

FLOOR COVERINGS INSTALLATION AND MAINTENANCE INSTRUCTIONS



I. BASE SURFACE PREPARATION

The condition and preparation of the base surface has great influence on the eventual life and aesthetics of Lentex® PVC floor covering.

The following indicates what should be examined in order to assess the condition of the base and determine proper preparation.

Properly prepared bases, on which floor covering will be installed, should be:

- 1 Even** – to establish this, scaled wedges are used and levelling rules of 1 or 2 meter lengths (vertical difference cannot exceed 2 mm). This procedure will help determine how much levelling compound will be required.



Calibrated wedge

- 2 Dry** – the humidity of the base must be determined especially when installing PVC floor covering. This is obtained through the use of a CM hygrometer. Below are indicated maximum permissible humidity levels for various jointless floors.

Type of jointless floor	Max. Permissible Humidity
Cement	< 2,0 CM - %
Cement with floor heating	< 1,8 CM - %
Slag-sulfate	< 0,5 CM - %
Slag-sulfate with floor heating	< 0,3 CM - %
Magnesia	< 3-12 CM - %
Fast-setting cement (acceptable values 24 hours after pouring)	< 2,0 CM - % < 4,0 CM - %



CM hygrometer

- 3 Clean and dustless** – in the case where it is determined that the base is dirty and/or uneven; the surface should be levelled using a one-disk surface grinder. It should be remembered that spots after paint, oil, tar, etc. may stain the installed PVC floor covering. The cleaned surface should be vacuumed by a high efficiency industrial cleaner.



Disc pad grinder with vacuum system

- 4 Appropriate strength** – depending on the eventual use of the area where PVC floor covering will be installed, the hardness of the sub-floor should be determined. This is done by applying the 'RIRI Scratch Test'. If the surface resists scratching, the sub-floor is considered acceptable.

- 5 Unscratched and not cracked** – technological expansion joints and cracks in the base should be located, filled and sealed. This does not apply to expansion joints. Moving parts of the sub-floor should be clamped, filled with epoxy resin and covered with quartz sand. Correctly done repairs will insure stability of the surface and prevent damage to new flooring.



Base surface hardness tester

- 6 Appropriate climatic conditions** in the room should be insured: the measurement of sub-floor humidity has direct impact on proper installation of elastic floor covering.

	Minimum requirements	Ideal conditions
Room temperature	Approx. 18°C	Approx. 20°C
Base temperature	> 15°C	Approx. 18°C
Relative humidity	< 75%	Approx. 55%

Under no condition should installation be started when one of the above conditions does meet the mentioned requirements. Exceeding these conditions may cause irreversible surface changes which can then result in permanent damage to new floor covering.

7 Priming and pouring levelling compounds: After carrying out required repairs, base-priming can proceed. Depending on the type of base (absorbent, non-absorbent) the correct type of primer is chosen. The purpose of priming is to stabilize any dust on the installation surface and improve adhesion. Primer is applied with a roller.

After appropriate setting time for the primer is observed, levelling compound is then poured. Levelling compound is chosen with regard to anticipated live loads. Thickness of levelling compound should exceed 2 mm.

Levelling compounds should not be prepared by mixers exceeding 600 rpm which may cause excessive aeration of the compound. After pouring, the compound is spread on the sub-floor with a float or trowel and vented with special roller (with spikes).

Installation of PVC floor covering can proceed after all preparatory work has been completed: base repairs, pouring and grinding of levelling compound (to remove cement wash).

II. FLOOR COVERINGS INSTALLATION

Before initiating installation of new floor covering, serial numbers should be checked to avoid colour variation. Use consistent materials for each new floor area.

The floor covering should be acclimate 'on site' for at least 24 hours before installation (min. temperature: 17°C). The flooring can then be cut to size after this acclimation.

