

INSTALLATION MANUAL
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INSTALLATION MANUAL

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FLOORING FOR BUILDING SOLUTION WITH MODULAR STRUCTURES



➤ PREMISE

The support structure for building is designed to ensure mechanical performances, flexibility, easy installation in all those kind of rooms where ordinary application is required, as an example offices, shops, halls, and generally all those of spaces where pedestrian loads and usual furniture has to be placed

➤ COMPONENT DESCRIPTION

The building structure is fully made of galvanized steel and includes the following elements:

➤ SUPPORT COLUMN

Available from a height of 40mm to 700mm and more, with galvanised surface treatment and height adjustment comprising:

- circular or square base, depending on the type, equipped with stiffening ribs and holes for gluing and any mechanical floor anchoring;
- variable length pipe based on floor height and securely fastened to the base, available in different sections, diameters and thickness;
- M16 or M20 threaded rod, securely fasted to the head with a nut to lock the final height;
- especially shaped head plate, shaped with radial branches to position and secure the stringers.

➤ CONNECTION STRINGERS

Made up of various sections, open or closed, depending on the mechanical resistance to obtain. Available in versions:

- **Light (L):** it is obtained from cold pressed hot dip galvanized steel. It features an open section (width 25mm) and is available in specific lengths for the following modules: from 594x594mm to 600x600mm (in steps of 1mm). The stringer is supplied with a snap-on ends for positioning the branches on the head and holes for fixing with screws to ensure continued electricity of the system;
- **Medium (M):** it is obtained from cold pressed hot dip galvanized steel. It features an open section (width 25mm) and is available in specific lengths for the following modules: from 594x594mm to 600x600mm (in steps of 1mm). The stringer is supplied with a snap-on ends for positioning the branches on the head and holes for fixing with screws to ensure continued electricity of the system;
- **Heavy (P):** it is obtained from a closed section profile made from hot dip galvanized steel which increases performance compared to the “L” and “M” stringers. It has the following dimension: width 25mm, height 40mm or 50mm, thickness 1mm. It is available in specific



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lengths for the following modules: from 594x594mm to 600x600mm (in steps of 1mm). The stringer is supplied with a hole each end so it can be screwed onto the branches of the head to ensure continued electricity of the system

➤ **HEAD GASKET**

Made from non-conductive thermoplastic material. It is black and equipped with 4 blade teeth for panel positioning and centring.

➤ **STRINGER GASKET**

Made from non-conductive thermoplastic material. It is black and acts as sound proofing and a seal. The gasket is placed on the stringer with simple manual pressure.

All the described parts are free of burrs or other sharp elements, hazardous during handling and assembly and possible causes of damages to parts (sheaths, wires, etc.) under the floor.

Refer to the EDM for system performance features.



↘ HANDLE WITH SUCTION CUPS TO LIFT PANELS



↘ TOOLBOX



↘ PERCUSSION DRILL



↘ SCREW DRIVER



↘ ANGLE GRINDER:
 • GRINDING WHEEL
 DM 230MM CUTTING
 PANELS AND HARD
 MATERIALS
 • DISC GRINDING
 WHEEL DM 125MM
 FOR FINISHING



↘ LASER LEVEL



↘ COLOURED CHALK



↘ MEASUREMENT
 ACCESSORIES FOR
 LINEAR DISTANCES

↘ SAFETY AND WASTE DISPOSAL

The processing of waste materials is regulated by legislative obligations which identify the competent figures. There are many process phases:

- summary cleaning and stacking of waste materials: the floor is cleaned from installation scraps. All the cleaning materials and the packaging are stacked on the installation level at the collection point indicated by the works supervisor;
- lowering of materials: the materials collected at the installation level are lowered using the lifting equipment of the construction site by authorized operators;
- handling and stacking to the collection point inside the construction site: the materials are transferred from the collection point or lowered point to the designated construction site area, using the construction site transport by authorized operators;
- shipping to disposal or reuse sites: materials are loaded on authorized transport means up to the point of disposal, recycling or reuse.

The installer must follow all the safety rules during the installation procedures in accordance with installation manual and country laws.

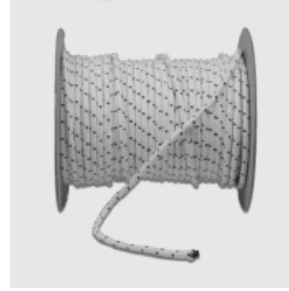
Below is a list of the main site tools that are helpful and required for correct installation.



➤ SHEARS TO CUT STRUCTURE ELEMENTS



➤ VACUUM CLEANER



➤ NYLON CORD TO TRACE REFERENCE AXES



➤ CIRCULAR SAW



➤ DUST-PROOF PAINT FOR SCREDS



➤ BASE GLUE



➤ FLOOR PROTECTION



➤ SAFETY AND AREA CONFINEMENT SIGNS



➤ AUTOMATIC ROTARY LASER SPIRIT LEVEL



➤ BAND SAW



➤ ROLLER AND SPRAY PUMP FOR SPREADING THE ANTI-DUST AGENT

The operators have to equip with all the mandatory safety device. All tools must be certified in accordance with country laws where the construction site is localized. Tools and equipment must be used only by the specialized operators.

The construction site waste have to be disposed in accordance with the environmental local laws. The product characteristics are reported in the technical data sheet.

PRELIMINARY OPERATIONS FOR FLOOR INSTALLATION



↘ DESIGN AND LAYOUT CHECK

The installer must check the design before starting work on site. The design should include the position of potential obstacles, systems or pipes under the floor.

It should indicate:

- the panel frame starting point and the two principal perpendicular directions of the panels grid;
- concentrated load points, which may require reinforcement pedestals and/or special profiles;
- the position of cumbersome systems that must be crossed using bridges or special stringers.

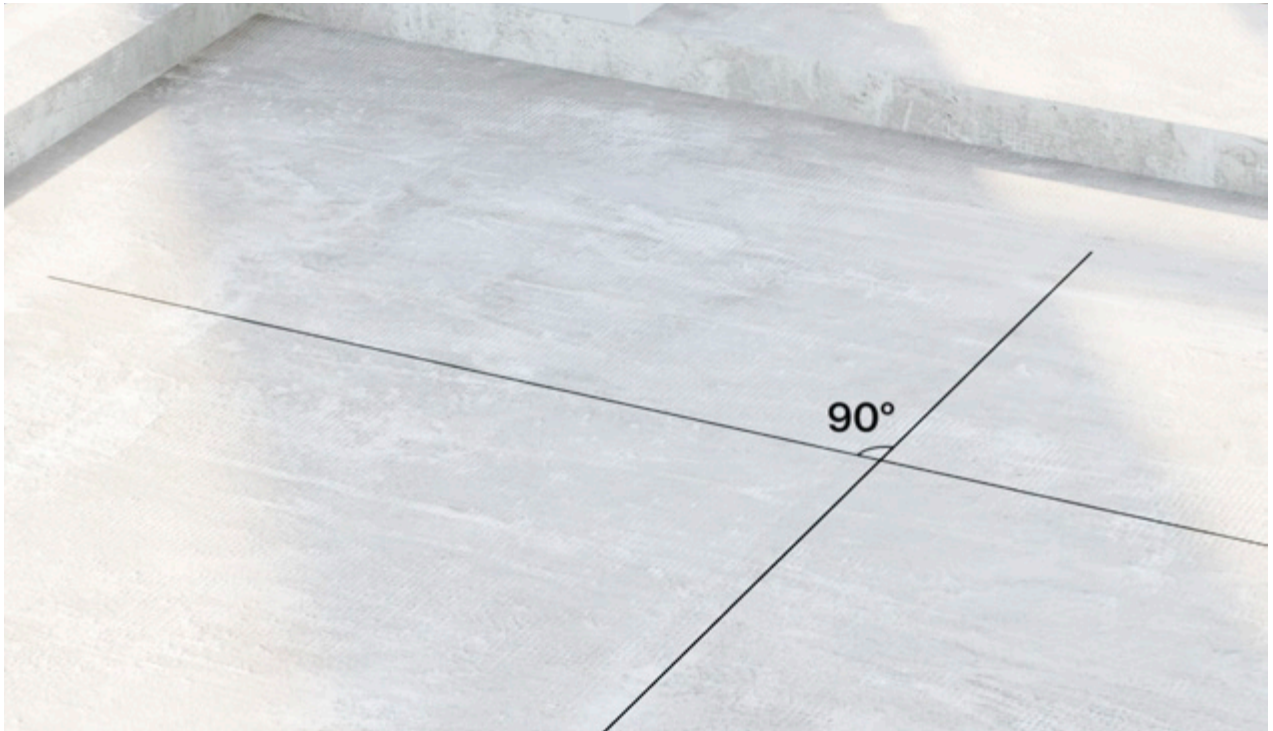
A floor installation network drawing is created with a dimensional survey. In the absence of a layout, the network is positioned calculating the lesser waste, if possible avoiding small portions of perimeter panels.

