

# „TM“ PVC flooring

TM MECHANIC ESD

TM XL ESD



## 1. PRESENTATION OF „TM“ ESD PVC FLOORING

In the product portfolio of terramondi homogeneous floorings, you can find our ESD series, which meets the requirements for electrical properties. terramondi ESD floor tiles are special floors that excel in electrical conductivity and they are suitable for the rooms where electrostatic discharges need to be avoided or eliminated.

The floor coverings are homogeneous in their composition throughout their thickness. The wear (walking) layer is the same as the flooring thickness.

### WHERE TO FIND TERRAMONDI ESD PVC FLOORING

- Laboratories, chemical industry
- Hazardous areas
- Electro technical industry
- Pharmaceutical industry
- Automotive industry
- Paper and rubber industries

#### terramondi TM Mechanic ESD

- Tiles skin look
- Ramp look
- Corner look

#### terramondi XL ESD

- Tile snakeskin design
- Ramp snakeskin design
- Corner snakeskin design

## 2. INSTALLATION OF A NEW FLOOR

### 2.1. SUBFLOOR TYPES

#### PREPARATION OF THE ORIGINAL SUBFLOOR (SURFACE)

To ensure the permanent functional qualities of PVC floorings, the structure of the subfloor must be flawless, as recommended in applicable national or European standards.

The surface must be flat, smooth, with no cracks or dust, sufficiently strong, clean and dry. Any grease stains or dirt must be removed. Any unevenness, cracks, structural joints and different levels should be repaired and aligned. The choice of the subfloor material depends on the place of final use, and properties such as pointload resistance must be considered.

terramondi ESD PVC flooring can be installed on concrete, wood, asbestos floor tiles and other standard solid floors. An expansion joint should be left around the perimeter. The joint allows for expansion and contraction. The floor must be properly grounded to ensure the correct discharge of static charges.

Electrical conductivity of the original subfloor can differ considerably. That is why the installed flooring can feature lower resistance than the minimum value indicated in the specification. Therefore, it is advisable to use a cementitious backing providing an insulating barrier between the ESD vinyl floor covering and the original subfloor.

The bottom layer should be dry before applying terramondi ESD floor covering.

Any defects such as holes, grooves or deep scratches in the concrete substrate must be repaired. Newly cast concrete slabs often contain excessive moisture or other impurities. Before installing the ESD floor, always check for moisture in the concrete.

- a) The concrete structure of the subfloor must meet and/or exceed the static and dynamic loads for the intended use of the space.
- b) Installing terramondi ESD vinyl floor tiles on an existing elastic floor is not recommended. After removal of the elastic floor, there are soluble asphalt adhesives on the subfloor which are not readily recognizable.
- c) Gypsum-based subfloors are not recommended for use with ESD flooring.

### ▲ RECOMMENDATION

If there is still construction work in progress, protect any newly laid floor tiles with a suitable protective cover. Limit the risk of inadvertent damage.

In the event of malfunction or a specific failure, the subcontractor is responsible for warranties and/or performance warranties. Should this be the case, the manufacturer of the terramondi ESD floor cannot be held liable.

### 2.2. GROUNDING

The proper installation of the grounding system is a prerequisite for all ESD floors. The system ensures the conductivity of the installed floor to the grounding point via a predetermined and controlled path.

- We recommend using grounding tape and kit for every 30 m<sup>2</sup>. The grounding kit contains a plug with connecting cord (2.4 m) and stud (10.3 mm) in one piece, an L-shaped metal grounding element and copper self-adhesive tape (used for sticking the grounding element to the grounding tape).
- The tape (black, PE/PP) should be nominally 70 mm wide and 0.1 mm thick. The width and gauge are governed by performance standards.
- The grounding system shall be connected to the grounding system of the entire building. It should be installed by a qualified electrician, not the floor supplier. The electrical inspection for it must be valid..

To safeguard the complete and functioning ESD flooring system, our customers can order the grounding kit and tape directly from us. Please inquire with our sales representative.

