TUNTEX™

LVT
INSTALLATION INSTRUCTION

PRE-INSTALLATION CHECKLIST

1. Consult all associated product literature concerning adhesive installation, maintenance and warranty prior to installation of flooring.
2. Allow all trades to complete work prior to installation.
3. Deliver all materials to the installation location in its original packaging with labels intact.
4. Do not stack pallets to avoid damage.
5. Remove any plastic and strapping from product after delivery.
6. Remove material from packaging and stack evenly on a smooth, dry surface. Do not stack higher than 500mm.
7. Inspect all material for proper type, color and matching lot numbers or production codes if appropriate.
8. Ensure that all adhesives intended for installation are approved for use with flooring material
9. Ensure installation area and material storage temperatures are between 15°C and 29° C for at least 48 hours before, during and after installation.
10. Ensure HVAC system is operational and fully functioning at normal operating conditions.
11. Protect installation area from extreme temperature changes, such as heat and freezing, as well as direct sunlight for at least 48 hours before, during and after installation.
12. Ensure all substrate preparation and moisture testing requirements have been read and understood by all interested parties.
13. Test substrate for porosity in order to determine the installation method necessary.
14. Ensure all vents, walls, moldings and/or doorways are protected with tape or plastic prior to installation.
15. Do not proceed with installation until all conditions have been met.

APPROVED SUBSTRATES

The following are approved substrates for installation of Tuntex Loose Lay LVT. See the next section for proper testing and substrate preparation prior to installing your Tuntex Loose Lay LVT.

All substrates regardless of composition must be smooth and flat to within 4.76mm in 3mts or achieve an “F32” rating by use of mechanical grinding/sanding or suitable Portland cement-based patching and leveling compounds.

- Above, on or below-grade concrete without hydrostatic pressure, excess moisture or alkalinity. Must be fully cured and dry, free from curing compounds, sealers etc.
- Above or on grade lightweight concrete, properly prepared and without hydrostatic pressure, excess moisture or alkalinity
- Above or on grade Gypsum concrete surfaces, properly prepared, sealed and without hydrostatic pressure, excess moisture or alkalinity.
- Properly prepared and well bonded existing resilient floor covering.
- Cement Terrazzo, ceramic tile, marble – see adhesive for proper preparation.
- Certain metal floors – see adhesive for proper types and preparation..
- Radiant heated floors where heat does not exceed 29°C.
- APA registered underlayment, sanded face exterior grade with minimum rating of B-C plugged face.
- APA registered exterior grade plywood sanded and plugged face with ratings as follows: B-C, or better.
- Raised Access Flooring. (see section 4 on Raised Access Flooring)
- Acoustical sound control underlayments branded or specifically recommended in writing by Tuntex

The following are not approved substrates for installing Tuntex Loose Lay LVT

- Epoxy terrazzo.
- Rubber, cork or asphalt tiles.
- Textured or cushion backed resilient flooring.
- Sleeper floor systems and other uneven or unstable substrates.
- Plywood floors that have been installed directly over a concrete slab.
- Luan, OSB, particle or chip boards, CCA (pressure treated), oil treated or other coated plywood.
- CDX or other plywood with knots or open defects.
- Underlayment made of pine or other soft woods.
- Masonite. or other hardboard underlayment.
- Hardwood flooring
- Uneven or unstable substrates.
- Paint, wax, oil, grease, residual adhesive, mold, mildew, and other foreign materials that might prevent adhesive bond

PRODUCT LIMITATIONS

- Do not install materials over LVT, cushioned vinyl, hardwood flooring, cork, rubber, or asphaltic materials.
- Do not install flooring materials in outdoor areas or in and near commercial kitchens.
- Do not install in areas that may be subjected to sharp, pointed objects, such as stiletto heels, cleats or spikes.
- Do not allow product to be directly exposed to extreme heat sources, such as radiators, ovens or other high-heat equipment.
- May be susceptible to staining from rubber tires, casters or rubber-backed walk-off mats, as well as harsh disinfectants, cleaning agents, dyes or other harsh chemicals – ensure all chemicals and materials that may come in contact with flooring surface will not stain, mark or otherwise damage the flooring material prior to use

SUBSTRATE PREPARATION

All substrates must be prepared according to ASTM F710, as well as applicable ACI and RFCI guidelines. Substrates must be clean, smooth, permanently dry, flat, and structurally sound. Substrates must be free of visible water or moisture, dust, sealers, paint, sweeping compounds,curing compounds, residual adhesives and adhesive removers, concrete hardeners or densifiers, solvents, wax, oil, grease, asphalt, visible alkaline salts or excessive efflorescence, mold, mildew and any other extraneous coating, film, material or foreign matter. All substrates must be vacuumed with a flat vacuum attachment or damp mopped with clean, potable water to remove all surface dust. Sweeping without vacuuming or damp mopping will not be acceptable.

