

Installation Guidelines

Sustain, Flex, Sophros, Zandurgrip & Techne Rubber Flooring

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I. General

- A. This installation guide applies to Zandur Sustain, Flex, Sophros and Techne Rubber Flooring.
- B. Inspection - Upon receipt of order, immediately inspect to confirm material received is correct.
- C. Storage. Store in original packing on shipping pallets. If material will be stored for more than 2 weeks, remove strapping and stretch wrap if present. Do not stack pallets. Rolls MUST always be stacked vertically.
- D. Material Storage – Material shall be stored in a cool, dry, enclosed space with a minimum temperature of 45°F. Prior to installation, verify job site conditions are maintained between 65°F and 75°F with a relative humidity between 45% and 65%. These conditions must be maintained for 72 hours prior to, during and 72 hours after installation. Temporary heating may not be used during acclimation or installation.
- E. **WARNING:** Do not sand, sweep, scrape, drill, saw, shot-blast, mechanically chip or pulverize existing resilient flooring, backing, lining felt, asphalt cutback or other adhesive. These products possibly contain asbestos fibers and/or crystalline silica. Do not create dust while removing or otherwise altering the sub-floor or materials installed above or below it. Inhalation of such dust is a cancer and respiratory tract hazard. Unless certain that the product is a non-asbestos containing material verified through testing, you must assume it contains asbestos. Regulations may require that the material be tested to determine asbestos content. Various local, state and federal government agencies have regulations governing the removal of in-place asbestos-containing material. Prior to consideration of removing or altering, in any way, a resilient floor covering or sub-floor that contains (or is presumed to contain) asbestos, you must review and comply with all applicable local, state and federal regulations. The RFCI's (Resilient Floor Covering Institute) "Recommended Work Practices for Removal of Resilient Floor Coverings" is a defined set of instructions that addresses the process of removing all resilient floor-covering structures, including adhesive and adhesive residues. For more information, contact RFCI at www.rfci.com or 706-882-3833. OSHA has determined that employees exposed to respirable crystalline silica at the previous permissible exposure limits, face a significant risk of material impairment to their health. For more information go to osha.gov

II. Sub-Floor Preparation

Proper sub-floor preparation is critical. All guidelines must be followed. Should you have any questions regarding sub-floor preparation, contact Zandur.

Overview:

- Use cementitious patching compound or self-leveling underlayment with a minimum compressive strength of 3,000 PSI when tested in accordance with ASTM C109/C109M or C472.
- Subfloor moisture emissions rate or RH must be tested as specified herein and meet levels specified in section 3.C. Table 2.

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A. General Information & Requirements for all Sub-Floors

1. Zandur products must be installed on a subfloor that is dry, clean, smooth and structurally sound. Sub-floor must be free of contaminants such as paint, oil, wax, mold, adhesive residues, sealers or any other materials that may interfere with adhesive bonding. See section II.B for approved wood sub-floors or section II.C for approved cementitious sub-floors.
2. Prior to installation, a bond test must be performed following installation guidelines for every 1000 square feet. Install a 20" x 20" area (48" x 48" for Techne) and wait 72 hours before testing to allow adhesive systems to cure. If bond is sufficient, material will be laying flat and it will be extremely difficult to remove by hand. If tile can be removed and adhesive remains soft or appears wet after this test or if adhesive remains predominantly on the tile back OR the floor, this indicates failure of the test. Contact Zandur for further instruction. Installation may not occur until proper identification of the problem and remediation occurs. Bond test must be documented with photos showing substrate and back of tile after completion of pull test.
3. Existing flooring should be removed or covered with 3/8" or 1/2" plywood. If product must be installed over existing flooring material, contact Zandur for specific instructions. *Zandur cannot accept liability for issues related to installation over existing floor coverings including but not limited to adhesive problems and/or delamination.*
4. For best results, sub-floors should be level to within 3/16" in 10' and shall be patched or skim coated with a hard setting underlayment compound to ensure substrate is completely smooth. Products with a minimum compressive strength of 3,000 psi are required. Do not apply patching material over existing adhesives. Zandur will not accept claims submitted on floors where patching materials have been applied over adhesive residue. After patching or skimming is complete, floor must be sanded or scraped to remove any trowel marks or inconsistencies which may telegraph through the flooring material. Follow manufacturers guidelines for product use. Zandur cautions against the use of gypsum based products even over 3,000 psi.

B. Preparation of Wood Sub-Floors

1. Zandur floor covering products may be installed over 3/8" or greater A/C grade plywood or underlayment board such as Tecply or Halex (Arctic or Baltic Birch).
2. Wood sub-floors must be cross ventilated below with a minimum of 18" between the ground and the bottom of the joists. Bare ground should be covered with plastic polyethylene moisture barrier.
3. Zandur products are not approved for installation over panel underlayments such as Masonite, luan, particle board, OSB, cementitious underlayment panel, wood underlayment with knots or coated wood.
4. Prepare wood sub-floor per ASTM F 710, Standard practice for installation and preparation of panel type underlayment to receive resilient flooring, as it relates only to approved wood underlayments.
5. Follow manufacturer's instructions for sub-floor installation regarding fastening pattern and joint spacing. Use suitable screws or ring shank nails. Do Not use drywall screws.
6. Once installed, patch subfloor with cementitious material as instructed in section II.A.

