

Installation Instructions

ULTRA LOCK PRO (interlocking tiles)

Below are the installation recommendations for ULTRA LOCK PRO interlocking tiles.

ULTRA LOCK PRO is a heavy-duty PVC floor covering particularly suitable for high-traffic areas (production areas, warehouses, logistics zones, retail spaces, supermarkets, public buildings) with controlled temperature conditions.

IMPORTANT GENERAL INFORMATION

Before starting installation, ensure that the intended use of the flooring is compatible with the area of application.

Provided that the installation conditions described below are respected, ULTRA LOCK PRO has been designed for use in the applications specified and recommended by ONEFLOR.

SCOPE OF USE AND LIMITATIONS

Particular attention must be paid to the significance of the intended use area and to the range of possible choices of handling or maintenance equipment, racking systems, etc. Numerous factors should be considered, such as their sizing (geometry of rack legs, type and number of wheels), equipment configuration (single or double forks), and handling mode (with or without an onboard operator, speed, acceleration and deceleration characteristics, etc.).

The limitations to be taken into account, depending on the intended use of the premises, are those defined by the applicable design, dimensioning, and implementation standards in force.

Where such documents are not available, Tables 1 and 2 summarize the static and dynamic loads, based on typical loads and/or equipment commonly identified in the relevant premises.

Table 1 – Static load capacity

Maximum contact pressure on the flooring	Maximum point load per support or per wheel
$\leq 110 \text{ kg/cm}^2$	$\leq 1\,000 \text{ kg}$

Table 2 – Traffic characteristics (dynamic loads)

Traffic within the facility		Typical frequency (e.g., retail footfall and maintenance activities)	
Characteristics of wheeled equipment	Tyre or wheel material ⁽¹⁾	Polyurethane or equivalent	Solid or pneumatic rubber ⁽⁵⁾
	Total load per wheel ⁽²⁾	$\leq 1\,000 \text{ kg}$	$\leq 2\,000 \text{ kg}$
	Contact pressure	$\leq 100 \text{ kg/cm}^2$	Not applicable
	Total loaded weight	$\leq 3\,000 \text{ kg}$	$\leq 6\,000 \text{ kg}$
	Speed ⁽³⁾	$\leq 10 \text{ km/hour}$	$\leq 10 \text{ km/hour}$
Examples of equipment	Material handling ⁽⁴⁾	- Hand-pushed trolley - Manual pallet truck - Pedestrian-operated electric pallet truck (rated capacity (1,600 kg))	Tow tractor (2,000 kg)
	Maintenance	Pedestrian-operated self-propelled scrubber dryer	Pedestrian-operated self-propelled scrubber dryer
⁽¹⁾ Wheel tread surfaces must be cleaned regularly.			
⁽²⁾ Twin wheels are considered as a single wheel when their spacing (centre distance or track width) is less than 20 cm. Metal wheels are excluded. Depending on the equipment design, wheels with distinct functions (drive, load-bearing, stabilising, guiding, etc.) transmit different loads to the floor. The value indicated corresponds to the maximum permissible load on the most heavily loaded wheel, typically one of the load-bearing wheels.			
⁽³⁾ Electrically or thermally powered material handling equipment may cause damage due to heat generated by wheel slip. It is necessary to ensure that the equipment is suitable for the flooring system (e.g., equipment fitted with anti-slip/traction control systems). Sudden starting, braking, acceleration, or sharp changes in direction may cause irreversible burn damage to the flooring.			
⁽⁴⁾ The rated capacity of the equipment corresponds to its maximum permissible carried load.			
⁽⁵⁾ Equipment fitted with this type of tyre or wheel must not be parked on the slabs to avoid dye migration. The equipment should be used only for replenishing the racking.			

OPERATING CONDITIONS

Particularly suited for high-traffic areas, ULTRA LOCK PRO flooring can be installed in public halls, airport baggage handling and reclaim areas, shopping mall concourses, general and specialty retail stores, as well as certain storage and material handling areas.

