

INSTALLATION MANUAL #Z104 ALTURAS CORK RUBBER FLOORING

UPON RECEIPT OF ORDER, IMMEDIATELY INSPECT TO CONFIRM MATERIAL RECEIVED IS CORRECT.

Section I. Installation Products Available from Zandur

1. Adhesives
 - A. Zandur #10 Acrylic Latex – 4 gal and 1 gal
 - B. Zandur #20 Two Part Epoxy – 1.9 gal
 - C. Bostik Green Fusion Urethane – 4 gal

Section 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 or your local sales group.

1. General Information & Requirements For All Sub-Floors

- A. 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.2.A. for approved wood sub-floors or section II.3.A. for approved cementitious sub-floors.
- B. Prior to installation an adhesive bond test must be performed by gluing four tiles to the sub-floor. Allow adhesive to cure 72 hours. If bond is sufficient, tile will be laying flat and it will be extremely difficult or impossible to remove by hand.
- C. 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.*
- D. 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 Durabond Ultra Finish, Ardex SDF, Durabond 83P, 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.**

Should the following instructions for sub-floor preparation and floor covering installation leave any questions unanswered, contact Zandur at 888.397.2656.

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2. Preparation of Wood Sub-Floors

- A. 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).
- B. 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.
- C. 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.
- D. Follow manufacturers instructions for sub-floor installation regarding fastening pattern and joint spacing. Use suitable screws or ring shank nails. Do Not use drywall screws.
- E. Once installed, patch subfloor with cementitious material as instructed in section II.1.D.

3. Preparation of Concrete Sub-Floors

- A. Concrete sub-floors shall be prepared in accordance with ASTM F 710 *Standard practice for preparing concrete sub-floors to receive resilient flooring*.
- B. Concrete sub-floors must be clean as per section II.1.A. Pay specific attention to 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.
- C. 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.
- D. 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.
- E. 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%.
- F. Sub-floor pH must be tested with wide range pH paper and be between 5 and 9.
- G. If subfloor does not or will not at a future time meet the above specifications, a moisture barrier shall be applied according to manufacturer's instructions. Zandur recommends Durabond or 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.**
- H. Level sub-floor as specified in section II.1.D. **Application of any concrete leveling product must be done AFTER application of a moisture barrier.**
- I. Allow patching materials to dry naturally without the use of direct air or temporary HVAC.
- J. Flooring may be installed over terrazzo floors, however terrazzo must be bead or shot blasted.

4. Radiant Heated Sub-Floors – Concrete and Wood

- A. 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.**

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Zandur cautions against the use of gypsum based products even over 3,000 psi and requires a bond test prior to installation.

- B. Only in-slab or below sub-floor radiant heating systems are compatible with Zandur materials. Do not install product over mat type systems. Heat must be limited to a maximum of 85° at all times during and after installation.
- C. Prior to sub-floor preparation, heating system must be activated to achieve a surface temperature between 65°F and 75°F for a minimum of 5 days prior to sub-floor preparation or installation of flooring.

5. Metal

- A. Remove rust and other contaminants by sanding, scraping, etc.
- B. Apply primer such as Sherwin Williams Kromik according to manufacturers' instructions.
- C. Be certain to perform adhesion test to verify compatibility.
- D. Install tile using #20 Epoxy.