C. Preparation of Concrete Sub-Floors

1. Concrete sub-floors shall be constructed according to the American Concrete Institute's ACI 302.2 "Guide for concrete slabs that receive moisture sensitive flooring materials" and must be prepared in accordance with ASTM F 710 Standard practice for preparing concrete sub-floors to receive resilient flooring.
2. Concrete sub-floors must be clean as per section II.A. Pay specific attention to the possible presence of a sealer which must be removed. It is highly recommended to shot blast or bead blast existing concrete sub-floors prior to installation to remove sealers, adhesives and/or any other surface contaminants.
3. All concrete subfloors, regardless of age, must be tested for the moisture vapor emission rate and/or relative humidity to ensure the sub-floor is suitable for floor covering installation. Concrete sub-floors on or below grade should have a moisture retarder to prevent excess sub-floor moisture migration even if tests show acceptable levels.

C. Preparation of Concrete Sub-Floors

4. Testing of concrete shall be performed when the building is enclosed and when the HVAC system has been in operation for at least 7 days. Site temperature and humidity must be at the level expected during normal use or in the range of 65°F to 75°F and 45% to 65% relative humidity.
5. Moisture tests must be performed at a rate of 3 for the first 1,000 square feet and then 1 additional test per additional 1,000 square feet. Zandur approves the use of ASTM F1869 (calcium chloride) and/or ASTM F2170 (relative humidity probe test) and suggests using both tests in combination. If both test types are performed and one type fails, that shall be considered an unacceptable result. Sub-Floors moisture test results shall meet the parameters specified on the adhesive selection chart in section 3.C. Table 2.
6. Sub-Floor shall be tested 1x for every 1000 square feet in randomly selected areas to verify porosity in order to select the proper adhesive. Porosity may be determined by dropping a few droplets of water on the floor – enough to cover a ½" diameter circle. If water absorbs into concrete in 5 minutes, then the floor is considered porous.
7. Sub-floor pH must be tested with wide range pH paper and be between 7 and 9.
8. If subfloor does not or will not at a future time meet the above specifications, issues must be rectified, including the application of an appropriate moisture barrier according to manufacturer's instructions. Consult with moisture barrier manufacturer for recommendations, compatibility and application instructions. Installation shall not commence until any sub-floor moisture issues are properly remediated and verified as corrected by re-testing.
9. Level sub-floor, following manufacturer's instructions.
10. Allow patching materials to dry naturally without the use of direct air or temporary HVAC.
11. Flooring may be installed over terrazzo floors, however terrazzo must be bead or shot blasted and shall be treated as a non-porous surface.

D. Radiant Heated Sub-Floors – Concrete and Wood

1. Lightweight concrete such as gypcrete or other gypsum based products are commonly used with radiant systems and may have an insufficient compressive strength. If after cleaning, a white dust is present when the floor is wiped with a cloth, it is most likely of insufficient compressive strength. Gypsum products with a compressive strength of less than 3,000 psi may not be used.
2. Only in-slab or below sub-floor radiant heating systems are compatible with Zandur materials. Do not install product over mat type systems.
3. Prior to sub-floor preparation, heating system must be activated to maximum temperature for a minimum of 3 days. Then reduce heat to room temperature, 5°F per day, until it is reached. Then shut off system prior to sub-floor preparation and installation. Install once sub-floor reaches room temperature. Re-activate system no less than 72 hours after installation and increase temperature no more than 5°F per day until reaching normal temperature. Temperature of sub-floor shall not exceed 85°F at any time.

E. Metal Substrates

1. Remove rust and other contaminants by sanding, scraping, etc. Grind smooth as necessary.
2. Apply primer such as Sherwin Williams Kromik according to manufacturers' instructions.
3. Perform adhesion test to verify compatibility. Refer to section II.A.2.

F. Existing Flooring as a Substrate

1. Zandur recommends removal of existing flooring prior to installation of new flooring. In some situations however, it may be desired to install over existing flooring material. Because the condition and properties of the existing flooring and adhesion are unknown, this process can be risky and any claims as a result are not covered by warranty.
2. Installation without the use of an embossing leveler (where required), over flooring that has not been stripped of waxes or finishes or installation over degraded materials will result in failure.
3. As with all installations, an adhesion test is required.
4. If Sub-Floor is non-porous, install using installation guidelines for non-porous sub-floors.
5. Contact Zandur technical services to review any specific project where this type of installation is planned, prior to commencement.