Always avoid choosing whole panels on the perimeter walls since these are not perfectly linear and thus do not offer adequate contrast, and almost never ensure correct panel alignment. When possible, it is best to avoid side perimeter panels under 150 mm to avoid jeopardizing stability. The preliminary execution of the quoted drawings, with floor layout, lets you check the exact quantity of materials required and the size of the perimeter panels, as well as providing the designer and system workers with support positions. Systems must be positioned without interfering with floor columns. There should be no systems in rigid conduits along the entire perimeter.

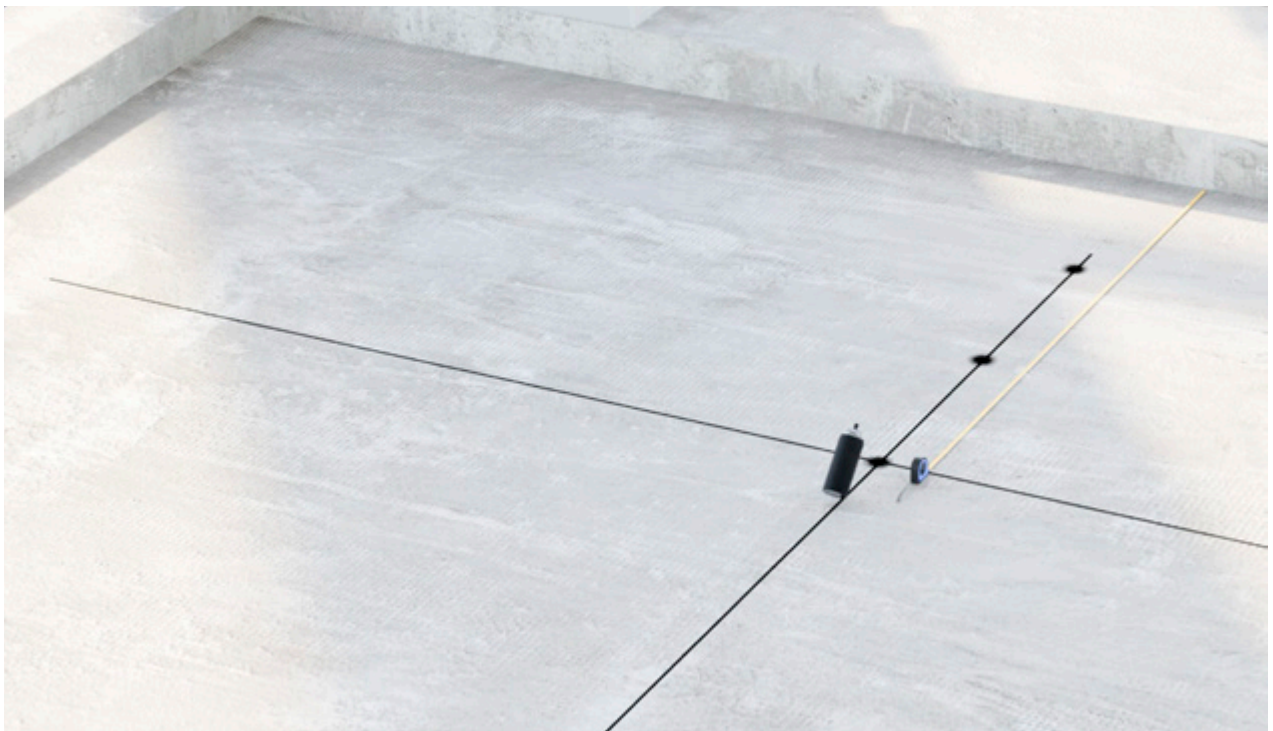
↘ TRACE THE AREA TO BE FLOORED

To facilitate system placement, you can trace the floor on the ground and mark support positions with coloured paint. This is normally carried out in main axes respecting the module indicated in the layout, or in its whole surface only if contractually stipulated. Once the floor grate is established, secure two taut and orthogonal wires just over the screed surface.

With coloured chalk, using the orthogonal wires as a reference, traces parallel lines at the required distance from the module, until a grid is achieved.



Floor layout drawing



Spray canister marking

PRELIMINARY OPERATIONS FOR FLOOR INSTALLATION



➤ STORAGE, INSTALLATION AND USE CONDITIONS

For these aspects refer to the following instructions.

➤ STORAGE AND USE CONDITIONS

“On receipt of goods verify the integrity of the load and the packaging. The damaged pallets have to be replaced, ensuring the safety of cargo and people.

The handling must be performed by means adapt to the pallet size. Pallets must not be pushed or dragged and must be laid on flat surfaces, horizontal and solid.

The stacking is allowed only if provided by the manufacturer and following all the instructions given on the packaging and in the technical documentation.

Panels must be stored in dry and protected places with temperature between +10°C and +40°C and relative humidity between 40% and 75%, unless otherwise indicated by manufacturer.

It is always recommended to follow the production batches sequence and to separate panels type and finishing to simplify the collection operations and avoid tone differences during installation.”

➤ SITE HANDLING

“The unloading of the truck must be done by suitable means and tools. The unloading area must be flat, smooth and must ensure suitable maneuvering space in respect of the safety regulations. Panels must be stored in a suitable places, protected from the atmospheric phenomena, immediately after unloading.

All lifting operations must follow the safety procedures and be performed by personnel authorized to use expected means and tools. The landing area must be free of obstacles at the installing level and provided with appropriate protections against the risk of falling. The below area must be cordoned off and closed to transit of vehicles and people.

In case of handling at the installation level, regular and flat paths must be provided, suitable for pallet truck passage, avoiding systems interferences to ensure the stability of the load and the safety of persons. The transition from one room to another must be kept free of obstructions.”

▸ SITE CONDITIONS

“The access floor must be stored in dry and protected rooms with temperature between +10°C and +40°C and relative humidity between 40% and 75%, unless otherwise indicated by manufacturer.

If in the access floor plenum piping systems are expected with fluids at temperatures such as to provide temperature and humidity values outside the ones prescribed, it is recommended to suitably insulate the heat sources and to provide a suitable ventilation in order to go back to normal conditions.

The masonry work, including finishing works, must be completed and should not release moisture in the environment. The residual moisture of the building materials must not exceed 2%.

The rooms must be equipped with windows and doors.

The slab must be flat, firm, dry and free of cracks, without dips, bumps and insulated from moisture through time. The flatness is assessed by metal rigid straight with square or rectangular section, length 2 m, settled on the slab in any direction, also in the perimeter areas. The flatness is suitable for installation when in any of the measuring positions the difference in height is less than 2 mm.

Before installation the slab must be clean and free of wastage materials.”



Site conditions. Place component packages only near the installation area

➤ SCREED PREPARATION

We recommend treating the screed with suitable dust-proof paint, generally vinyl or polyurethane; its purpose is to secure the screed surface and avoid the subsequent formation of dust.

Paint is always recommended and becomes essential when the supports are glued or when the under-screed plenum is used for air conditioning distribution. To paint correctly without wasting product, clean and accurately dry the screed in advance. Paint should be applied with a roller or brush, including the vertical part of the walls under the floor. When finished, let the paint dry for the time indicated by the manufacturer before entering the painted rooms.

Please note that the anti-dust paint is not a wear coat, so it is advisable to apply the anti-dust paint and install the raised floor, after the drying time.

Note: make sure dust-proof paint is compatible with the support glue.



Thorough slab cleaning and suction



Applying dustproof paint

➤ INSTALLATION AXIS POSITIONING

Installing the floor starts with positioning the two orthogonal starting axes as previously agreed with the Work Supervisor (D.L.) and/or as indicated in the design drawings or layout previously traced on the floor.

