

Oct 2020

INSTALLATION METHODOLOGY OF LUXURY VINYL TILES & PLANKS

GENERAL ADVICE

The final appearance and durability of any Luxury Vinyl Tile or Plank installation depend largely on the condition of the surface upon which it is laid. A little time and effort spent on the proper preparation of the sub-floor will often be repaid in terms of an installation of which all concerned can feel proud.

LVT/P's require a smooth, hard, clean, sound and level surface, not only for appearance but also for achieving a satisfactory adhesive bond and long-term durability. The sub-floor should be swept or preferably vacuumed, to remove all dust and dirt. (Always brush the sweepings away from the area onto which the flooring is to be laid).

It is important to remove any traces or patches of oil, grease or any oil-based paint from the sub-floor surface. This can be done using either paint strippers or degreasing compounds. Once clean the sub-floor must be thoroughly washed to remove any stripper or residue and then allowed to dry thoroughly.

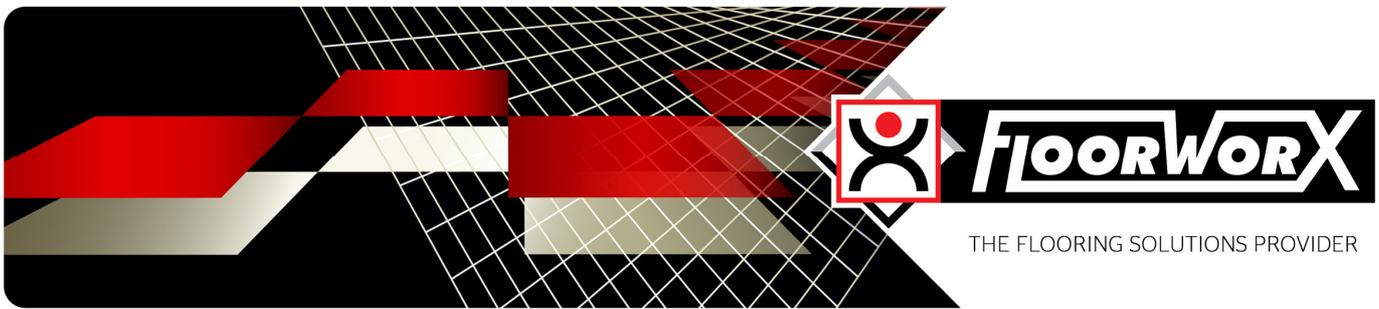
Occasionally, the floor layer may be expected to install flooring on a bonded or floating wooden floor, or a metal sub-floor. Traditional LVT/P products are very flexible and overlaying these products on any type of existing floor covering is not recommended as any imperfection or undulations will become visible and end up "grinning" through. It also renders the product liable to delamination in the event of the floor covering upon which it is installed failing.

However in the event of these products being overlaid, then it is highly recommended that the soundness and evenness of the subfloor be evaluated from the onset, as any movement or delamination will compromise the installation. In the case of ceramic or porcelain tiles, if the existing tiles are loose, cracked or not adhered to the substrate, the complete area of tiles have to be removed. It is then imperative that the floor is properly prepared with the relevant priming or bonding agent before the application of a reputable self-levelling screed compound. Overlaying LVT/P products is not recommended on Slate, as the product flakes off leaving an uneven surface that will delaminate.

In terms of wooden sub-floors, they must be dry, smooth and firm before the laying of flooring commences. Any surface contaminant, such as wax or paint, must be removed by sanding. Since wooden floors will rot if exposed to excessive moisture, all suspended wooden floors must have adequate cross-ventilation provided by air bricks. The flooring contractor must check that the air space below the floor is properly ventilated by inspecting the air bricks, which should be completely visible, clean and unblocked. If there are no air bricks, or if the air bricks are blocked off, the LVT/P flooring should not be installed. Apart from ensuring a dry, firm clean, surface, the flooring contractor should check that there is no movement of the wooden boards. Any loose boards must be secured to the joists. Damaged boards should be replaced. All protruding nails or screws must be driven flush with the boards. Any small holes or cracks must be filled with a mixture of wood glue and sawdust and allowed to set hard before proceeding with the installation of flooring.

