

# Installation Guide: Tiles & Planks

## Backed with EarthFelt, BioFelt, or Vinyl

Chilewich modular flooring is designed to deliver years of peak performance. To ensure proper and secure installation, please follow the guidelines below.

### 1. GENERAL PREPARATION

- 1.1 Prior to installation, allow Chilewich floor tiles and/or planks to acclimate for a period of 48 hours at 68–75 degrees Fahrenheit (20°–24° C).
- 1.2 Prior to installation, Chilewich floor tiles and/or planks must be inspected by an installer and general contractor. Any defects must be reported to Chilewich Customer Service immediately by calling 888-851-7130. **DO NOT INSTALL DEFECTIVE MATERIAL.** Installation of material implies acceptance. If the material is deemed defective, Chilewich will replace it. Chilewich's liability is limited to the replacement of defective material. Chilewich is not responsible for the cost of removal or reinstallation.

### 2. SUBSTRATE PREPARATION

#### 2.1 GENERAL

- 2.1.1 Installation begins with proper floor and substrate preparation.
- 2.1.2 Floors and substrates must be clean and dry: free of dirt, oil, grease, wax, old paints, cutback adhesives, powdery surface conditions, or any other substance that may compromise the adhesion or ability of the Chilewich floor tiles and/or planks to stick to the substrate. Any contaminant on the subfloor must be cleaned or neutralized before installation begins. Failure to remove contaminants from the subfloor can cause adhesive failure and/or loosening of the flooring. Do not use sweeping agents. Subfloors should be swept, vacuumed, and damp-mopped to remove soil that may contaminate or compromise the installation.
- 2.1.3 Surface flatness or levelness may affect the appearance of the installed Chilewich floor tiles and/ or planks. Though the product will conform to undulations and irregularities in the substrate, it is best to level and finish the substrate to minimize or eliminate severe conditions that may compromise the final appearance.
- 2.1.4 All existing residual adhesive that may interfere with the adhesion of the Chilewich floor tiles and/or planks and the new adhesive must be removed or covered.
- 2.1.5 Any subfloor conditions that compromise the secure installation of the Chilewich floor tiles and/or planks will be the responsibility of the general contractor and/or flooring contractor.
- 2.1.6 Use a primer over gypsum or Portland Cement-based floor-leveling compounds, as recommended by the manufacturer. Floor-leveling compounds are to be applied and allowed to dry or cure according to manufacturer recommendations.
- 2.1.7 Proper transition accessories must be installed to cover and protect the edges of the Chilewich floor tiles and/or planks where they abut another material or when the Chilewich floor tiles and/or planks are the finished edge product.

#### 2.2 CONCRETE

- 2.2.1 Concrete must be fully cured, for 90–120 days or longer, depending on the type of concrete. Concrete must be structurally sound and free of curing or parting agents. Concrete should also be evaluated for porosity and alkalinity. A porosity test may be performed by placing droplets of water on the concrete. If the concrete absorbs the water immediately or within a brief period (e.g., 60 seconds), a sealer should be applied. Assess pH of the concrete using industry-acceptable testing methods. If pH exceeds 9, notify the owner, as the floor should be treated for its elevated pH level

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before installation.

- 2.2.2 Any cracks of 1/8" (0.30 cm) wide or greater, construction joints, control joints, depressions, grooves, or other irregularities should be filled and leveled with a high-quality, non-shrinking, latex-fortified, hydraulic cement patching compound.
- 2.2.3 Moisture vapor emission is common in concrete. High moisture levels must be remediated before installation. This can be accomplished with a range of widely available moisture barrier products. Even floors that seem dry may have moisture passing through them; therefore, all concrete subfloors, on or above grade, must be tested. This includes subfloors on which flooring have been previously installed. Assess moisture vapor emission by ASTM F 1869-98 Anhydrous Calcium Chloride Moisture Test using the Quantitative Method. This test should be conducted using the standard calcium chloride test kit. Moisture vapor emission rates must not exceed 5 pounds per 1,000 square feet within 24 hours using the anhydrous calcium chloride test. Please note that this test only indicates the conditions of the concrete slab in the area evaluated and at the time of the test. A minimum of 3 areas are to be tested for every 1,000 square feet to be installed. The areas to be tested should be strategically chosen to ensure that the full scope of the subfloor is represented. These areas should be those suspected to have the highest risk of moisture. **DO NOT AVERAGE THE RESULTS OF THE TEST AREAS.** The highest test sample should represent the action required to resolve moisture vapor. Moisture vapor conditions may change over time. In-situ relative humidity of the concrete slab should not exceed 85%. Some adhesive and primer/sealer manufacturers require lower moisture for their products; manufacturer guidelines should be followed to ensure a secure bond over time. **MOISTURE TESTING MUST BE PERFORMED BEFORE THE APPLICATION OF FLOOR-LEVELING COMPOUNDS AND FILLERS.**
- 2.2.4 Curing and parting agents used on concrete subfloors may not be compatible with the adhesive and may interfere with bonding. These products are not recommended.