Installation in wet areas (e.g., showers) is not permitted.

Loose-lay installation is permitted provided that the ambient temperature is controlled.

In the following specific cases, localised bonding of the tiles is mandatory:

- Areas exposed to direct sunlight (e.g., glazed atriums, shopfronts, south-facing loading bays).
- High-traffic areas / tight turning zones: for specialised material handling equipment (e.g., electric forklifts or pallet trucks with small wheels exceeding 2,000 kg). Preliminary testing with the equipment must be carried out. Bonding improves flooring stability.
- Areas exposed to intense heat sources or cold rooms subject to significant temperature variations ($\Delta > 25^{\circ}\text{C}$) (e.g., ovens, boilers, catalytic converters, automotive service centres, food storage areas).

INSTALLATION TOOLS

To ensure installation under optimal conditions, the following tools are recommended:

Utility knife with trapezoidal blade 	White rubber mallet 
Guillotine cutter 	Chalk line 
Circular saw 	Laser level 

SUBSTRATE CONDITION AND PREPARATION

SUBSTRATE ASSESSMENT

The joint substrate assessment is intended to verify, prior to the start of the works, that the substrates and associated elements comply with good practice, and to define the appropriate construction solutions, particularly in refurbishment projects. It shall be carried out in accordance with NF DTU 53.12 P1-1-1 §8.3 for France (or the applicable regulations in the relevant country).

It is the responsibility of the project designer to take into account the drying times of the various types of substrate, implementing, where necessary, appropriate measures such as heating and ventilation of the premises.

LIST OF ACCEPTABLE SUBSTRATES FOR NEW-BUILD AND REFURBISHMENT

The acceptable substrates are those defined in NF DTU 53.12 P1-1-1 §6 "Preparation of substrates intended to receive floor coverings" (or the applicable standard in the relevant country), namely:

- Hydraulic binder-based substrates, new or refurbishment
- Cement-based flowing screeds, new or refurbishment, covered by a valid Technical Approval (Avis Technique or DTA) for the intended application
- Heated floors
- Existing ceramic tiles

In case of doubt, consult your distributor for further information.

SUBSTRATE REQUIREMENTS

- New hydraulic binder-based substrate

Substrate assessment shall be carried out in accordance with NF DTU 53.12 P1-1-1 §6.1.5 for France (or applicable regulations in the

relevant country) to verify:

- Moisture content (carbide bomb test)
- Presence of microcracks and cracks
- Surface cohesion (scratch test)
- Porosity (water drop test)
- Flatness (5 mm under a 2 m straightedge and 2 mm under a 0.20 m straightedge)

All these criteria must comply with NF DTU 53.12 P1-1-1 or a relevant Technical Approval, as applicable (or standards in force in the relevant country).

- Hydraulic binder-based substrate in refurbishment

Refurbishment works on existing covered substrates shall be carried out following a prior substrate assessment in accordance with NF DTU 53.12 P1-1-1 §7 (or applicable standards in the relevant country).

- Underfloor heating

If ULTRA LOCK PRO flooring is installed over underfloor heating systems, EN 1264-2 (water-based underfloor heating systems and components) shall be applied. The surface temperature must not permanently exceed 27°C.

For other types of underfloor heating systems, consult ONEFLOR-EUROPE's technical department.

- Existing ceramic tiles

(Maximum lippage between tiles < 1 mm, joint depth < 1 mm and width < 4 mm)

SUBSTRATE PREPARATION

- New hydraulic binder-based substrate

Substrate preparation works shall be carried out in accordance with NF DTU 53.12 P1-1-1 §9.1 (or applicable standards in the relevant country).

The substrate must be clean, dry, level and flat, sound, free from cracks, and free from contamination (grease, oil, chemicals, adhesive residues, paint traces, etc.), and thoroughly dust-free (by vacuuming).

