

INSTALLATION INSTRUCTIONS

For Plynyl® Brand Tile Flooring Squares - with BioFelt® Backing

*Plynyl will deliver years of satisfactory service when installed and maintained properly. The following guidelines will assure a secure and proper installation. Consult www.chilewichcontract.com for the latest installation instructions.

1. MATERIAL PREPARATION

- 1.1 Product must be allowed to acclimate for a period of 48 hours at 68-75 degrees Fahrenheit (20° -24 °C) prior to installation.
- 1.2 Prior to installation, Plynyl tile must be inspected by installer and General Contractor. Any defects must be reported to Chilewich Sultan, LLC immediately at 212-679-9204. DO NOT INSTALL DEFECTIVE MATERIAL. Installation of material implies acceptance. If the material is deemed defective, Chilewich Sultan will replace it. Chilewich Sultan's liability is limited to the replacement of defective material only. Chilewich Sultan is not responsible for cost of removal or reinstallation.
- 1.3 As with woven products, colors may vary within singular or multiple production runs. Product colors may also differ from memo samples, swatch images on our website, and other offerings in the Chilewich line.

2. SUBSTRATE PREPARATION

- 2.1 General
 - 2.1.2 The installation of Plynyl tile 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, cut back adhesives, powdery surface conditions or any other substance which will compromise the adhesion or ability of the product to stick to the substrate onto which it is being installed. Any contaminant on the sub-floor must be cleaned or neutralized before applying adhesive to bond the flooring material to it. Failure to clean contaminants from the sub-floor can cause adhesive failure and allow the flooring material to come loose. Do not use sweeping agents. Sub-floors should be swept, vacuumed and damp mopped to remove soils that may contaminate or compromise the installation.
 - 2.1.3 Floor Flatness or Levelness. The surface flatness or levelness may affect the finished aesthetic appearance of Plynyl tile. 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 of the finished work product.
 - 2.1.4 Residual Adhesives. All existing residual adhesive which would interfere with the adhesion of Plynyl tile and the new adhesive or Velcro tabs must be removed or covered up.
 - 2.1.5 Any sub-floor conditions which compromise the secure installation of Plynyl tile will be the responsibility of the general contractor or flooring contractor.
 - 2.1.6 Use a primer over gypsum or Portland cement based floor-leveling compounds as recommended by the manufacturer. Allow floor-leveling compounds to dry properly as recommended by their manufacturers.
 - 2.1.7 Cover and protect Plynyl tile edges with vinyl or metal transition strips, when they abut another material.

2.2 Concrete

- 2.2.1 Concrete must be fully cured for 90 to 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 tested for porosity and alkalinity. Porosity test can be taken with droplets of water placed on the concrete. If the concrete absorbs the water immediately or within a short period of time, for example 60 seconds, a sealer should be applied to the concrete. Ph tests should be taken using industry acceptable testing criteria. If pH exceeds 9, notify the owner, as the floor should be treated for elevated pH condition before installation.
- 2.2.2 Any cracks 1/8 " (.30cm) 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 in concrete is very common. High moisture levels must be remediated before installation. This can be accomplished with a number of moisture barrier products commonly used and available commercially. Even floors which seem dry, may have moisture passing through them, therefore all concrete sub-floors, on or above grade, must be tested. Moisture vapor emission should be tested according to 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 shall not exceed 5 pounds/1,000 square feet within 24 hours using the anhydrous calcium chloride test. Remember that this test only indicates the condition of the concrete slab in the area tested and at the time of the test. Moisture vapor conditions can change over time for numerous reasons. In-situ Relative Humidity of the concrete slab should not exceed 85%. Some adhesive and primer/sealer manufacturers require lower moisture for their products. Their guidelines should be followed to ensure a secure bond over time.
- 2.2.4 Curing and Parting agents used on concrete sub-floors may not be compatible with the adhesive and may interfere with bonding. Therefore these products are not recommended.

