

## **RUBBER FLOORINGS LAYING INSTRUCTION**

## Index

<b>Introduction</b>	3
<b>Substrates</b>	4
a) Cement screeds	4
Heating screed	5
b) Existing floors	5
c) Special screeds	5
Controls and requirements of substrates	5
• Levelling	5
• Moisture	5
• Cohesion	5
• Cracks	5
 <b>Installation of rubber flooring</b>	6
Introduction	6
Smoothing	6
Receipt and storage of the flooring	6
 <b>Installation of rubber flooring</b>	6
Laying floors with adhesive	6
Preliminary conditions for laying	6
Resilient floor adhesives	6
<b>Floorings in Rolls</b>	8
Initial preparation for adhesive laying	8
Adhesive laying	9
<b>Floorings in Tiles</b>	11
Initial preparation for adhesive laying	11
Adhesive laying	12
Sealing of rubber flooring	13
Heat sealing	13
Cold sealing	14
<b>Dissipative flooring laying (VHP)</b>	15
General information	15
Type of adhesive	15
Electrical grounding	15
Laying operations	15
Testing	15
Site conditions	16
<b>Laying of loose lay flooring EASYWAY/AP</b>	16
Substrates	16
Laying	16
Notes	17
<b>Installation of cement bonding flooring</b>	18
Substrates	18
Smoothing underlayment	18
Cement laying	18
Precautions	18

## **Introduction**

The performance of Remp Techno rubber flooring depends on a number of factors such as the choice of the product, the preparation of subfloors, the installation and the correct maintenance.

This technical information manual is intended as a guide to all parties involved in the process in order to get the best possible results.

Our Technical Assistance is at your disposal for more analytic data and suggestions when choosing the floor.

The information in this handbook are valid when printed out.

We reserve the right to modify the quality standards without notice.

## Substrates

The first pre-condition to get a good, durable and reliable installation of any resilient flooring is connected to the characteristics of the substrate which is prepared by the main contractor and must be checked by the specialised flooring layer before beginning the installation. This is why we hereby try to give a few basic principles about the substrate.

The most common substrates are:

- a) Cement screeds;
- b) Existing floors;
- c) Special substrates.

### a) Cement screeds

The cement screed is the base supplied by the main contractor.

It should be supplied hard, solid, shock-resistant, free from cracks, with a minimum thickness of 4 cm, dry and clean.

As far as the cement screed is concerned, we suggest the use of at least 350 kg/m<sup>3</sup> of Portland 325 with proper aggregate, clean river sand and a water/cement ratio as low as possible considering the workability of the mix.

In case hydraulic and heating systems have to be incorporated, it is necessary to insulate the tubing, and to cast a cement screed with a minimum thickness of 6 cm, reinforced with a welded metal grid to avoid cracks and shrinkage.

Resilient floorings require the substrate to be dry either at the time of the installation and during their entire life. The maximum content of moisture allowed (by weight) is 2%.

This is why screeds which are direct to earth need to be properly ventilated and to have an effective damp proof membrane incorporated within them and continuous with the walls.

The surface of the screed must be solid and dense but not impervious cause in this case it will have to be ground or blasted to allow receiving the smoothing underlayment.

The mechanical resistance of the screed is of paramount importance since resilient flooring are not providing protection from concentrated loads.

Expansion joints are to be incorporated into buildings to allow movement without cracking and they have to be extended through the floor covering.

In general it is advised and economically irrelevant to lay a polyethylene sheet between the structural base and the screed to act as a damp proof membrane and to limit the water absorption of the base thus allowing a low water/cement ratio for the screed.

A particular case that deserves some operational indications is that of:

### Heating screed

The screeds made with underfloor heating systems must be strictly "conditioned", by turning on the system itself, according to a precise testing procedure, before laying any type of floor.

This operation has the purpose of making the final operating conditions of the product reach, allowing any corrective actions (elimination of injuries, deformations, etc.) that may be necessary.

The testing of the work must comply with the following rules:

1. The system must be put into operation not before 28 days have elapsed from the casting.
2. The temperature must be increased by 5 °C per day, until reaching the maximum liquid delivery temperature of the system.
3. Keep the maximum temperature of the system uninterrupted for at least 3 days
4. Reduce the temperature by 5 °C the day, until the room temperature is reached.

5. Heating must be switched off before laying the floors.  
Shaving of the laying surface must be started 24 hours after switching off the system, which can be switched on again 24 hours after installation.

**b) Existing floors**

The types most frequently found in renovations are paved with grit, ceramic, natural stones and cement tiles. Any undocked elements must be removed and the resulting difference in height must be filled with smoothing mortars.

In the presence of waxes, it should be washed with caustic soda, thoroughly rinsed with clean water, apply a primer to avoid their re-emergence.

For other types of flooring, contact Remp Techno Technical Assistance.

Greases, oils and paints must however be eliminated by mechanical processes that remove the impregnated thickness.

**c) Special screeds**

For special substrates (metal, asphalt blades, anhydrite screeds etc.) contact Remp Techno Technical Assistance.

**Controls and requirements of substrates:**

Whatever the substrate is made of, the flooring layer has to check it carefully and to ask the main contractor to undertake the actions required to correct the detected defects.