G. Access Flooring as a Substrate

1. Due to significant variances between access flooring systems and condition of panels, extra caution must be exercised when installing over access flooring. Access flooring as a substrate must be prepared to be smooth and level in order to minimize potential telegraphing of underlayment panels through the finished floor.
 - a. 6mm or greater thickness materials may be installed over access flooring using direct glue method. Thinner materials may be installed over access panels, but only after a suitable underlayment has been applied to the access panels. Contact Zandur if installation requires the use of releasable adhesive.
 - b. The following specifications must be met to limit telegraphing when installing over access flooring:
 - i. Gaps between panels: Not to exceed 1/16" (1mm)
 - ii. Overall Level of panels: level to +/- 1/16" (1mm) over a 50 square foot area.
 - iii. Level between panels: difference in height not to exceed 1/32" (0.5mm)
 - iv. Panel Flatness: Concavity must be no greater than 1/16" (1.0mm)
 - v. Corners of panels must be verified to be level with one another to within 1/32" and not dished up.
 - c. For applications where the above conditions cannot be met or where further limiting the potential of telegraphing is desired, 1/2" or greater plywood underlayment may be used over the access panels. Plywood must be properly secured to panels and prepared according to sub-floor preparation guidelines, extending over seams of access panels. Access areas may be cut into the floor and trimmed with standard rubber or vinyl floor trim.
 - d. Substrate shall be considered non-porous for this application.

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III. Floor Covering Installation

Overview:

- Verify sub-floor is smooth and level. Imperfections can telegraph through to finished floor.
- Verify underlayment is cured, hard and free of dust.
- Dry lay product prior to permanent installation to verify satisfaction of materials and to properly mix shade variance. Claims will not be accepted after installation for defects visible prior to installation.
- Verify correct adhesive has been selected for project based on ACTUAL site conditions and use requirements. Zandur cannot accept claims for use of incorrect adhesive.
- Review and use correct open times as specified below (where applicable).
- Repair raised edges PRIOR to adhesive setting. If an edge raises – roll it and place weight on it.

A. Pre-Installation Checks

1. Acclimation – 24 hours on jobsite prior to installation is required for flooring, adhesives and finishes.
2. Job Site Conditions – Maintain between 65°F and 75°F with a relative humidity between 45% and 65% for 72 hours prior to, during and 72 hours after installation. Temporary heating may not be used.
3. Sub-Floor – Verify it is prepared according to Section II and is dry, level and dust free.
4. Patching/Skim Coat – Ensure that a 3,000 psi or greater, hard setting cementitious patching compound was used and is properly cured. If sub-floor or patching material is easily scratched or is dusty even after being cleaned, installation cannot occur.
5. Material Verification – Prior to installation, randomly remove a few pieces of material from different packages and compare to submit-tal sample to ensure client is satisfied with color, shade and/or shade variation. Additionally, verify squareness, thickness and all other visual aspects to verify acceptance. If the material does not meet client or contractor expectations, contact Zandur immediately. Dry lay product prior to permanent installation to verify product meets visual expectations. Installation signifies acceptance of material in all visual aspects. After the product is installed, the Zandur warranty does not cover incorrectly shipped or use of incorrect materials regardless of the situation. Additionally the Zandur warranty does not cover visual defects including, but not limited to pattern, color, shade variance, squareness or thickness after the product is installed.
6. Adhesive Selection and Use – Select appropriate adhesive based upon Zandur recommendations, type of application and site conditions. Adhesives shall be used by qualified, experienced professionals only.
7. Adhesion Test – In order to verify adhesion test according to instruction in section II.A.2. If material is not sufficiently adhered after 24 hours and can be easily pulled up, contact Zandur. DO NOT proceed with installation.