If, after all, preparation, the wooden boards are still springy and move, the wooden sub-floor should be completely covered with sheets of 12mm shutter board (Marine Ply).

(See ***FloorworX Installation methodology of Shutter Boards over Wooden Flooring***).



Under No circumstances should LVT/P floor coverings be installed over **woodblock floors**, as sealing the woodblock surface from the air will cause the woodblocks to rot. Such sealing may also prevent the woodblocks from breathing, causing them to swell and come loose from their adhesive bond, resulting in complete floor failure.

When metal surfaces are encountered, they must be treated to remove all traces of grease and rust. Any embossing, rivets, welds or joints which stand proud need to be smoothed out through grinding. The surface must be swept and preferably vacuumed to remove all loose dust and dirt, and then primed using a suitable metal primer, before the application of FloorworX No 71 Contact Adhesive. The flash-off time of a solvent-based adhesive must be checked before any flooring is laid.

RESPONSIBILITY

The specifier and main contractor shall ensure that the sub-floor is acceptable to receive the LVT/P in respect of levelness, smoothness, soundness, and cleanliness.

The minimum requirement is that the sub-floor is compliant to a Grade 1-floor finish as set out in SANS 10070 Code of Practice: The installation of resilient thermoplastic and similar flexible floor covering materials, in terms of levelness. This optimum floor finish can be achieved by means of a high-quality, reliable, cementitious self-levelling compound, for levelling and smoothing work on interior surfaces.

The flooring contractor shall ensure that the sub-floor is sufficiently dry prior to the installation of the flooring material by testing with a suitably approved Concrete Moisture Meter. (*Tramex CME 4, Caisson / Romus VI-D4 Pinless Concrete Moisture Meter, GE Protimeter Mini or a Hygrometer*).

Laying flooring onto a wet subfloor will not only affect the adhesive but will also cause the flooring to curl and lift.

Concrete floors with a pH of 9 or greater will not be acceptable to install the LVT/P. The subfloor must be brought to a neutral pH level before beginning the installation.

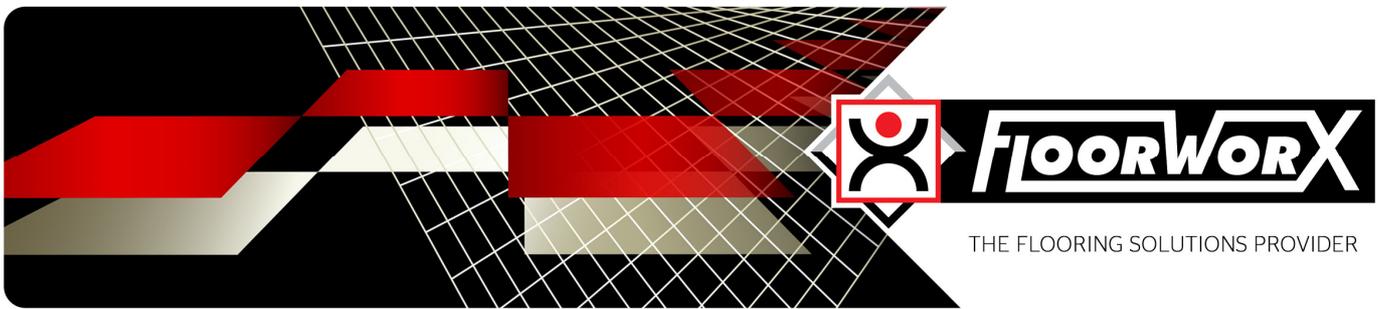
(See ***FloorworX Technical Bulletin No. 30: Moisture in Sub-Floors and Damp-Proof Membranes***).