- Levelling

Uneven surfaces or differences in level between areas will certainly require smoothing underlayment and or repair to be carried out;

- Moisture

Residual moisture must be checked with a calcium carbide hygrometer and must be below 2% without suspects of future hydrostatic pressure;

- Cohesion

After cleaning the substrate, the surface should not be easily scratchable with a metal point (such as a nail) and all contamination which could impair the effectiveness of the adhesive shall be removed;

- Cracks

Any crack existing on the substrate shall be repaired before starting the smoothing underlayment. When cracks are going through the thickness, the screed has to be removed and cast once again.

**In case the above mentioned basic requirements are not satisfied the installer should refuse to install.**

## **Installation of rubber flooring**

### **Introduction**

The task of specialized installation companies is to choose the most suitable procedure for the perfect success of the installation of a specific floor in relation to site conditions and taking care to use good quality labor.

### **Smoothing**

In order to reduce cavities, height differences, excessive roughness of the screed and in any case to make the gluing surface homogeneous, it is always necessary to perform shaving.

Clean the surface of the substrate thoroughly before shaving.

Shaving products can be found on the market in the form of premixed powders.

Applied in thicknesses of a few millimeters on the substrate by means of spatulas or scraper, they allow in one or more passes to obtain a surface suitable for gluing. However, follow the manufacturer's instructions.

After 24 hours from the laying of the shaving, the surface must be sanded to eliminate small residual roughness and clean perfectly with the use of a vacuum cleaner.

### **Receipt and storage of the flooring**

Good installation begins with proper storage of the floors.

- Check that the floor received is not damaged and that it corresponds to the quality, quantity and color ordered.
- For plate formats do not overlap more than two pallets or more than 150 plates;
- For rolls formats do not stack pallets and store rolls vertically;
- The floor should be allowed to acclimatize in the room of destination for at least 48 hours before laying.

## **Installation**

### **Laying floors with adhesive**

The floors suitable for laying with adhesive are marked by a frosted back.

The installation with adhesive connection is the most widespread installation method and guarantees valid technical characteristics together with a remarkable installation speed.

### **Preliminary conditions for laying**

- Room temperature not lower than 18 ° C and not higher than 30 ° C.
- Humidity in the air no more than 75%;
- Substrate suitable for laying the flooring;
- Residual humidity in the substrate not more than 2% permanently.

### **Resilient floor adhesives**

Before describing the bonding, we consider it appropriate to give some hints about the most common types of adhesives and their typical uses. However, references to the choice, preparation and use of adhesives, the experience of the specialized installation company and the technical sheets and instructions of the manufacturers of the adhesives used are still indispensable and unique.

Depending on the conditions and characteristics of the areas to be covered, different types of adhesives can be used:

**Acrylic adhesives in water dispersion**

They consist of an acrylic polymer diluted in water, harden by evaporation and absorption of the water they contain; therefore they need porous supports. Only suitable for interiors, on cementitious substrates or in any case absorbent, subject to medium and light traffic and for applications where water is not widely used.

**Two-component epoxy adhesives**

They consist of an epoxy polymer (part A) which crosslinks when mixed with a catalyst (part B), harden by a chemical reaction between the two components. Suitable for indoor and outdoor use, on substrates subject to medium and heavy traffic.

**Two-component polyurethane adhesives**

They consist of a polyurethane polymer (part A) which crosslinks when mixed with a catalyst (part B) to harden by chemical reaction between the two components. Suitable for interiors and exteriors, on various types of substrates subject to heavy traffic. A conductive version is also available for laying dissipative floors.

**Polychloroprene, based on synthetic rubber (neoprenic)**

They consist of neoprene dispersed with solvents and harden by the solvent evaporation or absorption through porous materials.

For the rapid setting that characterizes this type of glue (which must be coated on both surfaces to be glued), they are suitable for laying accessories (skirting boards, covering steps etc.). Usually the conductive version is also commercially available and it is also realized by some of the most important producers a version that uses water instead of the solvent.

**Use of adhesives**

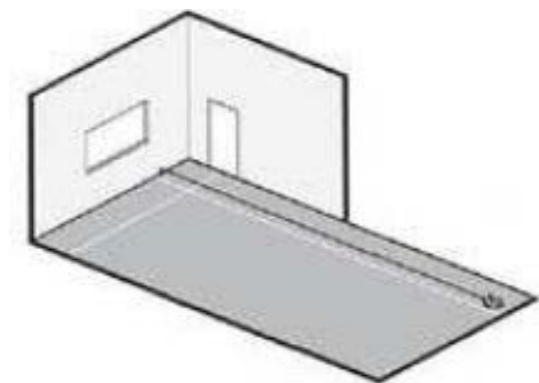
For the preparation and application of the various adhesives, carefully follow the manufacturers' instructions.

The application of the adhesive should be done by spreading it in a regular way, using toothed spatulas following the indications of the adhesive manufacturers. In general, in the case of low-thickness floors, it is preferable to use spatulas with little accentuated toothing to prevent the adhesive from being visible after the adhesive has set.

The toothed spatulas must be replaced as soon as the toothing starts to wear out.