### 2.3 WOOD SUBFLOORS

- 2.3.1 Wood floors should be level to prevent imperfections or irregularities from telegraphing through to Chilewich floor tiles and/or planks. Nails or other fastening devices in wood should be secure, so as not to protrude above the floor surface. Fill any joints, seams, or holes with filler. It may be necessary to sand the floor until a smooth surface is achieved.
- 2.3.2 Plywood underlayment, if used, must be APA-rated Underlayment Exposure I with a sanded face. Follow all APA recommendations for preparation of underlayment where resilient floorings are specified. The use of any other type of plywood will void the warranty and is not recommended, as it may have adverse effects on the adhesive and the installation. All edges, splits, and gaps in the plywood must be filled with a hard, quick-setting filler. Allow the filler to cure completely and then sand smooth to eliminate any ridges. Ridges or gaps left in the plywood underlayment may telegraph through to Chilewich floor tiles and/or planks.
- 2.3.3 Follow APA recommendations for fastening underlayment to the subfloor. Do not use construction adhesives to glue underlayment to subfloor, as these may cause installation or staining problems with Chilewich floor tiles and/or planks.
- 2.3.4 Never install Chilewich floor tiles and/or planks over pressure-treated wood products or flame-retardant plywood, which could cause installation failure. A plywood underlayment should be installed over the pressure-treated wood or flame-retardant wood prior to the installation of Chilewich floor tiles and/or planks. .

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### 2.4 OTHER TYPES OF SUBFLOORS

- 2.4.1 Terrazzo, ceramic, or other hard-surface floors should be treated in the same manner as a concrete subfloor, with additional precautions. Surface coatings or sealers must be completely removed by light sanding or other suitably effective methods and should be filled and leveled to obtain a smooth surface with a suitable leveling compound. Grout joints in ceramic tile installations must be leveled. The porosity of the substrates may require the application rate of the adhesive to change and require extended periods of time for the adhesive to be ready for application of the flooring. Follow adhesive manufacturer recommendations and instructions.
- 2.4.2 Metal floors. Chilewich floor tiles and/or planks may be installed over metal or raised-access flooring. To ensure proper installation, the metal flooring may need to be abraded to provide a surface on which a maximum bond to the metal can be achieved. New metal floors are often coated with oils during manufacture, and these oils must be removed to ensure effective adhesion.
- 2.4.3 Fiberglass and laminated floors. Chilewich floor tiles and/or planks may be installed over fiberglass subfloors and laminated floors. Such floors may require abrasion to create a mechanical grip between the adhesive and the applied surface. Laminated flooring must be securely adhered to the subfloor with a proper adhesive or mechanically fastened to ensure proper installation of Chilewich floor tiles and/or planks.
- 2.4.4 If Chilewich floor tiles and/or planks are to be installed over resilient tile, then all of those tiles must be tightly fitted and securely attached to the subfloor and any loose or broken tile replaced. If the resilient tile has a wax or protective layer applied, then the tile will need to be stripped or abraded to ensure a proper bond.

### 2.5 UNDERLAYMENT

If an underlayment for Chilewich floor tiles and/or planks is specified, Chilewich recommends that the underlayment meet certain specifications to ensure proper installation. Chilewich is confident that its product will perform if the guidelines below and those of the underlayment manufacturer are followed. Chilewich cannot guarantee products supplied by other companies or their installation instructions, but warrants its own floor tiles and/or planks provided that the following conditions are met:

- 2.5.1 The underlayment is installed per the manufacturer's installation instructions. The installation must provide a smooth and level surface.
- 2.5.2 If the underlayment is a porous product, then the product must be sealed per the manufacturer's guidelines.
- 2.5.3 The underlayment must be dimensionally stable, because if the product moves underneath Chilewich floor tiles and/or planks, an installation failure could occur.
- 2.5.4 The underlayment must be adhered to or properly attached to the subfloor per manufacturer's recommendations.
- 2.5.5 The underlayment must be installed with no gaps or voids in joints to prevent telegraphing of joints through to Chilewich floor tiles and/or planks.
- 2.5.6 The underlayment must not be thicker than 0.20" (5 mm).
- 2.5.7 The underlayment must have a minimum density of 45 lbs./ft<sup>3</sup> (0.72 g/cm<sup>3</sup>).
- 2.5.8 AAT 725 Adhesive must be used for application between the underlayment and Chilewich floor

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tiles and/or planks.