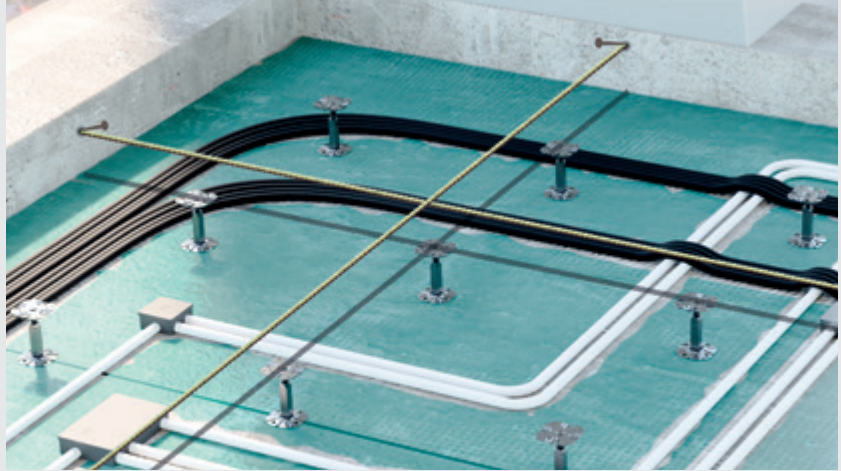
The operation is performed at the centre of the room, securing a pair of taut, orthogonally crossed nylon wires to the walls, at a height just above the floor.

To determine the orthogonality (90°) of the two wires, apply the Pythagorean theory, or more simply the “3-4-5” formula: starting from the intersection of the two references, mark 3 m on one wire and 4 m on the other; the diagonal between the two points should be 5 m. Use the maximum side dimensions possible, since the longer the diagonal, the lesser the margin of error.

FLOOR INSTALLATION

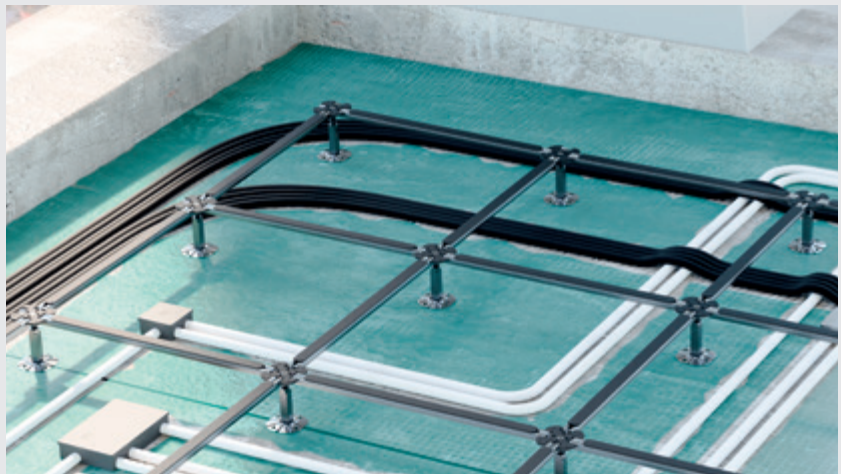
INSTALLATION FLOOR WITH STRINGERS

Starting from the points where the two threads cross and in alignment with them, fix the stringers onto the heads of the pedestals.



Alignment using the two orthogonal wires

Complete the assembly of all of the modules and the stringers and fix the screws with a suitable screwdriver (Fig. 18). For the best result it is advised to continue by areas of about 300mq and complete them by positioning the panels.



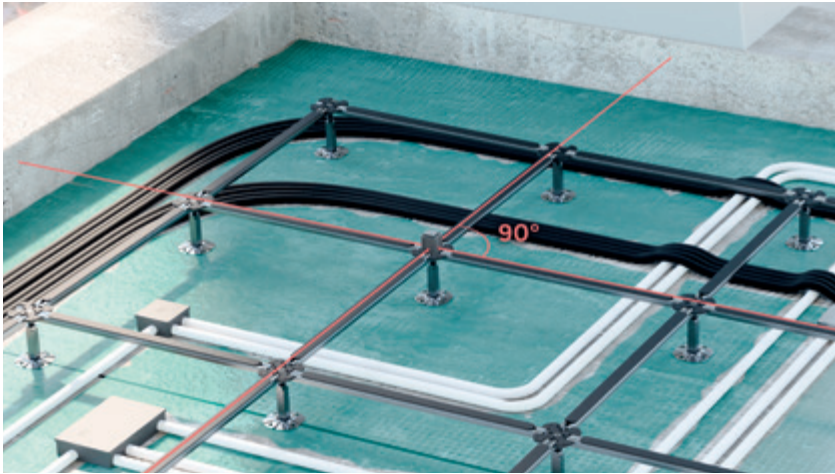
Assembly of columns and stringers

Installation with stringers

Using a spirit level or a laser level, and taking the work-site level as a guide, adjust all of the pedestals to the required height.



Use of spirit level for positioning posts



90° angle check

Insert all of the gaskets, first on the pedestals and then on the stringers.

Installation with stringers

Lay the first panel by placing one of the corners in perfect alignment with the point where the two threads cross at right angles. Then fix a second panel taking care to align it with the reference points. Continue laying the panels in parallel with the nylon threads until all the whole panels have been installed. Take special care to ensure that the panels are at right angles, aligned and flat. In the event that the surface finish of the panels has a directionality, follow the design indications or ask the Construction Manager/Customer for guidance.

Note: Slab bonding of the columns is necessary in installations with heights more than/equal to 600 mm, while in picture rooms it is always recommended.

In order to obtain a stable, aligned and smooth surface it is important to take care not to disturb the floor for at least 8 hours after the glue has been applied in order to let it dry.



Aligned and levelled panel positioning

Installation with stringers

➤ STRUCTURE INSTALLATION IN THE PERIMETER AREA

Proceed by cutting the perimeter stringers to the appropriate size. Fit the cross-pieces onto the heads and, using a spirit level, install all the columns in level. Cover the supports and stringers with the corresponding gaskets cut to size.



Perimeter distance measurement



Cutting stringers and perimeter seals

Finish the flooring by cutting all the perimeter panels to the correct size, ensuring that they follow the shape of the wall perfectly. One of the easiest ways is to place the panels that need to be cut in a row adjacent to the perimeter one, then using a strip of panel of 600mm as a spacer, run it along the wall. By resting a pencil against the spacer, the exact portion to be cut can be marked. Do not use permanent marker. Make sure that the portion of the panel to place near the wall is smooth.

Note: special attention must be paid to panels with a directional pattern.

Installation with stringers

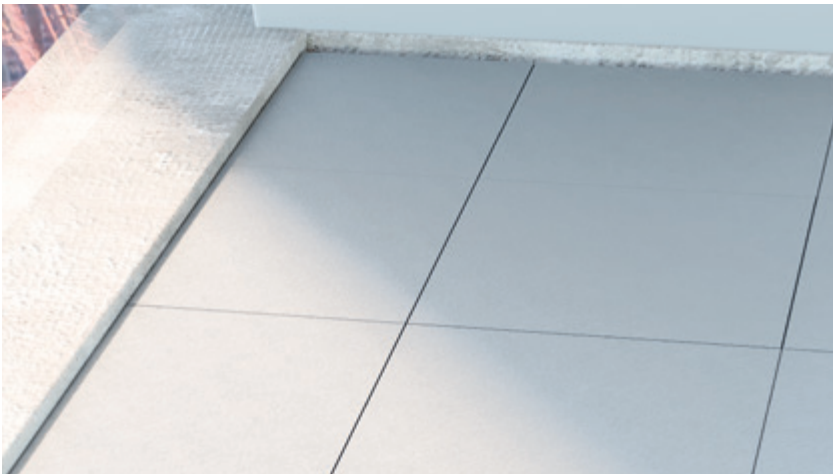


Measuring and cutting perimeter panels

With a ruler, determine the size and position of any fittings required to insert systems, columns, etc. Cut the panel with care. On the border of the wall perimeter, compensate empty spaces with the specific sealant adhesive gasket (typically made of non-decaying, anti-condensation closed cell EPDM rubber based material, with excellent air, dust, water and noise proof properties). Install the cut panels.

Note: To eliminate the release of small amounts of dust from the cutting surfaces, protection can be applied to the parts of the panels cut on site, using a water-repellent paint.