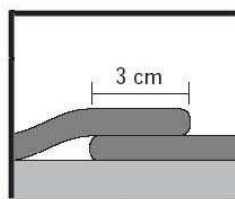
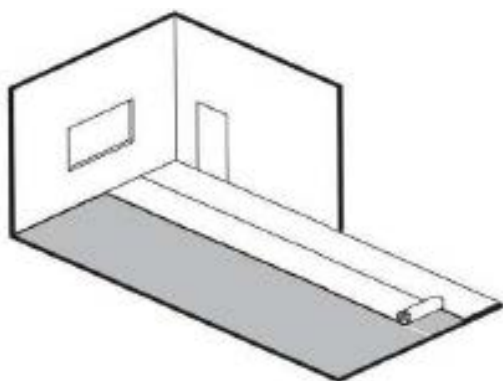
## Floorings in rolls

### Initial preparation for adhesive laying



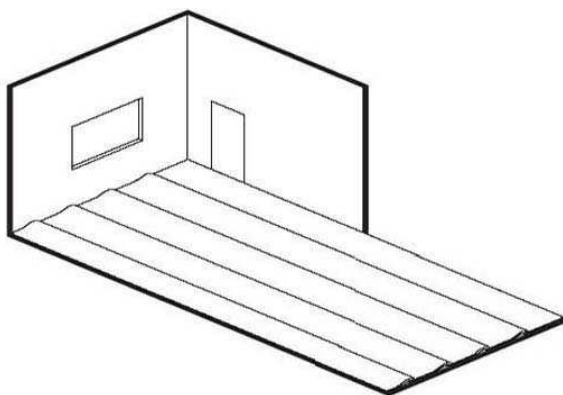
**1 )**

Measure the room and mark the centrelines, planning the laying in a way to reduce cuts and scraps.



**2 )**

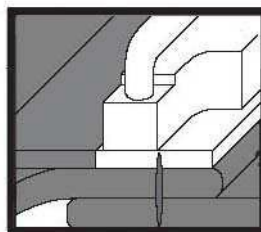
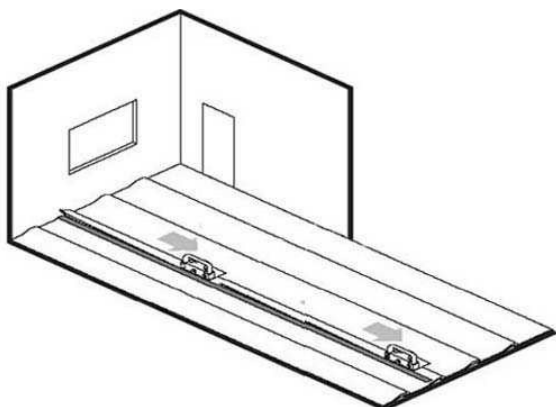
Loose lay the rolls (without adhesive) following the marked lines. Rolls must be laid with 3,0 cm overlap along the adjoining edges. Check the uniformity of colour and the absence of defects.



**3 )**

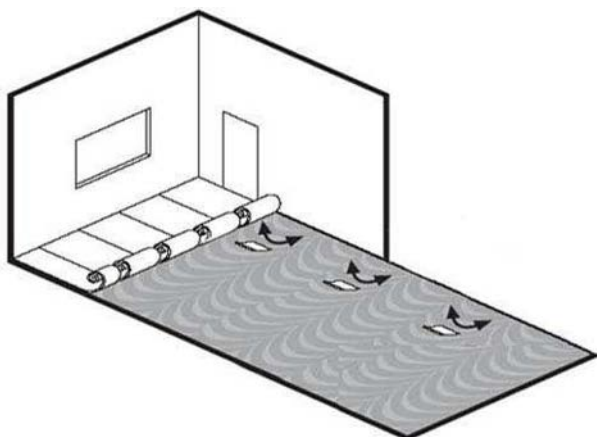
The loose laying is very important to check the colour uniformity and the absence of defects of the flooring. All claims will be accepted only if the flooring is not yet permanently bonded.



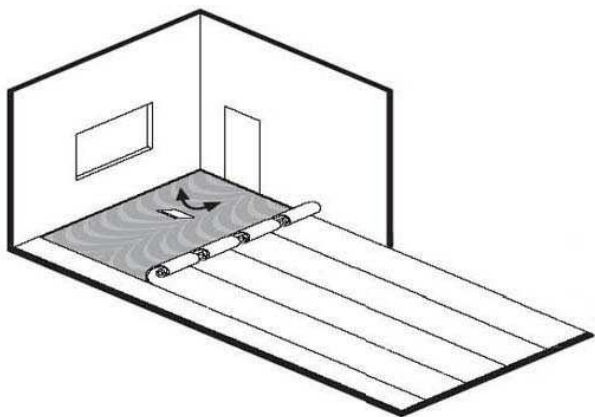


- 4)  
 Make head cuts and overlapped edges (the use of guides and trimmers is always recommended and allows a better laying quality).

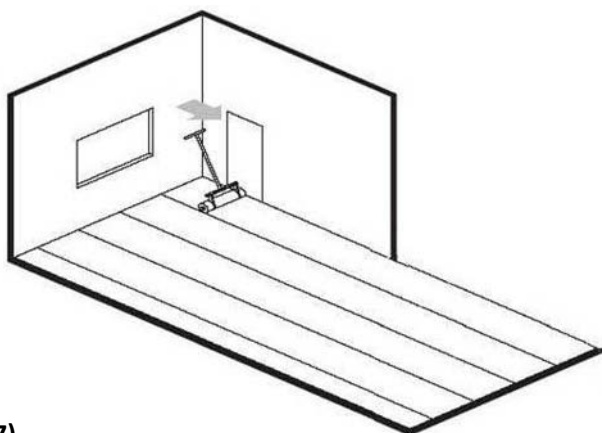
### Adhesive laying



- 1)  
 Fold back the sheet to just over half its length. Spread the adhesive using a notched trowel. Once the adhesive is ready to accept the flooring, roll the sheet back into place, taking care not to twist the roll or to trap air bubbles, which will eventually have to be expelled through massaging.

