Fortelock | TECHNICAL DATA SHEET

1. PRESENTATION OF FORTELOCK ESD PVC FLOORING

In the product portfolio of Fortelock homogeneous floorings, you can find our ESD series, which meets the requirements for electrical properties. Fortelock 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.

Made in the Czech Republic.

WHERE TO FIND FORTELOCK ESD PVC FLOORING

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



2. INSTALLATION OF A NEW FLOOR

2.1. GENERAL RECOMMENDATIONS

Floor tiles should always be installed on **a hard and level surface**. Before the actual installation, the tiles should be thoroughly **acclimatized** (see 2.8.).

Floors expecting heavier loads (especially pallet trucks) should be **glued or taped securely in place** (see 3). Please also review our warranty terms (available at www.fortemix.eu) and our advice and warnings (see Section 6) first.

The installation of Fortelock products always comes after a careful measurement of the room. We recommend laying out the tiles so that ideally the same size remains on each side of the room. Allow for a gap of **10 mm from any fixed point** (e.g. around columns, racks and walls). This gap can be later covered with baseboards. The precision of laying individually installed rows is checked against the lines marked out and their right angles. This is especially true for larger areas and rooms that are not sufficiently rectangular.

2.2. SUBSTRATE PREPARATION

The surface must be cleaned of dust, dirt, old coatings or other foreign substances. Irregularities must be sanded down and depressions filled with a suitable levelling compound. In the case of elevated areas exceeding 7 mm over 2 m, these areas must be ground down.

Cracks up to 4 mm in width do not require repair. Cracks exceeding 4 mm must be filled with a suitable material. Contraction joints with openings up to 4 mm do not require repair. Expansion joints must be properly cleaned and prepared.

Fortelock 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.

⚠ 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 Fortelock floor cannot be held liable.

2.3. SUITABILITY OF INSTALLATION ON SELECTED MATERIALS

✓ Suitable ℹ Conditionally suitable

Substrate type	Installation suitability	Substrate conditions	Unevenness	Joints, cracks	Recommended measures
Concrete substrate, cement screed	✓	Level, dry (maximum moisture content 3.5%), solid, without major cracks	Maximum 7 mm per 2 m, or 2 mm per 20 cm	Maximum 4 mm wide, edges in the same plane.	Level larger irregularities with levelling compound, remove dust, grease and moisture. For heavy-duty areas, consider fixing with PU adhesive or dispersion adhesive.
Anhydrite screed	✓	Dry (maximum moisture content 0.5%), solid, without major cracks		Maximum 4 mm wide, edges in the same plane.	Level larger irregularities with levelling compound, remove dust, grease and moisture. For heavy-duty areas, consider fixing with PU adhesive or dispersion adhesive.
Wooden substrates (OSB, plywood, parquet)	ℹ	Stable, level, without movement and major cracks, dry (maximum moisture content 10%)		Maximum 4 mm wide, maximum height difference between boards 1 mm	Use flexible levelling compound and adhesion bridge If the substrate is unstable, cover with cement-fibre boards or otherwise reinforce
Ceramic and stone flooring	✓	Firmly fixed tiles, in a single plane		Joint width max. 4 mm In the case of recessed joints, these must be filled and levelled with the rest of the floor Tile edges in a single plane	Fill larger joints, clean and degrease the surface If tiles are loose, we recommend their removal and subsequent surface levelling
PVC, linoleum, epoxy floors	ℹ	Firm, cohesive surface, non-flaking and dry		Maximum 4 mm wide, maximum height difference between floor sections 1 mm	Test compatibility with PVC tiles, degrease the surface. Old plasticised PVC flooring may cause damage to Fortelock tiles.
Metal substrates	ℹ	Smooth, anti-corrosive, grease-free		-	Apply an anti-corrosion coating and degrease the surface. A metal subfloor can significantly affect the performance of the flooring system.
Asphalt and bituminous substrates	ℹ	Even, cohesive surface without major joints		Maximum 4 mm wide, edges in the same plane.	Observe the maximum load capacity of the subfloor (which can be up to 10 kg/cm^2). If the load is higher, use a load-distributing board. Due to the migration of plasticizers, the surface must be covered with an insulating layer (e.g., PE film).
Carpets	ℹ	Low-pile, heavy-duty carpet (e.g. carpet tiles, commercial carpets – class 33/34), firmly adhered to the substrate.		The surface must be free of any joints.	We recommend testing material compatibility. Some carpets may contain plasticisers that adversely affect the properties of Fortelock tiles. For Fortelock XL ESD these carpets must be completely removed.

