Natural Elements Premium Wood Vinyl Plank Installation

1. General Preparation and Conditioning

Read the literature concerning the product description, limitations, installation, adhesive information, maintenance and warranty prior to installation of tile. Allow all trades to complete work prior to installation of Flexco Natural Elements Premium Wood Vinyl Plank. Deliver all materials to the installation location in its original packaging with labels intact. Remove any plastic stretch wrap and strapping from product after delivery to jobsite. Do not stack pallets of material to avoid any damage. Maintain the installation area, tile and adhesive between 65º F (19º C) and 85º F (30º C) for at least 48 hours before installation, during installation, and after the installation. Remove material from cartons and stack evenly on a smooth dry surface no more than 18" high. Inspect all material for proper type, color and matching lot numbers if appropriate. Conduct the proper moisture emission and pH testing on the substrate. Proceed with the installation only when the conditions are proper and correct. Turn off radiant-heated flooring systems prior to installation and gradually increase the temperature after 48 hours from installation.

2. Substrate Inspection and Preparation

2.1 General

Inspect all substrates prior to installation. All substrates must be clean, smooth, permanently dry, flat, and structurally sound. The substrate must be free of moisture, dust, sealers, paint, curing compounds, parting agents, residual adhesives, adhesive removers, hardeners, resinous compounds, solvents, wax, oil, grease, asphalt, gypsum compounds, alkaline salts, excessive carbonation or laitance, mold, mildew, any other extraneous coatings, films, materials and all other foreign matter which might interfere/restrict proper adhesive bonding. In renovation or remodel work, remove all existing adhesive residue so that 100% of the overall area of the original subfloor/substrate is exposed. Follow The Resilient Floor Covering Institute's (RFCI) "Recommended Work Practice for Removal of Existing Floor Covering and Adhesive", and all applicable industry, local, state, and federal standards. Care must be taken to analyze the conditions and correct any problems prior to installation. Follow the manufacturer's recommendations for any patching or underlayment materials, excluding gypsum based or plaster based levelers or patching compounds.

2.2 Concrete Substrates

Concrete substrates on all Grade Levels must be tested in accordance with ASTM F 1869 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride or ASTM F 2170 Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs using *in situ* Probes to quantitatively determine the amount of moisture vapor emission at least one week prior to the installation. **Caution:** ASTM F 1869 or ASTM F 2170 tests cannot predict long-term moisture conditions of concrete slabs. Moisture testing only indicates moisture conditions at the time the tests are performed. Before conducting ASTM F 1869 or ASTM F 2170 test, the installation area must be maintained between for 65° F (19°C) and 85° F (30°C) or at least 48 hours prior to testing, during testing and thereafter. In addition, the concrete's temperature range must also be identical to that of the installation area. Conduct three tests for the first 1,000 sq. ft. and one additional test for each 1,000 sq. ft. or fraction thereof per grade level (on, below or above grade).

The Vapor Emission Rate shall not exceed the follow levels prior to installation:

Spray-Grip for Vinyl -	ASTM F 1869, Calcium Chloride	7.0 lbs
	ASTM F 2170, Relative Humidity	85%
16/86 Multi-Performance Tile and Tread Adhesive -	ASTM F 1869, Calcium Chloride	4.0 lbs
	ASTM F 2170, Relative Humidity	70%
77 Solvent Free Epoxy -	ASTM F 1869, Calcium Chloride	5.0 lbs
	ASTM F 2170, Relative Humidity	75%

If the substrate does not meet the above noted requirements, the flooring shall not be installed until the problem has been corrected. **DO NOT** install flooring if there is hydrostatic pressure. Every concrete floor slab on-grade or below grade to receive resilient flooring shall have a permanent, effective moisture vapor retarder installed below the slab. A pH test must be performed to test for excessive alkalinity using a pH pencil or litmus paper and deionized water. A scaly, sandy, or powdery surface is an indication of some form of contaminant, usually excessive alkalis or an alkali-silica residue. A pH reading higher than 8 is an indication of a potential problem and the concrete must be neutralized by rinsing with clear water. Apply clear water with a mop and allow to thoroughly dry. Re-rinse with clear water, allow to thoroughly dry and retest to ensure pH level is within acceptable