The substrate assessment will determine whether localised repairs are required using an internal floor levelling compound (with its associated primer). This product must comply with European standards for application on the intended substrate, in accordance with NF DTU 53.12 P1-1-1 §9.4 for France (or applicable standards in the relevant country).

- Hydraulic binder-based substrate in refurbishment

All substrates to be refurbished must be properly prepared to ensure optimal installation conditions for the floor covering, in accordance with NF DTU 53.12 P1-1-1 §9.2 (or applicable standards in the relevant country).

In particular, the substrate must be clean, dry, level and flat, sound, free from cracks, and free from contamination (grease, oil, chemicals, adhesive residues, paint traces, etc.), and thoroughly dust-free (by vacuuming).

Where the substrate assessment specifies the use of internal floor levelling compounds (with associated primer), these must comply with European standards for the intended application, in accordance with NF DTU 53.12 P1-1-1 §9.4 (or applicable standards in the relevant country).

- Existing ceramic tiles

Direct installation is possible without treatment of joints or lippage of the existing retained flooring, within the previously stated limits.

If the assessment shows that more than 10% of the surface to be covered presents defects (missing, loose, or damaged tiles) within the same area, the entire existing flooring must be removed, the substrate mechanically stripped back to its base, and the floor prepared as a refurbished hydraulic binder-based substrate.

Installation over multiple layers of floor coverings (other than existing ceramic tiles) is not permitted. In such cases, all existing floor coverings must be removed.

CRACKS TREATMENT

Cracks must be treated prior to installation of the floor covering:

- Microcracks and cracks with a width < 1 mm and no lippage do not require treatment.
- Cracks with an opening > 1 mm and/or with lippage must be subject to an assessment to verify substrate stability by a third-party specialist.

EXPANSION JOINT TREATMENT

Control joints < 4 mm and construction joints < 1 mm do not require treatment.

Expansion joints must be maintained after thorough cleaning by installing edge profiles, with or without cover strips, on either side of the joint.

PROVISIONS RELATING TO THE RISK OF MOISTURE RISING

If the PVC floor covering is likely to be installed on new or existing substrates subject to rising moisture, appropriate measures must be taken to ensure the protection of the installation, in accordance with the Project Specifications (DPM) and NF DTU 53.12 P1-1-1 §5.3.3 (or applicable standards in the relevant country). Installation over an interlayer underlayment system is not permitted.

PRIOR TO INSTALLATION

Stacking ULTRA LOCK PRO pallets is strongly discouraged for safety reasons.

Installation of the flooring must be carried out after all other trades have completed their work.

ULTRA LOCK PRO flooring must not be installed in combination with a decoupled acoustic underlayment.

The use of underlayments may void the warranty in the event of damage.

ACCEPTANCE OF THE FLOOR COVERING

Before starting installation, check the flooring for any visible defects, verify the integrity of the interlocking edges, and ensure that all products come from the same batch number. Products that have already been cut to size or installed cannot be subject to claims.

Products must be checked to ensure uniformity of colour and batch. Only tiles from the same batch should be installed within the same room.

Applicable national standards, regulations, and guidelines must be observed when installing ULTRA LOCK PRO flooring, along with relevant technical documents and generally accepted trade practices. Minor variations in colour, gloss level, and structure inherent to the manufacturing process do not constitute grounds for claims.

STORAGE AND ACCLIMATISATION OF THE FLOOR COVERING

Ambient climatic conditions before, during, and after installation:

- Ambient air temperature > 15°C (not exceeding 35°C)
- Substrate temperature > 15°C (not exceeding 22°C)
- Relative humidity: 40-65%

It is important to ensure that the room's climatic conditions remain stable during acclimatisation. The above conditions must be maintained for at least 24 hours before installation, during installation, and after completion of the flooring works. ULTRA LOCK PRO pallets must not be stacked.

Ambient humidity and substrate temperature must be such that no condensation forms on the substrate (dew point conditions). The substrate temperature must be at least 3°C above the dew point.