Substrate type	Installation suitability	Substrate conditions	Unevenness	Joints, cracks	Recommended measures
Rubber components (recycled tyres or other elastomers)	ℹ	Rubber floors contain solvents that could damage Fortelock tiles.	-	-	It is necessary to cover the surface with an insulating layer (e.g., PE film) due to the migration of plasticizers.
Underfloor heating	✓	see section 2.8.	-	-	Turn off heating before installation, gradually turn on after installation. Use expansion gap around walls for thermal expansion.

If the substrate is not listed, we recommend contacting our technical department. Requirements for specific materials may require additional treatment if more than 10% of the surface is damaged.

2.4. 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.

1. We recommend using **a grounding kit** in 2 pieces up to 60 m² and one grounding kit for every additional 30 m².
2. The grounding kit contains a plug with connecting cord (2.4 m) and rivet (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).
3. 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.
4. 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.**

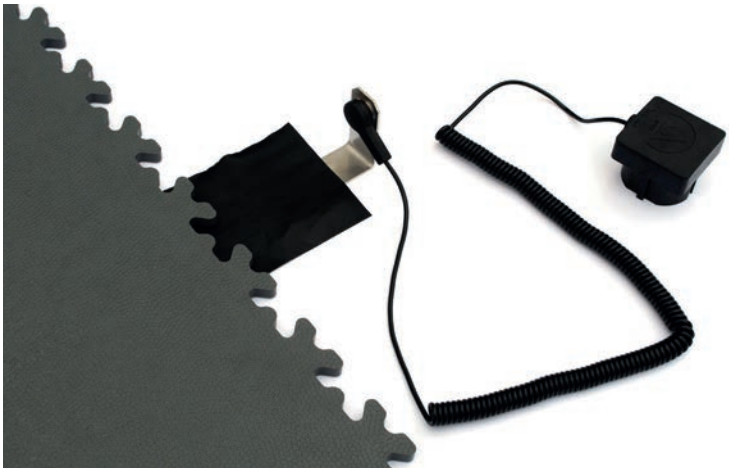
To safeguard the complete and functioning ESD flooring system, our customers can order the grounding kit and tape directly from us.

2.5. ACCESSORIES

To ensure the ESD floor system works effectively, the following is recommended:
- grounding point,
- grounding tape,
- grounding kit.

We recommend connecting the floor system with at least two 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.

Fig. 1
Grounding kit connected to Fortelock ESD tiles.





▲ Plug with connecting cord and rivet



▲ Grounding tape



▲ L-shaped metal grounding element



▲ Copper self-adhesive tape (used for sticking the grounding element to the grounding tape)

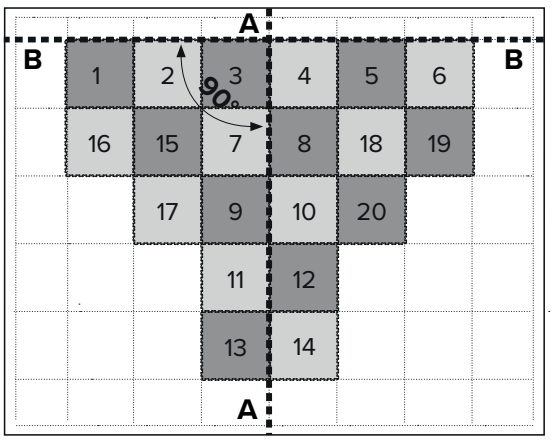
2.6. METHOD OF INSTALLATION

1. Install the floor tiles on a **flat, hard surface**. Make sure to let the floor tiles **acclimatize** thoroughly before the installation (see clause 2.8.).
2. Use chalk to draw a line or use a laser to make lines A-A and B-B.
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.
4. Use this formula to **calculate the total length of the grounding tape**:

   Fortelock ESD: Total area in m² x 2.8 = linear metres of film.
   Example: 45 m² x 2.8 = 126 m of film and 2x grounding kit. Running the tape under each tile requires 4x the area in m² of grounding tape.