Installation with stringers



FLOOR INSTALLATION

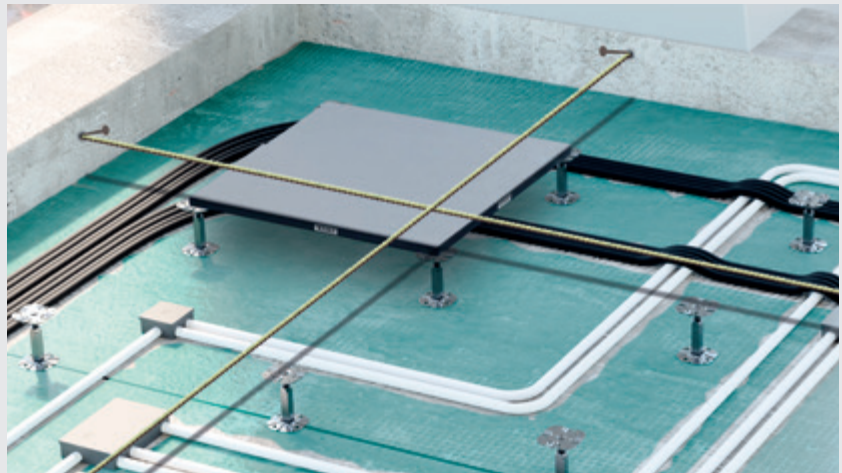
▶ INSTALLATION FLOOR WITHOUT STRINGERS

The four pedestals must be complete with gaskets and levelled according to the height of the work-site. Position the first panel on the four pedestals ensuring that one of the corners sits perfectly in the point where the threads cross (the height can be obtained by a spirit level or a laser level).

Note: Before positioning the pedestals, apply the glue to the base to ensure the pedestals are fixed firmly to the ground



Positioning of columns



Positioning the first panel using the two orthogonal wires

Continue to install the pedestals and their respective panels, aligning them with one of the two reference threads. Always check that the panels are installed at the correct height and that the glue covers the base to ensure the whole base is firmly fixed.

Using the same method, continue laying the panels in parallel until all the panels have been installed. Take special care in checking that the panels are at right angles, perfectly aligned and flat. All of the pedestals must have gaskets.

Installation without stringers

Complete the floor by cutting the perimeter panels to size. Ensure that they follow the shape of the wall perfectly. One of the easiest methods is to place the panels that need to be cut in a row adjacent to the perimeter one, then using a strip of panel of 600 mm as a spacer, run it along the wall. By resting a pencil against the spacer, the exact portion to be cut can be marked. Do not use a permanent marker. Make sure that the portion of panel to place near the wall is perfect.



Perimeter distance measurement

Using a ruler, establish the dimension and position of possible joints for the installation of the system, columns, etc.
Cut the two fins of the head gasket near the wall and adjust the height of the stringers with a spirit level before positioning the perimeter panels.

Note: special attention must be paid to panels with a directional pattern.



Perimeter panel cutting

Installation without stringers



Aligned and levelled panel positioning

For structures with threaded bush (heights up to 100mm), apply glue around the threaded bar when the installation is finished or at the end of the day.

You can use the glue provided for bonding the pedestal bases to the slab or a commercial threadlocker.





















To ensure that all the panels form a uniform surface, it is important not to disturb the floor during installation and for at least 8 hours after the glue has been applied; the minimum time needed for the glue to set properly. When requested, it is possible to apply a protection product on the side of the panels which have been cut on-site; a self-adhesive gasket or a waterproof varnish would be sufficient.



















CUTTING OF THE CHIPBOARD PANELS



TOP FINISH	BOTTOM FINISH		MATERIAL CUTTING TOOL	
	Aluminium/Bare	Steel	Cutting machine	Cutting tool
Bare Alluminum Laminate Vinyl Linoleum Rubber Moquette Parquet	1) Single cut: round saw with Widia blade or band saw	1) Bottom finish cut: small grinder with disc D125mm (for small cuts) 2) Cutting the rest of the panel: band saw or round saw with Widia blade	Round/band saw 	Widia blade 
			Small grinder 	Disc D125mm 
Stoneware / Ceramic	1) Top finish cut: grinder with diamond saw 2) Cutting the rest of the panel: round saw with Widia blade	1) Top finish cut: grinder with diamond blade 2) Bottom finish cut: small grinder with disc D125mm (for small cuts) 3) Cutting chipboard core: round saw with Widia blade	Grinder 	Diamond blade 
			Small grinder 	Disc D125mm 
			Round saw 	Widia blade 
Steel	1) Single cut: band saw with specific blade 2) Alternatively: top finish cut small grinder with disc D125mm (for small cuts) and cut core with round saw	1) Single cut: band saw with specific blade 2) Alternatively: top and bottom finish cut small grinder with disc D125mm (for small cuts) and cut core with round saw	Band saw 	-
		Small grinder 	Disc D125mm 	
		Round saw 	Widia blade 	
Twin and Stoneware 20mm outdoor	1) Single cut: grinder or water clipper	-	Grinder 	Diamond blade 
			Water clipper 	

CUTTING OF THE CALCIUM SULPHATE PANELS

TOP FINISH	BOTTOM FINISH		MATERIAL CUTTING TOOL		
	Aluminium/Bare	Steel	Cutting machine	Cutting tool	
Bare Alluminum Laminate Vinyl Linoleum Rubber Moquette Parquet	1) Single cut: round saw with Widia blade or band saw	1) Bottom finish cut: small grinder with disc D125mm (for small cuts) 2) Cutting the rest of the panel: band saw or round saw with Widia blade	Round/band saw 	Widia blade 	
			Small grinder 	Disc D125mm 	
Stoneware / Ceramic	1) Single cut: grinder with diamond saw	1) Bottom finish cut: small grinder with disc D125mm (for small cuts) 2) Cutting the rest of the panel: grinder with diamond blade	Grinder 	Diamond blade 	
			Small grinder 	Disc D125mm 	
Steel	1) Single cut: band saw with specific blade 2) Alternatively: top finish cut small grinder with disc D125mm (for small cuts) and cut core with round saw	1) Single cut: band saw with specific blade 2) Alternatively: top and bottom finish cut small grinder with disc D125mm (for small cuts) and cut core with round saw	Band saw 	-	
			Small grinder 		Disc D125mm 
			Round saw 		Widia blade 
Twin and Stoneware 20mm outdoor	1) Single cut: grinder or water clipper	-	Grinder 	Diamond blade 	
			Water clipper 		

▶ TIPS

The Table explains some helpful tips during cutting phase.

DESCRIPTION	TIP
Cutting panel	The cut should be made trying to follow the inclination of the panel edge.
Steel sheet	The cutting width of the sheet must be greater than the width of the blade used for cutting the core, otherwise the core cutting tool may be damaged.
Chipboard	Please be sure to cut chipboard with proper blade this avoid any undesired smoke and burn (do not use e.g. flex).
Calcium sulphate	Calcium sulphate can be cut with a flex saw (a very fast method), but it produces a lot of dust. Alternatively, when we have resilient finishes, the best tool is a band saw with low speed, which does not produce dust.
Covering	When covering and core require different blades (e.g. ceramic with chipboard) the cutting depth can exceed the covering not more than few mm.



TETRIS FLOOR INSTALLATION

▾ SITE STORAGE CONDITIONS

Before installation commences, material must be unloaded and staged as close as possible to the actual installation area(s).

The General Contractor, Owner or Owner's Representative must provide a closed, dry and secure storage area that is accessible to freight/passenger elevators and/or hoists and has a clear path to the installation area(s).

▾ SITE INSTALLATION CONDITIONS

Only install the access floor system in dry and protected environments that are closed off from the outside weather conditions, with the environment at a temperature between 10°C and 40°C with a relative humidity between 40% and 75% for at least 3 days prior to the installation, during the entire installation period and upon completion.

It is recommended that the installation area be as close to occupied RH and room ambient temperature as possible so as to climatize the components prior to actual assembly and placement. The sub floor must be clean and free of moisture, dirt, grease, oil or other debris that would prohibit or hinder the pedestal adhesive bond to the substrate.



➤ FINISHED FLOOR QUOTA

The construction manager must identify the reference elevation for each level, commonly referred to as the zero elevation, and physically trace it in a specific spot in an indelible manner. The acceptance criterion is that the finished floor level must be aligned with the reference level drawn by the construction manager with a maximum tolerance of +/- 5 mm.