It is recommended that all substrates have a floor flatness of FF32 and/or a flatness tolerance of 4.76mm in 3mts.

All porous substrates must be tested per ASTM F3191 to confirm porosity. Use a pipette or equivalent to conduct three tests by placing a .05mL droplet of clean, potable water onto the surface. If the substrate absorbs water within 60 seconds, the substrate is considered porous. Conduct 3 tests for the first 800sq/mt and one for each additional 500sq/mt at least one per room. All other substrates that do not meet this requirement are considered non-porous. Ensure that all non-porous substrates are not contaminated with any aforementioned contaminates. When conducting renovations or remodeling, remove all existing adhesive residue so that 90% of the original substrate is exposed by mechanical means, such as shotblasting, grinding or buffing with a 100 grit Diamabrush Prep Plus attachment.

Do not use solvent/citrus based adhesive removers prior to installation. Follow The Resilient Floor Covering Institute's (RFCI) "Recommended Work Practice for Removal of Existing Floor Covering and Adhesive", and all applicable local, state, federal and industry regulations and guidelines.

WARNING: IN THE EVENT THAT ANY ASBESTOS CONTAINING MATERIALS OR OTHER HAZARDOUS MATERIALS ARE ENCOUNTERED DURING INSTALLATION, YOU SHOULD STOP THE INSTALLATION IMMEDIATELY AND OBTAIN ASSISTANCE FROM A QUALIFIED REMEDIATION CONSULTANT OR CONTRACTOR PRIOR TO PROCEEDING

CONCRETE SUBSTRATES

All substrates must be properly prepared and tested according to the following guidelines:

Concrete Floors

- Shall be in accordance with ASTM F710 (latest version) Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring.
- All patching and leveling is to be in accordance with ASTM F2678 (latest version) Standard Practice for Preparing Panel Underlayments, Thick Poured Gypsum Concrete Underlayments, Thick Poured Lightweight Cellular Concrete Underlayments, and Concrete Subfloors with Underlayment Patching Compounds to Receive Resilient Flooring.
- Concrete slab construction shall be in accordance with industry standards for specification related to concrete mix design, curing methods and drying times to prevent moisture problems.
- On-grade and below-grade slabs should be installed with a suitable vapor retarder directly underneath the concrete slab.
- New concrete shall be properly cured and dried prior to the installation of floor covering. Curing agents, surface hardeners and other membranes or compounds shall be mechanically removed immediately after initial cure to allow the slab to properly dry before installation. Approximately 30 days per 25.4mm of slab thickness.
- All concrete substrates, regardless of grade or age of slab, must be properly tested using one of the methods outlined below for warranty to apply. Acceptable test method is ASTM F 2170 In Situ Relative Humidity. Testing shall be conducted according to the test method and instructions of the manufacturer of the testing equipment.
- Concrete Alkalinity / pH Test shall be performed when the test site is at the same temperature and humidity expected during normal use; or at a temperature of18°-26°C and 45% - 50% humidity for minimum 48 hours prior to testing. Using distilled water, place drops of water to form a small puddle approximately 25mm in diameter. Wait 60 seconds, and then dip a portion of the pH paper into the water. Acceptable pH levels of the concrete are between 5 & 9 when compared to the color chart provided in the test kit.
- Concrete surface porosity shall be tested prior to application of adhesives. Surface porosity testing shall be conducted according to ASTM standards or adhesive manufacturer's guidelines. If no such guideline exists, an application of a few drops of clean, potable water shall be placed on the surface of the concrete in an area the approximate size of a dime or 16mm. If the water is absorbed within 1 minute then the surface shall be deemed to be porous. If the water beads or is not absorbed then the slab shall be treated as non-porous.