Section III. Floor Covering Installation

1. Pre-Installation Checks

- A. **Acclimation** – Flooring, adhesives and finishes should be acclimated to jobsite at least 24 hours prior to installation. Except to verify material is correct and within specifications, it must remain in its original packaging during acclimation period.
- B. **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. Air must be free of dust and must be circulating normally.
- C. **Sub-Floor** – If you have not reviewed sub-floor preparation instructions read them now. Once prepared per instructions, verify the floor is dry, level and dust free.
- D. **Patching/Skim Coat** – Ensure that the correct Durabond, Ardex or equal cementitious patching compound was used and is properly cured. If sub-floor or patching material is easily scratched, indented or is dusty even after being cleaned, installation cannot occur. Contact Zandur for assistance.
- E. **Material Verification** – Prior to installation, randomly remove a few pieces of material from different cartons and compare to submittal sample to ensure client is satisfied with color, shade and/or shade variation. Additionally, verify tiles are square and otherwise visually acceptable. If the material does not meet client expectations, contact Zandur to arrange for replacement material. 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.
- F. **Adhesion Test** – In order to verify adhesion, four tiles must be glued to the sub-floor 72 hours prior to installation. After 72 hours, the tile should lay flat and be difficult if not impossible to remove by hand. Should tile be easily removed or not adhered in any way, contact Zandur. DO NOT proceed with installation.

2. Layout of floor

- A. Materials may be installed in both an ashlar (staggered joint) pattern or corner to corner.
- B. Materials should be dried laid prior to installation to ensure materials are correct and to verify any shade variation is acceptable and/or evenly distributed. This is the time to ensure the material is correct. Once it is glued down, installer has confirmed acceptance of material.

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- C. Use chalk to mark installation lines, however it is recommended to re-mark chalk lines with pencil as adhesive **MUST** be troweled over the line to ensure 100% adhesive coverage particularly along the edge of the tiles.

3. Adhesive Selection

- A. Zandur offers 3 types of adhesive to address the needs of most installations. These adhesives have been specifically tested and verified as compatible with Zandur cork rubber by the adhesive manufacturer.

Table 2
Adhesive Selection and Suitability Chart

Adhesive	Sub-Floor R.H. / Moisture Emission	Rolling Loads	Substrate Porosity	Sub-Floor pH	Recommended Trowel / Spread Rate	Surface Moisture
#10 Acrylic Latex	75% or Less / up to 5lbs	Periodic use of castered chairs, carts and other similar loads	porous	5-9	1/16" X 1/16" X 3/32" U Notch 125 to 150ft ² /gal	Light - offices, break rooms
#20 Two Part Epoxy	75% or Less / up to 5lbs	Regular use of heavy rolling loads, pallet jacks	porous & non-porous	5-9	1/16" X 1/16" X 3/32" U Notch 125 to 150ft ² /gal	Locker Rooms, Bathrooms
Bostik Green Fusion	75% or Less / up to 5lbs	Regular use of castered carts chairs and other moderate loads	porous	5-9	1/16" X 1/16" X 3/32" U-Notch 125 to 150ft ² /gal	Moderate – entryway, bar areas, cafeterias

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.

- B. 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).

4. Installation In Normal Applications Using Zandur #10 Adhesive

- A. Refer to Table 2 to verify the appropriate adhesive is used for the installation
- B. Materials may be cut using a sharp utility knife and straight edge.
- C. 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.
- D. 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 troweling can telegraph through the floor. Apply adhesive to an area which can be installed in approximately 20-30 minutes.
- E. Once troweled onto floor, adhesive should be left open for 5-10 minutes. At that time, you may begin to install tile 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

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reapplied. Adhesive open times may vary greatly due to relative humidity temperature and porosity of the sub-floor.

- F. Tile should be installed tightly against adjacent tile, however tiles should not be pushed together forcefully or edges may peak.
- 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 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.
- H. Immediately after installation, inspect floor for any raised tile edges or adhesive on the tile. Should you find any raised edges, repair them as directed in section III.4.I. To remove any adhesive on the tile surface, remove with a water dampened cloth. Use of any solvents can cause discoloration of the floor and should not be used. Dry adhesive can be removed from the floor by rubbing the adhesive with a water dampened cloth.

