

INSTALLATION GUIDE

RUBBER FLOORING

Z021

I. General

- A. This installation guide applies to the following Zandur products.
 - 1. Sustain Cork Rubber
 - 2. Flex Solid Rubber
- 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 long periods, remove strapping if present. Do not stack pallets.
- D. Material Storage Climate – 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.

II. Sub-Floor Preparation

Proper sub-floor preparation is critical. All guidelines contained in these instructions must be followed to ensure a successful floor covering installation. Should you have any questions regarding sub-floor preparation, contact Zandur.

Overview:

- **Use only Ardex SDF feather finish, K-15 self-leveling underlayments or equal materials for patching or leveling sub-floor**
- **Subfloor moisture level in concrete must be <5lbs lbs/1000/ft²/24hrs and/or <RH 75%**

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. The 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.A for approved cementitious sub-floors.
2. Prior to installation an adhesive bond test must be performed by gluing four 12" X 12" pieces of floor covering to the sub-floor. Allow adhesive to cure 24 hours. If bond is sufficient, material will be laying flat and it will extremely difficult or impossible to remove by hand.
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. *Installer accepts any and all 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. Zandur recommends Ardex SDF, Ardex K15 or other equal feather finish and self leveling products. 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. Gypsum products with a compressive strength of less than 3,000 psi may not be used. Zandur cautions against the use of gypsum based products even over 3,000 psi and requires a bond test prior to installation.

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 have a 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.1.D.

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.
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. Furthermore, job-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). Sub-Floors moisture emission rate shall be less than 5lbs/1,000 ft²/24 hours and/or sub-floor relative humidity shall be less than 75%.
6. Sub-Floor shall be tested 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 1/2" 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 a moisture barrier according to manufacturer's instructions. Zandur recommends Ardex products. Consult with moisture barrier manufacturer for recommendations and application instructions. Installation shall not commence until any sub-floor emissions 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.

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. Concrete sub-floors must have a compressive strength greater than 3000 PSI and must be dust free. If after cleaning, a white dust is present when you wipe the floor it is most likely of insufficient compressive strength. Gypsum products with a compressive strength of less than 3,000 psi may not be used. Zandur cautions against the use of gypsum based products even over 3,000 psi and requires a bond test prior to installation.
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.
4. If acclimation and general use is not per instruction, slight gaps may appear at seams. Urgent care is required during installation and initial use to limit the chances of such occurrence which is not warranted.

E. Metal Substrates

1. Remove rust and other contaminants by sanding, scraping, etc.
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.
4. Install product using #15 Two Part Urethane or #25 Releasable Adhesive.

F. Existing Flooring as a Substrate

1. Zandur products are typically only recommended for installation on the sub-floors listed above. 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 unless otherwise specified in writing by Zandur.
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 most certainly result in problems.
3. As with all installations, an adhesion test is required.
4. Contact Zandur technical services to review any specific project where this type of installation is planned, prior to commencement.



III. Floor Covering Installation

Overview:

- **Verify sub-floor is smooth and level. Imperfections in sub-floor WILL telegraph through to finished floor.**
- **Verify underlayment (cementitious) is hard and dust free. Should not be able to gouge with finger nail and must not be dusty**
- **Verify correct adhesive has been selected for project based on ACTUAL site conditions. Final selection is the responsibility of the installation contractor.**
- **Use correct open times as specified below.**
- **Repair raised edges PRIOR to adhesive setting. If an edge raises – roll it and place weight on it.**

A. Pre-Installation Checks

1. Acclimation – Flooring, adhesives and finishes must be acclimated to jobsite at least 24 hours prior to installation.
2. Job Site Conditions – Job site conditions must be maintained 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 during acclimation or installation.
3. Sub-Floor – Verify sub-floor has been prepared according to Section II and is dry, level and dust free.
4. Patching/Skim Coat – Ensure that the correct Ardex or equal 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. Contact Zandur for assistance.
5. Material Verification – Prior to installation, randomly remove a few pieces of material from different packages and compare to submittal 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. 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 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.