ULTRA LOCK PRO flooring, along with all associated products, must be allowed to acclimatise for a minimum of 24 hours prior to installation, after unpacking and stacking in small piles (maximum 3 packs) on a clean, flat surface, protected from moisture, in the room where installation will take place or in adjacent areas.

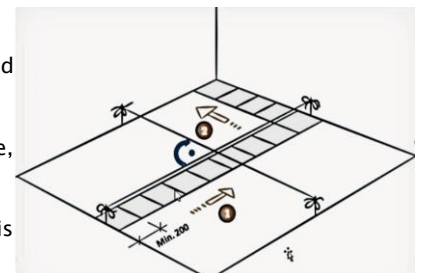
LAYOUT AND INSTALLATION PLAN OF THE FLOOR COVERING

ULTRA LOCK PRO flooring is generally installed as a loose-lay system on the previously specified substrates.

The starting layout is established by marking two perpendicular axes on the floor using a chalk line, centered in the room by dividing its length into two equal parts (see adjacent figure).

The minimum tile size must not be less than 30 cm. If this condition is not met, the starting axis must be adjusted accordingly.

The tiles have a marking on the reverse side indicating the laying direction. They must be installed in the same manufacturing direction.



PERIMETER GAPS AND MOVEMENT JOINTS

The floor covering must be installed with a minimum 5 mm perimeter gap between the edge of the flooring and the wall, as well as

around all fixed elements in the room (racking, shelving units, columns, partitions, etc.). The perimeter expansion gap must not be filled with electrical cables or similar elements.

ULTRA LOCK PRO tiles may be locally or fully bonded, but are primarily designed for loose-lay installation, limited to 400 m² in a single uninterrupted area. Beyond this, the surface must be divided into sections of 400 m², with bonded connections between areas over a width of two tiles. For areas exceeding 400 m² or with a dimension greater than 20 linear metres, a 10 mm movement joint must be created at mid-span of the room. This gap shall be covered with a suitable profile allowing for floor expansion.

The interlocking edges must always be removed when tiles are installed at the perimeter of the area to be covered and at all critical points.

INSTALLATION OF ULTRA LOCK PRO FLOORING

INSTALLATION PRINCIPLES

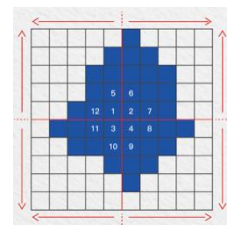
Tiles are installed as a loose-lay system by mechanical interlocking using the interlocking system and a mallet (except in the specific cases mentioned previously).

Installation begins at the centre of the room by positioning the first tile at one of the right angles formed by the starting axes, then progressing as shown in the adjacent figure.

Ensure a perfect fit of the first tiles throughout installation (no gaps) before laying subsequent tiles.

To interlock the tiles, lightly tap along the tile edges (not directly on the interlocking tabs), starting from the corners, using a rubber mallet while slightly lifting the opposite side of the tile.

Important: Never force the tiles into place. If force is required, it indicates that the initial tiles have not been installed correctly.



CUTTING A TILE

Perimeter cuts are carried out last, after all full tiles have been installed.

Tiles may be cut using a utility knife with a trapezoidal blade, a guillotine cutter, or a circular saw.

When using a utility knife, proceed as follows:

- Place the tile to be cut (wear layer facing up) directly on top of the last installed tile;
- Place another tile over the gap to be filled, resting against the wall (allowing for the 5 mm perimeter gap);
- Mark the cutting line on the tile;
- Score the wear layer one or more times with the knife;
- Install the cut tile in the remaining space.

For irregular cuts, mark the required shape using a template, then cut with a utility knife.

ADHESIVE APPLICATION (for specific cases)

In specific cases requiring localised bonding, a two-component polyurethane (PU) adhesive is strongly recommended.

When adhesive is used depending on the site configuration, it shall be applied to the substrate in a single application in accordance with the adhesive manufacturer's instructions. The coverage rate and open time shall be as specified by the adhesive manufacturer.

