

CRETE

FLOORING

Glue down - Installation Instructions

(Using UZIN KE 68 or similar adhesive)

SUBFLOOR PREPARATION

CRETE TILE MULTILAYER FLOORING can be installed on wood, concrete, terrazzo, stone, and many other properly prepared subfloors, including in-floor heating. One key factor to ensuring an excellent, finished appearance of an CRETE TILE MULTILAYER FLOORING floor is careful subfloor preparation. The information provided in this document includes general recommendations on how to prepare various types of subfloors. The selection of all materials, including: moisture-mitigation systems, self-leveling compounds, floor patch products, wood underlayments, and any other ancillary products are dependent upon existing conditions. The application of subfloor preparation materials must be in strict accordance with the manufacturer's instructions. **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 Woodland lifestyle flooring. 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.**

CONCRETE SUBFLOORS

GENERAL CONDITIONS

All concrete floors, regardless of age or grade level must be properly cured, free of excess moisture, and prepared in accordance to the most current version of ASTM F710 (Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring). Below and on-grade concrete subfloors must have a suitable vapor retarder properly installed beneath the slab (ASTM E1745). The surface of concrete floors to receive resilient flooring shall be dry, clean, smooth, and structurally sound. They shall be free of dust, solvent, paint, wax, oil, grease, residual adhesive, adhesive removers, film-forming curing compounds, silicate penetrating curing compounds, sealing, hardening, or parting compounds, alkaline salts, excessive carbonation or laitance, mold, mildew, and other foreign materials that might affect the rate of moisture dissipation from the concrete, the adhesion of resilient flooring to the concrete, or cause a discoloration of the flooring from below (ACI 302.1 and ASTM F710). Non-chemical methods for removal, such as scraping, abrasive cleaning, or bead-blasting, including methods described in ASTM D4259 (Standard Practice For Abrading Concrete), may be used on existing slabs with deleterious residues. In all cases, the subfloor must meet the moisture and pH requirements prior to installation.

Warning: Concrete Subfloors Containing Coal Fly Ash: Fly ash is routinely used in cement in LEED-certified projects. No doubt it will continue to grow in popularity as LEED points become the norm in commercial construction. Fly ash contains silicon dioxide and calcium oxide. Silicon is difficult to bond to, and calcium oxide is a caustic, alkaline by-product which plays havoc on flooring adhesives. Installing floors on concrete substrates containing coal fly ash can be problematic and therefore may require aggressive scarification or shot blasting prior to installation of flooring materials. Perform bond test prior to the installation of CRETE TILE MULTILAYER FLOORING. Refer to the manufacturer's instructions of such subfloor preparation products for guidance regarding the proper use of their products.

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.. 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 CRETE TILE MULTILAYER FLOORING. Concrete floors should be tested for pH following the procedures outline in the most current version of ASTM F710. Rinsing and vacuuming with clean, potable water is the best way to lower surface pH, but it will not prevent future issues. Do not acid-rinse concrete floors to neutralize pH. Some moisture-mitigation systems are designed to control pH. Electronic meter testing is not considered a replacement for a Calcium Chloride Test or Relative Humidity Test.

ATTENTION: Mold and mildew grow only in the presence of moisture. Jobsite mold and moisture issues must be addressed and corrected prior to installation.

Floor Flatness: The surface shall be flat to 3/16" in 10 ft. (3.9 mm in 3 m). 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.

Concrete PSI: Concrete substrates must have compression strength of 3,000 psi or greater.

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 60-90 seconds, 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.

Chemical Abatement / Other Contaminants: The use of adhesive removers or solvents in the abatement process or removal of existing or old adhesives is prohibited, and may void the warranty. If oil, grease or other contaminants have deeply penetrated the concrete and cannot be thoroughly removed, do not install CRETE TILE MULTILAYER FLOORING

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.

Treating Surface Cracks: Cracks, grooves, depressions, control joints, or other non-moving joints, and other irregularities shall be filled or smoothed with high-quality Portland cement-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 3,000 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 or synthetic, gypsum-based materials (minimum 3,000 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 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. In addition, it may be an unnecessary, added expense

NEW CONCRETE

New concrete subfloors contain a high percentage of residual moisture. Allow new concrete, including lightweight and gypsum toppings, to cure for at least 90 days before conducting moisture tests. In lieu of wet curing, quite often curing agents are applied to concrete slabs to retard the escape of water during the initial curing process. Compounds left on the slab can retard the escape of free-water during the drying process and eventually break down over time after the flooring is installed, affecting the integrity of the bond. Solvent-based adhesives will not adhere, and water-based adhesives will not set-up and properly cure. **Note: In the event of adhesion failure, the responsibility for warranties and performance guarantees rests with the compound manufacturer and not with Woodland Lifestyle flooring.**