2.5.9 Final installation must cure for 24 hours before on-site traffic is permitted.

### 2.6 RADIANT HEATING

2.6.1 Chilewich floor tiles and/or planks may be installed over radiant-heated floors provided the temperature does not exceed 85° F (30° C).

2.6.2 Ensure any radiant heating systems are turned off during installation, as a heated floor will cause the adhesive to dry prematurely.

### 3. JOB SITE CONDITIONS

3.1 Installation of Chilewich floor tiles and/or planks should begin only after all other trades have completed their work. If this is not feasible, Chilewich floor tiles and/or planks should be protected using Masonite covering or another covering that will not trap moisture or vapor from curing adhesive. Plastic covering should not be used. The use of surface protection or protective films with self-adhering adhesive is prohibited. Any topical use of floor guards with adhesive or sticky plastic may cause rapid soiling or staining. The use of these materials with Chilewich floor tiles and/or planks will void the warranty. If necessary, kraft paper or builder's felt may be used to protect Chilewich floor tiles and/or planks.

3.2 WARRANTY WILL BE VOIDED IF PROPER PROTECTION IS NOT USED DURING CONSTRUCTION OPERATIONS.

3.3 WARRANTY WILL BE VOIDED IF PAINT OR GYPSUM DUST/DEBRIS IS FOUND ON CHILEWICH FLOOR TILES AND/OR PLANKS.

3.4 Dragging heavy or sharp objects across Chilewich floor tiles and/or planks will damage them. Rips or tears in the product cannot be repaired.

3.5 Chilewich floor planks (6"x36") are not recommended for gym applications due to their narrow width in proximity to shifting heavy equipment.

3.6 For installation of Chilewich floor tiles in gyms, it is recommended that an additional floor mat be used beneath any cardiovascular training equipment (e.g., treadmill, elliptical, stair climber). Such a mat serves to disperse the weight and force from the front wheel mounts and/or stabilizing feet. The mat should have a non-rubber backing, and dense mats that have a higher Shore A hardness work best.

### 4. INSTALLATION PROCEDURES

#### 4.1 General

4.1.1 With regard to layout and starting points, Chilewich floor tiles and/or planks should be installed in a manner similar to commercial carpet. See CRI 104 for standard industry specifications.

4.1.2 Chilewich floor tiles and/or planks require direct glue-down installation.

4.1.3 To ensure proper alignment during installation, Chilewich floor tiles and/or planks are marked with arrows on the backing.

4.1.4 To ensure proper curing of adhesive, maintain normal temperatures for 48–72 hours after installation.

4.1.5 To ensure proper curing of adhesive, allow 24 hours to pass before allowing unlimited traffic.

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### 4.2 Chilewich tile and/or plank installation

- 4.2.1 Use a full spread of adhesive to ensure trouble-free installation. Chilewich is not responsible for tiles and/or planks that are not installed with a full spread of adhesive. Free-lay or grid-glue installations will result in tiles that kick up and do not lay flat when subjected to foot traffic or rolling traffic.
- 4.2.2 Chilewich tiles and/or planks may be laid in any pattern desired, including Ashlar, Monolithic, Herringbone, Multi-Directional, and a mix of tiles and planks. Tiles may be turned for installation. However, turning will alter the appearance and color reflection of the tiles. Before proceeding with installation, be sure of the desired direction and appearance. The desired layout should be approved by the owner or architect/designer before installation begins.
- 4.2.3 The weave of Chilewich floor tiles and/or planks is not parallel to the cut edge but at an angle. This is an inherent characteristic of the product, not a defect. The weave of each Chilewich floor tile and/or plank will not run perfectly square and perpendicular to one another; this is their intended appearance. Some patterns will also exhibit a light and dark shading in the material, which is also normal. This variation is evident at the seams, where tiles of the same style may have different shades.
- 4.2.4 It is recommended to mix Chilewich floor tiles and/or planks from different boxes to achieve a random pattern.
- 4.2.5 To establish the field in which the Chilewich tiles and/or planks are to be installed, the installer should mark two straight lines, at right angles to one another, on the floor. Installation of the Chilewich tiles and/or planks should start in the middle of the space and work toward the sides in quadrants.
- 4.2.6 Use an appropriate trowel to spread adhesive up to the lines. Allow the adhesive time to tack up. Timing is dependent on temperature, humidity, and air flow, but is generally 30–45 minutes. The adhesive should be tacky to the touch but not transfer to the finger.
- 4.2.7 Lay the Chilewich floor tile and/or plank into the adhesive, making sure that the edge aligns with the drawn lines. Fit tiles and/or planks together to eliminate gaps between them but not with too much pressure, which may cause buckling.
- 4.2.8 After installation, roll over the Chilewich floor tiles and/or planks with a roller of at least 35 lbs. (20 kg) to ensure full adhesion and to eliminate air pockets.
- 4.2.9 Use scissors to trim the white strands at edges of Chilewich floor tiles and/or planks. These strands are exposed during the tile manufacturing process and appear in the course of every installation. Once trimmed, they will not reappear. A beater-bar vacuum or counter-rotating brush may also be used to remove the white strands.