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B. Adhesive Selection

Table 2 Adhesive Selection and Suitability Chart

Adhesive	For use with:	Sub-Floor Moisture Limits	Rolling and Heavy Loads	Substrate Porosity	Recommended Trowel & Estimated Spread Rate*		Surface Moisture
					2.5mm 3/32" X 1/16" X 1/16" U Notch	3.5mm & greater 1/16" x 1/16" x 1/16" Square Notch	
#10 Acrylic Latex	Sustain, Flex Sophros, ZandurGrip	85% RH 6lbs MVER	Periodic use of castered chairs, carts and other similar loads. Not for heavy point loads	Porous & Non-porous	225-250 ft²/gal	125-150 ft²/gal	Normal
	#10 Acrylic adhesive is a general purpose zero VOC product used for typical installations of Sustain, Sophros and ZandurGrip 2.5mm and Flex 3.5mm products as well as light duty installation of Sustain and Sophros 6.0mm and Flex 7.0mm. #10 is well suited for a wide variety of applications including offices, corridors, classrooms, break rooms and patient rooms. A 72-hour cure time is required prior to putting floor into use.						
#15 Two Part Urethane	Sustain, Flex Techne, Sophros ZandurGrip	90% RH 8lbs MVER	Regular to extreme use of heavy rolling loads, castered chairs and pallet jacks. Heavy point loads	Porous & Non-porous	Not Recommended	125-150 ft²/gal	Elevated: Entries, food service, locker rooms
	For experienced installer use only. #15 2-Part Urethane is a high strength adhesive intended for use with Sustain & Sophros 6 & 9mm, Flex 7 & 10mm and Techne where heavy equipment, heavy rolling loads and high impact loads are common. #15 is typically used for sport and fitness applications. A 72-hour cure time is required prior to returning floor to normal use. Use for Techne only in extreme use applications. Maybe be used for Sustain, Sophros and ZandurGrip 2.5mm & Flex 3.5mm in very heavy traffic or high moisture areas but ONLY after consulting with Zandur technical services.						
#20 Urethane	Techne & Rubber Underlayment	90% RH 8lbs MVER	Regular use of heavy rolling loads, castered chairs and pallet jacks. Heavy point loads	Porous	NA	125-250 ft²/gal	Elevated: Entries, food service, locker rooms
	For use with Techne and Rubber Underlayment for general commercial and fitness as well as other light to regular use of casters and heavy rolling loads. Use #15 for extreme use applications.						
#60 Spray Adhesive Canisters	Sustain, Flex, Sophros	98% RH	Periodic use of castered chairs, carts and other similar loads	Porous & Non-porous	125 square feet per can		Normal
	Use on 2.5 Sustain & Sophros and 3.5 Flex for applications where high RH is present or on projects where floor must return to service immediately. Sub-floor preparation is critical when using spray adhesive as telegraphing of any imperfections is likely. May be used with 6mm and greater thickness products where high impact loads are not present.						
#95 ZPS Peel & Stick	Sustain, Flex, Sophros	98% RH	Periodic use of castered chairs, carts and other similar loads	Porous & Non-porous	NA		Normal
	Allows installation and immediate return of floor to service. The fastest and least impactful method of installation for fast turn-around jobs. Popular for pharmacies and healthcare applications. Available on 2.5 Sustain and Sophros and 3.5 Flex. May be used with 6mm and greater thickness products where high impact loads are not present. Application of sub-floor primer is required.						
#100 ZPS Peel & Stick	Sustain, Flex	100% RH	Periodic use of castered chairs, carts and other similar loads	Porous & Non-porous	NA		Normal
	Allows installation with no odor and immediate return of floor to service. The fastest and least impactful method of installation for fast turn-around jobs. Popular for pharmacies and healthcare applications. Available on 2.5 Sustain and 3.5 Flex. May be used with 6mm and greater thickness products where high impact loads are not present. Application of sub-floor primer is required.						

*Adhesive Spread Rate is based on theoretical sub-floor conditions and trowel use. Actual rates will vary.

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1. Zandur recommends the use of one of the types of adhesive in Table #2. Adhesive selection must be verified as correct by installation contractor based on actual sub-floor conditions and requirements.
2. Prior to installation of materials, perform sub-floor moisture and pH tests. Selection of appropriate adhesives can be made only after test results are known in conjunction with the type of use the flooring will experience (heavy rolling loads, surface moisture, etc).

C. Layout of Floor

1. Mark center and other lines according to specified pattern. Layout must be done to avoid the use of any pieces less than 9" in width. Use chalk to mark installation lines, then re-mark chalk lines with pencil so it doesn't disappear. Adhesive MUST be troweled over the line to ensure 100% coverage under the flooring.
2. Install tile either an ashlar (staggered joint) pattern or corner to corner. Rolls shall be installed in a staggered joint pattern.
3. Tiles are directional and must be installed with arrows on the back of tile pointing the same direction.

D. Specific Adhesive Use Instructions

1. Zandur #10 Adhesive

- a. Using the recommended trowel, apply adhesive in a uniform, semi-circle pattern. Do not over trowel adhesive. Ensure that there are no lumps or ridges created by the leading trowel tip. Imperfect troweling can telegraph through the floor.
- b. Porous Sub-Floors: This process is the preferred method for ease of installation and should be used unless installation is done over non-porous sub-floor. Once troweled onto floor, adhesive should be left open for 5-10 minutes. At that time, you may begin to install material and should have 20-30 minutes of open time. When adhesive does not transfer to your finger when touched lightly, the adhesive is no longer open and must be removed and reapplied. Adhesive open times may vary greatly due to relative humidity temperature and porosity of the sub-floor.
- c. Non-Porous Sub-Floors (tile installation only): Once troweled onto floor, adhesive should be left open until it is dry to the touch and does not transfer to finger. This takes approximately 45 minutes. Material must be installed within 45 to 60 minutes after adhesive dries to the touch. Once laid, do not pull back tile to check for adhesion or bond will be compromised. Adhesive open times may vary greatly due to relative humidity temperature and porosity of the sub-floor. Contact Zandur if installing roll product over non-porous sub-floors.
- d. Follow guidelines for Roll or Tile installation.

2. Zandur #15 Two Part Urethane

- a. **#15 must be used only by those experienced with using a 2-part urethane adhesive.**
- b. Pre-cut materials where possible. It is very difficult to cut wall trim edges or around door frames with tiles set into wet adhesive.
- c. Snap a chalk line parallel to the longest wall in the direction you will be installing. This line should be a distance equal to or less than the width of the material being installed. Continue marking lines across the floor parallel to the first line. The distance between lines must equal the width of the material.
- d. Mix part A and part B together and blend well using a mixing paddle on a power drill. Do not mix by hand as sufficient blending will not occur. Approximate pot life of adhesive will be 30-45 minutes depending on site conditions.
- e. Using the recommended trowel, apply adhesive in a uniform, semi-circle pattern. Spread adhesive in the first marked row. Trowel adhesive slightly over the line – do not trowel short of the line. Trowel adhesive evenly, ensuring not to leave excess. Do not over-trowel adhesive. Apply adhesive to an area which can be installed in approximately 20-30 minutes. Adhesive must be poured from container onto sub-floor immediately after mixing or open time will be significantly shorter.

