

TEKNOFLOR®

COMMERCIAL DRYBACK LVT/LVP
(LUXURY VINYL TILE/PLANK)

INSTALLATION & MAINTENANCE INFORMATION

9.09.19

Note: This document supersedes all printed and electronic Installation and Technical Guides previously distributed for Teknoflor Vinyl Tile and Plank products.

INTRODUCTION

The information in this document only provides general guidelines. Review the Teknoflor Professional Technical & Installation Guide in its entirety (www.teknoflor.com) prior to installing Teknoflor LVT products. It is important to avoid problems from the outset. If you are unsure of any information provided in this document or are having a problem with your installation, please stop your work and contact Teknoflor Customer Service for additional guidance. Customer Service can be reached at (800) 522-9166, Monday through Friday, 8:00 a.m. to 5:00 p.m. CST.

Teknoflor Commercial Dryback LVT/LVP (Luxury Vinyl Tile/Plank) is a high-performance, “dryback” (glue-down) flooring product, designed for permanent installation using the full-spread professional installation method, applied with an appropriate TEK™ or TUF STIK™ adhesive.

GENERAL INFORMATION

The key to a successful and trouble-free installation is thorough preparation. Do not install Teknoflor flooring without first performing a thorough on-site evaluation (including jobsite testing), ensuring that subfloor preparations are finished, and that the work of all other trades has been completed. Site conditions must comply with the information provided within this document, with the requirements detailed in ASTM F710, “How to Prepare Concrete Substrates to Receive Resilient Flooring,” as well as relevant building codes, and local, state and national regulations. Note: It is highly recommended to have substrate moisture and PH testing conducted by a certified ICRI (International Concrete Repair Institute) Tier 2 technician. Documentation of moisture and pH test results may be required when submitting Teknoflor claims.

- Teknoflor Commercial Dryback LVT/LVP products are 3.0mm thick with square edge and should be installed with other similar products.
- Teknoflor is intended for interior use only and is suitable for above-grade, on-grade and below-grade applications. However, Teknoflor™ should not be installed in location where the substrate beneath the building structure is exposed to the elements.
- Teknoflor is not recommended for exterior installations or for use in areas that are not climate-controlled.
- Teknoflor is recommended for the use over properly prepared concrete, suspended wood, metal and other suitable substrates.
- Acclimate flooring, adhesives, and the job-site: only install Teknoflor in climate-controlled structures consistently maintained at temperatures between 65°-85°F (18°-29°C) and 35%-65% RH a minimum of 48-72 hours before, all times during, and continuously after installation (depending on adhesive).
- Protect Teknoflor from foot traffic for 24 hours and from heavy rolling or point loads for 48-72 hours after installation. Do not wash Teknoflor™ for three days after installation.
- Floor Flatness: The surface shall be flat to 3/16 inch in 10 ft. (3.9mm in 3m) and 1/32 inch in 12 inches (0.8 mm in 305 mm). Level high spots by sanding, grinding, etc. and fill low spots. Smooth surface to prevent any irregularities or roughness from telegraphing through the new flooring.
- Allow other finishing trades, especially the overhead and wall trades, to complete their work before beginning the floor installation.

- During spackling, painting or pipe cutting, cover the substrate to prevent contamination. Spackling, permanent marker, paint, paint thinner or machine oil and other construction trade items that contaminate the substrate can cause bond failure or product discoloration.
- Close working spaces to all non-essential traffic before installation and as specified after installation. After installation, the GC shall protect flooring surface from damage from other trades until the space is turned over.
- Provide good overhead lighting for proper subfloor preparation and installation. Poor lighting is no excuse for improper workmanship or installation of visible defects.
- Porous and/or dusty structurally sound substrates shall be primed by applying one or more coats of acrylic based primer-sealer with a short nap paint roller and allowed to dry before proceeding.
- After patching, sand the surface to remove all ridges and rework any remaining low spots or surface defects. Vacuum the entire surface paying close attention to the perimeter to remove all dust and debris.

All warranties and guarantees pertaining to the suitability and performance of any preparation or ancillary product rests with that material manufacturer or the Flooring Contractor and NOT with Teknoflor. The condition of the subfloor and bond issues resulting from the use of non-recommended, improper, or incorrectly prepared adhesives, sealers, embossing levelers, patches, concrete, gypsum-based products and other such items, are the sole responsibility of the Flooring Contractor, General Contractor, and/or manufacturer of the particular sub-flooring product.

WARNING: ASBESTOS & SILICA - Various Federal, State, and Local government agencies have regulations governing the removal of in-place asbestos-containing material. If you contemplate the removal of a resilient floor covering structure that contains (or is presumed to contain) asbestos, you must review and comply with all applicable regulations. Do not sand, dry sweep, dry scrape, drill, saw, bead blast, or mechanically chip or pulverize existing resilient flooring, backing, lining felt, asphalt “cut-back” adhesive, or other adhesive. These products may contain asbestos fibers and/or crystalline silica. Avoid creating dust. Inhalation of such dust is a cancer and respiratory tract hazard. Smoking by individuals exposed to asbestos fibers greatly increases the risk of bodily harm. Unless positively certain that the product is a non-asbestos containing material, you must presume it contains asbestos. Regulations may require that the material be tested to determine asbestos content. RFCI’s Recommended Work Practices for Removal of Resilient Floor Covering are a defined set of instructions addressed to the task of removing all resilient floor covering structures. For further information, visit the Resilient Floor Covering Institute website at www.rfci.com.

