > **SAFE**  
Excellent slip-resistance, low risk of slipping even when wet (R10).
- > **WARM & QUIET**  
Insulates the subfloor from cold & damp & significantly reduces noise.
- > **FIRE RETARDANT**  
Tested to EN ISO 13501-1 Class Bfl s1 & BS 476: Part 7 Class 1.
- > **REDUCES FATIGUE**  
More comfortable to stand & work on.
- > **BETTER PERFORMANCE**  
Longer lasting & easier to maintain than resin coatings, vinyl & carpet.
- > **LOWER LIFE CYCLE COST**  
Does not require expensive repair & replacement.
- > **EASY TO MOVE & RE-USE**  
Ideal for temporary applications or where access is required to the subfloor.
- > **VERSATILE**  
Use floor marking signs & line marking to identify ESD work areas, gangways & Kanbans.
- > **ENVIRONMENTALLY FRIENDLY**  
100% recyclable & zero VOC emissions.



\* Installation service is also available, for further details please call +44 (0) 1473 836

200.

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# ANTISTAT

## ESD Interlocking Floor Tile

### ACCESSORIES

ESD Grounding Kit Contents: Grounding tape, studded tile, plug & earth cord with 1MΩ resistor ( 1 kit required per 80 – 00m<sup>2</sup> of ESD flooring).



ESD GROUNDING KIT



ESD FLOOR MARKING TILE

### INSTALLATION

The ESD Interlocking Floor Tile is easy to self install, however we do offer a full installation service for the Integrity ESD Interlocking Floor Tile, for further details please contact one of our sales team on +44 (0) 1473 836 200.



PRODUCT CODE:	DESCRIPTION:	SIZE (MM):	ADDITIONAL NOTES:
084-0020	ESD Interlocking Floor Tile	500 x 500 x 7	Dark Grey / Sold Per Sqm
084-0021	ESD Interlocking Picto Floor Tile	500 x 500 x 7	Yellow / Sold individually
084-0022	ESD Grounding Kit	N/A	Each (See contents above)

### PRODUCT AND TECHNICAL DATA

Integrity ESD Interlocking Floor Tile is a static dissipative flooring TEST RESULTS system which is, by the nature of its static dissipative properties is also anti-static. Static dissipative means that the resistance to ground is less than 10<sup>9</sup>ohm (1 Gohm). These performance figures ensure that the floor complies with the British Standard BS EN 61340-5-1 and the internationally recognised standard IEC 61340-4-1. The maximum test voltage allowed for measuring ESD flooring that should be used for an ESD program complying with these standards is 100 volts.

NOTE: Please be aware that the stainless steel fibres may be visible on the surface of the tile. This is unavoidable & a fundamental part of the manufacturing process that ensures optimum ESD performance.

### INSTALLATION (For detailed instructions please refer to our installation guidelines overleaf)

The principal benefit of this system is the speed and ease of installation. The tiles can be laid over any hard surface even if it is damp, uneven or contaminated. Installation can usually be fitted around your normal working activities ensuring minimal disruption to production. Detailed installation instruction available upon request.

### CLEANING & MAINTENANCE

Sweep regularly to remove particle dirt and occasionally damp mop or use a rotary scrubber dryer to clean the floor using a neutral pH floor cleaner diluted in between 1:80 and 1:50. Application of a hard wearing anti-static floor sealer will help maintain the appearance of the floor and improve the ESD performance of the floor. Please contact us for detailed cleaning and maintenance instructions and a list of approved products.



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# Integrity Tile Installation Instructions

## RECOMMENDED METHOD OF INSTALLATION:

These notes have been prepared as guide only; the information is supplied in good faith, but without guarantee as site conditions vary and are beyond our control.

## Points To Consider Before You Start Installation

### LOOSE LAY OR GLUE?

Integrity tile can be installed over any hard surface and in most situations will not require gluing. We recommend gluing the tiles in the following situations:

- **DIRECT SUNLIGHT:**

(Shop fronts, south facing loading bay, sky lights etc.) It is advisable to glue the tiles in areas subject to direct sunlight, such as glass fronted entrance foyers, shop fronts, south facing loading bay doors etc. It is possible that the tiles in direct sunlight will get very hot and expand at a faster and higher rate than the remainder of the floor.

- **HEAVY TRUCKS AND/OR TIGHT TURNING CIRCLES:**

Certain fork lift and pallet truck designs can cause a problem, heavy trucks with small wheels, especially electric trucks where the battery is located over the main drive wheel. If you use this type of vehicle we strongly advise you to test the tiles with the trucks before making a decision on which thickness to use (7 or 10mm Integrity Tile and/or consider gluing the tiles.

- **EXTERNAL HEAT SOURCES / CATALYTIC CONVERTERS:**

Ovens, furnaces and catalytic converters can make the floor extremely hot and may cause the tiles to expand. To avoid this problem glue the tiles in the area in front of the oven or where the catalytic converter will sit when the car is parked.