➤ PLANARITY

It concerns the flatness of the individual panels and the correct levelling of the panels with each other. Regarding the first aspect, the product standard refers to manufacturing tolerances of the panel measured at the foot of the line. The second aspect concerns the acceptance criterion for the finished floor covering the maximum measurement of the deflection at any point relative to a calibrated bar (rigid metal profile with a length of 2 m) resting on the floor. In absolute terms, this measurement must not exceed 2.5 mm.

➤ CONCRETE CURE

Freshly placed concrete (< 29 days) must not demonstrate excessive moisture content that would degrade the pedestal adhesive. Test the substrate at least 10 days before installation is to commence to ensure excessive moisture content or PH level does not exist.

➤ STAGING PALLETS IN WORK AREA

Check elevator and floor loading capabilities relative to pallet weights. Do not overload the elevator or base building structural floor when staging material prior to the installation. Place pallets along column lines with a minimum spacing of 3 mt between pallets.

➤ INSTALLATION AREAS

For the installation, the premises must be clear, clean, windows and doors installed, no water seepage, plastering, skimming and screeding finished, floor and ceiling technology systems completed, and without the simultaneous presence of other workers.

The finished floor level of the raised floor must be clearly indicated in the rooms prepared for installation.

No-one other than the installer of the raised floor may walk on the floor during installation to avoid misalignment of the panels temporarily without contrast. If adhesives are used, the requirement is also extended for 48 hours after completion.

Tongue and groove floor system



➤ ACCESS TO COMPLETED AREAS

➤ INSTALLATION STEP

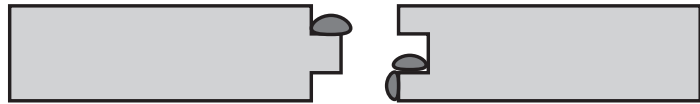
1. If required, clean the raised floor slab, apply anti-dust primer.
2. If required, glue the mineral fibre felt on the perimeter wall, taking care that both the panel and the surface finish go against it.
3. In the middle of the room, prepare the square made up of two orthogonal wires, which is necessary for positioning the first panels that determine the start of the entire floor (always based on the initial project).
N.B.: The direction of installation is always from left to right, with the female panels facing the centre of the room and the marking of the elements upwards.
The first row is the most important. It is therefore necessary to take great care when installing it.
4. Place the column in the middle panel (60 cm - Fig. 3).
N.B.: In the case of a structure with stringers, install the stringers first.
5. Position the first row of panels on top of the columns, gluing (Fig. 1) the panels as shown in the diagram (Fig. 2 / Fig. 3).
6. Remove the nozzle of the applicator so that it is at an angle. Apply glue to both male and female panels and fix them in order to eliminate any gap between them (Fig. 1).
7. Level the height of the feet using the laser.
8. Glue the supports to the slab using sufficient Nesite glue.
9. Before laying the panels, Nesite thread locking glue will be poured into the central hole of the footplate and the necessary gasket applied to the head to reduce sound transmission. In the case of a height of more than 500 mm, the supports must be connected to each other with lateral crosspieces.
10. Once the entire modular panels have been installed, it will be necessary to cut a new panel to size, which will be placed on the supports already adjusted in height and pushed against the felt, taking care to position the marking of the elements upwards.
11. Glue leaking from the joint between the panels indicates that enough glue has been applied and can be removed the next day with a sharp spatula (Fig. 4).

Tongue and groove floor system

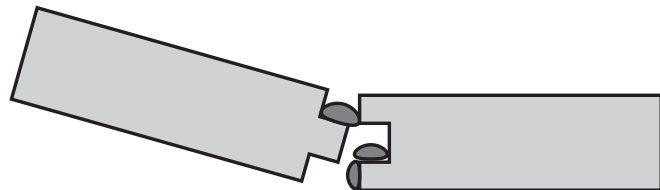
GLUING PANELS

Fig. 1

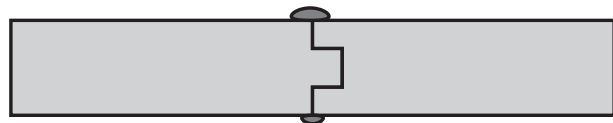
Applying glue in tongue-and-groove panels.



Fitting the male panels into the female panels.



Excess glue coming out of the joints means that there is enough of it.



Place the post at the corner.

Note: In the case of a structure with stringers, install the stringers first.

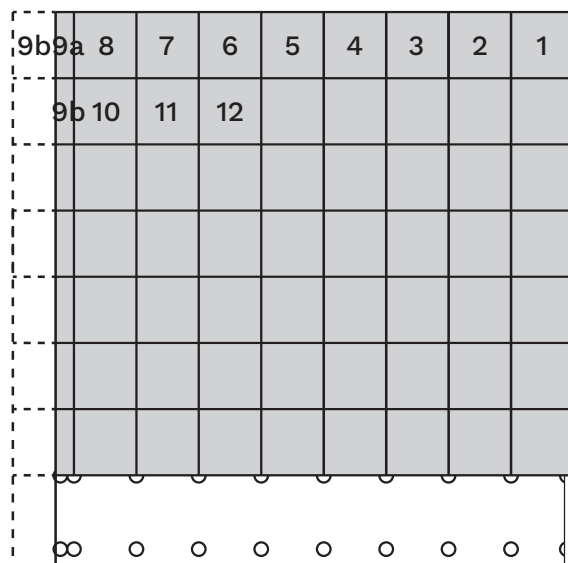
NOTE: DO NOT GLUE THE PANELS TO THE HEAD OF THE PEDESTAL.

Do not climb on the Tetris Floor within 12 hours of installation.

The floor can withstand declared full load operation from 24 hours after installation.

LAYING DIAGRAM MODULE 60X60

Fig. 2



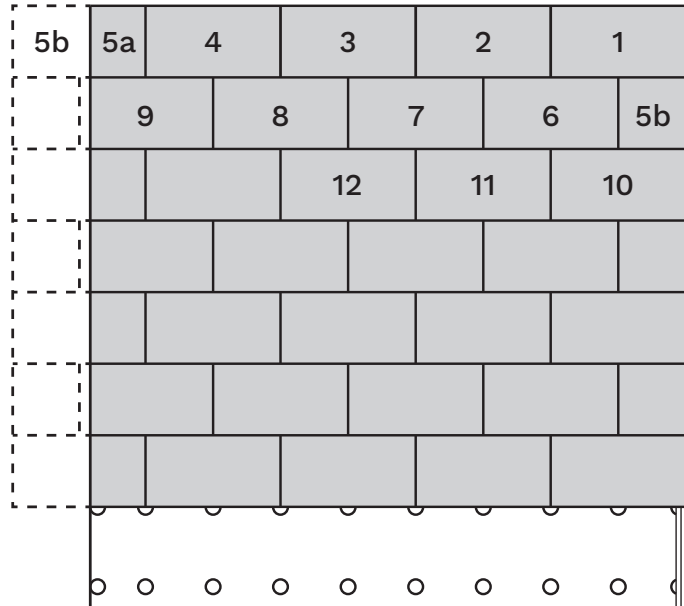
Use the remaining part of the cut panel in the next row.
Only if $5b \geq 600$ mm

Tongue and groove floor system



LAYING DIAGRAM MODULE 60X120

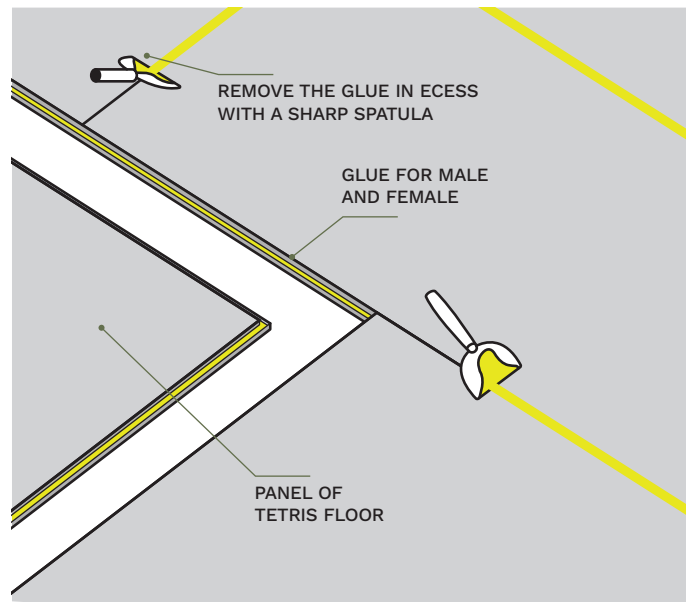
Fig. 3



Use the remaining part of the cut panel in the next row.
Only if $5b \geq 600$ mm

REMOVAL OF EXCESS GLUE

Fig. 4



INSTALLATION ACCESSORIES

1. Special knots and expansion joints

In the vicinity of doorways or around pillars the number of supports must be supplemented as shown in Fig. 1.