Apply over areas of no more than 2 m² at a time to avoid exceeding the adhesive working time.

It is recommended to:

- Monitor trowel wear to ensure the correct adhesive application rate is maintained, and replace it if necessary;
- Carefully follow the supplier's instructions and strictly observe the recommended open time (to be adjusted according to temperature, substrate porosity, ambient humidity, and consumption rate);
- Remove any excess adhesive not covered by the flooring as installation progresses.

TREATMENT OF CRITICAL AREAS

When a row is obstructed by pipes or vertical structural elements (such as load-bearing columns or racking legs), a 5 mm expansion gap must be maintained around the element.

Around penetrations (e.g., pipe penetrations), the flooring shall be cut accordingly and the gap protected with suitable cover plates.

EDGE FINISHING

After removing the perimeter spacers, if skirting boards, transition profiles, or end finishing profiles are installed, it is essential to ensure that they are never fixed to the floor covering. The use of skirting boards with silicone joints around the perimeter that bond the floor covering will void the warranty.

If permanently elastic sealants are used to prevent liquid ingress, it is recommended to first install a backing rod in the perimeter expansion gap, then fill it with an acrylic sealant to ensure a two-sided bond.

TREATMENT OF DOOR FRAME BASES

Wooden door frames shall be undercut to allow the flooring to be installed beneath them.

For metal door frames, the tiles shall be cut while allowing for a 5 mm perimeter expansion gap.

TRANSITIONS TO THRESHOLDS AND ADJACENT FLOOR COVERINGS

Transitions to door thresholds and adjacent floor coverings may be achieved, as appropriate, by installing:

- A suitable transition profile (threshold strip) installed as an overlap, particularly depending on the thickness of the adjacent flooring. A 10 mm expansion gap must be maintained between the two floor coverings. The transition profile must be fixed to the substrate, not to the floor covering.
- An access ramp or finishing profiles

COMMISSIONING/ TRAFFIC

The requirements for the finished installation shall be those defined in Article 9.9.1 of NF DTU 53.12 P1-1-3.

Handover of the installation shall be carried out in accordance with Article 10 of NF DTU 53.12 P1-1-3.

The flooring may be put into service as follows:

- Immediately after installation for normal pedestrian traffic in the case of loose-lay installation
- 24 hours after installation when adhesive has been used, for normal pedestrian traffic
- 48 hours after installation when adhesive has been used, for installation of furniture

In the case of underfloor heating, the system must be switched off 24 to 48 hours before installation and gradually brought back into operation after 48 to 72 hours, never abruptly. A rapid increase in temperature may cause deformation or debonding.

PRECAUTIONS AND EXCEPTIONAL CONDITIONS

- Particular care must be taken when installing furniture to avoid damaging the floor covering (use appropriate protection and/or load distribution plates).
- The limits for static loads and stresses are those defined in CSTB e-document No. 3782 "Guidelines for UPEC classification and classification of premises" in force (or applicable standards in the relevant country). The use of suitable protective pads made of plastic or felt is recommended. ULTRA LOCK PRO flooring must be isolated from all permanently installed heavy furniture and equipment. Where furniture imposes high static loads, it is necessary to ensure adequate load distribution (e.g., by using load distribution plates) appropriate to the weight of the furniture.
- In conservatories or similar rooms with large glazed areas or south-facing patio doors, the use of ULTRA LOCK PRO flooring must be considered critical due to extreme variations in ambient temperature. Its use must therefore be subject to prior coordination and specific approval from ONEFLOR.
- ULTRA LOCK PRO flooring meets high quality standards in many respects, including light fastness in accordance with EN ISO 105-B02. However, standard tests cannot fully replicate the intensity of natural UV radiation, and partial colour changes or fading may occur in areas exposed to strong UV radiation and insufficient shading.
- Radiation shields (e.g., glass or metal hearth plates) of sufficient size must be installed in the vicinity of fireplaces and stoves. The dimensions depend on the thermal output of the appliance. Please refer to the manufacturer's specifications.
- Use only suitable chair castors of type W (soft).
- The presence of standing water must be avoided and removed as soon as possible.