CHEMICAL ABATEMENT : Teknoflor does not recommend the use of solvent adhesive removers (inorganic or bio-based) or chemically abating an existing floor covering or adhesive. Adhesive removers can remain in the slab, under walls and within cracks and cause failure of the new floor covering and or adhesive after installation. For removal of all flooring and adhesives, follow the resilient flooring removal procedure as detailed in the RFCI’s Recommended Workplace Practices for Removal of Resilient Floor Coverings.

MATERIAL RECEIVING, HANDLING AND STORAGE

1. Upon receipt, immediately remove any shrink-wrap and check material for damage, and that the material is of the correct style, color, quantity, and run number(s).

2. Immediately report any discrepancies. Installation of the incorrect materials or material that are the incorrect color are warranted for materials only. There will not be any labor coverage when the incorrect product is installed, when a product that is the incorrect color is installed or when product with any visible damage to include shade or color variations are installed that are considered unacceptable.

3. General Storage: Store all materials flat and off of the floor in an acclimatized, weather-tight space between 55°-85°F (13°-29° C). Using outside temporary storage and other uncontrolled storage locations may result in unintended installation issues including bond failure, gapping or buckling and is not covered under the product warranty. Do not double-stack pallets.

4. Job-site: Acclimate Teknoflor™ material and TEK™ or TUF STIK™ adhesives in the acclimatized job site between 65°-85°F (18°-29°C) and 35%- 65% RH for 48-72 hours prior, all times during, and maintain temperature continuously after installation. Spread unopened cartons no more than 6 cartons high and spaced at least 4" apart. Keep away from heating and cooling ducts and direct sunlight. If permanent HVAC is not yet operational, temporary means should be used to maintain the proper temperature and RH.

JOB-SITE INSPECTION AND TESTING

Prior to installation, plan and attend an on-site construction meeting with the General Contractor, Architect, and Property Owner to review all requirements and inspect site conditions as outlined in this document, as well as those outlined in ASTM F710, and any relevant building codes, and local, state or national regulations. Flooring installation should not begin until all site conditions have been assessed, testing has been completed, the sub floor has been prepared, and all conditions are in compliance. Defects should be addressed immediately and corrected before installing Teknoflor™ Flooring. Installation of material constitutes acceptance of all conditions.

1.The building must be completely sealed before job-site testing can begin (ASTM F710). This includes: windows, doors, roofing, walls, etc.

2.Interior environmental conditions must be maintained at 65°-85°F (18°-29°C) and 35%-65% RH a minimum of 48 hours before testing, and at all times during testing (ASTM F710).

Moisture and Alkalinity: Perform either the In-Situ Relative Humidity (RH) test (ASTM F2170) or Moisture Vapor Emission Rate (MVER) test (ASTM F1869) in strict accordance to the most current version. Test surface alkalinity per ASTM F710. Refer to the adhesives section chart or Adhesive Product Data Sheet for acceptable moisture and pH ranges. Follow the TEK™ or TUF STIK™ adhesive instructions located on the product label and or Product Data Sheet. If test results exceed recommended adhesive tolerances for moisture, then the area must be allowed to further dry to an acceptable level, or remediated using a moisture mitigation system before installing Teknoflor™.

ATTENTION: Mold and mildew grow only in the presence of moisture. Job-site mold and moisture issues must be addressed and corrected prior to installation. Please visit www.epa.gov/mold for information about safely preventing and removing mold, mildew and other biological pollutants.

1.Plan, prepare, and protect the substrate moisture test-sites for the duration of the testing in order to achieve valid results.

2.Subfloor flatness for all substrates shall not exceed 3/16 inch in 10 ft.(3.9mm in 3m) and 1/32 inch in 12 inches (0.8 mm in 305 mm).

SUITABLE SUBSTRATES

It is always best practice and recommended to remove existing flooring and start new with the original base. Recognizing that there are certain situations in which this is not possible, existing flooring materials such as terrazzo, marble, ceramic tile, or quarry tiles may be a suitable substrate for Teknoflor™ if properly prepared.

Note: Special attention in the preparation of these substrates must be taken. Consult with substrate preparation material supplier for appropriate material selections, application requirements, and warranty information. The responsibility of the assessment, determination, and selection of the substrate preparation material, along with application and product performance, rests with the applicator and preparation material provider.

All substrates must be properly prepared and meeting the requirements listed in the Teknoflor™ Professional Technical & Installation Guide, ASTM F710 and ASTM F1482.

- Concrete (all grades)
- Double layer suspended wood
- Ceramic tile and Terrazzo
- Steel and Aluminum
- Single layer non-cushion sheet vinyl/LVT/VCT
- Polymeric Poured Floors
- Must meet applicable building codes requirements

Note: There may be exceptions and special preparations/ conditions for these substrates to be suitable for resilient flooring applications. Refer to the Teknoflor™ Professional Technical & Installation Guide and or contract Teknoflor Customer Service for additional information.

Treating Surface Irregularities: Cracks, grooves, depressions, control joints, or other non-moving joints, and other irregularities shall be filled or smoothed with high-quality Portland cement or calcium aluminate based patching or underlayment compounds for filling or smoothing, or both. Some surface cracks may need to be chased and filled. Patching or underlayment compound shall be moisture, mildew, and alkali-resistant, and shall provide a minimum of 3,500 psi compressive strength after 28 days, when tested in accordance with Test Method ASTM C109 or ASTM Test Method C472, whichever is appropriate. Refer to manufacturer's instructions of such subfloor preparation materials for more details.