### 2.3. ACCESSORIES

To ensure the ESD floor system works effectively, the following is recommended:

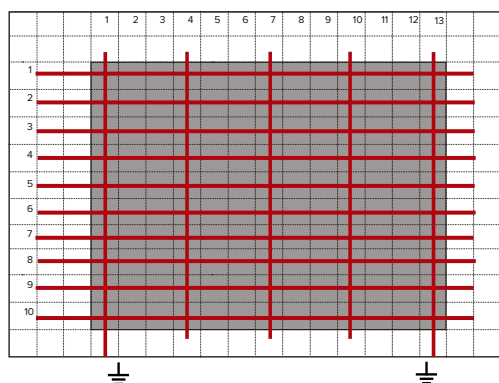
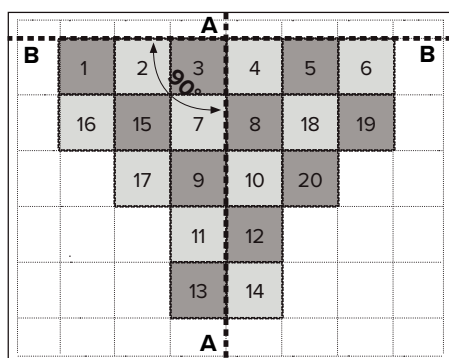
- An EBP grounding point
- Grounding tape and 2 grounding kits for every 30 m<sup>2</sup>

We recommend connecting the floor system with 2 grounding kits. The second grounding kit is there in case one of them fails due to wear and tear, which would lead the flooring system to stop working.

### 2.4. METHOD OF INSTALLATION

1. Install the floor tiles on a flat, hard surface. Make sure to let the floor tiles acclimatize thoroughly before the installation (see clause 2.5).
2. Use chalk to draw a line or use a laser to make lines A-A and
3. Lay the grounding tape (marked in red). The tape must be laid so that it is under the centre part of all tiles in at least one direction and that it also runs perpendicular across the centre part of all joints, at least for every 4 tiles. (The grounding tape can also be laid under each tile in both directions to form a grid.)  
TM Mechanic ESD: Total area in m x 2.8 = linear metres of film.  
Ex: 45 m x 2.8 = 126 m of film and 2x grounding kit. Running the tape under each tile requires 4x the area in m of grounding tape.  
TM XL ESD: Total area in m x 2.2 = linear metres of foil.  
Ex: 45 m x 2.2 = 99 m of film and 2x grounding kit. Running the tape under each tile requires 3.1x the area in m of grounding tape.

4. Start the installation from the entrance to the room and continue with laying the floor in the shape of a pyramid. Using a rubber mallet (with a black or white head, depending on the floor colour) tap the floor tiles together. Start at the outer corners of the floor tile and proceed toward the inner corner of the floor tile before laying. It is imperative that the floor tiles are kept in the mutual rectangular position.
5. Install the floor tiles in the usual way so that the grounding connections are fitted (one for every 60–80 m). It is important that the grounding strap is connected to the floor tile with a ground pin.
6. The final cuts and completion of the perimeter floor tiles (see clause 2.6) can be done only after you have laid all floor tiles. Ideally, after several hours from the application. When cutting the perimeter floor tiles, allow for a 5 mm gap from any fixed points (e.g. columns, racks or walls). This gap can be covered with a skirting board.
7. Place the grounding point in the corners of the room or along the walls to avoid the risk of tripping.
8. After installation, the floor must be properly cleaned (clause 3) to obtain the correct values of the conductivity tests. If the current floor has been already grounded, the floor must be insulated.
9. We will be glad if you share your good or bad experience and photos of the installation of the floor. Please send your comments to us at [info@castimondi.de](mailto:info@castimondi.de).



## 2.5. TEMPERATURE CONDITIONS AND PREPARATION OF THE ORIGINAL SUBFLOOR

Do not install the floor tiles immediately after their delivery. Let the flooring acclimatize for at least 48 hours before the installation. The acclimatization shall take place at an ambient temperature of 18–26 °C. The higher the temperature, the faster the floor tiles acclimatize. The floor tiles must be unloaded from pallets and spread out in the room where they are expected to be installed. To facilitate the acclimatization process, spread the floor tiles in smaller groups, e.g. in bundles of 10 pieces. Note that the temperature of the subfloor must not fall below +15 °C. The working temperature during the installation and 24 hours after the installation must be constant, in the range from 18 to 26 °C, to avoid any thermally conditioned dimensional changes of individual flooring components.

When installing at normal temperature deviations, note the movement of the floor and leave a gap of at least 5 mm between the floor tiles and any fixed points (e.g. a wall).

If the installation takes place at a temperature below 15 °C, leave a larger expansion gap (joint) between the floor tiles and any fixed points (e.g. a wall). If an operating temperature below 0 °C is necessary, contact the business department of the manufacturer.