B. Layout of floor

1. 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 as adhesive MUST be troweled over the line to ensure 100% adhesive coverage particularly along the edge of the tiles.
2. Install in either an ashlar (staggered joint) pattern or corner to corner.



C. Adhesive Selection

1. Zandur recommends the use of one of the following types of adhesive. Final adhesive selection must be verified based on actual sub-floor conditions. Recommendations made by Zandur is its' sales people are strictly suggestions and must be deemed as appropriate by installer.

Table 2 - Adhesive Selection and Suitability Chart

Adhesive	Sub-Floor R.H. / Moisture Emission	Rolling Loads	Substrate Porosity	Recommended Trowel & Estimated Spread Rate		Surface Moisture
				2.0 & 2.5mm thickness	3.0mm & greater thickness	
#10 Acrylic Latex	75% or Less / up to 5lbs	Periodic use of castered chairs, carts and other similar loads	porous	3/32" X 1/16" X 1/16" U Notch	1/16" x 1/16" x 1/16" Square Notch	Light: Offices, break rooms
				150 ft ² /gal	100 ft ² /gal	
#15 Two Part Urethane	75% or Less / up to 5lbs	Regular use of heavy rolling loads, castered chairs and pallet jacks	porous & non-porous	3/32" X 1/16" X 1/16" U Notch	1/16" x 1/16" x 1/16" Square Notch	Moderate: Entries, food service, locker rooms
				150 ft ² /gal	100 ft ² /gal	
#25 Releasable	75% or Less / up to 5lbs	Periodic use of castered chairs, carts and other similar loads	porous & non-porous	1/16" x 1/16" x 1/16" Square Notch	1/16" x 1/16" x 1/16" Square Notch	Light: Offices, break rooms
				150 ft ² /gal	150 ft ² /gal	

Note: Where high sub-floor moisture and/or pH levels are found, appropriate moisture barriers must be applied to bring sub-floor within the specified moisture emissions or RH range. Sub-Floors must test as noted above AFTER application of moisture barrier prior to installation.

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).

D. Installation In Applications Using Zandur #10 Adhesive

1. Refer to Table 2 to verify the appropriate adhesive is used for the installation.
2. Note that due to typical applications of sport products, the use of #15 or #20 adhesive is highly recommended to ensure proper adhesion use and to withstand higher point loads.
3. Materials may be cut using a sharp utility knife and straight edge.
4. Installer may work off of previously installed material, however a knee board must be used to ensure that indentations in the uncured adhesive do not occur. Caution must be taken to ensure tiles do not slide underfoot.
5. Using the recommended trowel, apply adhesive in a uniform, semi-circle pattern. Do not over trowel adhesive (which gradually removes it). Ensure that there are no lumps or ridges created by the leading trowel tip. Imperfect toweling can telegraph through the floor. Apply adhesive to an area which can be installed in approximately 20-30 minutes.
6. 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.

7. Product Setting:
 - a. **Tiles**
 - i. Once adhesive is ready to accept flooring, tiles should be installed tightly against adjacent tile, however tiles should not be pushed together forcefully or edges may peak.
 - ii. 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 and hand roll. If the edge or corner does not stay down, verify nothing is under the tile. Then weigh down tile with a sand bag. If air bubbles are present, either use a small needle to let air out or remove and re-install tile.
8. 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.