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- f. Once troweled onto floor, material may be installed immediately. The adhesive has a working time of approximately 30 minutes. Do not install after this period of time, even if the adhesive still transfers, as the chemical curing process has begun and adhesion will be compromised. Adhesive open times may vary greatly due to relative humidity temperature and porosity of the sub-floor.
- g. Seams must be taped with blue masking tape to keep them tight as flooring easily slides until cured.
- h. Move onto subsequent rows once each row is installed. This method will avoid working on installed product.
- i. Follow guidelines for Roll or Tile installation.

3. Zandur #20 Single Part Urethane

- a. **IMPORTANT:** #20 is a single part adhesive that cures through interaction with the humidity in the air and sub-floor. Cure times may vary greatly based upon sub-floor and ambient air RH. Bond testing with a minimum 4' x 4' piece of material will provide guidance as to actual cure times and verification of bond. Properly cured adhesive will not release material after 72 hours when pulled from sub-floor.
- b. Pre-cut materials where possible. It is very difficult to cut wall trim edges or around door frames with tiles set into wet adhesive.
- c. It is not recommended to work off of installed tile as material can slide and cause opening of seams.
- d. Snap a chalk line parallel to the longest wall in the direction you will be installing. This line should be a distance equal to or less than the width of the material being installed. Continue marking lines across the floor parallel to the first line. The distance between lines must equal the width of the material.
- e. Using the recommended trowel, apply adhesive in a uniform, semi-circle pattern. Spread adhesive in the first marked row. Trowel adhesive slightly over the line – do not trowel short of the line. Trowel adhesive evenly, ensuring not to leave excess. Do not over-trowel adhesive. Apply adhesive to an area which can be installed in approximately 20-30 minutes.
- f. Once troweled onto floor, material may be installed immediately. The adhesives have a working time of approximately 30 minutes. Do not install after this period of time, even if the adhesive still transfers, as the curing process has begun and adhesion will be compromised. Adhesive open times may vary greatly due to relative humidity temperature and porosity of the sub-floor.
- g. Seams must be taped with blue masking tape to keep them sight as flooring easily slides until cured.
- h. Move onto subsequent rows once each row is installed. This method will avoid working on installed product.
- i. Follow guidelines for Roll or Tile installation.

4. Zandur #60 Spray Adhesive

- a. Sub-floor must be smooth and level. Any imperfections will show telegraph through to finished flooring.
- b. Installer may work off of previously installed material.
- c. Spray adhesive onto flooring using technique shown on product container.
- d. Follow specific use and application instructions for Zandur #60 located on can.
- e. Follow guidelines for Roll or Tile installation.

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5. #95 & #100 ZPS Peel and Stick Backing.

- a. Sub-floor must be non-porous and smooth and level.
- b. Sub Floor Preparation: High density concrete surfaces which are power troweled or burnished need to be abraded with a DiamoBrush 25 grit removal tool or similar to achieve a matte surface appearance. All remodels require the full removal of all old adhesives and debris from the job site prior to installing. We recommend the use of the above DiamoBrush, Diamond Grinding, and/or Shot Blasting to get a clean working surface. Mechanically pretreat and thoroughly vacuum-clean calcium-sulphate-based screeds according to manufacturer's specifications or according to the currently applicable standards and codes. Use of correct mechanical floor preparation on each job site is the responsibility of the flooring installer
- c. Apply 2 thin coats of primer that ships with product using a ¼" foam nap roller to porous sub-floor
- d. Allow each coat of primer to dry 30-40 minutes.
- e. Install material by removing the release paper and carefully setting into place. Set material tight against adjacent material by "rolling" into place while keeping seams tight. Do not drop material on sub-floor and then slide into place as it will not slide.
- f. For easier installation, peel back no more than 50% of the release paper and set half the tile or sheet in place. Then fold back other side of tile or sheet, remove balance of release paper and install.
- g. Cut tile BEFORE removing release paper.
- h. Installer may work off of previously installed material.
- i. Follow guidelines for Roll or Tile installation.