### STAINING / DISCOLOURING:

- **STAINING FROM RUBBER TYRES:**

It is possible that certain rubber tyres and wheels may stain the tile (and many other types of flooring). This is a result of a chemical reaction that occurs between the anti-oxidant that is used in some rubbers and the plasticiser used in vinyl. The stain / reaction is brown in colour so is less visible on certain colours of tile (dark grey, terracotta and black). We recommend that if your application is susceptible to staining from tyres, hair dyes and other harsh chemicals, you consider the application of our anti-colour /anti-stain 2 part solvent free waterborne polyurethane sealer. Please contact us for further information.

- **UV STABILITY:**

Integrity Tile is not recommended for external use and the colours are not UV stable.

### BATCH CONTROL:

We are unable to guarantee 100% colour consistency between individual production batches. Each individual order will be supplied from a single batch but in the event that you need additional tiles or wish to extend the area we cannot guarantee subsequent orders will be supplied from the same batch.

### SURFACE FINISH / PATINA / WITNESS MARKS:

Integrity Tile is designed to provide exceptional durability and simple installation. This is achieved by the unique interlocking design and method of production. The method of manufacture may result in a witness mark being visible in the tile at the central injection moulding point and along the flow lines from the centre and around the external edge of the tile, the mark cannot be avoided.

Please check the tiles, if the marking is unacceptable do not continue with installation as we will not accept responsibility to replace or refund the cost of any goods after 10m<sup>2</sup> or more have been installed if the markings are subsequently deemed unacceptable.

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## Integrity Tile Installation Instructions

### Tools & Equipment

All you need is a non-marking rubber mallet or engineering hammer, chalk line or other method of keeping the tiles square and a way to cut the tiles. Integrity Tile can be cut using several methods, a lot will depend on personal preference, experience and the tools you have on hand but we recommend the following:

- Magnum shear / guillotine (A) – Available to hire
- Stanley / utility knife with a concave blade (B) – Always use a straight edge and wear cut proof gloves
- Electric jigsaw with a medium or rough wood blade (C)
- Table saw or Band saw with a medium or rough wood blade



### Installation Instructions

#### STAGE 1 - TEMPERATURE - ALLOW THE TILES TO ACCLIMATISE:

Installation should not take place at temperatures below 15°C. Do not try and install the tiles straight after delivery, the tiles must be allowed to acclimatise to the ambient room temperature prior to starting installation. We recommend you allow 24 hours but this will be dependent on temperature, the warmer it is the quicker the tiles will acclimatise. If time is short we recommend you breakdown the pallet of tiles into small packs to help them acclimatise and settle (see D). If installation has to take place at a temperature below 15°C leave a larger expansion gap between the tiles and any fixed point and/or incorporate an expansion gap in the floor every 8 – 10 metres.

#### STAGE 2 - PREPARATION:

Sweep or vacuum the floor to remove any loose impediments. Remove any high points in the floor. Fill any holes with a rapid setting floor repair compound such as Ardurapid A46 or similar. For uneven surfaces that require smoothing use a smoothing compound such as Ardex Feather Finish (see E).

#### STAGE 3 – SETTING OUT:

Setting out / the starting point is different for the open joint and hidden joint design; please refer to the specific installation instructions for each type of tile design (A, B or C).

**VERY IMPORTANT:** It is essential for both designs that the tiles are kept square to each other at all times. We strongly recommend that you use a chalk line, laser line or carpenters square to set out the site and to ensure that the tiles are kept at right angles to each other. (see F / G)

#### STAGE 4 – INSTALLATION METHOD:

Once you have identified your starting point and created your straight lines it's time to start fitting the tiles. Our first recommendation is to lay the tiles out on the floor (see H); this will allow them to settle. Next connect the tiles together by offering up the tile and lining up the corner of the tile and ensure the joint are in line. Starting from the corner (see I) use your rubber mallet to gently tap the joints together.

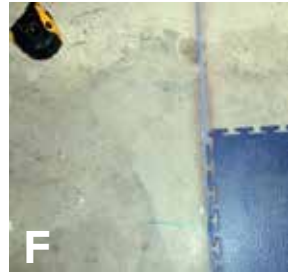
**HINT:** Integrity Tile installations are as simple as putting together a jigsaw puzzle. If the joints don't fit together without you having to force them, chances are you are doing something wrong. The first sign of trouble will always be if the tiles do not connect together with a simple tap of the hammer; this will indicate that the tiles are not lined up correctly.