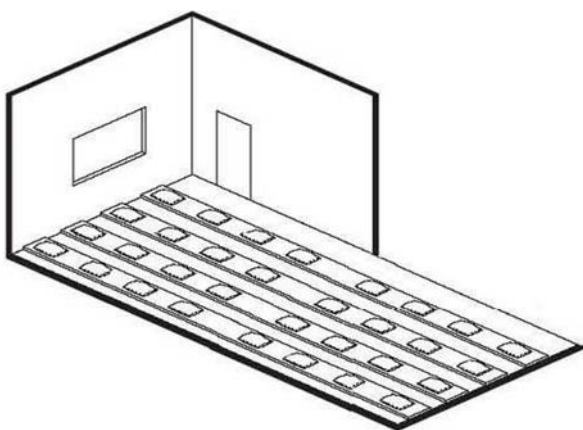


- 2)  
 Repeat the operation on the other half of the roll.



7)

After the laying, the use of a floor roller is recommended to ensure a perfect contact with the substrate.



8)

If glues with long or medium-long setting times are used, place the weights on the joints.

**Notes:**

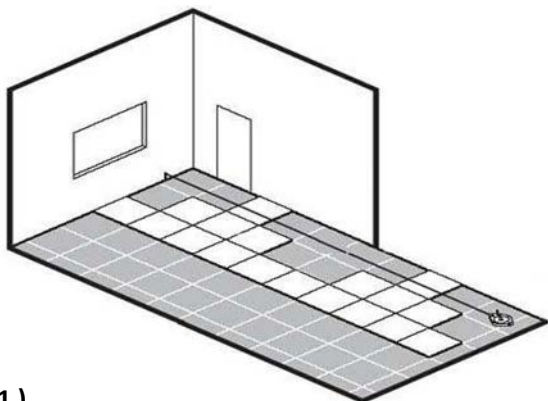
The traces of glue must be eliminated when the glue is still fresh, using a damp cloth and mild detergent on acrylic glues and a cloth moistened with alcohol on polyurethane and epoxy glues. Avoid, during installation, to rest hands, elbows or knees on the floor just pasted to prevent the formation of impressions, and not to pass on the floor laid before 24 hours.

After installation, cleaning the floor will allow the validity of the work performed to be verified.

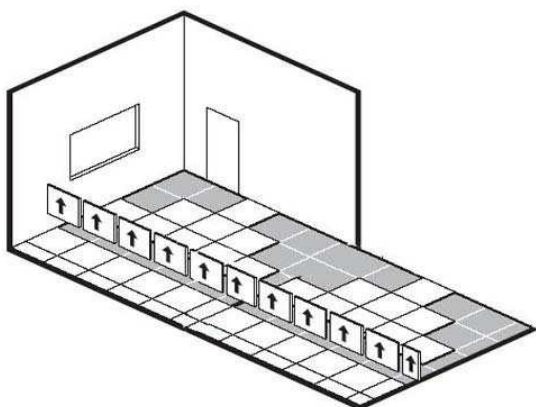
**It is essential to provide for the protection of the covering with cardboard or polythene sheets to avoid any damage due to subsequent processing.**

## Floorings in tiles

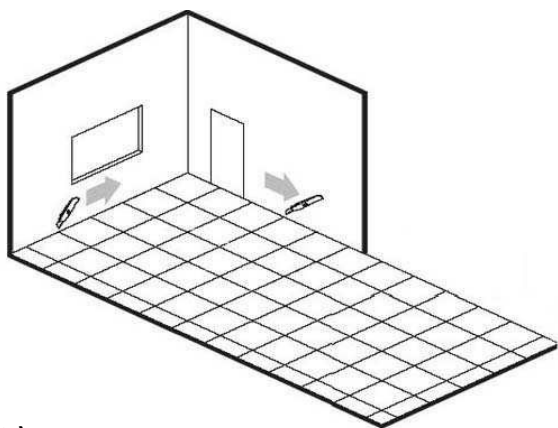
### Initial preparation for adhesive laying



- 1 )  
Measure the room and mark the centrelines planning the laying in a way to reduce cuts and scraps.

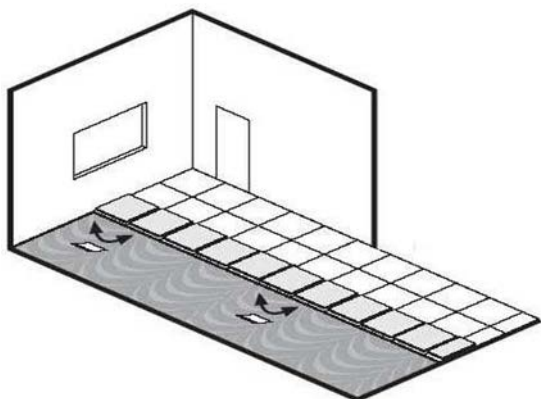


- 2 )  
Loose lay the tiles (without adhesive) starting along the centrelines and following the arrows printed on the back of the tiles taking special care to the alignment of joints and/or pattern.