Self-Leveling and Patching: For concrete subfloors, use only high- quality Portland Cement, calcium aluminate or synthetic, gypsum-based materials (minimum 3,500 psi compressive strength per ASTM C109), and allow to dry according to manufacturer's instructions. Self-leveling compounds may have very high moisture content, thus requiring longer

curing times. Note: Adding latex to levelers will normally make the floor NON-POROUS. Test for porosity and follow non-porous adhesive recommendations, if necessary. Follow the manufacturer's instructions, and do not over-water patching and leveling compounds. The installer is responsible for observing cure times, moisture content, adhesive bonding, and the structural integrity of any leveling or patch compound used.

Warning: Do not lightly skim-coat highly polished or slick, power-troweled concrete surfaces. A thin film or residue skim coat of floor patch will not bond sufficiently to a slick subfloor and may become a bond breaker, causing tiles to release at the interface of the subfloor and patching material.

Concrete Absorbency: Be aware that absorbent (porous) and non-absorbent (non-porous) subfloors may require different trowel sizes for adhesive application. Check absorbency by randomly placing 1" diameter droplets of water directly onto the surface of the concrete subfloor. If the water droplet does not dissipate within 2 minutes, then the substrate is considered non-absorbent. Even after removing old, glued-down flooring materials, do not assume that the concrete is absorbent (porous). Often the old adhesive has sealed the floor. See the adhesive chart or pail label for recommended trowel sizes.

Expansion Joints / Isolation Joints: Such joints (or other moving joints) are incorporated into concrete floor slabs in order to permit movement without causing random cracks in the concrete. These joints must be honored and not be filled with underlayment products or other materials, and floor coverings must not be laid over them. Expansion joint covering systems should be detailed by the architect or engineer, and based upon intended usage and aesthetic considerations.

All suspended wood subfloors shall have standard, double-layer construction with a minimum total thickness of at least 1" (25mm). As a finish layer, use minimum ¼" (6mm) thick, APA-rated "underlayment grade" plywood with a fully sanded face, or other underlayment panel that is appropriate and warranted for the intended use. Follow manufacturer's instructions.

All wood substrates must meet national and local building code requirements. Test wood subfloors and underlayment panels using a suitable wood-moisture meter. The maximum moisture content is 14%, and the readings between the subfloor and underlayment panels should be within 3% prior to installing the underlayment panels.

ADHESIVE BOND TESTING

Use the following test to determine if a subfloor is compatible for use with TEK™ and TUF STIK™ adhesives, or to determine if the porous or non-porous adhesive application method is required: Using the flooring and adhesive suitable for the subfloor, install a 3' x 3' section following the recommended installation procedures. Tape the edges with duct tape to prevent the adhesive from prematurely drying. Select light traffic areas, such as those located next to walls or columns. The adhesive should be dry and the flooring should be difficult to remove after 48 hours. Note: the adhesive is dry at this point, but not cured. Full cure and maximum bond will not occur for 6-8 days. On large installations, tests should be performed every 50 linear feet (2,000-2,500 SF).

TEK™ AND TUF STIK™ ADHESIVES

GENERAL INFORMATION: Teknoflor offers four adhesive options for use with Teknoflor™ flooring. Areas of usage and subfloor conditions determine the appropriate TUF STIK or TEK adhesive. For areas with bariatric beds, insets or design floors, topical spillages, radiant heat or direct sunlight only use TEK Five or Prevail 4000 Two Part Epoxy. Select and use the proper trowel per the chart below. Always use new trowels to ensure proper adhesive coverage.

TEK™ AND TUF STIK™ PRODUCT	TEK One	TEK Five	TUF STIK-150	TUF STIK 9000	TUF STIK SPX	Prevail 4000
PRODUCT TYPE	Transitional Pressure Sensitive	One-Part reactive Modified Silane (Wet or tacky set only)	Acrylic Spray	Transitional Pressure Sensitive	Modified Polymer	2-Part Epoxy
USAGE	LVT / PVC-Free Tile	LVT / PVC-Free Tile	LVT / Sheet / PVC-Free	Sheet / PVC-Free	LVT / Sheet / PVC-Free	LVT / Sheet / PVC-Free
pH TOLERANCE	N/A	8-10	8-10	8-10	N/A	N/A
ASTM F2170 - RH LIMITS	85%	90%	93%	90%	90%	85%
ASTM F1869 - MVER	6 lbs.	8 lbs.	6 lbs.	8 lbs.	10 lbs.	6 lbs.
SPREAD RATE AND TROWEL (POROUS)	Up to 260 sf/gal. 1/16"x1/32"x 1/32" U-notch	Up to 200 sf/gal. 1/16"x1/16"x 1/16" Sq-notch	150-185 sf per 22 oz. can	Up to 200 sf/gal. 1/16"x1/16"x 1/16" Sq-notch	200-300 sf/gal. 1/32"x1/16"x 1/32" U-notch	165-200 sf/gal. 1/16"x1/16"x 1/16" V-notch
SPREAD RATE AND TROWEL (NON-POROUS)	170 sf/gal. 1/16"x1/16"x 1/16" V-notch	Up to 300 sf/gal. 1/32"x1/16"x 1/32" U-notch	125-150 sf per 22 oz. can	Up to 300 sf/gal. 1/32"x1/16"x 1/32" U-notch	200-300 sf/gal. 1/32"x1/16"x 1/32" U-notch	225-250 sf/gal. 1/32"x1/16"x 1/32" U-notch
SHELF LIFE (IN UNOPENED PROPERLY STORED CONTAINERS)	1 Year	1 Year	1 Year	1 Year	6 months	1 Year
LEED	YES	YES	YES	YES	YES	YES
FLOORSCORE CERTIFIED	YES	YES	YES	YES	YES	YES

All are Commercially & Residentially Rated, and are Compatible with Plywood, Concrete, and Radiant Floor Substrates

Important: Only TEK™ and TUF STIK™ Adhesives are approved and warranted for use with Teknoflor™ Luxury Vinyl Tile and Plank by Teknoflor. Bond issues and other issues resulting from the use of non-recommended adhesives are not warranted. All warranties and guarantees pertaining to the suitability and performance of any product not recommended by Teknoflor rests with the material manufacturer or the installation contractor and NOT with Teknoflor. The condition of the subfloor and bond issues resulting from the use of non-recommended, improper, or incorrectly prepared adhesives, sealers, embossing levelers, patches, concrete, gypsum-based products and other such items, are the sole responsibility of the Flooring Contractor and/or manufacturer of the particular sub-flooring product.