In the TETRIS FLOOR raised floor, expansion joints must be made at the structural joints of the building as shown in Fig. 2.

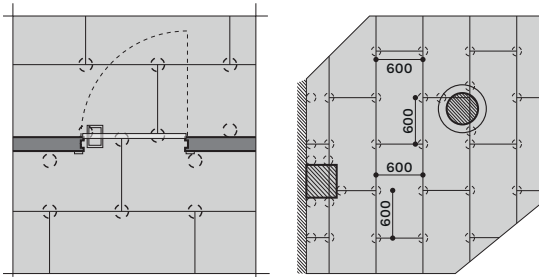


Fig 1. Harbour node and floor node connection diagram

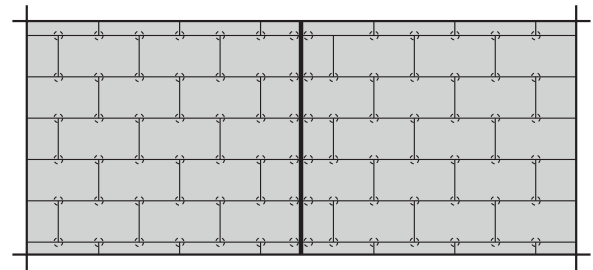


Fig 2. Expansion joint diagram

2. Insertion of hatches

For the insertion of small inspection hatches, metal supports must be added so that the panels retain their mechanical properties. Prior to the installation of the Tetris ceiling and trapdoor elements, the joint profile must be placed on the metal supports, taking care to use the appropriate profile according to the thickness of the ceiling according to the project (Fig. 3).

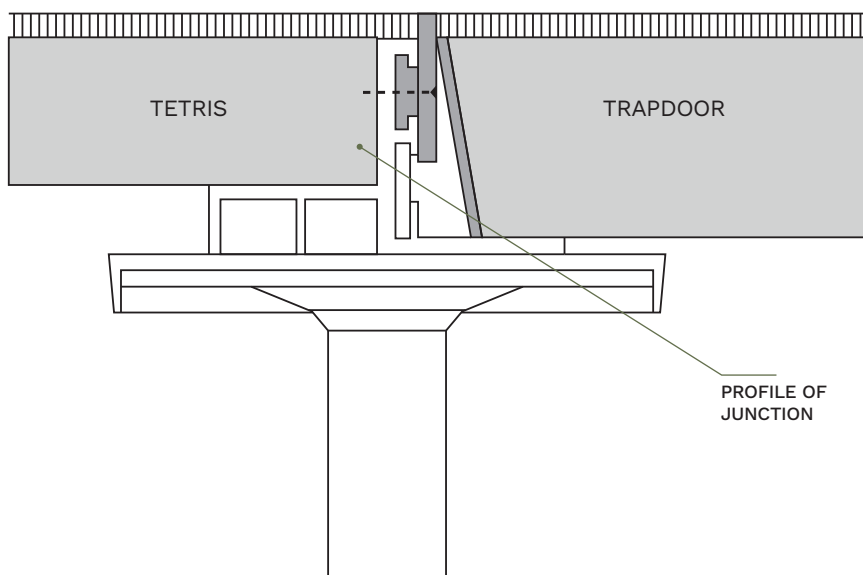


Fig 3. Insertion trapdoor scheme

▶ RAMP TYPE INTERNAL AND EXTERNAL

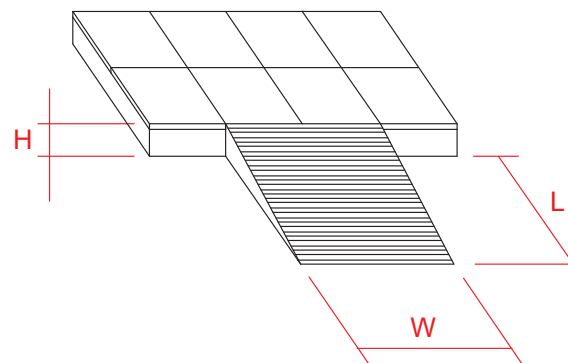
A ramp can be inside or outside the floor. It is made up of a tilted surface with a standard non-slip “one hundred groove” black rubber lining and an underlying steel frame. Usually, the ramp connects the offset between the fixed and floating floors. However, in some cases the ramp can be used to connect two zones with floating floors of different heights. The gradient is regulated by local laws and according to the space available, and therefore according to customer specifications.

For an internal ramp, once the position where the ramp is to be installed is set, panels must be cut to create the housing compartment. A stop is then placed against the edge of the panel that acts as a side riser and secured to the screed with dowel screws and common metal corner brackets, the height of which is proportionate to the stop. The metallic frame is then secured on the back of the ramp.

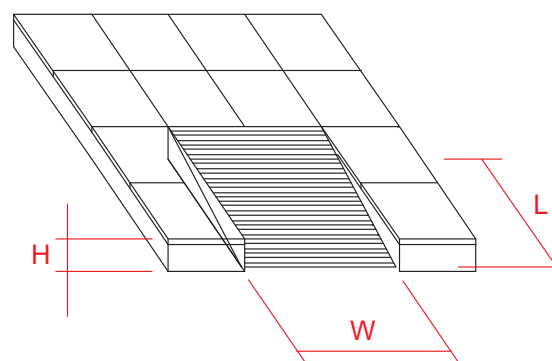
The assembled ramp is then inserted in the previously created compartment with the lateral side stops. It is then height-adjusted using the threaded frame feet and secured to the stops with wooden screws inserted under the floor. Alternatively, it can be anchored to the floor with dowel screws (internal ramp).

It is best to check the efficiency of the brackets, the cuts and the corner and stop coupling, as well as the screw torque.

For an external ramp, the stops are secured under it, close to the side parts.



External ramp



Internal ramp

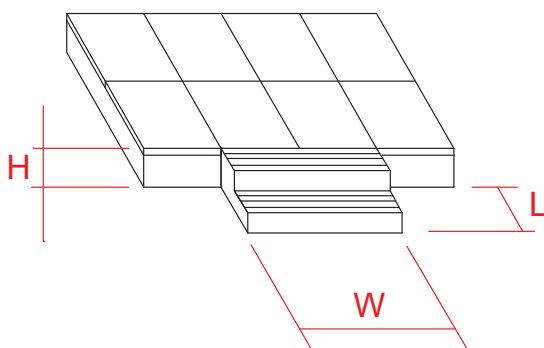
▶ STEP TYPE INTERNAL AND EXTERNAL

Steps can be inside or outside the floating floor. They are used to connect two floors on different levels.

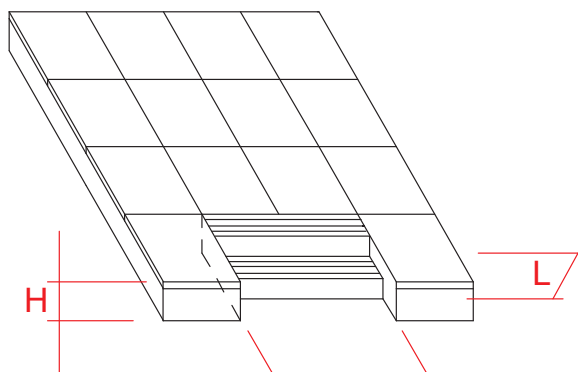
Steps are covered with non-slip “one hundred groove” black rubber lining. Following construction criteria, the step must have a 30cm foot support space (tread) and an average height between treads of 17cm (riser). This data is subject to change according to the height to be exceeded or according to customer requests.

For internal steps, once the position is established, panels must be cut to create the compartment to insert them in the floor. At this point, a stop that acts as a riser against the panel edge is positioned and secured to the screed with dowel screws and common metal corner brackets, the height of which is proportionate to the step.