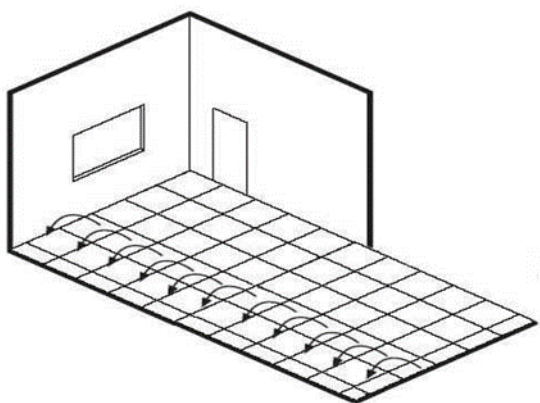
- 3 )  
Check the uniformity of colour and the absence of defects. The perimeter tiles will require to be trimmed off to be ready for bonding.

## Adhesive laying



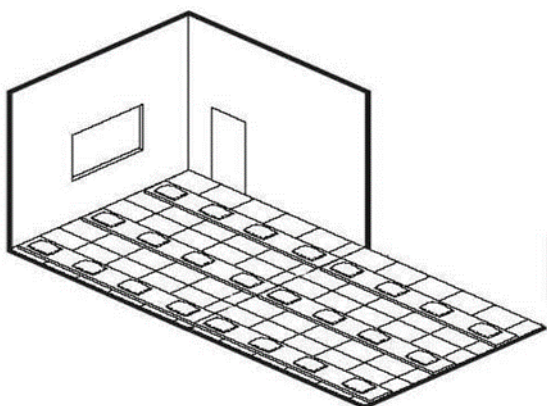
**1 )**

Tilt one row of tiles at a time; spread the adhesive with notched trowel recommended by the manufacturer.



**2 )**

Rimettere le piastrelle nella precedente posizione per l'incollaggio. Massaggiare per eliminare eventuali bolle d'aria e zone non perfettamente a contatto con il sottofondo.



**3 )**

Pay close attention to the combinations, to the level between the tiles, to the alignments of the joints and stamps (for relief floors). If glues with long or medium-long setting times are used, place the weights on the joints.

## Sealing of rubber flooring

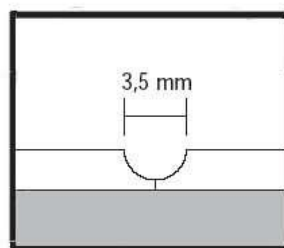
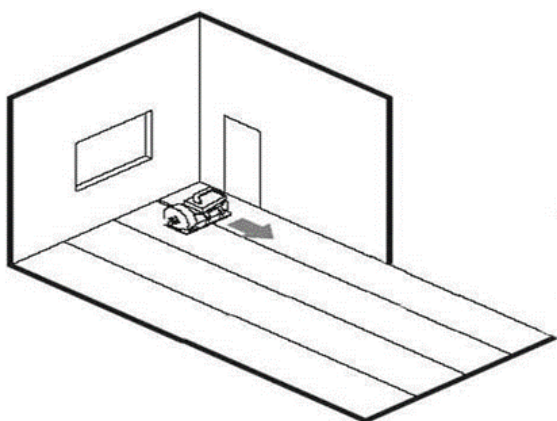
Thanks to their dimensional stability, Remp Techno rubber flooring do not need sealing.

Nevertheless, they can be sealed (either hot or cold sealing can be performed) when it is required, in order to grant high standards of hygiene in applications such as hospitals, food or pharmaceutical industry where wet sterilisation could be performed.

To prevent accumulation of dirt and bacteria into seams the self-coving of the floor to the wall can be carried out by inserting a cove forming profile below the flooring.

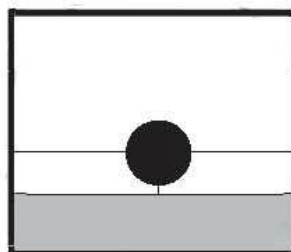
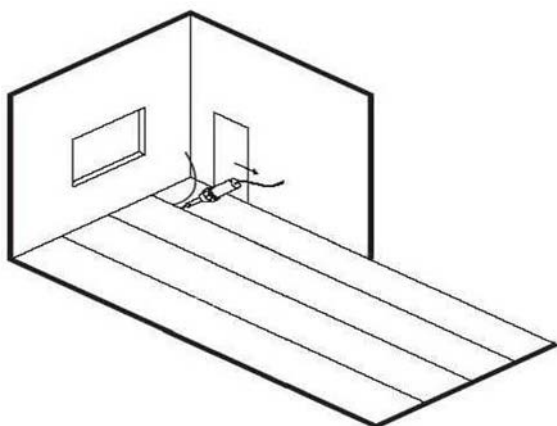
## Heat sealing

In this case we use a special curb with a diameter of about 3.8 mm which, heated by a jet of hot air, will melt in the joint. Refer to the instructions below.



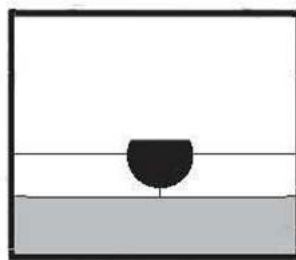
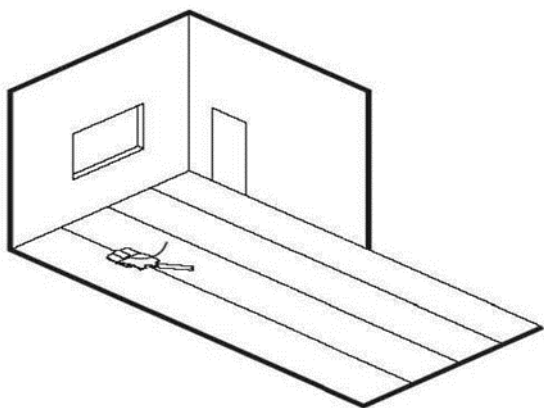
### 1 )