5. Installation With Zandur #20 Two Part Epoxy or Bostik Green Fusion Urethane

- A. Refer to Table 2 to verify the appropriate adhesive is used for the installation.
- B. Materials may be cut using a sharp utility knife and straight edge.
- C. **DO NOT** work off of previously installed material.
- D. **For #20 epoxy adhesive, 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. Mark chalk lines approximately 24" wide (1 row of tile) parallel to longest wall (depending upon specified layout).
- F. Using the recommended trowel, apply adhesive inside the 24" wide area only so that you may install the tile from the bare sub-floor side. Be sure to trowel adhesive to the chalk line to ensure there are no voids in adhesive spread. 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. Apply adhesive to an area which can be installed in approximately 30 to 45 minutes.
- G. Once troweled onto floor, tile may be set into adhesive immediately working from the area with the bare sub-floor (not on the installed tile – unless cured for 24 hours). Adhesive open time will be approximately 30-45 minutes. 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.
- H. Tile should be installed tightly against adjacent tile, however tiles should not be pushed together forcefully or edges may peak. If any seams do not stay together, use blue masking tape to hold them in place and if necessary weight them down.
- I. Within 15 minutes of installing material, roll in two directions using a 100 lb 3-section roller. Roll floor again 30 minutes and again at 60 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 first to see if something is under the tile. If not, weigh down material with a sand bag. If air bubbles are present, push bubble to the tile edge and re-roll with hand roller. Weigh down area if necessary.
- J. Immediately after installation, inspect floor again for any raised tile edges or adhesive on the tile **BEFORE ADHESIVE IS CURED**. Should you find any raised edges, repair them as directed in section III.4.I.. When wet adhesive may be removed with warm soapy water on a lightly dampened cloth. **ONCE ADHESIVE IS DRY IT IS ALMOST IMPOSSIBLE TO REMOVE**. Use of any solvents can cause discoloration of the floor and should not be used. Dry adhesive can be carefully scraped from floor using a blunt scraper however this process may scratch or damage the floor. Such damage will not be covered by the Zandur warranty.

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IV. POST INSTALLATION PROCEDURES

1. 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.
2. HVAC system must maintain temperatures in jobsite for a minimum of 72 hours according to the temperature requirements in section III.1.B. Temporary heating systems may not be used.
3. Depending on actual conditions, minimal foot traffic is possible 8 hours after installation when Zandur #10 adhesive is used and in 12 hours when Bostik Green Fusion or Zandur #20 Epoxy is used. Normal use of floor may not commence for a minimum of 24 hours after installation. Floor 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.
4. Post Installation Maintenance
 - A. Floor must not be exposed to liquids, scrubbed or finished until adhesive has cured for 72 hours.
 - B. Floor must be cleaned with Diversey Linosafe stripper prior to regular use to remove factory protective coating.
 - C. For best performance and ease of maintenance, Zandur suggests that its' cork rubber flooring be finished with a recommended acrylic finish. Other finishes may be used with approval from Zandur. Refer to document #Z127 for instructions.

V. REFERENCES

1. ASTM Standards referenced below are available at www.astm.org.
 - A. *F 1482-03 Standard Practice for Installation and Preparation of Panel Type Underlayment to Receive Resilient Flooring.*
 - B. *F 710-98 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring.*
 - C. *F1869-98 Standard Method for Measuring Moisture Vapor Emission Rate of Concrete Sub-Floor Using Anhydrous Calcium Chloride.*
 - D. *F 2170-02 Standard Practice for Determining Relative Humidity in Concrete Floor Slabs Using in-situ Probes.*
2. Zandur Documents (available on-line at www.zandur.com or from your local distributor).
 - A. Cork Rubber Flooring Maintenance #Z123
 - B. Zandur #10 Acrylic Latex Adhesive Specifications #Z122
 - C. Green Fusion Single Part Urethane Specifications #Z152
 - D. Zandur #20 Two Part Epoxy Adhesive Specifications #Z177
 - E. Zandur Floor Covering Warranty #Z108
3. For a complete listing of all Zandur documentation, please refer to www.zandurdocs.com