   Fortelock XL ESD: Total area in m² x 2.2 = linear metres of foil.
   Example: 45 m2 x 2.2 = 99 m of film and 2x grounding kit. Running the tape under each tile requires 3.1x the area in m² of grounding tape.
5. **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.
6. **Install the floor tiles in the usual way so that the grounding connections are fitted** (two per 60 m², one for every additional 30 m²). It is important that the grounding strap is connected to the floor tile with an ground pin.

Fig. 2
Installation of Fortelock ESD, XL ESD.



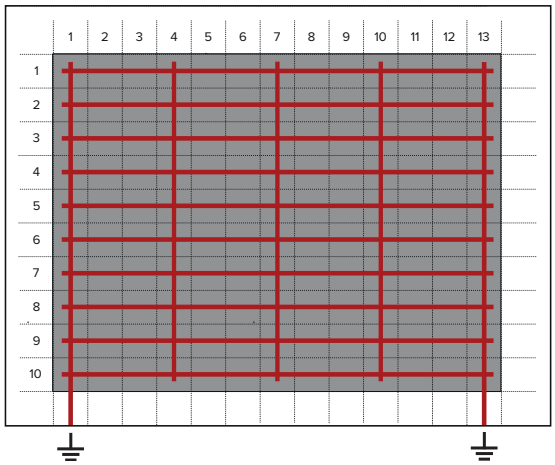
7. The final cuts and completion of the perimeter floor tiles (see clause 2.9.) can be done only after you have laid all floor tiles. Ideally, after several hours from the application. When cutting the perimeter floor tiles, allow for a **10 mm gap from any fixed points** (e.g. columns, racks or walls). This gap can be covered with a skirting board.
8. Place the grounding point in the corners of the room or along the walls to avoid the risk of tripping.
9. After installation, the floor must be properly cleaned (clause 4.) to obtain the correct values of the conductivity tests. If the current floor has been already grounded, the floor must be insulated.

2.7. LAYING TILES AROUND FIXED POINTS OR IN LARGER AREAS

Use this procedure if there are fixed points in the space that cannot be moved (e.g. columns, racks) or for installations in larger spaces (recommended for areas larger than 100 m^2).

In such cases, in addition to the basic guide lines described in section 2.6. of this document, mark out additional lines so that they bypass all fixed points and are always perpendicular to each other. The resulting grid will form the basic plan for laying the tiles. Lay two rows of tiles next to the guide lines, which will give you a basic floor grid. When this is set down, fill in each block according to the procedure shown in Figures 5 and 6. This allows you to achieve precision placement, especially around longer fixed objects or in larger spaces.

Fig. 3
Installation of grounders tape.



2.8. 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 10 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.

PREPARING THE ORIGINAL SURFACE

Fortelock floor tiles can be installed on practically any hard surface that is smooth and even. Therefore, remove any uneven points in the floor. Fill in any unevenness or holes with grout or a sealant designed for repairing floors. To ensure the permanent function and quality of PVC floorings, the structure of the surface must be flawless as recommended by national or European standards.

Fig. 5
Installation around fixed objects – marking guide lines

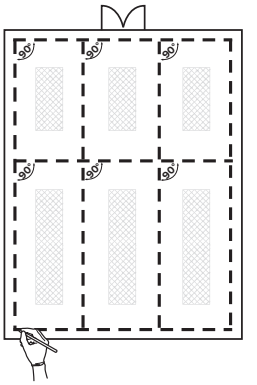
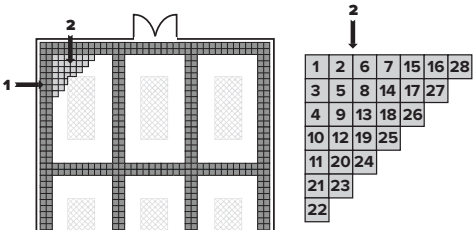


Fig. 6
Installation around fixed objects – laying tiles



2.9. CUTTING PERIPHERAL TILES, INSTALLING BOARDS

When cutting the tile, the cut side must be measured against the wall or a fixed point to ensure the **recommended expansion gap** is maintained after laying the tile in place. Maintain this expansion for all intruding or adjoining structures (e.g. heating, other types of floor coverings). This gap allows for natural material expansion due to changes in temperature and humidity and is crucial for the long-term stability of the floor. Subsequently cover the joints using skirting boards or transition strips.