With a grooving tool (manual or powered), create a groove along the joints of tiles or rolls. The groove shall be cut to a depth of 2/3 of the flooring thickness (to a maximum of 2 mm) and a width of about 3.5 mm. Sweep accurately to remove any dust or trimmings from the groove. When laying, DOTFLOOR N/SEL, **the groove shall not affect the underlayer.**



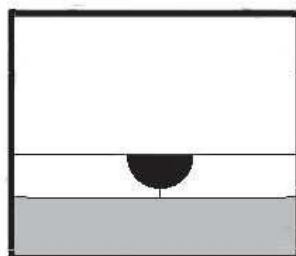
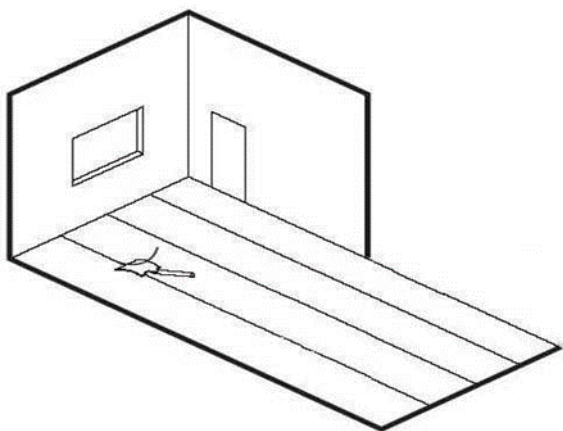
2)

Place the sealing rod into the speedweld aperture, press the rod down into the groove and proceed at the right speed keeping the speedweld toe parallel to the rubber surface.



3)

With the knife fitted with the slide, remove the first part of excess bead, possibly by heating the knife blade with the hot air from the welder.



4)

After allowing the curb to cool, trim the remaining part using the knife without the sled and being careful not to damage the surface of the floor. **Attention: the color of the curb cannot be exactly equal to that of the floor.**

### Cold sealing

Sometimes, as in the case of floors with raised surfaces or in areas that are difficult to reach, the knife trimming of the curb cannot be carried out and it will therefore be necessary to use a resin instead of the curb which will be placed in the joint with a gun. Dosing machine and which will harden by sealing it. Request detailed instructions from Remp Techno Technical Assistance.

## **Dissipative flooring laying**

### **General informations**

Floors with particular electrical characteristics may be required for environments such as operating rooms, data processing centers, production areas, maintenance, storage or handling of electronic components (from microchips to mobile phones and computers) and in any case in environments that need protection from electrostatic charges (ESD).

This type of flooring is distinguished in the Remp range as VHP and complies with the most important international standards.

It is however of fundamental importance to know in detail the requests of the customer with reference to the specific standards.

For details on screed preparation and shaving, refer to the previous points.

### **Type of adhesive**

Rolls and tiles should be laid preferably with a two-component conductive polyurethane adhesive. If a conductive acrylic adhesive is used, the hot welding of the joints is strongly recommended.

Copper strips are usually available with a self-adhesive side.

### **Electrical grounding**

The use of a conductive adhesive allows the equalization of the electrostatic potential which must then be eliminated towards the ground.

To this end, we recommend setting up a copper strip (10 x 0.08 mm) in each room / area so as to form a maximum 12 x 12 m mesh, both in the case of plates and sheets.

However, the copper strip should always be laid to follow the perimeter of the room (about 20 cm from the wall). One end of the strip must be connected to a ground connection point every 100 square meters maximum, to ensure the drainage of electrostatic charges.

It is recommended that an electrician be connected to the earth connection in accordance with safety regulations.

### **Laying operations**

When the subfloor is ready for laying (dry, smooth and cleaned of dust and debris), the grid that the copper strip will have to follow will be traced and it will begin to be laid by removing the adhesive backing on the back. It is advisable to press the strap firmly in place and to carefully smooth it with your foot or a rag. Spread the conductive adhesive with the appropriate spatula according to the manufacturer's instructions. For laying, follow the same instructions as in the previous points for standard floors. The joints must be sealed if there is a need to obtain high levels of hygiene or where maintenance operations are carried out with massive presence of water and in any case wherever it is chosen to use a conductive acrylic adhesive. Protect the floor after installation with cardboard or polythene sheets, so as to avoid damage to the surface during furniture assembly and any other subsequent operations.

### **Electrical tests**

After installation the floors must be swept and / or passed with a vacuum cleaner to remove any residues on the surface and then washed with water and neutral detergent.