The step is then rested against the stop and secured from underneath the floor with common wooden screws. The closing stops must be installed at the exact floor height; they are equipped with an aluminium corner guard, to be secured with simple wooden screws on the stop thickness, aesthetically completing it



External steps

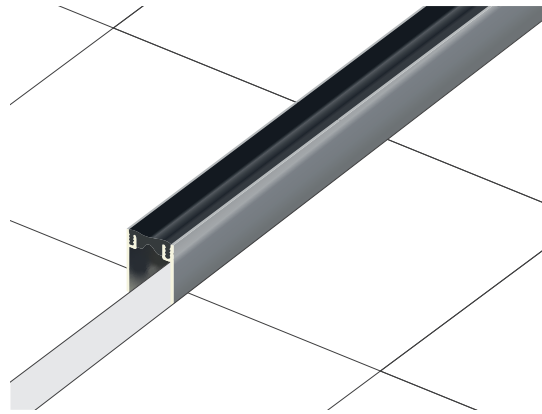


Internal steps

EXPANSION JOINT

In buildings, an expansion joint, which is level with the structural joint, has to be fitted in the floor in order to improve stability.

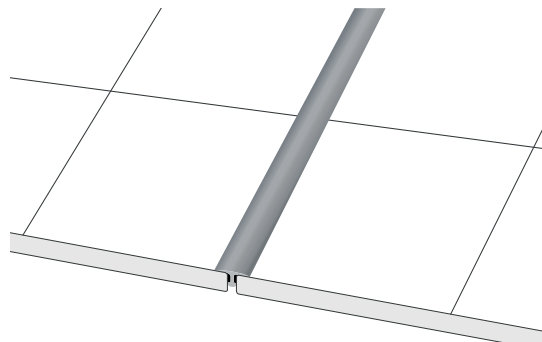
Method of installation: after the floor has been installed, make a cut on the panels perpendicularly to the structural joint and on the access floor structure; the width of the cut should be the same of the shim of the joint to insert. To support the joint and the relative side panels, it is necessary to insert some additional supports placed on the end of the cut panels. Insert the expansion joint in the groove (Fig. 30). Correct operation: in summertime the joint has to fit in a compressed way, while in cold seasons it will just fit.



SEPARATION JOINT

In most cases where there is a differentiation of the floor finish on adjacent rooms at the thresholds, the use of the separation joint or connection profile is recommended.

To install the separation joint, the protection (protective film and/or shrink wrap) must be removed, where present, to safeguard the product finish. Determine the required length and cut the profile to length using a suitable tool. Place the profile, cut to size, in the correct position and fix it to the laying surface using a suitable adhesive (such as PP/96), making sure beforehand that the area where it will be laid is perfectly clean. Apply and maintain, for the time necessary for the adhesive to set, uniform pressure along the entire length of the profile to ensure proper adhesion to the laying surface.



UNDERFLOOR ACOUSTIC SEPTUM

Remove the panels on the line where the septum has to be installed. Cut the septum to the correct height and shape it around the stringers (structure with stringers). Compensate for the height with the adhesive seal, then install again the panels.

Once the raised floor has been installed, remove the panels in the area where the floor slab has to be installed, remove any stringers from the structure and carefully clean and vacuum the slab.

As a first step, proceed with cutting the slab to size. The cut slab must be 3/4 mm lower than the height of the plenum (structure height). When cutting the sandwich slab, it is recommended to use a circular saw for plasterboard and a thermal cutter for polyester fibre.

Before laying the sectioned slab, lay a bead of glue between the slab and the septum (see point 1, figure A), then, once the slab has been laid, apply the adhesive gasket to the top of the slab so that the raised floor panel once in place is in contact with the gasket (see point 2).

If there are crosspieces, the septum must be shaped and then, once positioned, the gaps between the panel and crosspiece must be filled with suitable foam.

For better sealing, it is advisable to place a bead of glue also between the joints of adjoining slabs (see point 3).

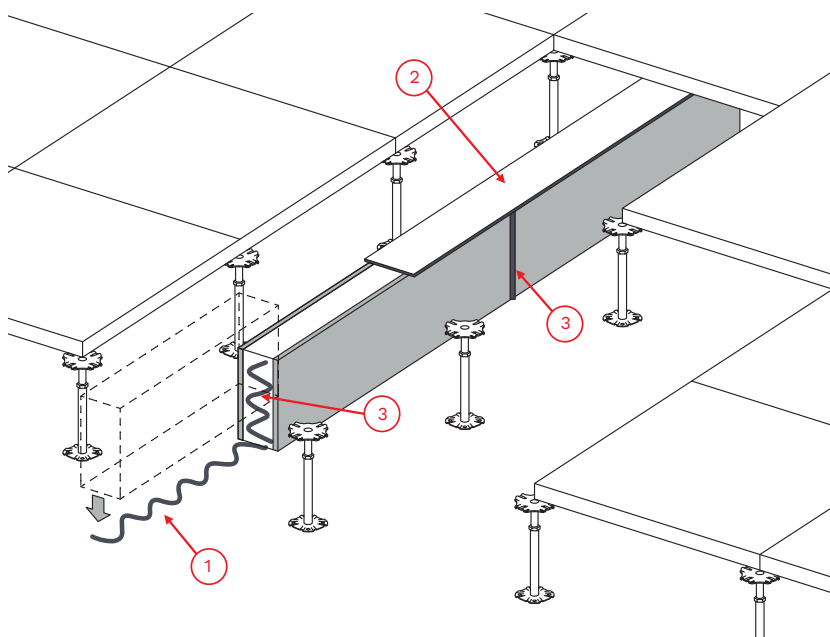


Fig. A

UNDERFLOOR PARTITION

Remove the panels on the line where the stone wool septum has to be installed. Cut the septum to the right height and shape it around the stringers (structure with stringers). Compensate the height with the adhesive gasket, then reinstall the panels.

Once the raised floor has been installed, remove the panels in the area where the floor slab has to be installed, remove any stringers from the structure and carefully clean and vacuum the slab. As a first step, proceed with cutting the slab to size.

The cut slab must be the same height as the plenum (structure height). For cutting the sandwich slab, it is recommended to use a circular saw for plasterboard and a thermal cutter for polyester fibre.

Before laying the sectioned slab, lay a bead of adhesive between the slab and the septum (see point 1, figure A), then, once the slab has been laid, apply the adhesive seal also on the upper part of the slab, so that the raised floor seal panel once in place is in contact with the seal (see point 2).

If there are crosspieces, the septum must be shaped and then, once positioned, the gaps between the panel and the crosspiece must be filled with suitable foam.

For better sealing, it is advisable to place aluminium adhesive tape between the joints of adjoining slabs (see point 3).