Required climatic conditions for installation of floor covering

<i>Base temperature</i>	15 – 22 °C
<i>Air temperature</i>	17 – 25 °C
<i>Maximum relative humidity</i>	75%

If the conditions are appropriate, design pattern and sizing of the floor covering can begin keeping in mind that the length of the floor covering sheet should exceed the length of the area to be covered. On adjacent walls of the area to be covered, the height of the skirting board (usually 10 cm) is marked. If the width of the area to be covered is wider than the width of the floor covering sheet, a line is drawn on the prepared base where the join will be facilitating fitting adjacent floor covering sheet and adequate spreading of adhesive. Half of the flooring sheet is re-rolled to the half mark of the area to be floored and adhesive application can begin.

Gluing the floor covering

Adhesive is spread according to specifications in the area marked earlier. The manufacturer of the adhesive recommends the appropriate toothed trowel size (A1, A2, A3, A4, A5) on the packaging.

In the case of gluing new floor covering to the base, dispersive (based on water solvent) adhesive should be used. Regarding skirting boards, contact adhesive should be used, applying adhesive to new flooring and wall area as well.

After initial setting of adhesive (usually approximately 15 minutes), the floor covering is pressed down and then rolled out with the help of a roller (min. weight – 50 kg), trapped air is forced out width-wise, and then length-wise. Repeat this gluing procedure for the remaining half sheet.

Regarding turning down the floor covering on the wall, before gluing, the floor covering must be heated with an electric heater and pressed down with a pressure roll, taking care that the floor covering sticks correctly to the base and the wall. Interior corners are fitted on one wall at a 45° angle (we avoid cutting and joining where two walls meet).

Joining at an exterior corner is accomplished by laying back the floor covering and cutting at a 45° angle from the point where the base meets the floor covering and laying the excess onto the other side. The missing triangle of the skirting board is supplied from surplus material; in order to fit it well the back-side of the triangle is grooved with a hand groover, and then trimmed for a perfect fit of the wedges.

After fitting and trimming, glue the PVC skirting to the wall with contact adhesive.

'Welding' the various parts of the new floor covering together takes place after 24 hours of curing.

Hot welding

The first task before welding is milling the floor covering.

The floor covering is milled to 2/3 of its thickness. Proper and professional milling influences the appearance of the bonds. This milling can be done using appropriate hand or mechanical milling machines.

After milling, heat welding can proceed. Heat bonding, using either manual or automatic heat welder, depends on injecting melted PVC welding cord into the milled joints of the two butting edges under heat. Lentex recommends welding cord produced by Polmar which is carefully matched to Lentex floor covering with regard to technical and colour parameters.

The next step concerns shaving off excess cord material and takes place in two phases. First, excess material is shaved with the help of a spatula knife (see photo), and second, after the seam has cooled. Shaving the seam too quickly may cause breaks in the seam during the cooling phase.

Cold welding

Cold welding is generally used in residential applications and complicated patterns. Two types of glue are recognized in this process – Type ‘A’ and ‘C’. Type ‘A’ is used for precisely cut floor covering. It is applied with the use of a metal needle which enables to insert the welding medium precisely into the joint. Type ‘C’ glue is used where slots between sheets of floor covering do not exceed 4 mm width.

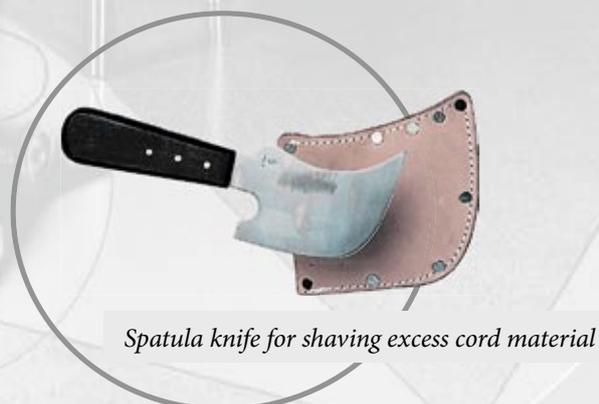
One of the benefits of cold welding is the long life of the joint and impossibility of water penetration under floor covering which may cause the PVC floor covering to crease.



Hot welding



Milling the floor covering



Spatula knife for shaving excess cord material

III. CONSERVATION AND MAINTENANCE OF PVC FLOOR COVERINGS

Why is there a need for professional cleaning?