## 2.6. CUTTING PERIPHERAL TILES

To shorten the piece, the side to be cut must be turned to the wall so that there is an expansion gap of approximately 5 mm. There must be an expansion gap around all penetrating or related structures (such as heaters, different type of floor covering). The gaps are then covered with skirting boards.

terramondi ESD PVC floor tiles can be easily cut with a saw or a knife. Do not exert force on the floor tiles. Join them together and gently tap them with a mallet. For easy, straight and especially fast cuts of floor tiles we recommend that you use a cutter / guillotine, e.g. Freiss PF-63. Make a template before making difficult and complicated cuts.

### ▲ IMPORTANT!!

- Any cut floor tile laid next to the walls must be wider than 10 cm.
- At doors and recesses, the size of the cut floor tile must be larger than half of the original size of the floor tile.

## 2.7. GLUING THE TILES

terramondi ESD PVC tiles can be glued to the substrate. For gluing the tiles, we recommend the brand adhesive Uzin KR 421 L with a TKB A2/B1 toothed spatula.

Uzin KR 421 L is a conductive, epoxy-resin elastic adhesive for heavy-duty flooring. It is especially characterized by its high strength, extraordinary plasticity and very high resistance to water, chemicals and alkalis. It prevents the formation of voltage potentials and keeps electrostatic charges to a minimum.

Gluing permanently connects tiles to the floor. Please therefore follow the information given in the UZIN product data sheets. The installation recommendations are based on tests and practical experience, but since UZIN cannot influence the conditions at the installation site nor the course of work, the information is general in nature without any guarantee of performance.

When using ramps, we recommend gluing both the ramps and the first row of tiles.

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### 3. CLEANING

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terramondi ESD flooring requires regular cleaning and maintenance. The frequency of cleaning depends on the workload, cleanliness of equipment and the type of production in the area where the product is installed. The following general instructions apply to most applications. The frequency of procedures may be adjusted to suit the environmental conditions in the room where the floor is installed.

Regular cleaning and maintenance are of great importance for all terramondi floor coverings, both in terms of appearance, hygiene and long service life.

The following recommendations for cleaning and maintenance consider using products made by Dr. Schutz. They are based on many years of experience and they correspond to trends in cleaning. Costs of cleaning and cleaning intervals depend on the workload and the degree of soiling. Due to different cleaning conditions, these recommendations are non-binding.

#### **⚠ CAUTION**

Preventive measures help to keep as little dirt on the floor as possible, thus eliminating soiling. For example, entrances to buildings should have cleaning zones. The cleaning zones trap the dirt. Thanks to these zones, the amount of dirt brought into the building is minimized. The recommended area is at least 2–3 steps.

### 3.1. PROTECTIVE COATING SYSTEMS FOR ESD FLOORS

Dr. Schutz® ESD Color System\* – if your floor looks worn, has lost its original colour and the results of conductivity measurement do not meet the specified requirements, ESD colour offers the ideal solution. After two applications of conductive 2K-PU paint ESD Colour Base, your floor will look like a new one. The top transparent coat ESD Top Coat or ESD Medicoat (increased resistance to chemicals, disinfectants and colour chemicals) ensure optimum conductivity. Using this simple system of three coats, you can ensure each ESD floor has its original properties without limiting everyday operations.

Dr. Schutz® ESD Transparent System\* – if your floor has lost its original visual properties, dirt is deposited deeply in the pores, daily cleaning of the floor pores is ineffective and the results of conductivity tests are not satisfying, ESD Transparent system is the ideal solution. Application in three transparent coats (2x ESD Base Coat and 1 x ESD Top Coat) ensures not only the restoration of conductivity, but it also significantly revives the visual characteristics and you will be able to clean the entire surface very easily again.

Dr. Schutz® ESD Single Coat System\* – if your newly-installed floor has been scratched or damaged or if it is difficult to clean your floor (for example, you are not able to get rid of ESD-pallet residues), it is advisable to apply one layer of ESD Topcoat or ESD Medicoat (increased resistance to chemicals, disinfectants and colour chemicals) after initial cleaning. The transparent coat protects the surface of your floor, ensures it is simple and easy to clean without losing its conductive properties.

The Dr. Schutz® ESD systems are all certified, meet the requirements of standards (DIN EN 61340-5-1 / ANSI 20.20)) and they are compatible with all current ESD floor systems. The coatings are highly resistant to wear and chemicals.