TEK ONE™ - TRANSITIONAL PRESSURE SENSITIVE ADHESIVE

Specially formulated for use with all Shannon Specialty Floors flooring products including Teknoflor®, TUF STUF™ and barenaked™ flooring (except LT). TEK One™ is an advanced resin based, cross-linking transitional pressure sensitive adhesive featuring high aggressive peel and shear strength. This solvent-free, nonflammable, easy troweling product provides excellent installations for Bio-Polyurethane, Vinyl or Ionomer based (PVC-Free except barenaked™ LT) products including tile, plank and sheet in either heterogeneous or homogeneous construction over both porous and non-porous surfaces. TEK One™ has low odor, develops quick tack and is very easy to use. With good water, alkali and plasticizer migration resistance, TEK One™ provides long term assurance for installing a variety of flooring products.

SUITABLE SUBSTRATES:

Properly prepared double layer wood subfloors with a minimum 1 inch total thickness using APA or other suitable ¼ inch or thicker underlayment grade plywood; existing fully bonded terrazzo and ceramic tile; existing fully bonded non-cushion vinyl tile and vinyl sheet goods; radiant heated subfloors where surface temperatures do not exceed 85° F (29° C); and above, on, or below grade concrete in the absence of hydrostatic pressure or excessive moisture.

SUBFLOOR MOISTURE LIMITS:

CONCRETE: 85.0% RH (ASTM F-2170) and or 5.0 lbs.b MVER (Moisture Vapor Emissions Rate) (ASTM F-1869). With TEK Max™: 99.0% RH and/or 18 lbs. MVER - 2 coats

WOOD: Readings between the subfloor / structural wood and underlayment panels must be within 2% and be less than 14% moisture content. Wood substrates must be checked with a calibrated pin moisture meter. If test results exceed limits, contact technical services at technicaldept@teknoflor.com for further assistance.

SUBSTRATE PREPARATION (ASTM F710 & ASTM F1482):

All substrates must be sound, clean, flat and smooth, dry and free of dust, dirt, wax, grease and oil, marker and paint, and any other deleterious contaminants that may stain the flooring or interfere with a good bond (ASTM F710). Concrete must be fully cured and free of hydrostatic pressure or excessive moisture or out of spec surface conditions and shall be free of incompatible curing compounds or sealers, fire retardant chemicals, release agents and other concrete treatments or additives that may prevent a good bond. Level or grind flush high spots and fill low spots, crack or depressions. Use a high quality 3,500 psi cement or calcium aluminate smoothing and patching underlayment according to the instruction of the underlayment manufacturer. Do not fill expansion joints or other moving joints. Always perform a bond test prior to installation. Follow the current installation guidelines for preparation and installation over specific substrates. It is the installers/ general contractors responsibility to ensure the substrate is suitable and is properly prepared prior to installation.

INSTALLATION:

The installation site must be acclimated with HVAC in operation for a minimum of 3 days and preferably 2-3 weeks before starting.

The adhesive, floor covering and subfloor surface to receive flooring must be acclimated to within 3° F of each other between 65° to 85° F (18° to 29° C) at a relative humidity of 35% to 65% before during, and after installation. Follow the Shannon Specialty Floors installation guidelines for detailed instructions. Stir adhesive well before using.

SURFACE POROSITY (ABSORBANCY):

Determine the surface porosity by placing ¼ inch size drops of clean water on the surface of the floor using an eye dropper or straw. If the drops of water are completely absorbed into the surface within 1 minute the surface is considered to be Porous or absorbent. If the drop of water is still beaded up after 1 minute, the surface is considered to be non-Porous or non-absorbent.

ABSORBENT SURFACES: TEK One™ may be used either wet or tacky-set over porous surfaces.

WET-SET: Apply adhesive with the appropriate trowel and allow to flash off for 5-10 minutes before installing flooring. Lay tile, plank or sheet goods into wet adhesive according to flooring manufacturer's instructions to achieve 100% adhesive transfer to the back of the flooring. Wet set installations achieve the strongest bond strength and are the preferred installation method.

TACKY-SET: Apply adhesive with the appropriate trowel and let dry until clear in the valley (approximately 10-20 minutes) while still transferring a ridge of adhesive when lightly touched. Install flooring according to flooring manufacturer's instructions within 30-50 minutes. Achieve a minimum of 80% adhesive transfer to the back of the flooring. Frequently check the back of the flooring during installation to insure sufficient adhesive coverage.

NON-ABSORBENT SURFACES: This installation method requires constant attention from the installer to monitor the adhesive and the working timing is less. Care must be taken to allow the adhesive to flash off sufficiently while at the same time maintaining sufficient adhesive coverage on the back of the flooring.