#### THE KEY FACTORS FOR A SIMPLE AND SUCCESSFUL INSTALLATION:

- Let the tiles acclimatise, the minimum recommended installation temperature is 15°C
- Split the pallet and spread the tiles across the floor prior to starting installation.
- Start from the centre and create your square using a chalk line or laser line
- Don't force the tiles, offer up the corner of the tile and gently hammer the joints together.
- Allow the floor to settle before measuring and cutting up against walls and fixed points.
- Leave a minimum of a 5mm gap between the tiles and any fixed point
- Create a template for difficult / complicated cuts

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## Integrity Tile Installation Instructions



### ESD INSTALLATIONS ONLY:

Integrity ESD Tiles contain stainless steel fibres that may be visible on the surface of the tile. This is unavoidable and a fundamental part of the manufacturing process that ensures optimum ESD performance. Please check the tiles, if the marking is unacceptable do not continue with installation as we will not accept responsibility to replace or refund the cost of any goods after 10m<sup>2</sup> or more have been installed.

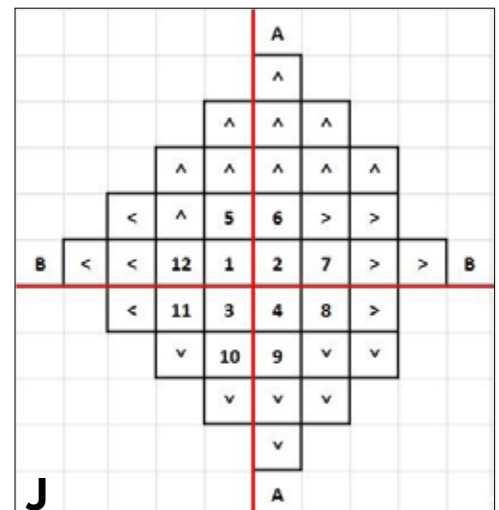
To achieve a fully ESD flooring the tiles need to be grounded. This is achieved by laying a grid of black conductive tape under the tiles at approx. 2m centres in one direction and 5m centres in the opposite direction (see L). One grounding point is needed for every 80 – 100m<sup>2</sup> of Integrity ESD Tile and/or one grounding point for each separate section / room of Integrity ESD Tile installed. Place the grounding point in the corners of the room or along the wall to avoid creating a trip hazard.

### WHERE TO START:

- OPEN JOINT: The starting point for the open joint, the E500/7 & E500/10 tiles, should always be as close to the centre of the room as possible.
- HIDDEN JOINT: The hidden joint tile, E500/6, should start from one corner of the room.

### A. INSTRUCTIONS FOR INTEGRITY TILE 084-0001 & 084-0002 OPEN JOINT TILES ONLY

1. Start from as close to the centre of the room as possible.
2. Snap a chalk line or use a laser to create lines A-A and B-B. Make sure these lines are at right angles. (See J).
3. Using the rubber mallet, tap tiles together, starting at the corner of the tile and working your way outwards towards the edge of the tile.
4. Work out in a circular pattern filling in the corners
5. Once all full tiles have been installed allow the floor to settle before measuring and fitting the finishing cuts.
6. Ensure that you allow at least a 5mm expansion gap between the tiles and any fixed point



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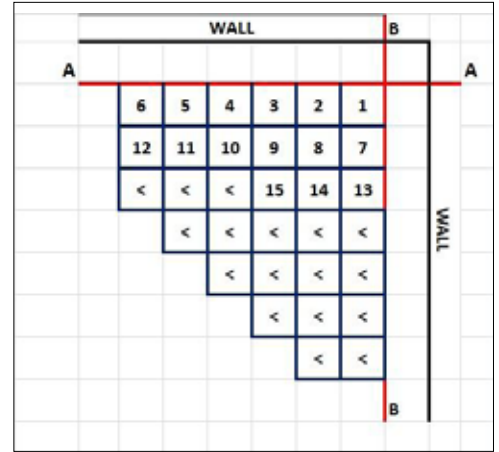


## Integrity Tile Installation Instructions

### B. INSTRUCTIONS FOR INTERLOCKING ESD FLOOR TILE HIDDEN JOINT TILES ONLY

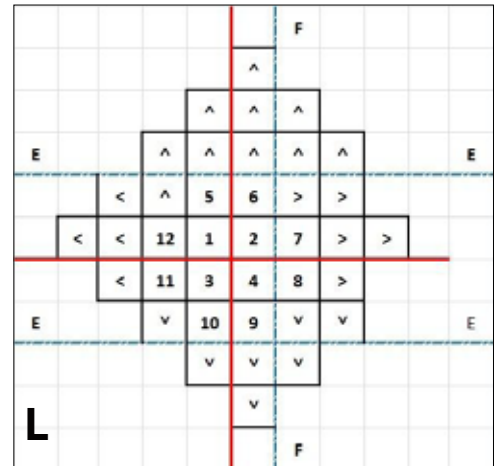
1. Carefully measure 20cm out at each end of wall and snap a chalk line or use a laser to create lines A-A and B-B. Make sure these lines are at 90 degrees to each other. (see K).
2. Lay tiles with the hidden / female joint to the walls (identified here by the red lines and the exposed joint/male joint on the left / bottom of the tile.  
**VERY IMPORTANT:** lay the first few rows perfectly straight, any mistake now will impact on the entire installation.
3. Lay the tiles from right to left always placing the hidden / female edge on top of the exposed / male edge. Line up the tabs at the corner to help align tiles. Install one row at a time, completing each row before beginning the next.
4. Cut in perimeter tiles allowing at least a 5mm expansion gap between the tiles and any fixed point.