E. Tile Installation

1. General

- a. Materials may be cut using a sharp utility knife and straight edge.
- b. Interlock tiles require no adhesive. Proceed to section 2 below for fitting instructions. Disregard notes on adhesive use.
- c. Unless using #15 or #20 urethane adhesives, installer may work off of previously installed material. When doing so, a knee board or other appropriate material must be used to ensure that indentations in the uncured adhesive do not occur. Kneeling and walking on the floor over uncured adhesive without appropriate protection can cause indentations in the adhesive under the tile which are permanent and visible in the finished floor.
- d. Refer to Section C for adhesive use instructions.
- e. Caution must be taken to ensure material does not slide underfoot. Use blue masking tape to secure seams as needed, particularly when using #15 or #20 urethane.
- f. Once adhesive is ready to accept flooring, material should be installed so that seams are tight.
- g. Within 10 minutes of installing material, roll in two directions using a 100 lb 3-section roller. Roll floor again 30-45 minutes after installation. Look for any edges or corners that are raised hand roll and apply suitable weight to hold edge down. If the edge or corner does not stay down after rolling, verify nothing is under the tile.
- h. For product greater than 5mm in thickness, verify tile is laying flat, paying particular attention to verify that no material is curled downward along the seams or slightly lifted adjacent to the seams. In the unlikely event that this occurs, re-roll tile and weigh down area until adhesive cures.
- i. Note that it is important not only to re-roll, but also to weigh down the specific area.

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2. Product Fitting & Layout

- a. Dry fit tile to verify satisfaction with material, color and any shade variance that made be present.
- b. Mark center and other lines according to specified pattern. Layout must be done such that no sections less than 1/4 of a tile are required. Use chalk to mark installation lines, however it is recommended to re-mark chalk lines with pencil or marker. Adhesive MUST be troweled over the line to ensure 100% adhesive coverage particularly along the edge of the tiles.
- c. Install in either an ashlar (staggered joint) pattern or corner to corner.
- d. Tiles may are directional and must be installed with arrows on the back of tile pointing the same direction.

F. Roll Installation

1. General

- a. Roll product must be dry fit prior to installation for proper fitting and to verify satisfaction with material, color and any shade variance that made be present.
- b. Roll material must be installed sequentially (if marked) by roll number. Rolls should be installed with sequential rolls adjacent (not end to end) to minimize subtle variance that may occur.
- c. Sheet edges may require trimming to ensure a tight, seamless finish. Follow below instructions.
- d. Unroll material and allow to relax face side up overnight. Lay on a clean surface so as not to contaminate back of sheets.
- e. Immediately after installation, inspect floor for any raised tile edges or adhesive on the surface. Particular attention should be paid to roll ends. Should you find any raised edges, repair them as directed. To remove adhesive, use a cloth dampened with warm soapy water. Use of any solvents can cause discoloration of the floor and should be avoided. If required, use denatured alcohol, however note that this can cause discoloration of the floor which is not covered by the warranty. Dry adhesive can be removed from the floor by rubbing the adhesive with a water dampened cloth.
- f. Refer to Table 2 to verify the appropriate adhesive is used for the installation. Ensure appropriate open times, trowel size and other specifics based on the adhesive type are followed.
- g. Materials may be cut using a sharp utility knife and straight edge.
- h. Installer may work off of previously installed material except when installing with #15 and #20 urethane. A knee board must be used to ensure that indentations in the uncured adhesive do not occur. Caution must be taken to ensure materials do not slide underfoot.
- i. Refer to Section C for adhesive use instructions.

2. Product Fitting & Layout:

- a. Clean floor thoroughly to removes contaminants, dust and debris prior to dry-fitting.
- b. According to design specified, set first sheet along wall and scribe edge to match up with wall. Material should be laid out in order to avoid any pieces less than 12" in width.
- c. Double cutting seams is not typically required, however if necessary to achieve an acceptable seam, use an edge trimmer to trim back one side of the sheet 1/8" (Crane 340 or similar tool). For Techne rubber, use a sharp utility knife and straight edge to trim.
- d. Lay trimmed edge over adjacent sheet and use as guide to trim the following sheet by first scribing the surface and then under cut with a hook blade knife. Continue process across the room.
- e. End seams must be cut in the same manner.
- f. All cuts should be slightly back beveled by approximately 5 degrees to ensure adjacent materials match up with no gaps between seams.
- g. Use a suitable wall trimming tool as desired.
- h. Leave excess material at ends of sheets to trim as product is installed along walls.

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3. Product Setting

- a. As sheets are dry-fit, mark subfloor where seams of sheets will be located.
- b. Trowel adhesive one sheet at a time. Ensure adhesive is troweled over each seam line.
- c. Trowel adhesive on an area that can be installed in no more than 20 minutes.
- d. Within 20 minutes (before adhesive sets along sheet edge), apply adhesive for second sheet. You may trowel adhesive the half width of the sheets by rolling over one half of sheet. Then after troweling and setting that half, fold over other half and apply adhesive.
- e. Continue process across room, installing one sheet at a time.
- f. Seams of sheets should be taped with blue masking tape to ensure seams stay tight prior to curing.
- g. Scribe cut sheets ends along wall as you proceed. Weight sheet ends as necessary to hold down any curl occurring from roll memory. Apply weight for 24 hours.
- h. Immediately after installation, inspect floor for any raised tile edges or adhesive on the surface. Should you find any raised edges, repair them as directed. To remove adhesive, use a cloth dampened with warm soapy water. Use of any solvents can cause discoloration of the floor and should not be used. If required, use denatured alcohol, however note that this can cause discoloration of the floor which is not covered by the warranty. Dry adhesive can be removed from the floor by rubbing the adhesive with a water dampened cloth