### 3.2. 10 MOST IMPORTANT PRINCIPLES OF CLEANING

1. Never use abrasive discs. This way you can avoid the risk of damage to the surface (abrasive products, solvents, etc.).
2. Never use rubber covers (for legs of chairs or other articles of furniture). Use PVC or polyethylene protectors instead.
3. Regular cleaning is more favourable and effective than occasional deep cleaning.
4. Use the recommended detergents.
5. Always observe instructions from manufacturers of the detergents as well as their health and safety provisions.
6. Choose soft brushes for rotary cleaning machines (bristles < 0.25 mm). Machines with equivalent brushes can be used as an alternative. Brushes with hard bristles are not recommended.
7. Solvents damage elastic floor coverings.
8. A significant amount of brought-in dirt can be minimized by using cleaning mats in front of the entrance and by cleaning zones in entrance areas of buildings.
9. For common cleaning, do not use any aggressive products (such as products containing abrasive agents, alkalis or with a large volume of organic solvents and degreasing agents).
10. If you have a rotary cleaner-dryer at your disposal, use it. Use a weak solution of clean water and pH-neutral detergent. For better cleanability, appearance and durability of the floor covering, we recommend using the below-listed products.

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### 4. OTHER PROVISIONS

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The texts of the manuals have been prepared by representatives of the listed companies. Company Castimondi cannot assume liability for the listed detergents and care products.

If in doubt, consult the instructions from the manufacturer or sales representative of these products.

When you use any detergents or care products, observe the instructions from the manufacturer of the products and, if appropriate, consult the manufacturer's technicians.

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### 5. WARRANTY

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Castimondi provides the following warranty, which is subject to the conditions here and to the terms and conditions indicated at [www.terramondi.com](http://www.terramondi.com). The warranty covers all interlocking floor tiles made of PVC for a period of one (1) year from the date of shipment or for a period stipulated in the binding regulations applicable in the country of delivery, should a longer period be required.

Castimondi warrants that its terramondi floor tiles will not be dented or punctured under normal use for a period of 12 years after delivery. This guarantee does not apply to recycled tiles where the legal guarantee depends on the country in question.

Castimondi shall replace any defective products free of charge if the defect is detected before laying. If the customer is convinced that the defect occurred after the installation, they shall immediately notify Castimondi of this fact and they shall allow the product to be inspected.

If Castimondi acknowledges, having performed the inspection, that the product is defective and no limitations included in this warranty apply to it, the company shall replace the defective product with a defect-free one. If the customer is not satisfied with the quality of the tiles, they must inform Castimondi and allow them to inspect the floor. If the complaint is accepted, Castimondi will replace the worn tiles with new ones. The customer can be charged for the replacement. The fee shall reflect the depreciation difference between the new and the old floor tile.

In order to be entitled to replacement under this warranty, the customer shall submit a written notification of any claimed defect to Castimondi immediately after the defect has been found, but no later than 90 days after the detection of the defect. This notification must be sent to the company's address in writing or by email. In order for the above warranty and statutory warranty to be accepted, the conditions set out in this Technical Data Sheet and Castimondi Terms and Conditions must be met.

## 5.1. THESE WARRANTIES DO NOT COVER:

- The exact consistency of shade, colour and matting.
- Any tears, burns, cuts or damage due to improper installation, sharp castors, improper or rough use or unsuitable detergents or maintenance methods.
- Costs of delivery and installation of the original or replaced material.
- Any problems due to moisture, hydrostatic pressure or alkaline substances in the subfloor of the floor.
- Any problems due to use, maintenance or installation, which do not correspond to the specifications issued by Castimondi, its recommendations or instructions.
- Material installed with obvious defects.
- Installation with adhesives other than those recommended by Castimondi.
- Fading or discoloration due to excessive penetration of sunlight or exposure to ultraviolet radiation from direct sunlight or sunlight passing through the glass.
- Written Disclaimer.
- Any direct or indirect promises made by a reseller or representative.

These warranties supersede any other warranties, expressed or implied. Castimondi shall not be liable for any incidental or consequential damage due to any malfunctions. The extended warranty must be confirmed by Castimondi in writing. Castimondi shall not be liable for any damage resulting from failure to observe the instructions and recommendations of the manufacturer.

This manual has been drawn up as a guide only. The information included in it is provided in good faith, but without any guarantee, since the conditions on the site can differ and Castimondi cannot have any influence on them.

Castimondi assumes no responsibility for any of the recommended products if they fail in connection with any of its products. The proper information on the suitability of the products used for the given application is the responsibility of the specific manufacturer (of detergents, adhesives, screed, etc.) and the installer of the floor, not the manufacturer of the floor.

## SUITABILITY AND INSTALLATION OF THE PRODUCT

Castimondi shall not be held liable for the specification of the suitability of the product for the selected use and applications, intended by the customer. This specification shall be the sole responsibility of the customer.