REPLACEMENT OF A DAMAGED TILE

As part of regular inspections, any defect identified on a tile may be subject to localised repair.

A tile can be replaced by cutting it from one corner using a utility knife.

Disengage the interlocking tabs and install a new tile from the same batch, ensuring the correct laying direction is maintained.

In the specific case of localised bonding, the existing adhesive must be removed and a new adhesive applied before installing the replacement tile.

CLEANING/ PERIODIC MAINTENANCE

Regular maintenance adapted to the conditions of use is the best way to ensure the durability and preserve the appearance of ULTRA LOCK PRO flooring, while achieving the required level of hygiene.

Please refer to the detailed recommendations below for cleaning and maintenance products.

EXTERNAL ACCESS ARRANGEMENTS

The installation of combined entrance systems at external access points, consisting of scraper grilles and entrance mats of appropriate dimensions, helps limit the transfer of abrasive particles (mud, gravel) and moisture into the most exposed and heavily trafficked areas.

POST-INSTALLATION CLEANING

Before use, the floor covering must undergo a post-construction cleaning to remove installation residues, building debris, and dirt. Use a neutral cleaner diluted with water. For light soiling, the concentration may be reduced depending on the level of dirt. Clean the floor in two passes using a microfiber mop.

In case of stubborn dirt not removed during this process, use a single-disc machine fitted with a red pad, applying the cleaning solution by spray, then vacuum the residual water.

After cleaning, rinse with clean water using a microfiber mop. Avoid leaving standing water.

DAILY AND PERIODIC CLEANING

Remove debris (dust, gravel) using a high-performance vacuum cleaner or a soft-bristle broom.

Carry out damp manual cleaning to remove stubborn dirt using the recommended neutral cleaner diluted according to the level of soiling. Depending on the level of dirt, clean with one or two passes using a well-wrung mop.

If stubborn dirt is not removed by manual cleaning, mechanical cleaning is recommended using the neutral cleaner diluted with water according to the level of soiling. Use a single-disc machine fitted with a red pad.

This method is also suitable for periodic cleaning.

INTENSIVE CLEANING

Intensive cleaning of the floor covering may be required to remove stubborn dirt and residues that cannot be eliminated using routine cleaning methods.

To do so, apply an alkaline intensive cleaner, diluted in accordance with the manufacturer's instructions, to the floor. After the recommended dwell time, scrub the surface using appropriate tools and/or pads.

Clean in sections to prevent the cleaning solution from drying on the floor.

Remove the dirty water using a well-wrung mop or a wet vacuum. Rinse the floor with clean water, preferably warm, until all residues of dirt and cleaning products are completely removed (no more foaming).

Avoid the formation of puddles and standing water.

STAIN REMOVAL

Do not use abrasive pads or steel wool to remove stains.

Always rub with a soft cloth from the outside of the stain towards the centre.

PROHIBITED PRODUCTS

Never use the following products, due to the surface protection, as they may cause irreversible discolouration of ULTRA LOCK PRO flooring:

- Products containing rubber elements (castors, feet, mats, etc.); antioxidants may migrate irreversibly into all PVC floor coverings.
- Chemical products based on strong solvents or chlorine (e.g., ketones, acetone).
- Undiluted bleach (may be used if diluted to 10%).
- Polishes, waxes, varnishes, or oil-based detergents.
- Abrasive pads or discs for single-disc machines (green, brown, or black pads).
- Material handling equipment fitted with metal wheels.

WARRANTY

ULTRA LOCK PRO flooring is warranted against manufacturing defects from the date of purchase. Warranty terms are available upon request from your distributor or on the website www.oneflor-europe.com

The publication of these installation instructions (effective 01/2026) supersedes and invalidates all previous versions.