range of 5 to 8 on the pH scale. Continue to neutralize until the pH level is acceptable. The testing of concrete for alkalinity indicates the degree of alkalinity only at the time the test is conducted, and cannot be used to predict long-term conditions. Moisture and alkali salts in the concrete can cause the following problems after installation: adhesive deterioration, bumps, ridges, bubbles, discoloration, mold, mildew, bacteria growth, efflorescence, tile shifting, tile releasing, tile peaking and/or sheet seam curling. **DO NOT** install over burnished (slick troweled) concrete to avoid adhesive and underlayment patch or self-leveling bonding problems due to the non-porosity of the concrete finish. Corrective measures such as bead blasting (shot blasting) or scarifying must be performed prior to installation. The concrete slab must be of good quality, standard density concrete with low water/cement ratios consistent with placing and finishing requirements, having a maximum slump of 4", a minimum compressive strength of 3500 PSI, and following the recommendations of ACI Standard 302.1R-96 for class 2 or call 4 floors and the Portland Cement Association's recommendations for slabs on ground. Joints such as expansion joints, contraction joints, isolation joints, saw cuts, control joints, grooves or other moving joints shall not be filled with patching compound or covered with resilient flooring. Expansion joint covers designed for use with resilient flooring should be used. Any non-moving surface cracks, depressions, and other irregularities shall be filled and smoothed with a high quality grade Portland cement-based, water resistant, non-shrinking, non-staining, mildew resistant, alkali resistant underlayment having a minimum compressive strength of 3500 PSI after 28 days. Some underlayments may fail under excessive weight; an epoxy caulking compound may be required for certain repairs. Mechanically cleaning the substrate by shot-blasting, scarifying and/or sanding shall be performed to achieve a flat, smooth, clean surface to prevent irregularities, roughness or other defects from telegraphing through the new resilient flooring. The surface of the concrete shall be flat to within the equivalent of 3/16" in 10 feet, as described in ACI 117R. The surface shall be cleaned of all loose material by scraping, brushing, vacuuming and/or other methods immediately before commencing installation of resilient flooring. Follow the proper safety practices during the preparation and installation. Follow the recommendations of the American Concrete Institute (ACI 302.1R, *Guide for Concrete Floor and Slab Construction;* ACI 360.R, *Design of Slabs on Grade;* ACI 223, *Standard Practice for the Use of Shrinkage-Compensating Concrete);* The American Society for Testing and Materials (ASTM F 710, *Standard Practice for Preparing Concrete Floors and Other Monolithic Floors to Receive Resilient Flooring*), and the American National Standards Institute (ANSI A157.1, *Recommended Practice for Concrete Floor and Slab Construction*) for the preparation of concrete to receive resilient flooring.

2.3 Wood Subfloors

Wood subfloors should be of double layer construction with a minimum thickness of 1". Crawl spaces underneath wood subfloors shall be in compliance with local building code ventilation practices and have clearance of at least 18" of cross-ventilated space between the ground level and joists. Wood joists should be spaced on not more than 16" centers. Place a moisture retarder; having a maximum rating of 1.0 perm, on the top of the ground under the wood subfloor overlapped at least 8". APA, The Engineered Wood Association, Underlayment Grade plywood, minimum 3/8" thick, with a fully sanded face is to be used. Use APA approved exterior grade plywood if finished floors are subjected to moisture. OSB, lauan, maranti, solid-core mahogany, waferboard, particleboard, chipboard, flakeboard, tempered hardboard, glass mesh mortar units or cementitious tile backer boards, sheathing-grade plywood, preservative-treated plywood and/or fire-retardant treated plywood are not recommended as some manufacturers may use resins or other adhesives in the manufacturing of the product that may cause discoloration or staining of the flooring. Wood subfloor movement, flexing or instability will cause the flooring installed to release, buckle or become distorted. Do not proceed with the installation until corrective measures have been made. The warranties, performance, installation and uses are the responsibility of the wood subfloor manufacturer and/or contractor. **DO NOT** use plastic or resin filler to patch cracks. **DO NOT** use cement or rosin coated nails/staples, or solvent-based construction adhesive to adhere the plywood. Installation on a sleeper, a wood subfloor system constructed over the top of concrete, is not recommended. Installation directly over Sturd-I-Floor panels is not recommended. All wood subfloors, single construction plywood floors, single and/or double tongue-and-groove strip floors, and wood plank floors must be prepared to receive resilient flooring in accordance with federal and industry standards. Follow the recommendations of the APA, The Engineered Wood Association, Design/Construction Guide, Residential and Commercial, and ASTM F 1482, Standard Guide to Wood Underlayment Products Available for Use under Resilient Flooring, for the installation and proper construction of the panels to receive resilient flooring. It is the contractor's responsibility to determine if the subfloor is acceptable to receive the flooring.