### 5. ADHESIVE

- 5.1 Chilewich recommends and has approved the use of specific adhesives, referenced below, for installation of Chilewich floor tiles and/or planks. Using products other than those approved will void the product warranty.
- 5.2 For permanent direct glue-down installations, use full-spread, aerosol, or spray adhesives. Full-spread adhesives with AAT 675, Mapei Ultrabond ECO 811, Taylor Dynamic, Taylor Pinnacle, or Taylor Resolute should be applied with a 1/16" × 1/16" × 1/16" U-notch trowel (0.16 cm). This should result in a spread rate of 125 ft<sup>2</sup>/gallon. UZIN KE 2000 S AND UZIN UZ 57 are approved for use with a B1 notch trowel. The spread rate of these adhesives is approximately 320 g/m<sup>2</sup>.

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- 5.3 For usage in specialty applications, please reference the adhesive manufacturer's data sheet for specific instructions.
- 5.4 EXTERIOR/OUTDOOR APPLICATIONS
- 5.4.1 AAT 390 Marine and Exterior Adhesive is recommended for installation and applied with an  $\frac{1}{16}'' \times \frac{1}{16}'' \times \frac{1}{16}''$  U-notch trowel with a spread rate of approximately 125 ft<sup>2</sup>/gallon.
- 5.4.2 AAT 725 Sports Floor and Resilient Adhesive is recommended for installation and applied with an  $\frac{1}{16}'' \times \frac{1}{16}'' \times \frac{1}{16}''$  U-Notch trowel with a spread rate of approximately 100 ft<sup>2</sup>/gallon. This is a two-part adhesive that requires a 2-gallon part A component and a 1.5-quart part B component. This adhesive is intended for permanent installation of Chilewich floor tiles and/or planks.
- 5.4.3 The installation process of Chilewich floor tiles and/or planks for exterior applications is the same as for interior applications, except it does not require the moisture testing outlined in Section 2.2.3.
- 5.4.4 THE SUBFLOOR OR SUBSTRATE MUST BE DRY THROUGHOUT THE INSTALLATION OF CHILEWICH FLOOR TILES AND/OR PLANKS AND APPLICATION OF THE ADHESIVE. NO STANDING WATER.

The adhesives referenced above are available from the below suppliers:

Advanced Adhesive Technologies, [www.aatglue.com](http://www.aatglue.com)

Mapei, [www.mapei.com](http://www.mapei.com)

WFTaylor, [www.wftaylor.com](http://www.wftaylor.com)

## 6. PRIMER/SEALER RECOMMENDATIONS

- 6.1 Use AAT 570 or Mapei Primer L as primer/sealer over gypsum and Portland Cement-based floor-leveling compounds. AAT 570 spread rate is 350 ft<sup>2</sup>/gallon. Two coats are recommended to ensure suitable coverage. DO NOT USE FOR EXTERIOR/OUTDOOR INSTALLATIONS. The parameters for the moisture vapor emission per ASTM F-1869 is 5 lbs./1000 ft<sup>2</sup>/24 hours, and the in situ rH should not exceed 80%. The pH of the subfloor must be 7–10.
- 6.2 If moisture vapor emission rate exceeds AAT 570 parameters, then AAT 1185 is available with up to 90% rH in situ and 10 lbs./1000 sq ft/24 hours moisture vapor emission rate. For instructions, please refer to <https://www.aatglue.com/1185-Moisture-Emission-Sealer-Floor-Prep-Products-Products--AAT--Advance-Adhesive-Technologies-INC-Quality-Service-Innovation.html>.
- 6.3 If moisture vapor emission rate exceeds AAT 1185 parameters, then Stauf ERP-270 Perma-Seal is available with up to 100% rH in situ and 25 lbs./1000 ft<sup>2</sup>/24 hours moisture vapor emission rate. For instructions, please refer to <http://www.staufusa.com/index.php/259/@.html?articleID=9500&action=detail>.