2.3 Wood Sub-floors

- 2.3.1 Wood floors should be level to prevent imperfections or irregularities from telegraphing through to flooring materials. Nails or other fastening devices in wood should be secure so as not to protrude above the floor surface. Fill any joints or seams with filler. It may be necessary to sand the floor until a smooth surface is secured.
- 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 the flooring.
- 2.3.3 Follow the 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 Plynyl tile.
- 2.3.4 Never install Plynyl tile over pressure treated wood products.

2.4 Other Types of Sub-floors

- 2.4.1 Terrazzo, ceramic or other hard surface floors shall be treated in the same manner as a concrete sub-floor, with additional precautions. Surface coatings or sealers must be completely removed by light sanding or other suitably effective methods and shall be filled and leveled to obtain a smooth surface with a suitable leveling compound. Grout joints in ceramic tile installations must be leveled. Alterations in adhesive application and open time may need to be made due to the nature of the surfaces of these flooring materials. Follow adhesive manufacturers recommendations and instructions.

- 2.4.2 Metal Floors. Plynyl tile 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 where a maximum bond to the metal can be achieved. New metal floors are often coated with oils during their manufacture, and these oils must be removed to ensure effective adhesion.
- 2.4.3 If Plynyl tile is to be installed over resilient tile then it must be tight and securely attached to the sub-floor and any loose or broken tile replaced.

3. QTSCU UNDERLAYMENT

If an underlayment for Plynyl tile is required, Chilewich recommends Ecore International QTSCU underlayment. Chilewich is confident that our product will perform if our and Ecore International's guidelines are followed. We cannot guarantee products supplied by other companies or installations done by others but we will warranty our product if the following conditions are met:

- 3.1 The QTscu underlayment (www.qtevolution.com) is installed as per the manufacturer's installation instructions. The installation has to provide a smooth level surface.
- 3.2 E-Grip III or E-Grip Evolve should be used as recommended by E Core, for installing underlayment to the subfloor. Application of adhesive E-Grip Evolve or AAT675 can be made directly to the underlayment without the need for a skim coat. This application should be treated as a non-porous surface. Note: E-Grip III will require a skim coat.
- 3.3 An Ecore International representative must sign off on their installation before the installation of Plynyl tile.
- 3.4 Plynyl flooring must be installed using AAT675 or VELCRO® Brand Hook Squares.
- 3.5 The final installation has to be allowed to cure 24 hours before traffic is allowed on-site.
- 3.6 Ecore International Contact Information:
Phone: **800.322.1923 ext 256**
Web Address: www.ecoreintl.com

4. RADIANT HEATED FLOORS

- 4.1 Plynyl may be installed over radiant heated floors provided the temperatures do not exceed 85 degrees Fahrenheit (30°C). Make sure the heating system is off during installation since a heated floor will dry out the adhesive prematurely.

5. JOBSITE CONDITIONS

- 5.1 Installation of Plynyl tile should begin only after all other trades have completed their work. Realizing that this is often not the case, the flooring material should be protected using masonite covering or other covering materials which will not trap moisture or vapor from curing adhesive. Plastic coverings should not be used.

The use of surface shields or protective film with self-adhering adhesive is prohibited. Any topical use of floor guards with adhesive or sticky plastic may cause rapid soiling and staining. The use of these materials with Plynyl brand products will void the warranty. Kraft paper or builder's felt may be used as a means of protecting the flooring if necessary.

- 5.2 THE WARRANTY WILL BE VOID IF PROPER PROTECTION IS NOT USED DURING CONSTRUCTION OPERATIONS.

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- 5.3 WARRANTY WILL BE VOID IF PAINT, OR GYPSUM BOARD DUST AND DEBRIS, IS FOUND ON PLYNYL TILE.
 - 5.4 Dragging heavy or sharp objects across Plynyl will damage it. Rips and tears in Plynyl can't be repaired and must be replaced.
 - 5.5 For installation in gyms, the additional placement of a floor mat under any cardiovascular training equipment (treadmill, elliptical, stair climber, etc.) is recommended. The function of the mat is to disperse the weight and force from the front wheel mounts. A non-rubber mat of the customer's choosing can be used.