Concrete Slab Preparation

- Concrete slabs shall be clean prior to installing floor coverings. Remove all sealers, curing agents and compounds, grease, oil, adhesive removers, old adhesive residue, dirt, paint, etc. to ensure a clean bond surface for the adhesives.
- Concrete floors shall be smooth and level to prevent irregularities, roughness or other defects from telegraphing through the new resilient flooring. The surface of the slab shall be flat to within 4mm in 3 meters. Slopes shall be less than 1.5mm in 600mm. Uneven areas should be mechanically ground to smoothness.
- Cracks, depressions or other similar irregularities should be leveled using a suitable Portland cement based patching compound. Follow the patch manufacturer's instructions regarding mixing and applications.
- Overly porous, dusty, flaky or soft concrete surfaces are not suitable for resilient floor coverings. It may be necessary to mechanically remove the top layer concrete in such cases and/or these surfaces may need to be primed and covered with a cement based underlayment compound. Follow the patching or leveling compound manufacturer's instructions regarding preparation of the concrete surface, priming, mixing of the product, thickness of application and drying time for resilient floor covering installation.
- Expansion joints, isolation joints, control joints or other moving joints in the concrete slab shall not be filled with patching compound or covered with resilient flooring.

GYPSUM BASED SUBSTRATES

Gypsum and lightweight concrete subfloors and substrates should in accordance with the listed standard.

Unprimed gypsum surfaces may have a dusty surface and a very open, porous surface, which will lead to an adhesion bond failure if not properly sealed and treated. It is the responsibility of the installation contractor to obtain verification from the general contractor, architect, owner or party responsible for the site that the gypsum was properly sealed with the gypsum manufacturer's recommended sealer. If this data is not available conduct testing according to the appropriate ASTM Test Method for Gypsum Surfaces.

- Gypsum surfaces shall be in accordance with and properly prepared according to the appropriate ASTM specifications as listed in the above Reference Section.
- All patching and leveling is to be in accordance with ASTM F2678 (latest version) Standard Practice for Preparing Panel Underlayments, Thick Poured Gypsum Concrete Underlayments, Thick Poured Lightweight Cellular Concrete Underlayments, and Concrete Subfloors with Underlayment Patching Compounds to Receive Resilient Flooring. Conduct a surface porosity test to ensure that the surface is properly sealed.
- Check moisture content of the gypsum substrate via the appropriate method according to the ASTM Standards listed above. Moisture content of the subfloor/substrate shall not exceed the adhesive requirements or 75% RH or 3 lbs./1,000 sqft./24 hrs. MVER. When using the D4263 Test Method no discoloration of the surface should be found.
- All patching compounds shall be recommended for use with gypsum, gypcrete or lightweight cellular concrete surfaces by the patching compound manufacturer. Follow the manufacturer's instructions regarding mixing, use and application.
- All gypsum surfaces must be properly primed according to the gypsum manufacturer's instructions; or where applicable follow the instructions of the adhesive manufacturer if there is no recommendation from the gypsum manufacturer.

WOOD SUBSTRATES

- A combination of wood subfloor and panel underlayment construction shall be a minimum of 25mm in total thickness.
- There shall be at least 450mm of well-ventilated air space beneath all wood subfloors. Crawl spaces shall be insulated and protected by a suitable vapor barrier.
- Wood subfloors installed directly on concrete or over "sleeper" joist systems are not acceptable for use under Tuntex Loose Lay LVT.
- Panels designed as suitable underlayment shall be at a minimum 6mm in thickness,dimensionally stable, fully sanded face to eliminate grain texture or show through, have a written manufacturer's warranty and installation instructions and be free of substances such as ink, fillers and resins which may lead to staining of the resilient flooring.
- Panels shall be installed according to manufacturer's instructions regarding stapling pattern, sanding and filling of joints, and acclimation to installed environment.
- Tuntex will not cover or accept responsibility for the following:
  - Telegraphing from joints (ridge or valley), grain, or texture of underlayment
  - Discoloration of finished flooring due to materials used for filling of voids and defects in the face of the underlayment
- Unacceptable substrates shall be covered using a 6mm or thicker panel underlayment recommended

RAISED ACCESS FLOORING

When installing Tuntex Loose Lay LVT over raised access flooring. Please ensure the following

- Panels are firm, level, smooth, dry and clean
- Lipping of panels must not exceed 0.75mm
- Height difference between panels must not exceed 0.75mm
- Gaps between panels must not exceed 1mm
- Overall floor to be level within +/- 1.5mm over any 5 meter square
- Raised Access Floor, requires a trowel notch of 1/16" x 1/16" x 1/16" square notch to be used as a perimeter locking mechanism, and, Full Spread with a 3/8" nap roller. Both utilizing PSA adhesive.
- Perimeter area requiring constant access should be rolled on with PSA adhesive.