The purpose of cleaning is to maintain cleanliness and avoid bacteria and insect growth. Clean and aesthetic surroundings influence morale in the work place and create a positive image of the firm or institution. Besides cleaning, other procedures are applied to conserve the floor surface and area which insure against excessive wear.

In places exposed to public use, as well as work areas, where there is higher traffic, there is a need to implement a different technique than used in residential cleaning. This creates a need for effective equipment which insures efficient cleaning.

Furthermore, there is a necessity for chemical agents enabling removal of residue as well as making the surface resistant to future residues.

These chemical agents usually take the form of concentrates earmarked for specific use and are easy to utilize since they are mixed with cold water. Care is exercised when called for by the instructions, especially when the agents can cause allergic reaction or have caustic action (appropriately marked).

The joining of appropriate technique, equipment and agents combine to form what may be called 'professional cleaning'.

Fundamental concepts and terminology in the process of 'professional cleaning':

- **Cleaning machine** – a machine for daily use which scrubs and gathers fluids used on water-resistant floor covering. This machine is utilized on large areas as well as hallways. It can be supplied with brushes or circular pads.
- **Disc scrubber** – a single disc machine having 140 – 300 rpm with interchangeable discs used for scrubbing and polishing. It can be equipped with a pad or brush.
- **Wet/Dry vacuum** – a necessary machine for primary cleaning. It is designed for mopping up a water solution of stripper.
- **Stripper** – strong chemical agent (basic) used for removing stubborn residues. When used for the first time, it should be 'tried-out' on a test surface.
- **Pad** – artificial fibres pressed into flat circular mats. Colour determines their hardness and aggressiveness. The darker colour the more aggressive and harder is the pad. Hard pads (sapphire, black, brown) are used for cleaning thoroughly, middle hard pads (blue, red) – for current cleaning, soft pads (white, peach) - for polishing.
- **Mop** – manual implement made of natural or artificial fibre used for washing, sweeping, dusting or spreading.

Attention – Always wash the mop before first use to remove any protector chemicals. Not washed it may not function well!

- **Intervention cleaning** – when an unanticipated demand for cleaning occurs which cannot wait for scheduled cleaning (spills, etc.).
- **Daily cleaning** – type of cleaning which utilizes mild solutions which have washing/conservation properties.
- **Regular cleaning** – cleaning which occurs generally once a week and uses solutions of greater strength than those used for daily cleaning. Strippers are not used.
- **Primary (or final) cleaning** – occasional (depending on need) cleaning which may include aggressive scouring of all areas (especially after completion of floor covering installation). Strippers are used as well as high-concentration solutions.

Why does the floor take-up so much time in the cleaning process?

- It is a surface impacted daily by footwear, which carry dirt usually in the form of fine sand.
- Experience indicates that 60 – 70% of resources for cleaning pertain to floors.
- Floors are expensive to replace. Replacement of floor covering is also time consuming – stripping out old floor covering, removal of glue residues, grinding, etc.
- Clean and well maintained floors are not only safer but also give good impressions to those entering the premises.

What should be done to maintain a well preserved floor?

Regularly clean the exterior areas of the premises



Install appropriate mats outside and at the entrance



Regularly dust (vacuum) floors and then wash manually or mechanically



Remove any grime or spots quickly



Every so often strip the polish and apply new polish – conservation

What is appropriate floor care? How is it done? What should be used?

- Remove grime – sweep the floor especially with a dust mop. Traditional brooms raise dust which then resettles on the floor, walls and ceiling.

Important! Some areas cannot be swept, e.g. hospitals. Patient wards and examination rooms are cleaned with damp mops or simply washed.

- Scrub the floors every so often (2 – 12 times a year, depending on need), using a disc scrubber with a pad, dispensing cleaning solution with dispenser or ‘Kentucky’ mop. The stripper should work for about 15 minutes and then scrubbing should take place.
- Vacuum the results.
- Rinse the floor with clean water and scrub with disc scrubber to remove any remaining stripper.
- Let floor dry.
- Apply new, full strength wax polymer to dry floor. Apply 2 to 3 thin coats with 30 minute intervals between coats with flat mop.