DRY-TO-TOUCH: Apply with the recommended trowel, allow to dry to touch (approximately 20-40 minutes), and lay in the tile, plank or sheet flooring according to the flooring manufacturer's instructions within 30-50 minutes. The highly aggressive pressure sensitive grip prevents slippage and minimizes seam gaps. Achieve a minimum of 50% adhesive transfer to the back of the flooring.

Frequently check the back of the flooring during installation to insure sufficient adhesive coverage. Installation of adhesive that is too wet over a non-porous substrate can result in indentations occurring well beyond 72 hours cure time and may lead to bond failure.

Installation on adhesive that has flashed off or been open too long can result in adhesive ridges telegraphing and may lead to bond failure.

Roll the Floor: Immediately after installation, roll the flooring with a 100 lb. three section roller in both directions and hand roll the perimeter and seams to ensure complete contact between adhesive and flooring and that all trowel ridges are completely flattened. Reroll the floor after 1-hour.

RECOMMENDED TROWELS AND COVERAGE RATE:

Installation Surface	Trowel Size and Notch	Coverage
Porous/Non-Porous Smooth	1/16" x 1/32" x 1/32" U	Up to 260 SF
Porous/Non-Porous Rough	1/16" x 1/16" x 1/16" V	Up to 170 SF

*Trowel dimensions are width x depth x spacing. Coverage is approximate and may vary depending on porosity of substrate, surface smoothness and the angle at which the trowel is held. *IT IS THE INSTALLERS RESPONSIBILITY TO APPLY THE PROPER AMOUNT OF ADHESIVE FOR THE JOB CONDITION.*

Premature traffic can cause indentations, gapping and movement and other installation issues.

CURING TIME AFTER INSTALLATION:

Light foot traffic after 3 hours. Full Traffic after a Minimum of 24 Hours when installed Dry-to-Touch, a Minimum of 24-48 hours when installed Tacky-Set, and a Minimum of 48-72 Hours when installed Wet-Set.

PHYSICAL PROPERTIES:

Base	Acrylate Dispersion
Appearance	Smooth, Creamy, easy to trowel. White to off-white color.
Flash Time	Approximately 5-40 minutes
Working Time	Up to 50 minutes at the recommended temperature and humidity.
Total Open Time	Up to 90 minutes at recommended temperature and humidity.
Shelf Life	One year in unopened container at 70°F (21°C)
VOC Content	0 g/l when tested in accordance with SCAQMD Rule 1168.
Clean Up	WET - Clean cloth warm water

	DRY - Clean cloth with denatured alcohol or acetone. Rinse with clean water after cleaning.
Freeze-Thaw	Must be maintained above 40°F (5°C) Not freeze thaw stable.
LEED	May contribute to LEED points under EQ 4.1
Container Size	3 Gallons
Weight	33 lbs.
Place of Manufacture	European Union
Other Features	Water resistance when cured, VOC compliant, non-flammable. Made without antimicrobial agents as adhesive does not promote fungal growth.

CAUTION: DO NOT take internally. If swallowed, DO NOT induce vomiting. Call a physician immediately. KEEP OUT OF REACH OF CHILDREN.

WARRANTY INFORMATION: This product is manufactured according to exacting quality control standards and is warranted to be free from manufacturing defects. Defective material called to our attention within one year of manufacture will be replaced. No guarantee, expressed or implied, is made regarding the performance of this product since the manner and conditions of application are beyond our control.

FIRST AID: If swallowed, rinse out mouth and drink plenty of water. Do not induce vomiting. Call for medical help immediately. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If breathing is difficult, give oxygen. For eye contact, immediately remove contact lens and rinse with eyes wide open with plenty of water for several minutes. In case of skin contact, immediately wash skin with soap and plenty of water and rinse thoroughly. Do not use solvents or thinners. Remove contaminated clothing or shoes. Seek medical help if irritation occurs. Wash clothing before reuse.

24 HR EMERGENCY CONTACT: CHEMTREC 800.424.9300
CONTACT ID: CCN794556

FIRE FIGHTING: In case of fire use alcohol resistant foam, dry chemical, carbon dioxide, or water spray. Use self-contained breathing apparatus and full protective clothing.

INSTALLATION

GENERAL INFORMATION

Before starting the installation, verify that the material is of the correct style, color, quantity, and run numbers, and ensure that the correct adhesive has been selected for area of usage. Also, confirm that all pre-installation requirements, as detailed in the remainder of this section, have been satisfactorily completed. Start of flooring installation indicates acceptance of current subfloor conditions and full responsibility for completed work.

CHECK RUN NUMBERS AND MANUFACTURE DATE

Locate the run number on the short end of each carton and verify that all the material for your job is from the same run. Minor shade variations within the same run number contribute to the natural look of Teknoflor. To avoid noticeable shade variations, do not install material from different runs across large expanses.

To determine manufacture date, locate the run number on the short end of the carton. It is the eight-digit number separated by decimal points beginning with the two-digit day, then the two-digit month, and finally the four-digit year.

Run Number/Manufacture Date 29.10.2013
DAY.MONTH.YEAR

- Acclimate tiles (keep cartons flat), adhesive, jobsite, and subfloor to a stable condition between 65°-85°F (18°-29°C) and 35%- 65% RH for a minimum of 48 hours before and after installation.
- Confirm quantity of Teknoflor™ flooring and adhesive are sufficient for area to be installed. Check material for visual defects before installation. Installation of flooring acknowledges acceptance of materials.
- Make sure all surfaces to be covered are completely clean, dry, and smooth, and that all necessary subfloor preparation has been properly completed and documented.
- Perform final acceptance inspection of substrate.
- Protect adjacent work areas and finished surfaces from damage that could occur during product installation.
- Teknoflor should be the last material installed, so as to prevent other trades from disrupting the installation and adhesive set-up, and to prevent damage to the floor.