In the event that a heavy load, such as a shelf unit, machine, heavy furniture or other equipment that prevents the free movement of tiles, is placed on the laid tiles, such installation shall be considered fixed (bonded). This prevents expansion in this area, and therefore in these cases, it is necessary to either fix the tiles with a suitable adhesive or secure them mechanically to prevent deformation or lifting of the tiles.

For the easy, straight and fast cutting of individual tiles, **we recommend using a cutter / guillotine,** e.g. Magnum Soft Flooring Shear (762 mm). You can also use a **folding knife or a straight saw**, especially for round shapes. We recommend that you create a template before making difficult and complicated cuts. Hot air guns can also be used to heat up the tile at the cutting point followed by easier action with a folding knife. Especially for making more difficult cuts (e.g. around heaters, door frames, niches and external corners), a hot air gun will make the work much easier.

WARNING: In this case, always heat the tiles on the side that is not visible!

There are three ways to install floorboards:
- by screwing the baseboard into the wall and inserting the floorboard,
- by sticking the baseboard to the wall and inserting the floorboard, or
- by directly screwing the board into the wall without using the base strip.

For floorboards, measure off the height (9 cm) on the wall from the tile surface. Ensure the correct connection of the locks during installation.

The least technically demanding installation is installation by gluing. First adjust the size of the baseboard to the size of the room (they are supplied in a length of 2.5 m). Then glue the baseboard to the wall (our recommendation is a universal glue based on MS polymers) or screw it in firmly. In the case of gluing, follow the manufacturer's instructions. If you screw in the baseboards, individual pieces can be installed immediately. Insert the upper part of the floorboard under the edge of the baseboard and press it against the wall so that the lower part of the floorboard (narrow part) covers the expansion joint. Continue inserting other pieces of the floorboard and ensure the locks are correctly engaged.

Installation of skirting boards – butt joint without locks

For quick and clean installation, we recommend removing the locks from both sides of the end pieces of the skirting board and joining the pieces "butt-to-butt" (90° perpendicular cut). This eliminates the gap between the locks, simplifies alignment, and makes installation much smoother.

⚠ IMPORTANT

We recommend a width of **more than 1/3 of the tile dimension** for cut tiles placed closest to the walls. **At doors and recesses,** the surface of the cut floor tile must be **bigger than a half** of the whole original tile.

3. ATTACHING AND GLUING TILES

Under certain conditions listed below, Fortelock PVC flooring must be fixed or glued to the surface beneath it.

3.1. FIXATION

Securing detachable tiles to the substrate will ensure the stability of the tiles during heavy-duty movement across the floor. Fixation can be carried out using water-removable **coating on the floor or with fixing tape.** For fixing tiles, we recommend using UZIN KE 2000 S. Prior to fixation, the substrate needs to be penetrated with a suitable primer in order to ensure that it absorbs a thin dispersion coating to reduce anti-skidding effects.

Water-based adhesives are sensitive to moisture and water. We do not recommend using them in areas with excessive moisture in the substrate, where there is a risk of water penetration under the tiles, or where the floor is regularly cleaned with large amounts of water. In such cases, it is more appropriate to use PU adhesive, which creates a permanent bond between the tiles and the substrate and is better suited to more demanding operating conditions.

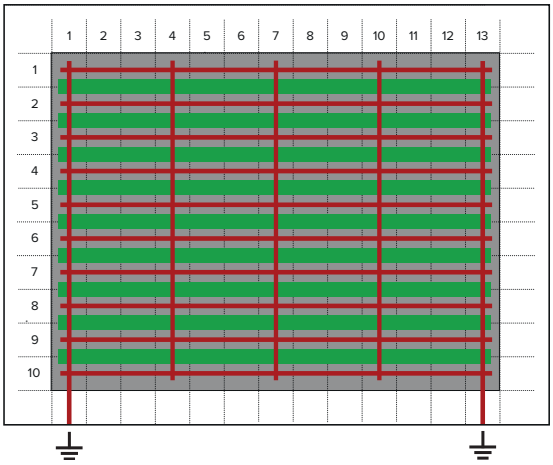
Double-sided adhesive tape can also be used to fix the tiles in place. The strong adhesiveness of the tape means it can be run longitudinally on the underside of the tile in the center or on the edges.

The smoother the floor, the greater the adhesion of the fixing tape.

ADVANTAGES

- Easy attachment using a roller
- Low consumption
- Easy dismantling of one tile or even the entire floor
- The fixation coating is easily removed with warm water and does not damage the substrate

Fig. 4
Installation of the system with fixing tape.