OLD CONCRETE

Old or existing concrete subfloors may pose more of a risk than new concrete, therefore requiring special attention. Remove existing floor covering, all traces of old adhesives, paint, or other contaminants by scraping, sanding, grinding, shot-blasting or scarifying the substrate. **The use of adhesive removers or solvents in the abatement or removal of existing or old adhesives is prohibited and may void the CRETE TILE MULTILAYER FLOORING warranty.**

POWER-TROWELED CONCRETE

Power-troweled concrete surfaces can be very slick, relatively non-absorbent, and may produce surface laitance. These conditions can have an adverse effect on the bondability of subfloor preparation materials, flooring adhesives, and therefore mechanical preparation (such as shot-blasting or scarification) is recommended. Always perform bond tests to determine suitability.

Lightweight Concrete: The minimum density of lightweight concrete should be greater than 90lbs. per cubic foot, with minimum compression strength of 2,500 psi or greater. Perform only In-Situ Relative Humidity (RH) test in strict accordance to the latest edition of ASTM F2170. Existing lightweight concrete or gypsum substrates may need to be primed prior to the installation of flooring. Contact the Subfloor Preparation manufacturer for recommendations, and always perform a bond test before proceeding.

In-Floor Heating: Radiant heating systems must be cast ½" below the surface of the concrete slab, and should be operating at least 2 weeks before installing CRETE TILE MULTILAYER FLOORING. Set the temperature of the radiant heating system to 68°F 48 hours before, at all times during, and 72 hours after installation. The temperature of the radiant heat floor may be gradually increased 72 hours after installation, but the surface temperature should never exceed 85°F. Contact the manufacturer of your radiant heating system for further recommendations.

MOISTURE MITIGATION

Concrete subfloors that exceed the maximum moisture value per the specified adhesive must be brought into compliance prior to the installation of CRETE TILE MULTILAYER FLOORING.

WOOD SUBFLOORS

GENERAL CONDITIONS

CRETE TILE MULTILAYER FLOORING is recommended for use on suspended wood subfloors. Wood subfloors should 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. Wood subfloors must be sturdy, sound, and flat within 3/16" in a 10-foot radius, and should not slope more than 1" per 6 ft. in any direction, with a minimum 18" (45cm) of well-ventilated air space underneath. Crawl spaces should be insulated and protected by a vapor barrier. Do not install CRETE TILE MULTILAYER FLOORING over a sleeper type subfloor, or over plywood that is in direct contact with a concrete slab. 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%.

Plywood: Use only American Plywood Association (APA) rated underlayment grade plywood, with a minimum grade of "BB" or "CC", and minimum ¼" thickness. Allow expansion spacing between plywood butt joints of 1/32"-1/16", or follow manufacturer's instructions. When installing underlayment, stagger cross-joints 4' on an 8' panel (minimum 16"), lightly butt the panels, and set fasteners flush or slightly below the surface level of the underlayment. Fill underlayment seams, nail holes, and any indentations with an approved Portland Cement-type floor patch, allow recommended drying time, and sand the patch until smooth. Otherwise, use manufacturer-certified poplar, birch, and spruce plywood underlayment, with a fully sanded face and exterior glue. All dust must be COMPLETELY removed to ensure a strong adhesive bond. Vacuum or sweep thoroughly, then apply adhesive.

Lauan Plywood: Use only Type 1 lauan exterior grade "BB" or "CC" for underlayment. The use of lesser grades of lauan plywood is unacceptable, and may cause severe problems when used as an underlayment, including: discoloration, indentation, loss of bond, and delamination.

OTHER SUBFLOORS

GENERAL CONDITIONS

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 CRETE TILE MULTILAYER FLOORING if properly prepared.

GLUE DOWN INSTALLATION

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. (See Figure 1)

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.).

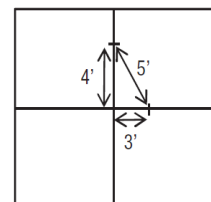


Figure 1

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 2)

TIP: Use the dimensions of the room to calculate the size of the first tile without dry-laying.

STEP 3: INSTALL THE TILES

After determining the layout and snapping center line, spread adhesive and install flooring as outlined below using the dry to touch or wet-set application method. (See Figure 3)

Apply adhesive as recommended on the label.

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 3. 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.

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

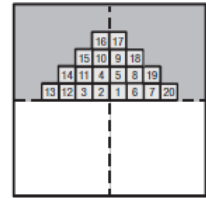
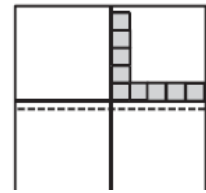


Figure 3

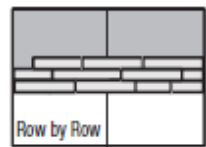


Figure 4