UNDERFLOOR HEATING

LVT/P's may be installed over underfloor water heated floors providing the maximum surface temperature of the substrate does not exceed 27°C under any condition of use. **If you wish to install over electrically heated floors, contact www.floorworx.co.za.** To enable a secure bond of the adhesive to the substrate, the underfloor heating system should be turned off, or set to the lowest temperature, for a minimum of 48 hours before installation of the LVT/P material. The temperature of the substrate must not exceed 18 °C during the installation of the flooring material. If necessary, an alternate heating source should be used to maintain the room temperature at a minimum of 18°C before, during, and for 72 hours after installation. The temperature of the underfloor heating system can be increased 72 hours following the installation. When raising the floor temperature, do so gradually so the substrate and flooring material can adapt to the temperature change together. A rapid temperature change could result in bonding problems.

APPLICATION

Ensure that all recommendations for substrate and job site conditions are met before beginning the installation.



Beginning the installation is an implied acceptance of site conditions by the parties involved and liability for any failure directly related to inadequate site conditions becomes the responsibility of the installer and/or flooring contractor.

The laying area must be at a steady temperature of minimum 18°C, 48 hours before, during and 48 hours after installation. The material and adhesive should be conditioned in the same environment for at least 24 hours before the installation. Where the floorcoverings have been stored or transported immediately prior to delivery in temperatures below 10°C the acclimatization period should be extended to 48 hours.

The open time of the adhesive will depend on site conditions and porosity of the substrate. It is best practice to conduct an adhesive bond test before starting the installation, as this will assist in identifying both the working characteristics of the adhesive (waiting and working time) for the site conditions and also any potential bonding problems. When the adhesive feels tacky but not wet, the flooring can be laid. Ensure that the flooring is laid into the adhesive before it dries.

Note:-

- If the flooring is laid into the adhesive too early, the volatiles that have not flashed off will be trapped. This will prevent the adhesive from curing and will result in a poor bond. The problem will manifest itself in the peaking or lifting of the flooring.
- If the flooring is laid into the adhesive too late, there will be little or no bond which will result in the flooring lifting. Trowel notch marks will show through the flooring once it has been trafficked.
- Do not install the LVT/P flooring under direct sunlight, or expose the product to direct sunlight for long periods. The sun is a relentless and powerful bleaching agent, and it is therefore important to protect your floor from direct sunlight by using curtains, blinds or similar. In areas such as these, i.e. conservatories, and locations with large exposed windows etc., and where there are wide variations in-ground / ambient temperatures, we also recommend the use of either Contact or 2-component adhesives.
- LVT/P flooring is not adapted for outdoor-installation or rooms without climate control.
- Smouldering cigarettes carelessly discarded on the flooring can cause irreparable surface damage.

MATERIAL

Before installation, the LVT/P's should be checked to ensure that the correct colour, batch number, and quantity have been received and that the material is in good condition.

Only use material from the same batch/dye lot. (The use of different production batches will always result in visible shade differences. The batch number is marked on the material packaging and must be checked before commencement of installation).

ACCLIMATISATION

All areas where the flooring will be installed must have a working heat and air conditioning source operational a minimum of one week prior to installation and remain in operation during and after installation. Conditions should be at the same temperature and humidity level expected during normal use (between 18 and 29°C with a relative humidity no greater than 65%). Ensure substrate, flooring and adhesive are fully acclimated to these conditions for a minimum of 48 hours before installation. For best results remove flooring from the carton and separate into small piles.

ADHESIVE RECOMMENDATIONS AND APPLICATION

LVT/P’s should be laid in FloorworX No 62 water-based acrylic adhesive which has been spread using a trowel fitted with a TKB-A2 notched blade at a rate of approximately 5.5 to 6.0m² per litre (depending on the porosity of the floor), alternatively, Mapei Ultrabond Eco 4LVT solvent-free fibre-reinforced synthetic polymer-based adhesive in water dispersion, spread using a trowel fitted with a TKB-A2 notched blade at a rate of approximately 3.0 to 3.50m² per litre (depending on the porosity of the floor). Alternatively FloorworX No 71 contact adhesive where applicable applied to both the tile/plank and the previously prepared floor using a brush or paint roller at the rate of approximately 3.5m² per litre per single application, including all cutting and waste.