3.2. GLUING

Gluing is a permanent way of bonding tiles to the floor. Normally common dispersion or solvent adhesives good for gluing PVC floorings can be used. For gluing tiles in areas with high loads, we recommend adhesives of the brands Uzin KR 430, DIPUR 522 A+B, Mapei Adesilex G19, ACM Epoxy ECO.

Follow the manufacturer's instructions for fixation and the conditions for the use of adhesives and their correct use.

3.3. WHEN TO TAPE THE FLOOR AND WHEN TO GLUE IT?

DIRECT SUNSHINE

Floor tiles exposed to direct sunlight should be glued in place. These primarily include the glazed parts of a room, loading areas with doors facing south, ceiling skylights, etc. Floor tiles exposed to direct sunlight can easily heat up and expand faster and in greater volume than the rest of the floor.

⚠ WARNING!

Recycled floor tiles are more expansive than floor tiles made of initial raw materials. Due to their thickness, Fortelock Invisible, Invisible XL and XL lacquered tiles can be more expansive than Fortelock Industry tiles and therefore they **need to be glued in places where the tiles may heat up.**

HEAVY TRUCKS AND HEAVY-DUTY LOADING AREAS

Some forklift trucks and pallet trucks can impair the durability of the interlocks of Fortelock PVC flooring. These include heavy trucks with small wheels, especially heavy-duty electric trucks where the battery is placed over the main drive axle. Should you use this type of trucks, we recommend that you test these floor tiles with the trucks before you make a decision on the type of tiles to use and secure or glue them to the floor if you expect constant use of the trucks.

EXTERNAL HEAT SOURCES AND CATALYTIC CONVERTERS

Ovens, furnaces and catalytic converters and other heat sources can heat up the floor heavily, causing the floor tiles to expand. To keep this from happening, **glue the floor tiles in the area of the heat source**, whether in front of an oven or wherever there may be a catalytic converter or other heat source from a parked car.

TEMPERATURE FLUCTUATIONS

If the tiles are laid indoors where the temperature change is greater than 15°C, the tiles must be glued due to expansion.

3.4. Installation of tiles by gluing or fixing

When installing tiles using adhesive or a fixative, follow the following procedure:

1. Lay the tiles in place (without fixing or gluing) in the entire space according to the procedure described in part 2 of this document.

2. After the tiles have been laid in the entire space, lift several tiles in a row (or the entire row) and apply the adhesive or fixative to the substrate according to the instructions provided by the adhesive or fixative manufacturer.

3. Then return the tiles to their original place on the base layer with the applied layer of adhesive or fixative.

4. Run a pressure roller over the laid tiles to ensure the final adhesion of the tiles to the substrate.

5. Follow the same procedure for gluing or fixing other tiles until all tiles are attached in the entire space.

4. CLEANING

Fortelock ESD flooring requires **regular cleaning and maintenance**. More detailed information on maintenance can be found in the document entitled: Cleaning, maintenance and disinfection.

5. WARRANTY TERMS AND CONDITIONS

Warranty conditions for Fortelock floor tiles are specified in the document **Warranty Conditions**, which is available on our website www.fortelock.com.

6. ADVICE AND WARNINGS

To ensure your satisfaction with your final floor covering, and to eliminate adverse risks and ensure an easy installation, we have prepared some advice and warnings for you.

1. Certain types of tires and wheels can stain the floor tiles over time. This is due to the chemical reaction that occurs between the antioxidant (phenaline diamin (6PPD)) used in various rubbers and the plasticizer used in PVC products. The stain/reaction is brown, so it does not become visible in certain colors of floor tiles (dark grey, black, etc.). **We recommend that you consider using a two-component polyurethane sealing finish against coloring and staining** (e.g. Dr. Schutz Anticolor). When using the floor, stains from tires and stains from aggressive chemicals such as solvents, alkalis, hair dyes, etc., may occur. Please contact us for further information.

2. To improve the cleanability, appearance and durability of the flooring, follow the instructions laid out in the guide Cleaning, maintenance and disinfection.

3. The substrate must meet the requirements stipulated in the local standard for PVC floor installation.

4. These floorings are intended for interior use. If you decide to glue them, they must not be installed in spaces that are insufficiently insulated against ground moisture. Keep moisture (e.g. wet footwear, spilling a bucket of water) away from a substrate ready for installation.