**VERY IMPORTANT:** We strongly recommend you use a chalk line; laser line or carpenters square to ensure that the tiles are kept at right angles to each other throughout the installation (see F/G).



### C. INSTRUCTIONS FOR INTERLOCKING ESD FLOOR TILE ONLY

1. Follow stage 1 & 2 as detailed in section A.
2. Lay the grounding tape (shown as the blue dashed line in F). The tape should be laid at a maximum of 2m centres (distance between the lines of tape) along the line E-E and at 5m centres along line F-F.
3. Using the rubber mallet, tap tiles together, starting at the corner of the tile and working your way outwards towards the edge of the tile.
4. Work out in a circular pattern filling in the corners.
5. Once all full tiles have been installed allow the floor to settle before measuring and fitting the finishing cuts.
6. Ensure that you allow at least a 5mm expansion gap between the tiles and any fixed point.
7. Fit your ground points (one every 80 – 100m<sup>2</sup>) in the corners or along the extremities of



### D. INSTRUCTIONS FOR ESD GROUNDING KIT ONLY

1. Follow stage 1 & 2 as detailed in section A
2. Lay the grounding tape (shown as the RED LINES). The tape should be laid to run under the centre of every tile in one direction (horizontal lines in the pictures and at right angles every third tile as demonstrated by the vertical green lines
3. Using the rubber mallet, tap tiles together, starting at the corner of the tile & working your way outwards towards the edge of the tile.
4. Work out in a circular pattern filling in the corners
5. Once all full tiles have been installed allow the floor to before measuring and fitting the finishing cuts.
6. Ensure that you allow at least a 5mm expansion gap between the tiles and any fixed point
7. Fit your ground points (minimum of one every 60 to 80m<sup>2</sup>) in the corners or along the extremities of the esd floor. Ensure that the grounding tape is connected to the studded grounding tile and connect your floor to your grounding point.



For an area of 5 metres x 7 metres = 35m<sup>2</sup> multiply the total area by 2.5 to work out how much conductive tubing is required i.e. in this example 87.5 linear metres of tubing needed

**Important:** If the existing floor / substrate has already been grounded (i.e. you are laying over an existing conductive floor) it may be necessary to lay an insulative barrier under the tiles. If in doubt please contact our technical team for further advice.



## Integrity Tile Installation Instructions

the ESD floor.

## Cutting, Finishing & Maintaining Your Interlocking Floor Tile

### FOR THE PERFECT FINISH:

- Leave a minimum of a 5mm gap between the tiles and any fixed point (walls and machinery). (see M).
- Cover the 5 mm expansion gap between the tiles and the walls with skirting profiles. (see N).
- Undercut wood doorjamb and slip the tiles underneath.
- With metal doorjamb – cut the flooring material to within 5mm & then caulk around the jamb.
- Use Integrity Tile ramp and corner sections (E500/7 & 10) or dim strips for E500/6. (see O).



- The tiles may require gluing if they will be in direct sunlight.
- To keep your floor looking good give it a sweep on a regular basis and use a rotary scrubber dryer for routine maintenance. (see P).

## Cleaning Guidelines

- Regular and light cleaning is better than infrequent and heavy cleaning.
- Use an entrance mat to remove as much dirt and moisture as possible.
- Use a neutral PH floor cleaning detergent and do not use an excessive concentration of cleaning detergent.
- Use the correct cleaning equipment, either a two component bucket and mop system or rotary scrubber dryer, it may cost a bit more up front but will save you a fortune in time and effort in the long run.
- Do not use excessive amounts of water, this will make your job harder, not easier, damp mopping is the best solution.

## Care and Maintenance

- Fit protective feet to table and chair legs and avoid dragging items with sharp or angular corners over the floor to prevent scratching.
- Integrity Tile has an impervious surface that can be kept clean using traditional cleaning methods. However an application of a metalised polish can offer extra protection if required. The level and intensity of traffic and soiling will determine the level of cleaning required and if and when a polish will have to be applied.
- Standard commercial polishes must not be applied to the ESD and anti-static Integrity Tile range, as they will inhibit the conductive properties of the flooring. Please refer to our approved maintenance products for information on the approved range of maintenance products.

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