BioFelt® Installation - Rolls (W2W)

Flooring Products

This product will deliver years of satisfactory service when installed and maintained properly. The following guidelines will assure a secure and proper installation.

1. GENERAL INSTALLATION PREPARATION INSTRUCTIONS

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, BioFelt Rolls 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 the cost of removal or reinstallation.

2. SUBSTRATE PREPARATION

2.1 GENERAL

2.1.1 The installation of BioFelt Rolls 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 subfloor must be cleaned or neutralized before applying adhesive to bond the flooring material to it. Failure to clean contaminants from the subfloor can cause adhesive failure and allow the flooring material to come loose. Do not use sweeping agents. Subfloors should be swept, vacuumed and damp-mopped to remove soils that may contaminate or compromise the installation.

2.1.3 Floor Flatness and Levelness. Surface flatness or levelness may affect the finished aesthetic appearance of BioFelt Rolls. 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 BioFelt Rolls and the new adhesive must be removed or covered up.

2.1.5 Any subfloor conditions which compromise the secure installation of BioFelt Rolls 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. Installation of floor leveling compounds will be installed as recommended by their manufacturers. Allow floor leveling compounds to dry or cure properly as recommended by their manufacturers.

2.1.7 Proper transition accessories must be installed to cover and protect BioFelt Rolls edges when they abut another material or when the BioFelt Rolls is the finished edge product.

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. A 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

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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" (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 in concrete is very common. High moisture levels must be remediated before installation. This can be accomplished with numerous moisture barrier products commonly used and available commercially. Even floors which seem dry, may have moisture passing through them, therefore, all concrete subfloors, on or above grade, must be tested. This includes subfloors that have had flooring products installed previously. 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 conditions of the concrete slab in the area tested and at the time of the test. A minimum of 3 areas will be tested for every 1000 square feet to be installed. The areas to be tested should be strategically chosen to ensure that a proper analysis of the subfloor is represented. These areas should be 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 can change over time for numerous reasons. Insitu 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. 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 flooring materials. Nails or other fastenings 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 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 BioFelt Rolls.

2.3.4 Never install BioFelt Rolls over pressure treated wood products.

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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 recommendations and instructions.

2.4.2 Metal Floors. BioFelt Rolls 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 manufacture, and these oils must be removed to ensure effective adhesion.

2.4.3 Fiberglass and Laminated Floors. BioFelt Rolls may be installed over fiberglass subfloors and laminated floors. The fiberglass subfloor and laminated floors may need to be abraded to create a mechanical grip between the adhesive and the applied surface. Laminated floors must be securely adhered the subfloor with a proper adhesive or mechanically fastened to ensure proper installation of BioFelt Rolls.

2.4.4 If BioFelt Rolls is to be installed over resilient tile, then all tile 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 BioFelt Rolls is specified, Chilewich Sultan LLC recommends the underlayment meet certain product specifications to ensure a proper installation. Chilewich Sultan LLC is confident that its product will perform if its and the underlayment manufacturer's guidelines are followed. Chilewich Sultan LLC cannot guarantee products supplied by other companies or their installation instruction, but will warranty its own product if the following conditions are met:

2.5.1 The underlayment is installed as 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 the BioFelt Rolls, an installation failure could occur.

2.5.4 The underlayment must be adhered 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 the joints through the BioFelt Rolls.

2.5.6 The maximum thickness of the underlayment must not exceed 0.20" (5 mm).

2.5.7 A minimum density of 45 lbs/ft^3 (0.72 g/cm^3) is required of the underlayment product.

2.5.8 AAT 725 Adhesive must be used for application between the underlayment and the BioFelt Rolls.

2.5.9 Final installation must be allowed to cure 24 hours before traffic is allowed onsite.

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2.6 RADIANT HEATED

2.6.1 BioFelt Rolls may be installed over radiant heated floors provided the temperature does not exceed 85° F (30° C).

2.6.2 Make sure the heating system is off during installation, since a heated floor will dry out the adhesive prematurely.

3. JOB SITE CONDITIONS

3.1 Installation of BioFelt Rolls 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 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 BioFelt Rolls products will void the warranty. Kraft paper or builder's felt may be used as a means of protecting the flooring is necessary.

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

3.3 WARRANTY WILL BE VOID IF PAINT, OR GYPSUM DUST AND DEBRIS, IS FOUND ON THE BIOFELT ROLLS.

3.4 Dragging heavy or sharp objects across BioFelt Rolls will damage it. Rips and tears in BioFelt Rolls cannot be repaired and must be replaced.