5. Do not use tiles in environments with **relative air humidity exceeding 75% over a long period.**

6. Operating conditions for loose installation of flooring: **air temperature + 15°C to + 27°C.** For greater temperature variance, the tiles must be **fixed using PU adhesive.**.

7. The extent of loose installation is a maximum of 500 m^2. In case of larger floor areas, please contact the manufacturer.

8. In the case of loose installation of tiles in long corridors or passageways, it is necessary to glue every 10th row of tiles with fixing or adhesive.

9. Do not allow any objects with sharp edges made from materials with a hardness exceeding the hardness of PVC to move on the floor surface. Stones, grains of sand, edges of furniture legs or the claws of pets can damage the surface and scratch it. Put protective feet on any objects with sharp or angled corners. Do not drag pallets. This will prevent the floor from being scratched.

10. For chairs on wheels, use wheels of the "W" type – soft plastic on a hard core, or protective PET mats designed for mobile furniture. Provide the feet of furniture with protective glides made of soft plastic or felt pads, etc., and regularly check that they are working. If the contact surfaces of varnished tiles with a PUR protective layer will not have suitable means of protection and they become scratched from moving furniture, no claim can be made for such scratching.

11. Do not exceed 50 MPa, or 520 kg/cm² for any point compressive load on the flooring.

12. Glowing and smoldering objects irreversibly change the color and structure of floor tiles.

13. Rubber products made from dark and dyed rubber (rubber wheels, instrument mats, footwear soles, etc.) can cause the finish of the flooring to **permanently change color** after prolonged contact with the floor, resulting in yellowing, browning or blackening of the floor surface at the point of contact. We recommend that you consider using a two-component polyurethane sealing finish against coloring and staining, Anticolor Dr. Schutz, which we have in our offer.

14. These floor tiles are not recommended for exterior use because their colors are not stable under UV light. Direct ultraviolet radiation in the C spectrum (e.g. germicidal lamps, direct sunlight) will gradually degrade the surface and irreversibly change the color of the floor covering.

15. Taking preventive measures like demarcating sufficiently dimensioned and effective **cleaning zones and using suitable products for care and maintenance** significantly contribute to the quality and durability of the floor covering.

16. In cases where the installation requires or permits it, **the edges of tiles and other cut seams can be heat welded with a rod, cold welded,** or glued with solvent adhesives to create a strong and mechanically stable seam. If an adhesive is used, the floor may be subjected to operational loads only after it has dried.

17. 100% color consistency cannot be guaranteed, especially between different product batches. Adaptation is required when performing an installation with different batches.

18. The floor tiles have been designed to provide exceptional durability and easy installation. This was achieved by a unique lock design and their method of production (class of use 34–43, warranty up to 12 years, see Chapter 10). This manufacturing method can result in visible **traces of injection** from the center to the edge of the tile.

19. Although some tiles have a unique drainage system to prevent moisture from being retained, the possibility of **moisture entering the seams of squares** must be taken into account and this information included in the structural specification.

20. Prior to installation, **please have a look at www.fortelock.com** to make sure you have the latest technical documentation.

21. For better consistency of interlocking the corners of joined floor tiles, **the next floor tile should always be turned by 90 degrees relative to the previous floor tile.** The logo displayed on the underside of the floor tile facilitates this installation. Follow this procedure throughout the installation.

22. Putting diamond-pattern floor tiles on a pallet can result in the pattern being **embossed into the pattern of surrounding floor tiles.** This aspect does not affect the technical properties of the floor. This is only a visual aspect.

23. Despite the increased **resistance of Fortelock PVC tiles to oils, petrol and other petroleum-based substances, in the event of spills of these substances, the tiles must be cleaned as soon as possible**, otherwise there is a risk of colour degradation and shape deformation. In the case of larger or frequent leaks of operating fluids, ensure their collection in designated containers or catchment systems to minimise contact between fluids and the floor surface. Contact the Sales Department to find out the degree of resistance to individual types of chemicals.

7. SUITABILITY AND INSTALLATION OF THE PRODUCT

Fortemix, s.r.o. 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 Fortemix, s.r.o. are considered to be reliable. However, Fortemix, s.r.o. 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 Fortemix, s.r.o. and vary for each application.

Fortelock ESD and XL 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 m² or more.