Cleaning machine



Wet/dry vacuum cleaner



Single Disc Scrubber

Proper care and condition of floors – primary procedures

Intervention (spot) cleaning

The soiled area of the floor is cleaned with a cleaning agent or simply wiped clean.

- In the event that a cleaning agent is used, clean water is used to rinse out any trace of agent.
- The area is then wiped over with a damp mop to facilitate quick drying.

Daily cleaning

- All furniture which may hinder cleaning should be removed.
- The floor is then dusted with an acrylic dust mop and collected dirt removed.
 - When damp mopping ceramic tile, a mop with 'micro phasing' is used. In the case of PVC floor covering or linoleum, a mop, soft brush or 'Kentucky' mop is used.
 - When washing floor covering, the 'two bucket system' is used. Washing solution is in the lower blue bucket (8 litres of water plus any cleaning concentrate). The other bucket (below the wringer) is used for rinsing the mop. There should be enough water in this bucket to effectively rinse the mop. Water from the wringer is also caught in this upper bucket.
- The mop is dunked into the washing solution and wrung out.
 - Each dunking and wringing should service 10 – 30 m². If conditions require, frequency of dunking is increased.
 - The dirty mop is then dunked into the rinse bucket and wrung; then returned to the washing solution, dunked and wrung again.
 - Upon completion, the washing solution is saved, the rinse water disposed of, the rinse bucket and wringer rinsed.
 - The mop is also carefully rinsed and if necessary, washed. It is then hung to dry (do not spread out on a radiator).

Periodic cleaning (depending on floor conditions, occurs 1 – 4 times a month)

- Procedure is the same as for daily cleaning with the exception that the washing solution contains 'washing-conse-rving' concentrate.

Primary cleaning (depending on floor conditions, 2 – 12 times per year)

- Area to be cleaned must be cleared of all furniture as stripper may damage their finish.
- It is advisable to divide large areas into sectors using convenient marker, e.g. tape.
- Mix stripper solution according to need; the more grime, the stronger the solution.
- Evenly apply stripper solution to floor area with appropriate implement taking care to avoid contact with skin. Let set for 15 minutes.
- The disc scrubber with standard pad (blue) and dosage tank is then used adding stripper solution if required. If grime appears resistant, exchange for red pad and eventually purple pad.
- After completing said sector, the stripper solution (with grime) is vacuumed with the wet/dry vacuum cleaner.
- The sector is then rinsed with cold, clean water and mopped up with the above equipment.
- The floor is left to dry. Afterwards full strength wax polymer is applied in two to three thin layers allowing each layer to dry 30 minutes. A flat mop is used. The density of the finish can be increased by the use of a high speed buffer. The buffed surface will not be slippery.

Recommended cleaning and conservation concentrates

Product	Packaging	Cleaning Method	Mixing Dosage	Consumption in ml/m ²	Area Cleaned
Copex		Primary	1–3 l per 8 l cold water	90 ml	
1 litre					120 m ²
10 litres					260 m ²
	Project delivery			40 ml	
Torvan concentrate		1 step wet wash	25 ml per 8 l cold water	0,08 ml	
1 litre					12 500 m ²
10 litres					125 000 m ²
Procur koncentrat		Wet wash	25 ml per 8 l cold water	0,12 ml	
1 litre					8 330 m ²
10 litres					83 330 m ²
Trend		Conservation	1/1	12,5 ml	800 m ²
10 litres		Polish	Concentrate	25 ml	400 m ²