Tuntex will not cover or accept responsibility for the following: Joint telegraphing, either as a "ridge" or "valley"

METAL SUBSTRATE

Metal substrates must be thoroughly sanded/ground and cleaned of any residue, oil, rust and/or oxidation. Substrate must be smooth, flat and sound prior to installation. Install flooring material within 12 hours after sanding/grinding to prevent re-oxidation. Any deflection in the metal floor can cause a bond failure between the adhesive and the metal substrate. Ensure to follow installation procedures and trowel sizes for non-porous substrates.

EXISTING RESILIENT FLOORING

When installing Tuntex Loose Lay LVT over existing resilient floors, the existing flooring must be:

- Single layer only
- Thoroughly stripped of all wax, floor finish, dirt and other contaminants that may affect adhesive bond
- Be firmly bonded to the substrate
- Flat and smooth with no curling edges or loose seams
- Dry and free from excessive moisture. All concrete floors shall be tested for moisture regardless of age or grade level. Do not assume that an existing floor is free of moisture related issues. Conduct testing per Section 1 above.

- Must not be of a cushion back, floating, or perimeter bonded floor

Tuntex is not responsible for problems leading to or from indentations, telegraphing of old floor or adhesion release of old floor after the Tuntex Loose Lay LVT is installed.

OLD ADHESIVE

- Adhesive residue shall be properly prepared prior to the installation of Tuntex Loose Lay LVT. It is recommended that mechanical scraping or grinding be used as a primary means of removing old adhesive residue.
- Residues include, but are not limited to carpet, vinyl, VCT, and or wood flooring adhesives.
- Black cutback/asphalt adhesives shall be scraped by hand to remove any loose patches, trowel ridges and puddles so that only a thin residue layer remains. This layer shall then be properly covered using a Portland based patching compound properly mixed with the manufacturer' recommended latex/acrylic additive.
- If chemical/liquid adhesive removers are utilized, the manufacturer's recommended instructions for cleaning after use of the remover shall be followed fully. Tuntex is not responsible for anynadhesive failures, indentation, bubbling, or delamination of new flooring due to improper cleaning of residue left from liquid adhesive removers.

RADIANT HEATING SUBSTRATES

When installing flooring over a substrate that contains a radiant heating system, ensure the radiant heat is turned off 48 hours prior to installation and remains off during the entire installation. 48 hours after installation, the radiant heat may be gradually increased over the course of 24 hours, until normal operating temperature is reached.

Ensure the temperature of the radiant heating system does not exceed 29° C and avoid making abrupt changes in radiant heating temperature.

CRACKS, JOINTS & VOIDS

All cracks, joints and voids, as well as the areas surrounding them, must be clean and free of dust, dirt, debris and contaminants. All minor cracks and voids 1.5mm wide or less may be repaired with a suitable cementitious patch.
Due to the dynamic nature of concrete slabs, manufacturer cannot warranty installations to cover expansion joints, cracks or other voids (such as control cuts, saw joints and moving cracks or voids) wider than 1.5mm Do not install flooring directly over any expansion joints or cracks wider than 1.5mm.

All expansion joints should have a suitable expansion joint covering system installed to allow expansion joint to freely move. To treat expansions joints where an expansion joint covering system can't be installed or to treat through cracks (depth at least 75% of the thickness of the concrete), chase joint or crack with a suitable saw or grinder and open to a minimum width of 6mm.

Be sure to clean all dust, dirt and debris from crack. Joints and cracks should then be sealed with a suitable, elastomeric caulk (such as Ardex Ardiseal Rapid Plus, Mapei P1 SL or equivalent) designed for use in expansion joints. Install a closed-cell backer rod at prescribed depth and follow caulk manufacturer's instructions for installation. Ensure surface is troweled flush with surface of concrete.

To treat other cracks and voids (such as control cuts, saw-cut joints and surface cracks) over 1.5mm chase joint or void with a suitable saw or grinder and clean all dust, dirt and debris from

crack. Fill entire crack with a rigid crack filler (such as Ardex Ardifix, CMP CM10 or equivalent) designed for use in control or saw-cut cuts. Follow material manufacturer's instructions for installation. Ensure surface is troweled flush with surface of concrete.