Note the following:-

- Trowels will wear during use, check the trowel both before and during use to ensure that the proper, specified trowel notch is used and maintained.
- The adhesive must be spread evenly over the entire floor area with particular attention to edges – this will ensure that the product is fully bonded at the perimeters.
- Ensure that the material is rolled afterwards with a 68 kg articulated roller, rolling in all directions to ensure a firm bond. It is important to only spread sufficient adhesive that can be covered within the open time of the adhesive.
- Areas that cannot be rolled with the large roller e.g. abutments such as door frames or skirting boards should be rolled with a hand roller or pressed into the adhesive with a rubbing hammer.
- Always clean away excess adhesive with a damp cloth before it is allowed to dry.

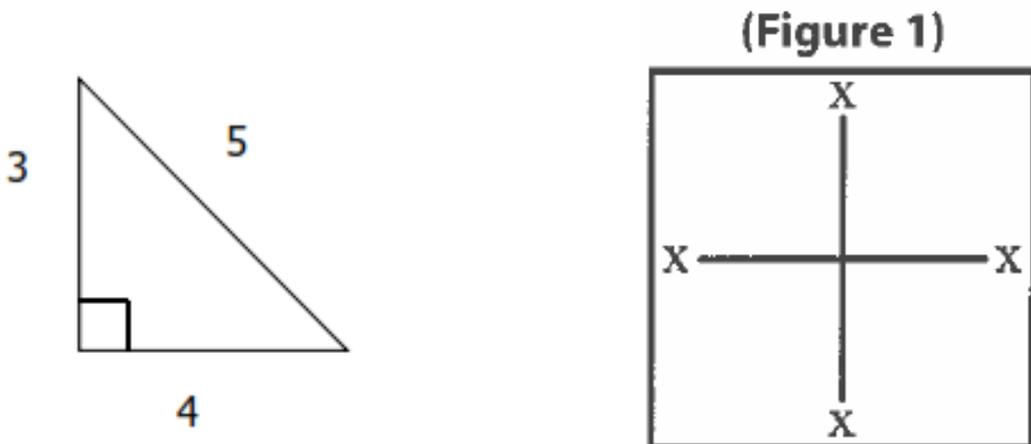
(See **FloorworX Technical Bulletin No. 35: FloorworX Adhesives and their Applications**).

INSTALLATION

Best results are obtained by installing the tile/plank from the centre of the room. Measure and mark at the centre of each wall end. Connect points with a chalk line. Locate the centre and establish a line at a right angle to the existing line.

Verify centre point through the below method:-

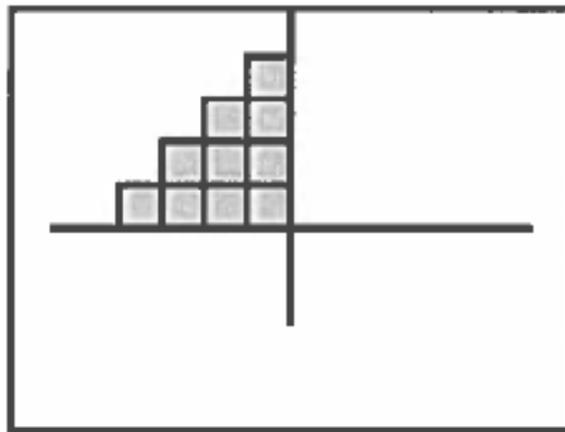
One needs to ensure that the starting point is correct. The 3 - 4 - 5 method must be utilized to ensure that the lines are squared.