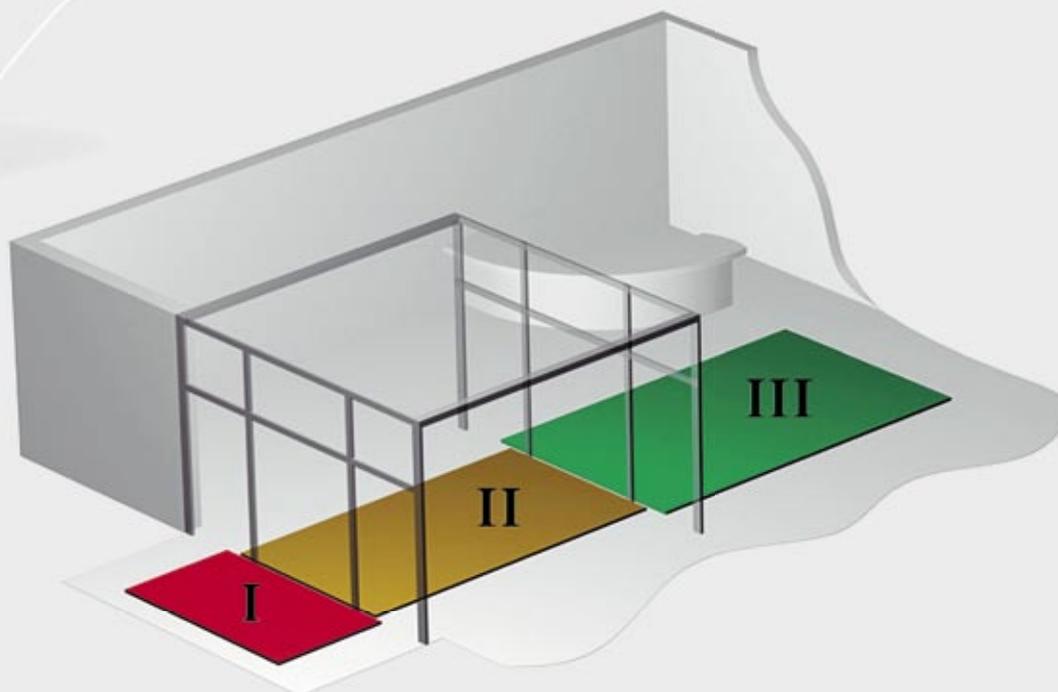
In the event that the PVC floor covering is spotted, it is recommended to remove the spot as soon as possible using the following cleaning agents and the white or red pad for the disc scrubber. After washing, rinse with clean water.

Type of spot	Recommended treatment
Fruit, blue berries, milk, cream, beer, beverages, sparkling beverages	Neutral detergent, trace of ammonia
Carbon paper, printer tape, India ink, ball point pen ink, lipstick	Turpentine or methyl alcohol
Chocolate, coffee, tea, tar, grease, oil, shoe polish	Neutral detergent or kerosene. Green polishing disc may be used
Blood	Cold water with ammonia
Rust	Neutral detergent with oxalic acid
Chewing gum	Freezing agent or cold water. After cooling, carefully scrap off with knife or spatula
Cigarette burns	Scrap off with knife or spatula, or use red scrubbing disc. Then polish with white disc
Traces of floor covering adhesive	Special cleaner or thinner. Carefully remove using cotton cloth

IV. ENTRANCE AREA

The entrance to the premises should be equipped with appropriate floor mats to insure long-life for PVC floor covering. These mats minimize the amount of dirt and moisture that people carry into a building or office.

Because sand has a high value of harness, it aggravates the wear of floor covering and as such, all efforts should be made to insure this grit remains outside the premises. To this end, it is recommended to use three types of mats for three entrance zones.



Zone 1 – Before the entrance

Mats of galvanized steel grids, rubber-aluminium or rubber. Mounted in a drained and recessed shallow well.

Zone 2 – Entranceway

Mats made of aluminium profiles mounted flush with floor finished according to traffic needs, i.e. volume and type of grime anticipated (brush strips, notched rubber, aluminium combs, plastic profiles).

Zone 3 – Office/building interior

Mats made of aluminium profile mounted flush with floor finished with relatively soft cleaning elements such as nitrile rubber carpet, PVC, polypropylene or polyamide carpets.

Correctly chosen mats guarantee:

- Extensive floor covering life.
- Better safety by eliminating slippery surfaces.
- Lower cleaning costs.
- Proper presentation of office or building.



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Year printed, 2005