3.5 For installations in gyms, the additional placement of a floor mat under any cardiovascular training equipment (treadmill, elliptical, stair climber, etc.) is recommended. A Chilewich custom mat may be used, or a mat of the client's own choosing, providing the backing does not contain rubber. 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.

4. INSTALLATION PROCEDURES

4.1 General

4.1.1 Installation of BioFelt Rolls flooring materials should be undertaken the same way one would install commercial carpet relative to layout and starting points. See CRI 104 for standard industry specifications.

4.1.2 Installation of BioFelt Rolls must be a direct glue down installation

4.1.3 BioFelt Rolls has arrows and a logo on the back so the installer can keep the material aligned properly.

4.1.4 Maintain normal temperatures for 48-72 hours after installation to allow time for adhesive to cure.

4.1.5 Wait 24 hours prior to unlimited traffic to allow adhesive to cure.

4.2 BioFelt Rolls Installation

4.2.1 The seaming layout should be approved by the owner or architect/designer before installation is initiated. Avoid cross seams. Seams should run parallel to incoming light when possible to mitigate seam appearance. Seams should be placed out of high traffic situations when possible. These are guidelines, not rules, and may not always be possible.

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4.2.2 Seams will be visible. Individual warp and weft yarns will not align and the material will not have a pattern match due to the manufacturing process.

4.2.3 The weave of BioFelt Rolls will not run parallel to the selvedge edge. Therefore, any wave, bow or skew in the product is normal due to the way the material is woven. The tolerance for bow/skew is 1.5" in either direction. Some patterns will also exhibit a light-to-dark shading in the material. That is also normal. This shading may also be evident at the seams where two pieces of the same style may have a different shade. IF THE MATERIAL IS INSTALLED BEFORE CHILEWICH SULTAN LLC IS CONSULTED OF AN ISSUE PERTAINING TO BOW/SKEW OR SHADING, THEN THIS CONSTITUTES ACCEPTANCE OF THE MANUFACTURING TOLERANCE OF THE MATERIAL.

4.2.4 The installer shall establish a straight line on the floor to establish where the seam will be for the first length. BioFelt Rolls comes a nominal 72" (182.9 cm) in width, but the roll width should be measured to determine the actual width since it may be wider by 1"-2" (2.5 cm-5 cm).

4.2.5 The material must be cut in consecutive order within the roll or rolls to mitigate difference in luster, shade, or color.

4.2.6 The selvedge edge of BioFelt Rolls has to be trimmed before installation. Trim material 1" +/- (2 cm-3 cm) in from the edge into the well adhered material to the backing. Keep the blade of the utility knife at a 90° angle from the material to ensure a precision cut in the material. Trimming should be made with a metal straight edge and a sharp utility knife. The face fabric of the material is normally skewed and it may not be possible to follow a weave line in the fabric. It is critical that the cut seam be straight.

4.2.7 DO NOT DOUBLE CUT THE SEAMS. The amount of force needed to cut through two layers will make the cut quality of the seam vary, which, in turn, will cause gaps or overlaps in the seams.

4.2.8 SEAMS IN THE BIOFELT ROLLS WILL BE VISIBLE. The seam edges must be trimmed with a straight-edge without variance in the cut.

4.2.9 Dry install the seams edge to edge before proceeding to apply adhesive to the subfloor. The seams must adjoin without gaps or overlaps.

4.2.10 Visually inspect the seams at each 45° angle for 360° around the seam for any variations in luster, color, or shade variation. The material may require additional trimming, if shading or a color band is visible at the seam, to the seam edges.

4.2.11 Before applying adhesive to the subfloor, overlap the edge of the seams 1/16" (1.5 mm).

4.2.12 Roll the BioFelt Rolls back and apply the adhesive with the appropriate trowel based on the adhesive to be used. Use caution not to crease the material. Allow the adhesive time to develop tack but the adhesive should still transfer when touched. Do not allow the adhesive to “skim-over” or dry; this time will vary depending on the temperature, humidity, and air flow of the area. The adhesive is ready to have the material applied when it is “wet-tacky”. Note the adhesive should still be wet enough to transfer to the back of the flooring and allow it to move to position for a smooth lay. The edges should align with the previous piece installed or the straight line drawn for the flooring orientation.

4.2.13 Apply the material to the adhesive on one side of the seam, and then apply the other side of the vmaterial of the seam. This will allow the material to be adjoined tightly while pushing the overlapped material away from the seam. BioFelt Rolls cannot be mechanically stretched or pulled together, and overlapping the material will allow for the material to fit tightly together at the seam without the material “creeping” back if it was stretched or pulled together.