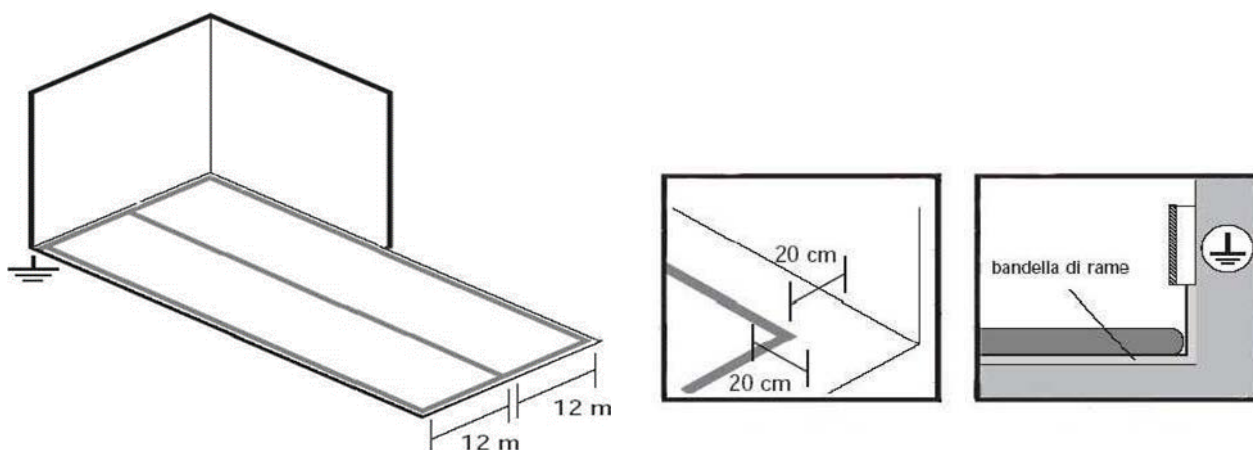
The tests must be performed no less than 24 hours after the end of the laying and cleaning.

We recommend carrying out resistance tests to ground and between two adjacent sections for every 5-10 square meters.



### Ambient conditions

A temperature not lower than 18 ° C and not higher than 30 ° C is required for the acclimatization of the material and during laying. In particular for the VHP versions the material must be stored in the place where it will be laid for at least 48 hours before laying.



### Laying of loose lay flooring EASYWAY / AP

The loose-lay flooring are made with a particular production technology that ensures exceptional dimensional stability characteristics, allows the installation of the floors without the need for permanent bonding. These floors, distinguished by the abbreviation EASYWAY / AP in the Remp range, can in fact be laid using adhesives with permanent stickiness (or antiskid), which have the function of preventing the plates from slipping on the substrate while still allowing the lifting and subsequent repositioning of the plates if it was necessary.

### Substrates

Thanks to their characteristics, these floors allow the installation on multiple types of support such as cement screeds, raised floors and existing floors without the laying technique differing substantially. The substrates must meet the valid characteristics for laying with adhesive, with a greater possibility in relation to residual humidity which can reach 5%.

The most common undercoat in the application of loose-lay floors is made of raised floors for which, regardless of the type of panel chosen (chipboard, calcium sulphate, fiber-cement or other) it is recommended that they are in any case envisaged as bases for self-laying flooring and as such they are supplied directly by the manufacturer with anti-dust primer rather than with aluminum films.

### Laying

- The installation must be carried out by specialized installers;
- Store the material (floor and adhesives) in the destination room at least 48 hours before laying;
- The ambient temperature during installation must not be lower than 18 ° C and higher than 30 ° C.

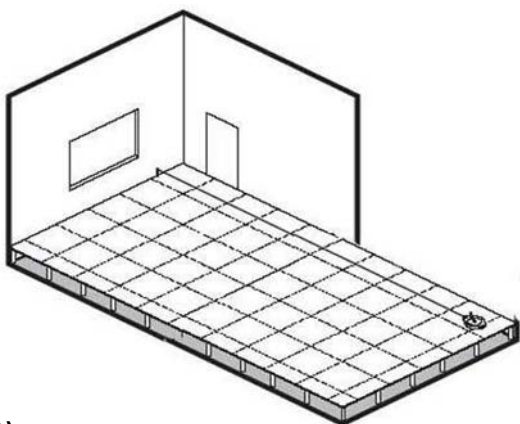
### Note

To obtain the performances for which they were designed it is important to properly evaluate the drying times of antiskid glue.

The joints of the tiles must be offset with respect to those of the underlying raised panel.

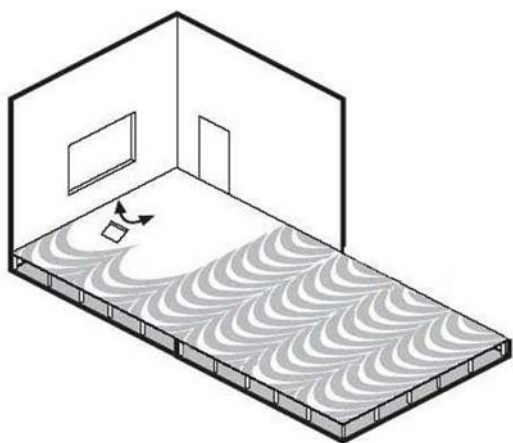
The amount of adhesive to be used varies according to the manufacturer's requirements, but it is advisable to use as little as possible since an excess of glue can only be counterproductive.





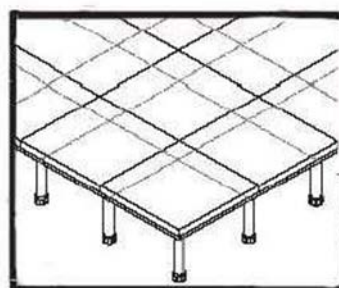
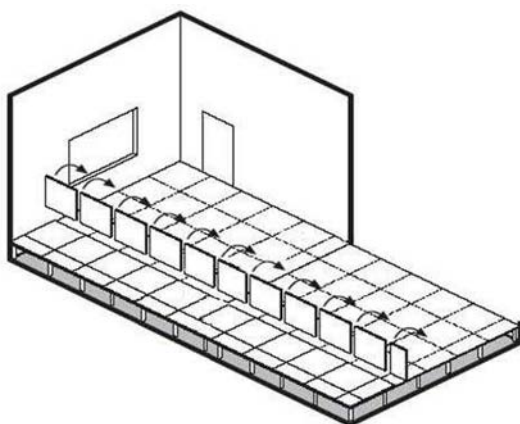
1)

Trace the orthogonal squaring lines of the room and set the laying to limit scraps and cuts defining the starting lines.