6. INSTALLATION

Tile installation can be achieved with full spread AAT 675 or Mapei® 350 universal Multipurpose Adhesive, with XL Brands® Stix® Essential RES or Spray-Lock® 6200 Aerosol adhesive or with VELCRO® Brand Hook Squares.

6.1 TILE INSTALLATION with FULL SPREAD OF AAT675 ADHESIVE

- 6.1.1 Installation of Plynyl flooring materials should be undertaken the same way one would install carpet tile relative to layout and starting points. See CRI 104 for standard industry specifications.
- 6.1.2 A full spread of adhesive must be used to insure a trouble free installation. The manufacturer will not be held responsible for problem tile that are not properly installed with a full spread. Experience has shown that free-lay or grid glue installations will have tiles kick up and not lay flat when subjected to foot or rolled traffic movement.
- 6.1.3 Tiles come packed 20 tiles to the box. All tiles will have arrows on the back so the installer can determine the direction of each tile required to satisfy the design.
- 6.1.4 Tiles may be turned alternately for installation. However, turning the tiles 90 degrees will alter the appearance and color reflection of the tiles. Be sure of the direction of the tiles and the appearance desired before proceeding, as different directions will give a different appearance. Tiles are 18" square and can be laid in any pattern desired, all in one direction, in a "basket weave", quarter-turned or even in an ashlar pattern.
- 6.1.5 The weave of Plynyl tiles is not parallel to the cut edge of the tile but is at an angle. This is an inherent characteristic of the product not a defect. The weaves in each tile will not run perfectly square and perpendicular to one another, which is how they are supposed to appear. Some patterns will also exhibit a light and dark shading in the material that is also normal. This is also evident at the seams where tiles of the same style may have different shades.
- 6.1.6 Mix the tile from different boxes so that a random pattern of tile is achieved. In addition, each tile will have a number printed on the back with the arrow note above. The installer should randomly mix the 1-4 numbers within areas, and throughout the entire installation.
- 6.1.7 The installer should mark two straight lines at right angles to each other on the floor, to establish where the field of tile is to be installed. Installation of the tiles should start in the middle of the space and work toward the sides in quadrants.
- 6.1.8 Spread adhesive up to the lines with the appropriate trowel. Allow the adhesive time to tack up. Length of time depends on temperature and humidity but generally will be 10-20 minutes. The adhesive should be sticky to the touch but will not transfer to the finger.
- 6.1.9 Lay the tile into the adhesive, making sure that the edge aligns with the drawn lines. Fit tiles together to eliminate gaps between tiles but not with too much pressure, which may cause tiles to buckle.

- 6.1.10 Tile should not generally be rolled. However installer should check installation 24 hours after completion for any tiles that may be lifting. Then to correct the installer may use a 75 pound (or less) roller to re-adhere tiles to the floor. Additional adhesive on these particular tiles may also be required.
- 6.1.11 Trim white strands at tile edges with scissors. These strands are exposed during the tile manufacturing process, they are normal to every Plynyl installation. Once trimmed they will not return.
- 6.1.12 Maintain normal temperatures for 48 - 72 hours after installation to allow time for adhesive to cure.
- 6.1.13 Wait 24 hours prior to a full move-in to allow for adhesives to cure.