8. ACCESSORIES AND SERVICES

Accessories	Description	Packaging
ESD **Ramps, Corners**	They are used for a smooth run-up to the tiles from the main floor. We recommend gluing them to the subfloor.	–
ESD Grounding **Kit**	It includes a plug with cord (2.4 m) and connection rivet (10.3 mm) in one piece, L-shaped metal grounding element and CU self-adhesive tape, used to stick the grounding element to the grounding tape.	–
ESD Grounding **Tape**	The width and spacing of the installation are governed by performance standards. Dimensions: width 70 mm, length as required, thickness 0.1 mm.	–
Rubber hammer	Rubber hammer, wooden handle.	–

Fixation and bonding		Packaging
PVC Fixing Dispersion – UZIN	Water-removable fixation designed for the **removable attachment** of tiles to the floor. It guarantees the stability of tiles for heavy-duty traffic. Easy to remove, saves costs during further renovation. A1 notched trowel application, consumption approximately 200–300 g/m^2.	5 kg (16 - 25 m^2) 14 kg (46 - 70 m^2)
Fixing tape	Special transparent colorless adhesive tape for establishing a **removable connection** of tiles with the floor. Firm polyester support for trouble-free application and sure and immediate adhesion. Width 240 mm.	50 m
PU adhesive under PVC- UZIN	Two-component PU glue to **permanently bond** tiles to the floor. Firm, strong and quick-tack adhesive. A1 notched trowel application, consumption approximately 200–300 g/m^2.	3 kg (10 - 15 m^2) 8 kg (26 - 40 m^2) 12 kg (40 - 60 m^2)
PU adhesive under PVC - DiPUR	Solvent-free two-component polyurethane adhesive for permanent connection of tiles to the floor.	6 kg (20-30 m^2) 30 kg (100-150 m^2)

Cleaners	Description	Packaging
Dr. Schutz ESD Floor Cleaner	Cleaning concentrate for daily cleaning and also for cleaning after ESD tile installation. **Developed for all electrostatically conductive and antistatic floors.**	10 l
Dr. Schutz Universal stain remover Elatex	Universal product for **removing water-soluble and water-insoluble stains** such as coca-cola, fruit juices, ketchup, ballpoint pens, marmalade, red wine, coffee, chocolate, chewing gum, shoe cream, nail polish, asphalt, markers, etc. It is particularly suitable for removing rubber scuffing, heel scuffing, and graffiti and waterproof paints.	200 ml

Services	Description	
GRANIT - Quartz print	GRANIT print contains 3 standard patterns of grain prints**, which differ in grain size and color combination. Thanks to the seemingly incongruous print, you can visually break the monotonous appearance of the floor, which can occur when tiles of only one color are used.**	–
Borrow up to 5 m^2 of tiles to try out	Take advantage of the opportunity to **try our tiles for yourself**. We will lend you up to 5 m^2 of tiles for a whole month for FREE. For more information, contact our customer service.	–
Onsite inspection	We offer **expert assessment** and proposal of possible solutions for your floor onsite.	–
Visualization	Take advantage of the state of the **art visualization software** and change the floor colour scheme according to you expectation.	–
Fortelock used tile recycling	As part of our environmental programme, we offer our customers the option of returning unwanted Fortelock PVC tiles that would otherwise end up in landfill. This service saves you time, effort and landfill disposal costs, while allowing you to join us in helping to protect the environment. Return the tiles to us and we will take care of recycling the waste material and reusing it. More information is available on the Fortelock website.	–

9. DYNAMIC LOAD RESISTANCE

Maximum dynamic load in kg by tyre or wheel type (including forklift weight)						
Type of wheels	**Polyurethane or equivalent hardness**				**Rubber wheels**	**Tyres***
Truck type	Pallet truck	Electric pallet truck	Electric forklift truck	Electric retractor	Forklift truck	Forklift truck, car
						
Loose installation						
XL ESD	400	-	-	-	-	-
ESD	500	700	-	-	4 300	6 600
Gluing / fixing						
XL ESD	1 300	1 700	2 900	5 100	5 500	6 600
ESD						

*Vehicles with tires should not stand on tiles for long periods of time to prevent the dye from migrating.

Total load capacity tested at 23°C and 5 km/h. The maximum load capacity may vary significantly with different tile temperatures, different travel speeds, different subgrade surface textures, or may be affected by other factors such as the size and material of the wheels of the handling equipment, their degree of wear, and the acceleration and deceleration time of the equipment. Avoid spinning or turning the wheels when stationary, braking or accelerating hard.