The application recommendations indicated in advertising materials of terramondi are considered to be reliable. However, Castimondi does not give any warranty for results which are expected to be achieved since the conditions of use, application and installation undertaken by the customer and other conditions are beyond the control of Castimondi and vary for each application.

terramondi ESD PVC flooring contains stainless-steel fibres which can be visible on the floor-tile surface. This is an inevitable and key part of the manufacturing process providing the optimum performance of ESD. Check the floor tiles. If they are not acceptable for you in terms of their appearance, do not continue installing them because we do not accept any liability for replacement or refunds for any goods after they have been installed on 10 m or more.

## ⚠ IMPORTANT NOTICE

Any warranties apply only to the original end user of the product. Under no circumstances can they be assigned or transferred. If the floor tiles of the product have been replaced under the warranty, the replacement floor shall be considered an equivalent product and the same service life and conditions of the original warranty shall be assumed.



## 6. TECHNICAL PARAMETERS OF THE PVC FLOORING TERRAMONDI ESD

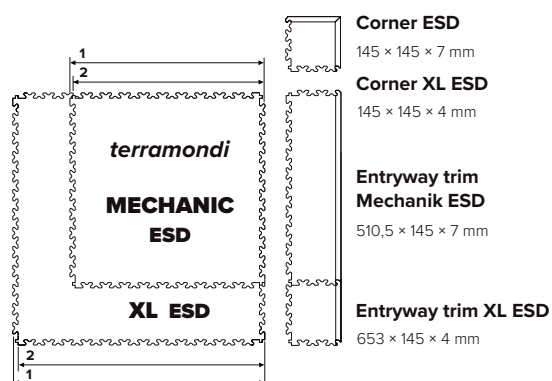
The „TM“ Floor Tiles are subject to the assessment according to the European Parliament and Council Regulation No. 305/2011 (‐CPR‐) following the procedure according to the harmonized standard EN 14041. Detailed information on the product and variants thereof can be found in the catalogue or on the website [www.terramondi.com](http://www.terramondi.com)

SERIES	NORM	PVC FLIESEN TERRAMONDI	
		TM Mechanic ESD	TM XL ESD
Series			
The area of use (classification according to EN ISO 10581 and 10582)		industry, heavy-duty storage (industrial use, load classes 42, 43)	commercial and residential premises, garages, workshops (commercial use of the load class 32, 33)
Outer size of the floor tile 1		1,510.5 × 510.5 mm	653 × 653 mm
The actual size of coverage 2		496.5 × 496.5 mm	639 × 639 mm
Type		homogeneous flooring	
Weight (± 10%)		2.2 kg	2.3 kg
Floor finish		PVC	
Finish		skin	snake skin
Surface layer		PVC	
Thickness		7 mm	4 mm
Surface (wear) layer thickness	EN ISO 24340	7 mm	4 mm
Dimensional stability	EN ISO 23999	≤ 0.4 %	
Resistance to chemicals	EN ISO 26987	good	
Reaction to fire	EN 13501-1+A1	Bfl -s1	
Resistance to bacteria	EN ISO 846	passed	
Hardness	EN ISO 868	92±3 Shore A	
Deformation after static loading	EN ISO 24343-1	< 0.1 mm	
Influence of a castor chair	EN 425	suitable	
Abrasion resistance	EN 660-2	T	
Anti-slip property	DIN 51130:2014-02	R10	
Side length, edge straightness and squareness	EN ISO 24342	≤ ±0.20% of nominal length	
Colour uniformity		≤ ±2ΔE * ab	
Colour fastness to artificial light		>5 (without damage) (EN 20105-A02)	
Colours		Grey, Graphite	
Warranty		up to 12 years	
Number of pieces in 1 m <sup>2</sup>		4	2.5
Compressive strength	EN ISO 604-1	520 kg/cm <sup>2</sup>	
Resistance (R pp)	EN 61340-5-1	< 10 <sup>5</sup> Ω	
Earth electrical resistance	EN 61340-5-1	< 10 <sup>6</sup> Ω	
Packaging		10 pieces in a package – on palette 120 m <sup>2</sup>	24 pieces in a package – on palette 172 m <sup>2</sup>

[www.terramondi.com](http://www.terramondi.com)

Entryway trims and corners for the PVC flooring terramondi, series Mechanic ESD and XL ESD meet the technical parameters of the flooring Mechanik ESD and XL ESD.

For detailed information, please contact your dealer.





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