6.2 TILE INSTALLATION with VELCRO® BRAND HOOK SQUARES

- 6.2.1 Tiles come packed 20 tiles to the box. All tiles will have arrows on the back so the installer can determine the direction of each tile required to satisfy the design.
- 6.2.2 Tiles may be turned alternately for installation. However, turning the tiles 90 degrees will alter the appearance and color reflection of the tiles. Be sure of the direction of the tiles and the appearance desired before proceeding, as different directions will give a different appearance. Tiles are 18" square and can be laid in any pattern desired, all in one direction, in a "basket weave", quarter-turned or even in an ashlar pattern.
- 6.2.3 The weave of Plynyl tiles is not parallel to the cut edge of the tile but is at an angle. This is an inherent characteristic of the product not a defect. The weaves in each tile will not run perfectly square and perpendicular to one another, which is how they are supposed to appear. Some patterns will also exhibit a light and dark shading in the material that is also normal. This is also evident at the seams where tiles of the same style may have different shades.
- 6.2.4 Mix the tile from different boxes so that a random pattern of tile is achieved.
- 6.2.5 The installer should mark two straight lines at right angles to each other on the floor, to establish where the field of tile is to be installed.
- 6.2.6 Mark the 2 lines at 18" intervals and place the center of the Velcro Brand Hook Squares over each mark.
- 6.2.7 Lay the first row of tile along the marked straight edges, starting at the intersection of the 2 perpendicular lines, adding Velcro Brand Hook Squares underneath all four corners as the tiles are laid down.

7. ADHESIVE RECOMMENDATIONS

Chilewich Sultan LLC recommends the following adhesives for all Plynyl installations. Installations using products other than the approved ones will not be covered by the warranty. AAT brand adhesives and primers, and Velcro Brand Hook Tabs are available for purchase through Chilewich.

- 7.1 For releasable tile installations use AAT 675 or Mapei® Ultrabond® G19. Typical trowel recommendations are 1/16 x 1/16 x 1/16 U-notched trowel (0.16cm). Adhesive should provide complete coverage of the subfloor providing a uniform and secure adhesion to the subfloor. Check with the manufacturer for spread rates: a typical spread rate for AAT 675 is 150 square feet per gallon. Full spread application of Uzin 1000 should be applied according to manufacturer's recommendations using a 1/16" x 1/16" x 1/16" V notch trowel with coverage from 135 to 150 square feet per gallon.

Spray aerosol adhesive may be used to adhere the BioFelt® tiles to the subfloor. Both XL Brands® Stix® Essential RES and StayLock® 6200 provide excellent bond strength and resistance to movement. These products should be applied by the manufacturer's recommendations, but in each case the aerosol should provide near complete coverage to provide uniform and secure adhesion to the subfloor. Refer to manufacturer's instructions for coverage: typical coverage for XL Brands® Aerosol is 140 to 185 square feet per 22 oz. container, typical coverage for Spray-Lock Aerosol is 150 to 185 square feet per 22 oz. container.

Contact information for adhesive suppliers:

Advanced Adhesive Technologies (AAT)	www.aatglue.com, (800) 228-4583
Mapei®:	www.mapei.com, (800) 992-6273
XL Brands®:	www.xlbrands.com, (800) 307-4583
Spray-Lock®:	www.spraylock.com, (423) 305-6151
UZIN 1000:	www.uzin.com

- 7.2 Where tile installations need to be removed without a trace use Velcro Brand Hook Squares, available from Chilewich.
- 7.3 Use AAT #570 or Mapei Primer L as a primer/sealer over gypsum and Portland Cement based floor leveling compounds. AAT 570 spread rate: 350 square feet per gallon. Two coats are recommended to ensure coverage. Do not use for outdoor installations.

8. PURETHANE APPLICATION INSTRUCTIONS (OPTIONAL)

- 8.1 Instructions for application of Purethane coating (with or without 120 Micron anti-slip grit) onto Plynyl
- 8.2 Surface preparation – Plynyl must be thoroughly cleaned to remove all dust, dirt and debris from the surface. Surface must be dry.
- 8.3 Prepare the 2-part Purethane system as per manufacturer's recommendations.
- 8.4 Apply with a short nap paint roller. Allow to dry 2-3 hours before applying 2nd coat. Dries to the touch in 30-45 minutes. Allow final coat to dry at least 48 hours before use.
- 8.5 A gallon should cover between 250 -350 square feet.
- 8.6 Do not apply on damp days or when surface temperature is below 40 degrees F.

NOTE: All urethanes react with snow-melting salts. Clean flooring promptly after salt exposure.