2)

Apply the permanent tackiness adhesive with “n°2” Mapei notched trowel (however according to the manufacturer's instructions); let the adhesive dry until the surface of the adhesive appears dry to the touch.



3)

Position the tiles starting from the marked starting lines and complete with the perimeter and detail cuts.

## **Installation of cement bonding flooring**

The use of cement bonding flooring is advised when the substrate is affected by residual moisture or subject to very heavy traffic and in particular:

- Screeds direct to earth;
- Underground street crossings or similar;
- Outdoor walkways;
- Garages.

The cement bonding floor, thanks to its dove-tail backing creates, in fact, a mechanical bonding to the subfloor.

### **Substrates**

The usual subfloor for this products is a slab of concrete properly reinforced with metal grids.

As far as the cement screed is concerned, we suggest the use of at least 350 kg/m<sup>3</sup> of Portland 325 with proper aggregate, clean river sand and a water/cement ratio as low as possible allowing the workability of the mix.

The laying operations should start within 15 days after the concrete has been cast, when the curing is not yet completed.

On pre-existing screeds, it is necessary to clean the surface and wash abundantly avoiding water stagnation before starting with the laying..

### **Smoothing underlayment**

If the support is not sufficiently smooth it will be necessary to level it with a mixture of cement type 325 and fine sand (2:1 ratio), to be spread with a metal trowel..

### **Cement laying**

Skilled staff should carry out the laying of rubber flooring, only.

When a quick drying of the cement is requested, it is possible to replace the compound cement/sand with quick-setting cement adhesives (drying times of about 24 hours).

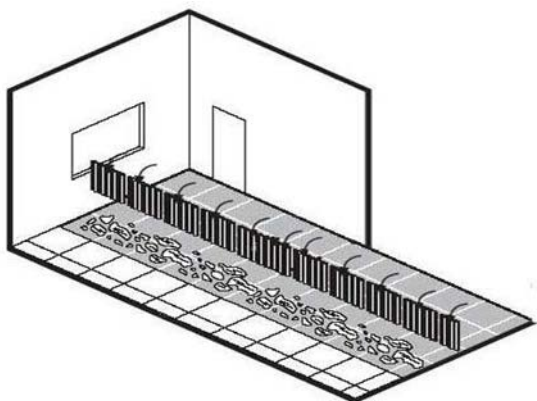
### **Precautions**

After laying each row of tiles it is necessary to clean the surface with a sponge to remove the exceeding mortar; when carrying out this operation, excess water is to be avoided on the surface of the tiles.

During laying operations, the flooring should be protected from sun rays, since strong thermal expansions could break the mechanical bondage of the cement when not yet completed. Damp sawdust left on the surface of the tiles could help to protect them from sun exposure.

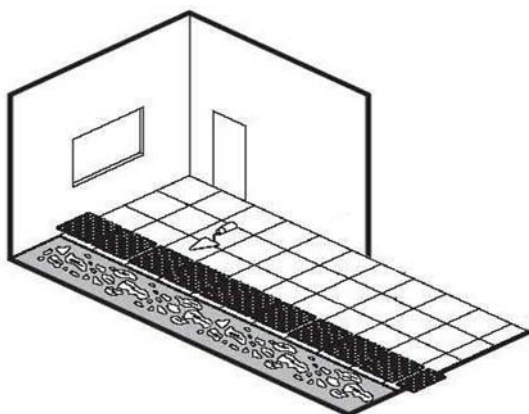
After 48 hours from laying, clean the flooring with a vertical bristle mechanical monobrush and sawdust.

The flooring can be walked over (light traffic) only after 4 days and 10 days at least must be allowed for heavy traffic.



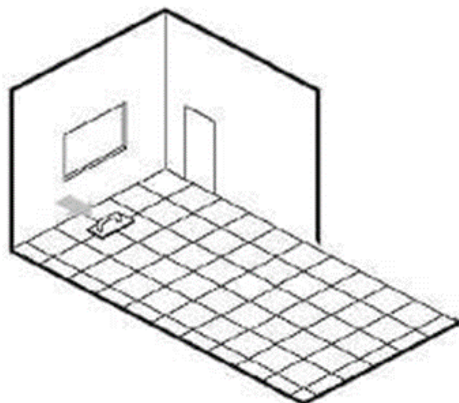
1)

Dampen the surface to be covered well. Spread the floor dry taking care of the alignment of joints and reliefs and checking the possible differences in the color tone.



2)

Turn over the first row of plates. Properly fill all the cavities present on the upside-down plate with a mixture of 325 cement plus sand (2: 1 ratio) and water, dosed to obtain the right degree of density: this is to prevent the mortar from running off when positioning the plates.



3)

Prepare a liquid cement grout 325 and water and spread it on the screed. Apply the rubber plates in their right place, turning them upside down, settling them with a trowel. Pass over and beat on the surface to eliminate any air intrusions between the plate and the screed and allow the excess grout to escape.