(Refer to Figure 1)

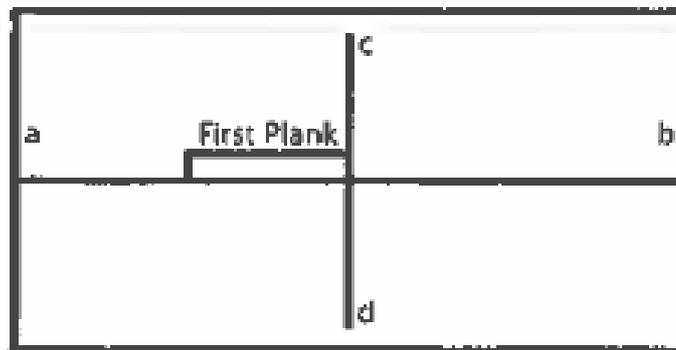
Carefully place the first tile at the junction of the chalk lines. Continue laying the tiles, making sure each one is flush against the chalk line and tight against the adjoining tile.

(Figure 2)



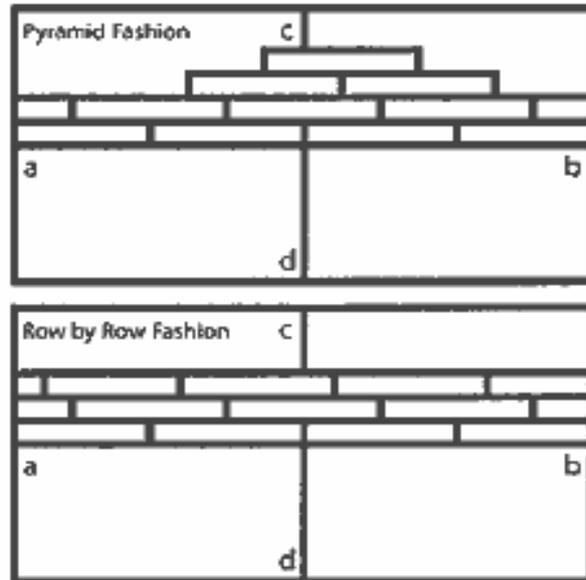
Ensure that the tiles are well seated (bedded) into the adhesive. The tiles should be laid in a pyramid fashion. (Refer to Figure 2).

(Figure 3)



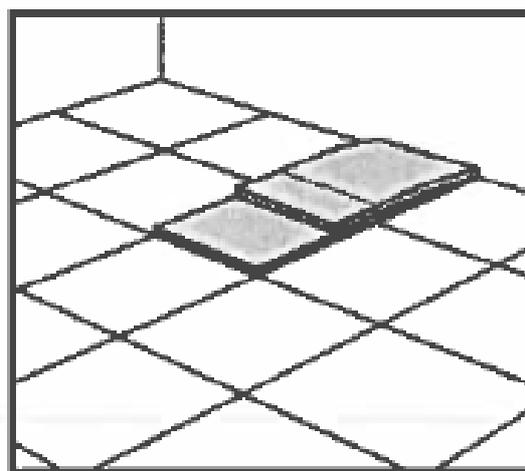
When installing the Luxury Vinyl Planks, position the first plank at the junction of the chalk lines. (Refer to Figure 3)

(Figure 4)