G. Welding

1. Preparation

- a. Prior to welding, adhesive must be allowed to cure for a minimum of 12 hours.
- b. For cold welding ONLY: Apply clear polyethylene plastic tape to floor centered on seam and roll with rubber hand roller. Be sure tape is sufficiently adhered and no bubbles are present. Tesa 4646 tape is recommended.
- c. Make grooves along seams using a mechanical or hand grooving tool.
- d. Groove shall be cut to a depth no greater than 2/3 of the thickness of the TOP layer or flooring. Clean any dirt or debris from groove. Use a piece of flooring with factory square edge to mark and groove lines on coved seams.
- e. Groove shall be cut to a width of 1/8"
- f. **IMPORTANT:** Regardless of type of weld (cold or hot) used, a trial must be performed as per instructions below to ensure process is correct and yields expected results.

2. Cold Welding

- a. Insert weld caulk tube into gun, assemble tip onto tube and cut to desired angle. Squeeze a small amount of caulk from tube on a paper towel and discard.
- b. Slowly apply a bead of caulk into seam being sure not to leave any gaps. The caulk must be applied so that it rises a minimum of 1/16" ABOVE the grooved seam.
- c. Immediately use a flexible putty knife with a slightly rounded tip to slowly smooth out the weld. Press down firmly while holding at an angle of 35 degrees. Do not allow weld to get onto the flooring material. Use a rounded flexible putty knife to smooth inside coved seams.
- d. Once welding is complete, peel back tape which will remove the excess caulk and allow to cure completely (48 to 72 hours) prior to cleaning or use.
- e. Where flash coving is done, apply painters tape to the seams prior to grooving to prevent caulk from sticking. Apply caulk and smooth with a rounded putty knife. Allow to dry and clean with 70% isopropyl alcohol.

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3. Heat Welding

- a. **Use cold weld for inside and outside flash-coved corners.**
- b. Preheat welding equipment to 700°F (+/- 25°F)
- c. Use ONLY welding rods designed for use with rubber flooring. PVC welding rods are not suitable.
- d. Practice on an uninstalled piece prior to beginning process to ensure speed and heat are correct. If rod can be pulled back out of groove temperature and/or welding speed must be adjusted. If weld is not melting into seam, it is better to slow the welding speed instead of increasing temperature as burning of flooring can occur if temperature is too high.
- e. Start at one wall and weld seam making sure to apply enough pressure so that weld is pressed into the groove. If weld can be pulled out of groove, you are moving too quickly.
- f. Once cool, skive the top of the weld rod level with floor. Use a 1:10 mix of soap and water and apply along seam prior to skiving to help prevent scratching.

H. Coving – Boot Method

1. All gaps between wall and floor must be filled with an appropriate filler, smoothed and primed with appropriate primer. Allow to dry 24 hours.
2. Install required cove caps according to manufacturer's instruction. Be sure flooring material fits properly into cove cap prior to affixing cove caps.
3. Apply appropriate (based on desired base height) Z-stick double sided tape to wall.
4. Cut cove sticks to length and miter at corners. Using the cove stick as a guide and a sharp utility knife, score the wax paper on the double faced tape above the cove stick.
5. Remove the wax paper ONLY where the cove stick will be installed and secure it into place.
6. **Internal Corners**
 - a. Push flooring into internal corners as far as possible without damaging the material.
 - b. Cut a straight line from the fold to the top edge at a 45 degree angle to the wall. Cut only enough to allow flooring to lay flat up to the cove stick. Do not finish trimming until adhesive has cured.
 - c. After adhesive has cured, position one side of the material and trim a vertical line from the top of the base to slightly past the cove stick. Trim other side to fit. A slight gap is permissible as it will be welded.
7. **External Corners**
 - a. Using a pencil, and straight edge, mark flooring where cuts are a required for boot.
 - b. Begin at the outside corner at the top of the cove stick and draw a line at 45 degrees to form the toe of the "boot"
 - c. Then cut 2" perpendicular to the wall.
 - d. Make final cut vertically to complete boot.
 - e. Using straight edge and utility knife, trim excess material back to pencil line.
 - f. Trace and cut removed section on a new section of flooring material. Over cut the width slightly to allow for overlap of corner.
 - g. Dry fit material to ensure proper fit. Note that seams will be welded so slight gaps are acceptable.
8. Once coved material is trimmed and dry fit, peel back tape, secure on to wall from the cove strip upward (first tuck under cover cap). Roll coved material.
9. Weld seams as instructed above.