LOOSE LAY PRODUCT INSTALLATION

General

- When using more than one carton, make sure that the cartons are all the same run / lot number. Different lots may have a variation in color, texture or gloss so they should not be mixed in the same room. Contact Tuntex before installing product from differing runs or lots.
- Tuntex Loose Lay LVT plank simulates wood planks, and can be installed in the same pattern as a wood plank floor in a random pattern, staggered design, diagonally or other design.
- Planks are best in appearance when lying parallel to the longest walls in the room.
- Tuntex products can be cut using a tile cutter or a utility knife. Keep knife blades sharp for easy, accurate and safe cuts. Fit planks to walls, columns, door jambs, etc. using the same methods other floor tiles; overlap, pattern scribe, wall scribe and free hand.
- When working on top of loose lay flooring during the installation, be sure to not disturb tiles and planks that have already been laid. If a piece does become dislodged simply peel it up and reinstall; use of a scrap piece as a tapping block can help readjust disturbed tiles and planks also.
- If it is necessary to heat the planks to achieve a cut, heat slightly from the back only with minimal heat setting (a standard hair dryer will produce enough heat). Carefully make cuts with a sharp utility knife on the heated plank.

Tuntex approved trowel-grade adhesive installation method

- Tuntex approved adhesives are designed to be used on most interior installations over most concrete and wood substrates, and other approved substrates that are properly prepared and leveled
- On some commercial applications and special substrates, a two-part epoxy or urethane adhesive is recommended. Typical applications for these types of adhesives are wet areas, floors subjected to heavy point loads and/or rolling loads, and floors that will be exposed to extreme temperature changes or extreme temperatures.
- If it is determined that a non-Tuntex approved adhesive is to be used on an installation, Tuntex recommends a written warranty be obtained by the adhesive manufacturer warranting this specific installation with their products.
- Porous substrate installation, TUNTEX TX-500 trowelable adhesive
  1. Requires a trowel notch of 1/16" x 1/32" x 1/32" u-notch be used
  2. The adhesive should be allowed to dry to the touch sufficient to prevent slippage. Loss of adhesion can result if the flooring is not installed within the working time of the adhesive
- Non-porous installation, TUNTEX TX-500 trowelable adhesive
  1. Requires a trowel notch of 1/16" x 1/32" x 1/32" U-be used.
  2. Allow the adhesive to dry to the touch with no transfer of adhesive to the finger (approximately 20-30 minutes) and install the LV plank within 60 minutes.
  3. Do not install flooring into wet adhesives on non-porous substrates.

Layout

- Determine the center of the room and dry lay a section of tile/plank from the center line to one wall to determine that the pattern is centered and fit. Measure the border cuts along the wall and compare to the following criteria. If necessary adjust the first row at the centerline to meet either the plank or tile
- Planks should never be less than 230mm long or less than half of the width of the plank. Avoid small pieces in border areas and adjust the center lines to achieve the proper pattern.
- Tiles should not be less than 150mm in length or width. Avoid small pieces in border areas and adjust the center to achieve the proper pattern.
- Tiles are designed to be laid in any fashion with the most popular being point-to-point and ashlar patterns. All tile sizes and patterns look best when the layout is balanced in the installed room.

Installation of flooring

Spread adhesives using the proper trowel notch; more adhesive is not a good thing with LV products.

- Before spreading adhesive, strike a parallel chalk line to the centerline of the length of the room approximately 600mm to 900mm from the wall. Actual position is to be determined by the layout of the planks, ensure that the pattern is followed from your initial starting point determined in the dry layout performed earlier.
- If necessary, re-lay part of the pattern from centerline starting point to determine the exact measurement of the parallel line.
- After determining the starting point, apply adhesive in a band 450mm along the starter wall and down the side walls, keeping in mind the open time for the adhesive on the side walls. Allow to tack up. Some slippage of the plank/tile may occur with a “wet” method. Be careful to follow layout lines and allow adhesive to set before rolling.
- Begin laying the first row of flooring into the adhesive, keeping a 3 to 4mm gap along all vertical surfaces. Lay the flooring by tightly butting the edges of the pieces together, making sure that the runs are parallel to your centerline or layout lines. Work toward the first wall from your starting line into the band of adhesive.
- Once your starter rows are secure and the flooring planks/tiles are tightly butted together, continue applying adhesive along the perimeter of the adjacent walls so that enough flooring can be placed within the working time of the adhesive. Tuntex recommends an additional “X” pattern be placed corner-to-corner in the room for commercial applications.
- Start laying the next rows by continuing the pattern and tightly butting all joints together. A scrap piece of flooring can be used to lightly tap the pieces into the previous row.
- Continue in this manner spreading only enough adhesive along the perimeter and the center “X” pattern that can be safely installed within the working time of the adhesive.
- Be sure to stagger all end joints by at least 150mm or the width of one plank. Vary the length of your planks during installation to ensure that end joints are not bunched and a randomness is achieved in the pattern.
- During installation, roll the areas of the floor that are utilizing adhesive with a 3-section 45kg roller to ensure proper transference of adhesive to the plank backing.

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