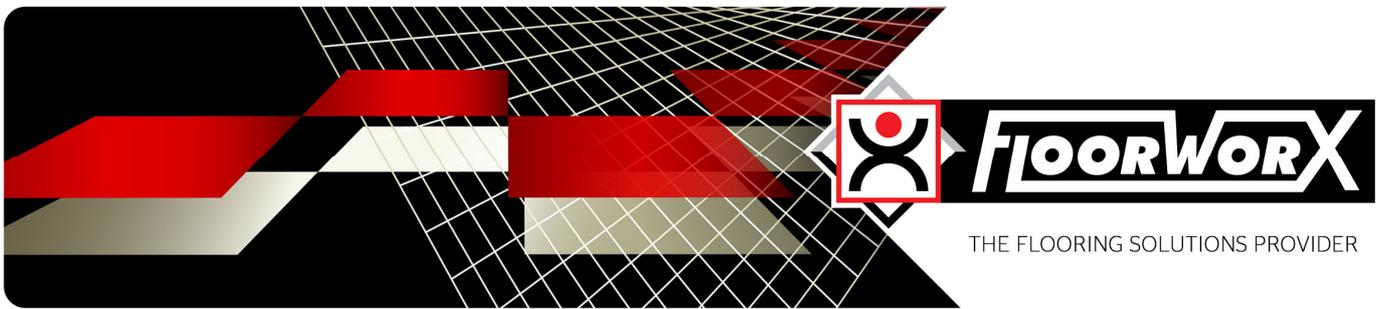


Continue laying the planks, making sure each one is flush against the chalk line and tight against the adjoining plank. Be sure the planks are well seated (bedded) into the adhesive and continue laying in either pyramid fashion or row by row. Randomly stagger the end joints. (Refer to Figure 4).

(Figure 5)



To fit partial tiles or edge tiles, lay the tile to be cut exactly over the last full tile, place another full tile against the wall and make the cutting line where they overlap. Make sure the cut edge of the tile is against the wall. Roll the flooring in both directions using a 68Kg articulated sectional floor roller.



ON COMPLETION OF THE INSTALLATION

- First impressions may have more impact on the client than hours of skilled fitting; therefore the entire installation should be cleared of scrap material and debris, the floor swept or vacuumed and any traces of adhesive residues removed from the floor and skirting's.
- As with all newly installed floor coverings, LVT/P's should be protected after completion of the installation to protect the floor covering from other trades or site traffic before project completion.
- The use of solvents to remove dried adhesive may discolour the floor. Therefore, you should first test the solvent on either a scrap piece or in an inconspicuous area.
- In many cases, it is customary for the initial floor preparation to be left, or subcontracted, to professional cleaning and maintenance contractor who will have the staff and equipment to do the job thoroughly. If the optimum performance of any new floor covering is to be achieved, the correct cleaning and maintenance procedures must be used from day one. [
- Cleaning and maintenance guides should be passed onto the main contractor, client or end-user as appropriate on completion of the installation, and before any hand over clean is started.
- Cleaning and maintenance guides are available for Floorworx Technical Department or on our website: www.floorworx.co.za

SPECIAL INSTRUCTIONS FOR USE:

- Covering entrance areas and transition zones with suitable dirt-trapping system offers effective protection against dirt and water, dust and grains of sand which can cause unnecessary scratches and wear.

DISCOLOURATION

- In certain cases, aggressive substances, such as tar, fats, oils, the dye can cause discolouration on the flooring. Such discolouration can be prevented or reduced by the choice of an appropriate design and certain measures being taken in terms of usage.
- Over longer periods migrations from specific types of rubber (e.g. on a chair and other furniture feet) can cause irremovable discolouration on resilient floor coverings.
- This can be prevented either by using appropriate types of rubber with no colour transfer or by protecting the floor with suitable protective matting. Hair-dye, substances containing alcohol and iodine, and disinfectants can also cause irremovable discolouration. If they come into contact with the flooring they should, therefore, be immediately removed.

OFFICE CHAIRS

- Office chairs must be equipped with type "W" castors in accordance with DIN 18365 "Flooring Work" and particularly EN 12529 "Wheels and Rollers – Rollers for Office Chairs". LVT/P's flooring requires the use of soft castors. Office chair castors are to be regularly cleaned and maintained during use and replaced if necessary.

TIP: It is a good idea to save a few planks or tiles in case of accidental damage. Planks or tiles can easily be replaced or repaired by a qualified professional.

DISCLAIMER

THIS INFORMATION IS BASED ON OUR EXPERTISE AND IS GIVEN IN GOOD FAITH BUT WITHOUT WARRANTY. WE CANNOT ACCEPT LIABILITY FOR ANY DAMAGE, LOSS, OR ACCIDENT CAUSED DIRECTLY OR INDIRECTLY BY THIS PRODUCT.

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