Teknoflor comes in plank, rectangular, and square tile formats. Install tiles running in the same direction (block or staggered), quarter-turned Or as specified by architect. Teknoflor plank flooring should have end- joints offset by at least 6" and should be installed in a staggered manner, so as to create a random appearance that avoids alignment of end-joints.

Teknoflor can be laid out to run either parallel or diagonal to the room or primary wall. The following conditions must be given consideration when determining how Teknoflor™ will be installed:

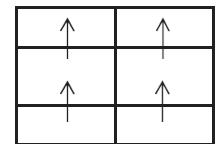
Layout: Layout shall be specified by the architect, designer or end user (refer to architectural drawings).

- Establish center lines and determine starting point to balance the installation by having equal tile widths on opposite sides of room. This can be facilitated by measuring or dry-laying tiles and marking baselines.

- Wet-Set Applications (TUF STIK 9000 & TEK® 4000): The room layout must be arranged so that all flooring can be installed while working off of freshly installed tiles. This will keep tiles from shifting, minimize adhesive displacement, and prevent wet adhesive from oozing up and getting onto the surface of the tiles. This can be accomplished by snapping chalk lines to create work zones that are no wider than a comfortable arm's reach, and in multiples of the tile or plank width. Periodically pull back a tile or plank during installation and check for adhesive transfer to backing.
- When all preparatory work is satisfactorily completed, including dry fitting cut tiles (if applicable), proceed with installation. Inspect each tile for visual defects before installing. Installation of flooring implies acceptance of materials.
- Protecting Newly Installed Floors: Newly installed flooring must be protected while the adhesive sets, and also protected from damage of other trades. Early foot traffic, as well as point or rolling loads, can cause shifting of tiles, adhesive displacement, or breaking of the bond between the adhesive and the tile or substrate.
- Always start with a clean job-site. All trades must finish before installing Teknoflor®. Carefully inspect each plank or tile for defects prior to installation, and do not install damaged material. Be sure to check run numbers/ manufacture dates prior to installing.

TEKNOFLOR RESILIENT TILE INSTALLATION

All Teknoflor products have directional arrows on the back.



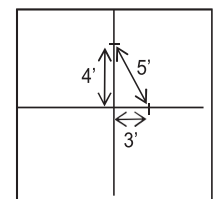
All Teknoflor tiles should be installed with the arrows pointing in the same direction in order to prevent shade, color, or gloss variation.

Teknoflor planks may be installed randomly (without concern for arrow direction). This will bring out more variety in the appearance of the installed floor.

STEP 1: SQUARE THE ROOM

Square the layout of the room, find the center of one end of the room. Locate the same point at the other end-wall. Snap a chalk line between these points to mark the center line on the floor. Then measure along this center line to find the middle of the room. At the center point, mark off a line across the room at precise right angles to the first line. This can be accomplished using the 3-4-5 triangle method.

Starting from the center point, make a mark measuring 4 feet vertically and 3 feet horizontally. Connect the marks with a diagonal line to complete the triangle. If the diagonal line does not measure exactly 5 feet, then the center crossing lines are not at a true right angle.



TIP: Multiples of the 3-4-5 triangle method may be used for greater accuracy in large rooms (e.g. 6-8-10, 9-12-15, etc.).

STEP 2: BALANCE THE ROOM

Either measure or dry-lay a row of tiles from the center line to the side wall to determine the size of the first and last tiles. If the resulting border is too small in either direction, move the row of tiles over one-half tiles' width and snap a new line. This becomes your new starting line.

(See Figure 1).

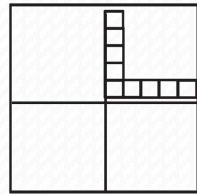


Figure 1

STEP 3: INSTALL THE TILES

After determining the layout and snapping center line, spread adhesive and install flooring as outlined using the dry to touch or wet-set application method. (See Figure 2). Apply adhesive as recommended on the label.

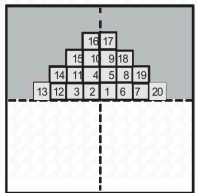


Figure 2

Pressure Sensitive (dry-to-touch)

Applications: Lay tiles from the center of the room in a pyramid fashion while working towards the walls as shown in

Figure 2. The dry, tacky adhesive makes it possible to work on top of the material without compromising the installation.

Wet-Set Applications: The room layout must be set-up so that all flooring can be installed while working off of freshly installed tiles. This will keep tiles from shifting, minimize adhesive displacement, and prevent wet adhesive from oozing up and getting onto the surface of the tiles. This can be accomplished by creating work zones outlined with parallel chalk lines. Create work zones that are no wider than the installer's comfortable arm reach and in multiples of the tile width. Measure and snap chalk line parallel to the established base line. Spread adhesive within the work zone and begin installing tiles using the row-by-row method, as shown in Figure B under "Teknoflor Resilient Plank Installation" (next-section).

TIP: Do not apply more adhesive than can be worked within the recommended working time. Always follow the adhesive manufacturer's recommendations.

IMPORTANT: All Teknoflor flooring must be rolled with a minimum 100lb roller after installation. Use a hand roller around the perimeter and in areas that cannot be reached with a 100lb roller.

TEKNOFLOR™ RESILIENT PLANK INSTALLATION

STEP 1: SQUARE THE ROOM

To square the layout of the room, find the center of one end of the room. Locate the same point at the other end-wall. Snap a chalk line between these points to mark the center line on the floor. Then, measure along this center line to find the middle of the room. At the center point, mark off a line across the room at precise right angles to the first line. This can be accomplished using the 3-4-5 triangle method.