Important: To maintain maximum dynamic load capacity, we recommend gluing the tiles at temperatures above 27 °C.

Take advantage of the tile rental option and test the suitability of Fortelock tiles for your conditions. For more information about this service, please visit www.fortelock.com.

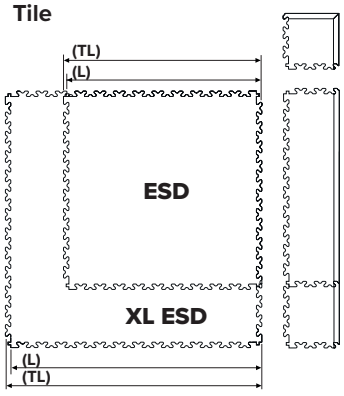
10. TECHNICAL PARAMETERS OF PVC FLOOR TILES FORTELOCK ESD, XL ESD

The Fortelock 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 ČSN EN 14041:2004/AC:2006. Detailed information on the product and variants thereof can be found in the catalogue or on the website www.fortelock.com

	Standard	Fortelock PVC Floor Tiles	
Series	–	**ESD**	**XL ESD**
Product numbers – tiles	–	2020 ESD – leather	2230 ESD – snake skin
Product numbers – ramps [1]	–	2025 ESD – leather	2235 ESD – snake skin
Product numbers – corners [1]	–	2026 ESD – leather	2236 ESD – snake skin
Type	–	homogeneous flooring	
Outer size of the floor tile (TL)	–	510,5 × 510,5 mm	653 × 653 mm
The actual size of coverage (L)	–	496,5 × 496,5 mm	639 × 639 mm
Thickness	–	7 mm	4 mm
Type of surface layer	–	homogeneous	
Surface (wear) layer thickness	ČSN EN ISO 24340	7 mm	4 mm
Weight (± 10 %)	–	2,4 kg	
Finish	–	leather	snake skin
Area of use, intensity of use	ČSN EN ISO 10874	34 – 43[4]	
Dimensional stability after exposure to heat	PP 457	≤0,25 %	
Side length, edge straightness and squareness	ČSN EN ISO 24342	≤ 0,13 %, max. 0,5 mm	
Resistance to chemicals	ČSN EN ISO 26987	good	
Reaction to fire	ČSN EN ISO 13501-1	B_{fl} - s1	
Resistance to bacteria	ČSN EN ISO 846	passed	
Hardness	ČSN EN ISO 868	≥ 90 Shore A	
Influence of a castor chair	ČSN EN 425	passed	
Anti-slip property	DIN 51130:2014-02	R10	
Colour uniformity	–	≤ 2 ΔE*ab	
Colour fastness to artificial light	ČSN EN 20105-A02	>5 (without damage)	
Warranty	–	up to 12 years	
Number of pieces in 1 m²	–	4 pcs	2,5 pcs
Compressive strength	ČSN EN ISO 604-1	520 kg/cm²	
Electrical resistance (floor, footwear, person system)	ČSN EN 61340-4-5	$<10^9$ Ω[2][3]	
Vertical resistance R_v	EN 1081	$<10^6$ Ω[3]	
Voltage across the body	ČSN EN 61340-4-5	<100 V[2]	
Protection against electrostatic phenomena	ČSN EN 61340-5-1	passed	
Suitability for cleanrooms	ISO 14644-1:2016	ISO Class 3 - 9	
Packaging	–	10 pieces in a package – on palette 120 m²	24 pieces in a package – on palette 172 m²
Thermal conductivity	EN 12664	0,155 W/(m.K)	

[1] Ramps and corners for Fortelock ESD and XL ESD series PVC tiles meet the technical parameters of Fortelock ESD and XL ESD tiles.
[2] Due to the injection-molding process used to manufacture the tiles and the resulting variations in electrical properties at different locations, the values listed are geometric averages of the measurements.
[3] At a relative humidity of 30–55% and an air temperature of 17–25 °C.
[4] If tiles for class 43 are used, tiles must be affixed on the whole surface.

Tile



Corner ESD
145 × 145 × 7 mm

Corner XL ESD
145 × 145 × 4 mm

Ramp ESD
510,5 × 145 × 7 mm

Ramp XL ESD
653 × 145 × 4 mm

Skirting board