2.4 Terrazzo and Ceramic Floors

Terrazzo and ceramic floors to be used as subfloors/substrates are to follow the procedures recommended for concrete in 2.2. Ceramic tile must be solidly adhered and all loose tiles must be removed and repaired or replaced. Ensure all glazed, sealed, smooth and/or shiny surfaces are properly sanded and cleaned. Fill all grout lines and other irregularities with a Portland cement-based underlayment with a minimum compressive strength of 3500 PSI. The subfloor must be structurally sound. Inspect and ensure there is an adequate bond of the old flooring to the original substrate. Flexco will not warrant the product if there is a bond failure caused by problems relating to the old flooring.

2.5 Metal Floors

Metal floors to be used as subfloors/substrates must be thoroughly cleaned of any residue, oil, rust and/or oxidation and properly sanded/grinded to provide a smooth, level, clean substrate to receive the resilient flooring. The flooring must be installed within 12 hours after sanding/grinding to prevent the metal flooring from re-oxidizing. The metal subfloor shall be structurally sound.

Deflection of the metal floor can cause a bond failure between the adhesive and the metal substrate. On an extremely smooth, non-porous, metal substrate, a longer "tack up" may be required in order to prevent the adhesive from oozing between the seams.
Caution: The installation of stair-treads, risers or other flooring materials will not prevent deterioration of metal substrates from occurring.

3. Product Installation
When laying out the area ensure all end seams are a minimum of six inches apart. Whenever possible avoid any seams directly on seams in the substrate and borders less than half of the width of the material. In large areas, blend material from several boxes to ensure a consistent appearance. Install products with directional arrows on the back with the arrows pointing in the same direction unless utilizing custom layouts. Do not install over expansion joints. Apply adhesive according to the label directions. When laying the flooring, use a kneeling board, or for best results work off of the flooring whenever possible. If the adhesive is bleeding or oozing at the seams, there is too much adhesive or the adhesive is too "wet". Immediately remove excessive wet adhesive with a soft, clean cloth dampened with warm soapy water. Periodically, lift the tiles to check for proper adhesive transfer. There should be at least 90% coverage of adhesive on the back on the tile. Observe the adhesive to assure that the adhesive has not surpassed the open time and has not begun to cure. Cut borders and other specialty cut tiles to fit snugly, not tightly, against the wall, threshold, transition strip, fixtures, or other obstacles. Forcing incorrectly sized tiles into smaller areas will cause buckling of the tile. Do not wait until all the installation of main areas of flooring to begin laying the borders. Lay the border tiles within the adhesive open time. Roll and cross roll each section of tile laid with a 100pound 3section roller within 15 minutes after installation of the tile section. Adjust rolling time to climatic conditions. Use a hand roller in areas that can not be reached with the larger roller. Conduct a visual inspection during the rolling process to assure there has been no shifting of the tiles and that there is no adhesive on the surface of the tile. Do not wait until completing the entire installation before rolling as the adhesive may have surpassed the open time and cured. Roll and cross roll a second time approximately 30 minutes after the initial rolling.

4. Restrictions after Installation
Spray-Grip Adhesive for Vinyl Tile
Immediate foot traffic
Immediate rolling loads

16/86 Multi-Performance Tile & Tread Adhesive
Foot traffic after 24 hours
Light rolling loads after 48 hours
Heavy rolling loads after 96 hours

77 Solvent-Free Epoxy Adhesive
Foot traffic after 24 hours
Light rolling loads after 48 hours
Heavy rolling loads after 72 hours

Always protect installed flooring after installation from any traffic prior to release for normal use. Failure to do so will result in damage to the flooring. It is also best to protect the flooring while moving any furniture or fixtures into the room as well.

COMPANY INFORMATION
Flexco Corporation
1401 East 6th Street
Tuscumbia, AL, USA 35674
Phone: (256) 383-7474; (800) 633-3151
Email: info@flexcofloors.com, installhelp@flexcofloors.com, technical@flexcofloors.com