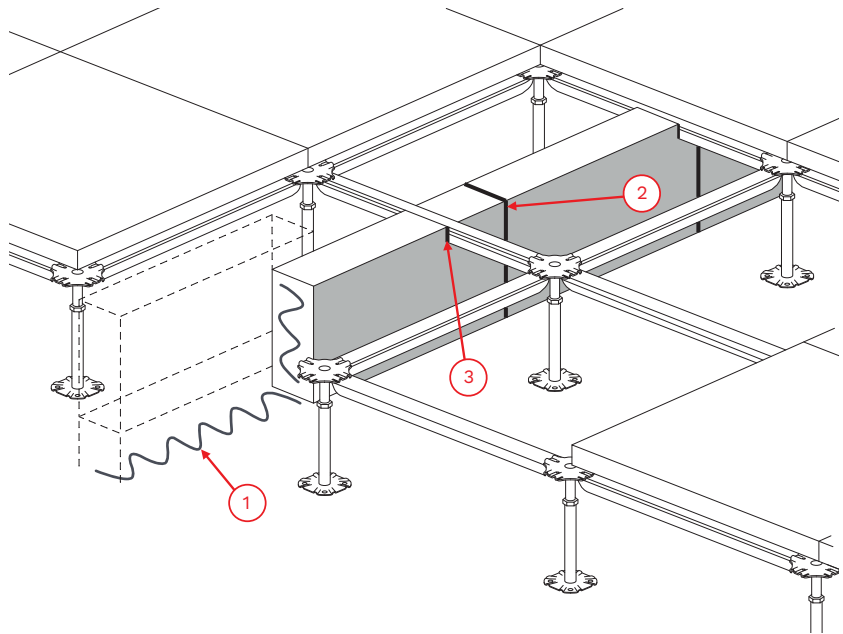


Fig. B



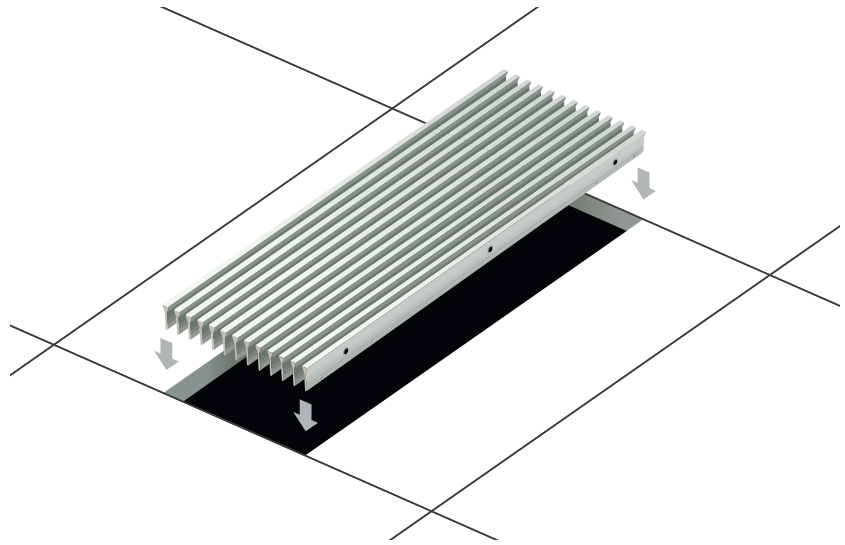
▾ AERATION GRIDS

In rooms with under floor plenum, it can be used for air conditioning distribution. For the diffusion of air in the environments various types of grids are available, with different airflows according to the needs. They can be fully integrated in the floor ensuring modularity and flexibility of the solution.

Extra accessories for adjustment or partialization of the air flow included in the Schneider Electric solution, can be integrated in the grid itself.

The grille is only suitable for installation in the case of a structure with M- or H-type stringers.

Linear gratings must be installed using the MPH structure.

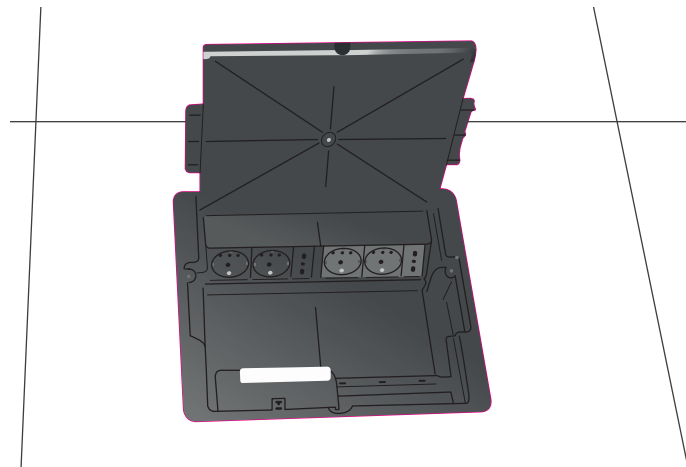


▶ ELECTRICAL ACCESSORIES

When wires or various systems must be passed from the under-floor plenum to the part over the floating floor, specific accessories that allow for the passage of these systems are used to minimize air loss. These are accessories that can be installed directly on site but that require the host panels to be cut. If pre-cut panels were not ordered, this work must be completed during installation.

In the case of the Twin Floor panel, cutting must be carried out by water jet and the use of additional supports is recommended in order to guarantee the same performance as the inner panel.

Note: please remember that it is best to cut all floor elements in a room other than the one that houses the installation, to prevent the creation of dust and processing scrap.



Once each single room installation is completed, the floor must be generally cleaned of dust and work scraps before protective surfaces or linings, if foreseen, are applied and before other work or system interventions are performed.

↘ CRITERIA OF ACCEPTANCE

During the conformity inspection of the work acceptance it is good to refer to objective guidelines.

Furthermore, the occurrence of subsequent accidental facts after acceptance of conformity, such as damages resulting from processes on the unprotected surface, handling of loads exceeding the expected capacity load, extreme temperature and humidity conditions, flooding, access to the floor by panels removal, wrong cleaning of the finishing and the panels, from which the decay of the conformity compliance criteria follows, especially integrity, alignment, flatness and sealing, they are not attributable to the product itself or the installation.

The main aspects to be verified are:

- integrity of the finishing;
- tonality and color uniformity of the finished floor;
- finish floor height (FFH);
- panels flatness and correct levelling between them;
- alignment and squareness of panels and joints;
- stability and correct installation of the panels on the structure;
- perimeter containing and finishing;
- compression between adjacent panels;
- correct application of the design requirements about the attenuation of airborne and impact noise;
- correct application of the design requirements about the plenum air containment under the floor;
- check the electrical properties of the floor.

In order to certify the inspection, a standard form can be filled out with the items listed above and all main data. Below is an example of this form.

↘ PROTECTION

The finished floor inspected by the customer must be kept free of damage due to other work later performed on its surface.

The most common protections are:

- single protection: layer of nylon or non-woven fabric film to protect the surface from simple footprints, dust and light.
- double protection: layer of non-woven fabric film and additional layer of chipboard panels to protect the surface from heavy-duty workloads.
- catwalks: wooden guides positioned over the non-woven fabric to distribute heavy loads transported with wheeled trolleys.

Only when the work is complete can the protection be removed and the floor surface further roughly cleaned, taking care to remove any residual dust along the edges of the panels using a Hoover, taking care however not to rub the panel covers. With regard to any washing operations, please refer to the use and maintenance data sheets in each panel pack.

Note: there is no protection against floating floor flooding and unsuitable environmental conditions. Therefore, all the instructions regarding the use of liquids and observance of thermal-hygrometric conditions remain applicable, even with protections installed, according to that indicated in the documentation enclosed in original packaging.

➤ MAINTENANCE AND CORRECT USE OF THE ACCESS FLOOR

To avail of the flexibility and accessibility of the floor it is very important to perform a correct maintenance in order to keep it in good conditions through time. Therefore the maintenance operations must be performed in compliance with the following guidelines:

- the opening and reclosing of the raised floor must be performed correctly, avoid breaking the corners and the edges of the panels, raising and lowering vertically the panels by a suitable tool (depending on the upper finishing), without dragging and bumping the panels among them;
- if it is necessary to access to the plenum under the floor it is recommended to remove a minimum number of panels. It is recommended an alternated removal of the panels and as much as possible to avoid removing perimeter ones;
- the removed panels must never be placed directly on the surface of the surrounding panels. It's always advised to interpose a protective layer (cardboard, nylon, etc.) between the surfaces of the panels;
- before repositioning the panels make sure that all structure's gaskets are positioned correctly and there are no fragments or foreign objects on the panel supporting surfaces;
- the load or materials handling on top of the access floor is recommended using a manual traction pallet truck on appropriate boardwalks to distribute the load, being careful not to exceed the maximum allowed loads listed on product specifications.
- for any modification of the floor, it is recommended to contact specialized operators. Anyway, the specific instructions provided by the manufacturer must be respected.

DISASSEMBLING AND DISPOSAL THE RAISED FLOOR



In the case of dismantling an existing raised floor, you will need to:

- Remove the panels, place them on pallets and pack them;
- Disassemble the structure, place it in the appropriate boxes, separating metal parts from plastic ones.

The disinstalled raised floor will be made available to the customer who will arrange for its reuse or disposal.

If reuse is not possible and disposal is required, any disused flooring and packaging must not be disposed of in the environment but must be disposed of in accordance with current regulations: for Italy, in accordance with Legislative Decree 152/06 “Environmental regulations” and subsequent amendments/additions, for abroad, in accordance with the directives: 91/156/EEC (waste), 91/689/EEC (hazardous waste), 94/62/EC (packaging) and subsequent amendments/additions.

Individual products may be taken to controlled landfills in accordance with national and/or local regulations by companies specialized in the sector. Nesite will provide the safety data sheets for individual components that will allow the identification of the specific CER code for disposal.





NOTE



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NOTE



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