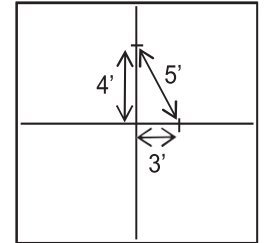


Figure A

Starting from the center point, make a mark measuring 4 feet vertically and 3 feet horizontally. Connect the marks with a diagonal line to complete the triangle. If the diagonal line does not measure exactly 5 feet then the center crossing lines are not at a true right angle. (See Figure A)

TIP: For large rooms, multiples of the above dimensions may be used to obtain greater accuracy. (6-8-10, 9-12-15, and so on.)

STEP 2: INSTALL THE PLANKS

After snapping the center starting chalk lines, leaving portions of the lines at center and near each wall uncovered. Start laying the planks from the right angle formed by the center lines. Lay the material from the center of the room, working towards the walls as shown. It is imperative that the first row is placed precisely and accurately against the reference line as you install. Make sure each plank is flush against the chalk line and tight against the adjoining plank. The ends of the planks should align perfectly. Lay row-by-row or in pyramid fashion (See Figure B & C).

TIP: Pay special attention to the edges of the planks. Do not slide the planks through the adhesive as you install.

IMPORTANT: All Teknoflor flooring must be rolled with a minimum 100lb roller after installation. Use a hand roller around the perimeter and in areas that cannot be reached with a 100lb roller.

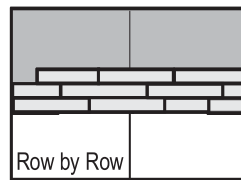


Figure B

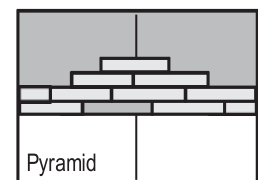


Figure C

CARE & MAINTENANCE

RESILIENT FLOORING - CARE AND MAINTENANCE

NO WAX - NO BUFF FLOORING... EVER

TEKNOFLOR® and TUF STUF™ resilient flooring features a proprietary high performance wear surface. This highly durable floor covering does not require any floor finish or buffing, ever. As a result, there is no need to use aggressive pads or strippers to maintain your floors. Welcome to the future of clean. Strictly follow all SOP's (Standard Operating Procedures) for your facility. Before starting maintenance or spot cleaning, make sure you have the correct safety and cleaning equipment and that it is in good working order.

SAFETY PRECAUTIONS

- When performing wet maintenance, always put out wet floor caution signs and or caution tape and prohibit traffic until the procedure is done. Promptly remove caution signage when the maintenance procedure is complete and the floor is dry.
- Carefully follow each product's label instructions for proper use. Refer to the products SDS (Safety Data Sheet) to understand the hazards and precautions associated with each product and use the appropriate personal protective equipment for each cleaning product.
- Floors are more slippery when wet or contaminated with oils grease, silicone or other contaminants. Immediately clean up spills or contaminants to maintain the floors surface traction.
- DO NOT mix any chlorine bleach containing cleaner with ammonia or acidic cleaners. The combination can create toxic gases.

INITIAL FLOOR CARE

- Permit foot traffic on the new floor after waiting the time referenced for the adhesive used. With trowel applied adhesives, wait a minimum of 24 hours for foot traffic and keep furniture, fixtures, rolling loads and heavy traffic off the new floor for at least 72 hours.
- Allow immediate foot and rolling traffic when the flooring is installed using spray adhesive.
- Sweep, dust mop or vacuum the floor to remove all loose dirt and grit. Lightly damp floor with well rung mop as needed.
- Remove acrylic adhesive residue contamination with Heavy Duty Goof Off® water based cleaner (in plastic containers). Before use of any cleaner, test in an inconspicuous area first for any adverse reaction. Apply cleaner to a clean terry cloth towel. Place the damp cloth over the spot and let sit for 1-2 minutes to loosen and soften the adhesive. Carefully blot and rub the adhesive off the surface with the damp cloth rotating to clean sections of the cloth during cleaning. Rinse the surface with clean water and blot dry.
- Wait 72 hours (3 days) or longer before wet cleaning the new floor or in areas where flooring has recently been replaced.
- Perform initial cleaning using the Periodic Deep Cleaning Maintenance procedures.

SPOT CLEANING

- Remove surface contamination with Heavy Duty Goof Off® water based cleaner (in plastic containers), Windex® or denatured alcohol. Before use of any cleaner, test on an inconspicuous area first.
- Apply the cleaning solution onto a clean white terry cloth.
- Put the wet cloth over the contamination and let sit for 1-2 minutes. This helps to loosen and soften the contaminant.
- Gently rub and buff the spot off the surface with the damp cloth rotating to clean sections of the cloth during cleaning.
- Keep in mind that it may take more than one application to remove the contaminant.
- To aide in removal of stubborn contaminants, carefully use a non- abrasive scrubbing pad for increased agitation.
- Apply additional cleaner to a clean section of cloth and continue to gently rub and buff the remaining contaminant until it is removed.
- When finished, rinse the surface with clean water and blot dry with a clean towel.

ROUTINE MAINTENANCE (DAILY OR AS NEEDED)

- Sweep, dust mop or vacuum the floor to remove all loose dirt and grit. Do not use treated dust mops.
- When available, clean the floor with an auto scrubber using a properly diluted Neutral pH cleaner and a 3M 5100 Red pad or equivalent pad or brush. Rotary or cylindrical brush cleaning is recommended for textured floors.