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4.2.14 A SEAM SEALER IS NOT REQUIRED FOR INSTALLATION OF THE BIOFELT ROLLS.

4.2.15 Roll the material after installation with a 35-pound (20 kg) roller to ensure full adhesion of the BioFelt Rolls with the adhesive and to eliminate air pockets.

4.2.16 Trim white strands with scissors. These strands are exposed from cutting through the core of the yarn. These protrusions are normal to the installation.

5. ADHESIVE RECOMMENDATIONS

5.1 Chilewich Sultan LLC recommends the following adhesives for all BioFelt Rolls installations. Installations using products other than the approved ones will not be covered by the warranty.

5.2 For permanent direct glue down installations choose from full spread, aerosol, and spray adhesives. Full spread adhesives with AAT 675 and Mapei Ultrabond ECO 811 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 150 ft^2/gallon. UZIN KE 2000 S AND UZIN UZ 57 are approved to be used for flooring installation with a B1 notch trowel. The spread rate of these adhesives is approximately 320 g/m^2.

Aerosol adhesive manufacturer's instructions should be followed for XL Brands Stix Essential RES and Spray-Lock 6200 Aerosol adhesive and achieve near full coverage of the subfloor. With application dependent on the subfloor and flooring backing, XL Brands suggest coverage rates between 140 and 185 ft^2/gallon per 22 oz. container and Spray-Lock suggest coverage rates between 150 and 185 ft^2/gallon per 22 oz. container.

5.3 EXTERIOR/OUTDOOR APPLICATIONS

5.3.1 AAT 390 Marine and Exterior Adhesive is recommended for installation and applied with an 1/16" × 1/16" × 1/16" U-notch trowel with a spread rate of approximately 150 ft^2/gallon.

5.3.2 AAT 725 Sports Floor and Resilient Adhesive is recommended for installation and applied with an 1/16" × 1/16" × 1/16" U-Notch trowel with a spread rate of approximately 150 ft^2/gallon. This is a two-part adhesive that is requires a 2-gallon part A component and a 1.5-quart part B component. The use of this adhesive promotes a permanent installation of the flooring product.

5.3.3 Installation of the BioFelt Rolls for exterior applications is the same as for interior applications, except it does not require the moisture testing as outlined in Section 2.2.3 of this installation document.

5.3.4 THE SUBFLOOR OR SUBSTRATE MUST BE DRY DURING INSTALLATION OF THE BIOFELT ROLLS AND APPLICATION OF THE ADHESIVE. NO STANDING WATER.

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

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^2/gallon. Two coats are recommended to ensure coverage. DO NOT USE FOR EXTERIOR/OUTDOOR INSTALLATIONS. The parameters for the moisture vapor emission per ASTM F-1869 is 5 lbs/1000 sq ft/24 hours, and the in situ rH should not exceed 80%. The pH of the subfloor must be 7-10.

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6.2 If moisture vapor emission rate exceeds the parameters of the AAT 570, then AAT 1185 is available with up to 90% rH in situ and 10 lbs/1000 sq ft/24 hours moisture vapor emission rate. Please refer to https://www.aatglue.com/1185-Moisture-Emission-Sealer-Floor-Prep-Products-Products--AAT--Advance-Adhesive-Technologies-INC-Quality-Service-Innovation.html for instructions.

6.3 If moisture vapor emission rate exceeds the parameters of the AAT 1185, then Stauf ERP-270 Perma-Seal is available with up to 100% rH in situ and 25 lbs/1000 sq ft/24 hours moisture vapor emission rate. Please refer to http://www.staufusa.com/index.php/259/@.html?articleID=9500&action=detail for instructions.

7. PURETHANE APPLICATION INSTRUCTIONS (OPTIONAL)

7.1 Instructions for application of Purethane coating onto BioFelt W2W. The application of the coating will allow for extended clean up times for staining. The application of the coating is topical and will wear with time and traffic. This coating may need to be reapplied after usage period depending on the traffic use of material.

7.2 Surface Preparation. BioFelt Rolls must be thoroughly cleaned to remove all dust, dirt and debris from the surface. The surface must be dry.

7.3 Prepare the 2-part Purethane system as per manufacturer's recommendations.

7.4 Apply with a short nap paint roller. Allow to dry 2-3 hours before applying second coat. Dries to the touch in 30-45 minutes. Allow final coat to dry at least 48 hours before use.

7.5 A gallon should cover between 250-350 ft^2.

7.6 Do not apply on damp days or when surface temperature is below 40° F (5° C).

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

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