IV. Installation of Acoustisport Underlayment

- A. Sustain Cork Rubber, Flex Solid Rubber and Techne Rubber may be installed over properly installed Acoustisport rubber underlayment.
- B. Acclimate Acoustisport underlayment for a minimum of 72 hours on site in climate controlled conditions between 65°F and 75°F with a relative humidity between 45% and 65%.
- C. Prepare Sub-Floor according to instructions Section II of this instruction manual.
- D. Zandur #20 Urethane. Required for heavy use and high point and rolling load applications. Apply using a 1/16" x 1/16" x 1/16" square notch trowel. Refer to use instructions above for specific adhesive used.
- E. Zandur #10 acrylic adhesive. Use for light use applications where heavy point, tensile and rolling loads are not present. Apply using a 1/16" x 1/16" x 1/16" square notch trowel.
- F. Snap a chalk line parallel to the longest wall in the direction you will be installing the underlayment. This line should be a distance equal to or less than 46". On a clean, dust free floor, roll out the first roll starting at the end of the room. Cut ends with an excess of at least 4" and an excess on the side along the wall of about 2". After installation (and within 20 minutes of applying adhesive) you will need to return and trim the excess so that material is installed within 1/8" of the edges of the room.
- G. Using the recommended trowel, apply adhesive in a uniform, semi-circle pattern. Spread adhesive in the first marked row. Trowel adhesive slightly over the line – do not trowel short of the line. Trowel adhesive evenly, ensuring not to leave excess adhesive. Do not over trowel adhesive as that gradually reduces the amount on the sub-floor. Apply adhesive to an area which can be installed in approximately 20-30 minutes.
- H. Install the first sheet, then trowel adhesive 48" from the edge of that sheet and roll out the next sheet with the end seams staggered by at least 24".
- I. Once adhesive is troweled onto floor, material may be installed immediately. The adhesives have a working time of approximately 30 minutes. Do not install after this period of time, even if the adhesive still transfers, as the chemical curing process has begun and adhesion will be compromised. Adhesive open times may vary greatly due to relative humidity temperature and porosity of the sub-floor.
- J. Roll material onto the floor where the adhesive has been applied making sure to roll out straight and will no wrinkles or bubbles. When each sheet is installed be sure to line up the marks made prior to double cutting to be sure the rolls/sheets are in the same position as when they were double cut.
- K. Roll material using a 100 lb 3 section roller immediately after installing each sheet making sure to roll the seams.
- L. Should any seams become raised, re-roll them and WEIGHT down across entire raised section for 24 hour using bricks or sand bags. Uneven seams will telegraph through finished flooring and therefore must be repaired prior to installation of the finished floor.
- M. Allow a minimum of 24 hours prior to installing the top layer (finished) flooring.
- N. Using #15 two part urethane, #20 Single part urethane or #10 Acrylic Adhesive (for light use applications only), install finished flooring according to instructions specified in section IIIE. Finished flooring may not be installed with any other type of adhesive.
- O. When installing finished flooring on top of underlayment, adhesive MUST BE FLAT-TROWELLED ON ALL SEAMS while applying adhesive to reduce the possibility of telegraphing of underlayment seams. As you trowel the adhesive for the finished flooring, flip the trowel over to the smooth side to press adhesive into seams. Then flip trowel back over to the notched side and apply adhesive as normal over the seams.

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V. Post Installation Procedures

General:

- Be sure that post installation maintenance is done is completed.
- **DO NOT move heavy equipment or use heavy rolling loads on floor until a minimum of 72 hours after installation unless installation has occurred with spray or peel and stick installation systems. Prior to that, displacement of soft adhesive and visual indentations can occur.**

- A. Floors must be covered immediately after installation with kraft paper, plywood or other protective, breathable material. Do not cover uncured floor with plastic. Ensure that the protective covering will not scratch or otherwise damage the floor.
- B. HVAC system must maintain temperatures in jobsite for a minimum of 72 hours according to the temperature requirements specified herein. Temporary heating systems may not be used.
- C. Limit Traffic As Follows:
 1. #10 Acrylic Adhesive – Light foot traffic permitted after 8 hours, normal use after 24 hours.
Heavy loads are permitted after 72 hours
 2. #15 and #20 Urethane – Light Foot Traffic permitted after 12 hours, normal use after 24 hours.
Heavy loads permitted after 72 hours.
 3. #60, #95 and #100 adhesive systems do not require any cure time and may be exposed to normal traffic immediately after installation.
- D. **Post Installation Maintenance**
 1. Floor must not be exposed to liquids, scrubbed or finished until adhesive has cured for 72 hours. Product installed using #60, #95 or #100 systems should be dry mopped or mopped only until after 72 hours.
 2. Zandur Rubber Flooring, must be cleaned according to instructions and processes accompanying material prior to regular use.
 3. Zandur Rubber flooring products may be left unfinished, auto-scrubbed or they may have a top coat of acrylic finish applied. In areas subjected to regular exposure to potentially staining materials or regular spills a finish system is recommended. If you wish to apply a finish, refer to document Z023.

VI. References

- A. **ASTM Standards referenced below are available at astm.org.**
 1. F 1482-03 Standard Practice for Installation and Preparation of Panel Type Underlayment to Receive Resilient Flooring.
 2. F 710-98 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring.
 3. F1869-98 Standard Method for Measuring Moisture Vapor Emission Rate of Concrete Sub-Floor Using Anhydrous Calcium Chloride.
 4. F 2170-02 Standard Practice for Determining Relative Humidity in Concrete Floor Slabs Using in-situ Probes.
- B. **All Zandur Documents are available online at zandur.com/documents**