DO NOT USE A MORE AGGRESSIVE PAD OR BRUSH.

When an auto scrubber is not available, mop on a properly diluted Neutral pH floor cleaner. Apply the solution liberally, but do not flood the floor. Clean the floor using a mop, flat mop or machine scrub with a low speed (175-350 RPM) swing arm floor machine using a 3M 5100 Red pad or equivalent pad or brush.

- Completely remove the cleaning solution using an auto scrubber, shop vacuum or mop and let the surface dry.
- Fans or air movers can speed up the drying process. Once the floor surface is clean and dry, remove caution signs and return the floor service.

PREVENTATIVE FLOOR CARE

- **DIRT & GRIT CONTROL** - Use proper walk-off matting at all entries and where needed to trap soiling, dirt, clay and gravel and other contamination that gets tracked onto the floor through routine use.
- **OPEN TREAD** - Walk off mats should incorporate a high friction, open tread or surface that will scrub off grit and particles from the bottom of shoes and other traffic and prevent contaminants and moisture entering the facility.
- **OUTSIDE** - Mats should be placed outside each entry and incorporate an open flow through design with an aggressive tread and ability to scrub off both heavy soil and wetness or snow as appropriate for location.
- **INSIDE** - Mats should be placed inside each entry and in other locations with an open tread and sufficient depth to scrub off particulate and hold contaminants for later cleaning. Inside matting should be at least the width of the doorway and be a minimum of 10 feet or longer sufficient to capture the contaminants from normal traffic.
- **NON-STAINING BACKING** - Matting shall incorporate a backing that will not stain the floor.
- **ROUTINE CLEANING** - Walk off matting needs to be frequently cleaned to maintain functionality.
- **FURNITURE RESTS & PROTECTORS** - Use appropriate furniture rests and floor protectors under all chairs, furniture, rolling equipment and beds. Proper selection and care of furniture rests, wheels and floor protectors is an important part of a comprehensive and effective floor care program for long term appearance retention of all types of floor coverings.
- **NON-STAINING** - Be made of non-staining materials.
- **RADIUSED EDGE** - Provide slightly radius or rounded edges.
- **SUFFICIENT CONTACT AREA** - Have a surface contact area that is large enough to evenly distribute the load without causing damage to the floor. Generally a 1" or larger diameter flat smooth contact area is appropriate for most applications.
- **FLAT SMOOTH CONTACT AREA** - Provide a flat smooth contact area free from unevenness, protrusions or depressions, abrasiveness, mold lines or seams or embedded grit or particulate, etc.
- **LEVEL FURNITURE** - Equipment and furniture should be properly levelled so that the weight is equally distributed on each rest and they are flat on the floor at all times.
- **GLIDES LEVEL WITH FLOOR** - Floor glides should rest level on the surface of the floor.
- **COMPOSITION OF GLIDE SURFACE** - Commercial grade felt glides are preferred for resilient flooring. Stainless steel, nylon and non-staining rubber glides can be used. Do not use metal glides that may rust or plastic glides as they become abrasive with use and can scratch the floor.
- **ROUTINE MAINTENANCE** - Furniture rests, wheels and floor protectors require periodic cleaning and maintenance like all other equipment in a facility. Check often and replace worn or damaged furniture rests immediately to prevent unintended damage to the flooring.

DO USE:

- **MICROFIBER MOPS** - Microfiber mops and microfiber flat mops are recommended as they clean more effectively and retain soil better than traditional mops.
- **DILUTION CONTROL** - There are various options available from the cleaning chemical suppliers for precise metering of the cleaner with water to provide the correct dilution. Incorrect measurement of cleaners reduces their effectiveness and may cause a residue build up that can be difficult to remove.
- **BRUSHES FOR TEXTURES SURFACE** - Rotary or cylindrical brushes are recommended for cleaning all floors with textured surfaces. Brushes should be equivalent to a 3M 5100 Red pad with flexible non-abrasive bristles.
- **SPOT CLEANERS** - To remove surface spots and contamination that does not come up with routine cleaning, use Heavy Duty Goof Off® water based cleaner (in plastic containers), Windex® or denatured alcohol.
- **SPECIALTY SPOT REMOVER** - Iodine based products will stain resilient floors and should be cleaned immediately. If stained, call customer service to order the Betadine stain remover.
- **FLOOR PROTECTION** - Protect the flooring from construction trades or when moving appliances or heavy fixtures over the flooring (including dollies or protection from outside wheels or castors) with appropriate level of protection. For construction traffic, undyed Kraft paper may be sufficient to protect the floor. For heavy fixtures or large appliances like vending machines, use a minimum 1/4-inch plywood or other suitable underlayment panel to protect the floor.

DO NOT USE:

- **SOLVENT CLEANERS** - Avoid solvent-based cleaners or abrasive cleaners.
- **ABRASIVE CLEANERS AND PADS** - Avoid steel wool or abrasive scrubbing pads, brown or black stripper pads or abrasive or stiff bristle brushes to clean the floor.

DO NOT:

- **DRY BUFF OR BURNISH FLOORING** - Avoid dry buffing or burnishing the floor surface unless using a floor finish. Before dry buffing or high speed burnishing, make sure the floor surface is clean and there is a sufficient base (5-7 coats) of polish.
- **FLOOD THE FLOOR** - Avoid flooding the floor or using excessive amounts of cleaning solution or water during cleaning.
- **GET METAL WET** - Prevent metal furniture and glides from being in contact with the floor when wet.

Visit our website at: www.teknoflor.com for additional guidance and to obtain current technical documents for all of our products.