E. Installation Using Zandur #15 Two Part Urethane

1. Refer to Table 2 to verify the appropriate adhesive is used for the installation
2. Materials may be cut using a sharp utility knife and straight edge.
3. Installer may work off of previously installed material, however 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.
4. Caution must be taken to ensure tiles do not slide underfoot. Use blue masking tape to secure tiles.
5. 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.
6. 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.
7. 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. You will install the material and then trowel adhesive on the next row and so on. 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.
8. 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 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.
9. Product Setting:
 - a. **Tiles**



- i. Tiles should be installed tightly against adjacent tile, however tiles should not be pushed together forcefully or edges may peak.
 - ii. Within 10 minutes of installing material, roll in two directions using a 100 lb 3-section roller. Roll floor again 30 minutes after installation. Look for any edges or corners that are raised and hand roll. Then weigh down tile with a sand bag. If air bubbles are present, use a hand roller to work air to the seam and weight down area. This must occur within 30 minutes of installation.
 - iii. Trowel adhesive on the next row and continue installation using blue masking tape to hold materials in place.
10. 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. If solvent is required, use de-natured alcohol sparingly. Note that the use of any solvents can cause discoloration of the floor which is not covered under warranty.

F. Installation In Normal Applications Using Zandur #25 Releasable Adhesive

1. Refer to Table 2 to verify the appropriate adhesive is used for the installation.
2. #25 Releasable adhesive is intended for use over access flooring panels. Due to the soft nature of the adhesive, heavy rolling loads may cause displacement of adhesive, resulting what appears to be indentation in the product (it is indentation of the adhesive). Chair pads are required under castered chairs.
3. Materials may be cut using a sharp utility knife and straight edge.
4. Installer may work off of previously installed material.
5. Trowel adhesive in a uniform, semi-circle pattern. Do not over trowel adhesive (which gradually removes it). Ensure that there are no lumps or ridges created by the leading trowel tip. Imperfect troweling can telegraph through the floor.
6. Once troweled onto floor, adhesive should be left open until DRY. Once dried, adhesive will be translucent and not have a milky appearance. Once dry, the adhesive has an open time of 3 -4 hours. Adhesive open times may vary greatly due to relative humidity temperature and porosity of the sub-floor.
7. Product Setting:
 - a. **Tiles**
 - i. Once adhesive is ready to accept flooring, tiles should be installed tightly against adjacent tile, however tiles should not be pushed together forcefully or edges may peak.
 - ii. 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 and hand roll. If the edge or corner does not stay down, verify nothing is under the tile. Weigh down tile with a brick or other heavy flat object until glue sets.
8. 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. Seam Sealing and Welding

1. All Zandur rubber products may be Heat and Chemical welded.
2. Contact Zandur for specific Welding instructions.



IV. Post Installation Procedures

General:

- **Be sure that post installation maintenance is done. If not, the floor will be difficult to maintain until the factory release coating is removed**
- **DO NOT move heavy equipment or use heavy rolling loads on floor until a minimum of 72 hours after installation. Prior to that, displacement of soft adhesive and visual indentations can occur.**

A. Floor must not be used until adhesive is cured. 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 Urethane – Light Foot Traffic permitted after 12 hours, normal use after 24 hours. Heavy loads permitted after 72 hours.
3. #25 Releasable Adhesive - Normal Traffic after 4 hours. Heavy Loads should be moved only when protection such as plywood is placed on floor to prevent displacement of adhesive.
4. Floors should not be submitted to heavy point loads for a minimum of 72 hours after installation. Heavy point loads include but are not limited to ladders, moving equipment, rolling loads and high heels.

D. Post Installation Maintenance

1. Floor must not be exposed to liquids, scrubbed or finished until adhesive has cured for 72 hours.
2. Zandur Rubber Flooring, must be cleaned according to instructions and processes accompanying material prior to regular use to remove residual factory coating. If this process is not done, the floor will attract dust and dirt and be very difficult to keep looking clean. Refer to document Z023 for instruction.
3. Zandur Rubber flooring products may be left unfinished or they may have a top coat of acrylic finish applied. In areas subjected to abnormal abuse, regular exposure to potentially staining materials or regular spills, the finish system is recommended. If you wish to apply a finish, refer to document Z023.

V. References

A. ASTM Standards referenced below are available at www.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 zandurdocs.com