

Rubber Stair Tread Installation

COMPANY INFORMATION

Flexco Corporation
1401 East 6th Street
Tuscumbia, AL, USA 35674
Telephone: (256) 383-7474; (800) 633-3151
Facsimile: (256) 381-0322; (800) 346-9075
Email: info@flexcofloors.com, technical@flexcofloors.com
Internet: www.flexcofloors.com
Sweet's Catalog: 09650/FLE; Buyline 0254; www.sweets.com

INSTALLATION

1. General Preparation and Conditioning

Read all literature concerning the product description, product limitations/precautions, product installation, adhesive information, product maintenance and warranty before installing the Flexco Rubber Stair Treads. All materials are to be delivered to the installation location in its original packaging with labels intact. **DO NOT** stack pallets of finished goods on top of each other. Remove all plastic wrapping and strapping from the pallets in the installation area at least 48 hours prior to installation. For proper acclimatization, remove the treads from the cartons and stack evenly on a smooth dry surface with the sanded side up to ensure that the noses will not be bent. Take the necessary precautions to ensure the surfaces of the treads are not damaged and that the sanded back of the treads **DO NOT** become contaminated. The installation area, treads, risers, stringers, accessories and adhesives are to be maintained between 65° F (19°C) and 85° F (30°C) for at least 48 hours before installation, during installation and thereafter. Inspect all material for proper type and color. Conduct the proper moisture emissions and pH testing on the substrate and proceed with the installation only when the conditions are proper and correct. A bond test using the recommended adhesive and 36 Stair Tread Epoxy Nose Caulking Compound should be performed at least one week prior to the scheduled installation to ensure the surface is suitable. After 72 hours, there should be an unusual amount of force to lift the tread or riser from the substrate with adhesive bonding to the tread and the substrate. The treads should be loose laid, pre-cut and fit to the stairs prior to spreading of adhesive to determine the proper layout for best overall appearance. Close the area to traffic during the tread installation. Install treads and accessories after other finishing operations, including painting, have been completed. **Warning:** Follow all local, state and federal standards and practices for the proper removal and disposal of flooring, adhesives and/or other materials. Follow all local, state, federal and manufacturer's safety standards for the use of all products and equipment.

2. Substrate Inspection and Preparation

2.1 General

All substrates must be inspected 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, oxidation, 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. **DO NOT** use sweeping compounds, solvents, citrus adhesive removers or acid etching to clean the substrate. **DO NOT** install stair treads or flooring over gypsum-based or plaster based leveling or patching compounds. **DO NOT** install new floor covering over old floor covering, as the old floor covering may not be adequately bonded, hide possible structural defects and/or cause plasticizer migration into the new stair treads and flooring. 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. Some

previous manufactured asphaltic “cutback” contained asbestos. For removal instructions, refer to the Resilient Floor Covering Institute’s publication “Recommended Work Practices for Removal of Resilient Floor Covering”.

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 3.0 lbs and Relative Humidity Test shall not exceed 65% when using Flexco FlexTape Adhesive, 4.0 lbs and Relative Humidity of 70% when using Flexco 16/86 Multi-Performance Tile & Tread Adhesive and 5.0 lbs and Relative Humidity of 75% when using Flexco 77 Solvent Free Epoxy Adhesive. 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 Rubber Stair Treads 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 (Refer to 6.2.1).

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 6.2.2. 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 warranty the product if there is a bond failure caused by problems relating to the old flooring (Refer to 6.2.1).

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. Adhesive Information

3.1 Flexco 16/86 Multi-Performance Tile and Tread Adhesive

Flexco 36 Stair Tread Epoxy Nose Caulking must be used in conjunction with the Flexco 16/86 Multi-Performance Tile & Tread Adhesive. Flexco 16/86 Multi-Performance Tile and Tread Adhesive is a solvent free, high strength, acrylic adhesive for indoor installations over porous and some non-porous substrates on grade, below grade and/or above grade. This adhesive contains antimicrobial protection that protects the dried/applied adhesive from mold, mildew and bacteria that cause odors and product degradation. Use of this adhesive is limited to casual foot traffic in areas where there are no lateral shear stresses or rolling loads, in areas where the temperature is maintained between 65°F (19°C) and 85°F (30°C), and in areas that will not be subjected to moisture or other liquids. **DO NOT** use Flexco 16/86 Multi-Performance Tile & Tread Adhesive over metal, ceramic tile, flexing substrates, cementitious terrazzo or areas subjected to rolling loads or lateral shear. **DO NOT** use Flexco 16/86 when installing Repel™ Oil and Grease Resistant compound. The Flexco 77 Solvent Free Epoxy Flooring Adhesive is required on all Repel™ Oil and Grease

Resistant Compound installations, metal and some other non-porous substrates and more severe service conditions. The approximate coverage (spread) rate using a 1/16" x 1/16" x 1/16" square notch trowel is 125 square feet per gallon on a smooth substrate. Coverage will vary according to the type of surface, surface texture, spreading angle, and adhesive temperature. Adhesive is available in 1-gallon and 4-gallon pails. Shelf life is one year stored at 70° F (21°C) in an unopened container. Remove wet adhesive with a soft, clean cloth dampened with water or denatured alcohol. Dried adhesive can be removed using a soft, clean cloth dampened with mineral spirits. The adhesive is freeze/thaw stable to 5 cycles at 0° F (18°C); however, it is recommended to protect all adhesive products from freezing. If frozen, **DO NOT** stir until material has completely thawed. Label information is in English and Spanish. Read all MSDS information and follow the proper safety procedures. Flexco 16/86 Multi-Performance Tile and Tread Adhesive calculated VOC's according to California Rule #1168: 0 grams per liter of coating.

3.2 Flexco 77 Solvent Free Epoxy Adhesive

Flexco 36 Stair Tread Epoxy Nose Caulking must be used in conjunction with the Flexco 77 Solvent Free Epoxy Adhesive. Flexco 77 Solvent Free Epoxy Adhesive is a solvent free, non-flammable, high performance epoxy adhesive used for indoor installations over porous and non-porous (including metal, ceramic tile and cementitious terrazzo) substrates on grade, below grade and/or above grade. The Flexco 77 Solvent Free Epoxy Adhesive must be used for installations in areas where the flooring will be subjected to lateral shear stresses and/or rolling loads, in areas subjected to moisture or other liquids, in areas where the substrate or flooring is not maintained within the specified temperature range, and on metal and some other non-porous substrates. The Flexco 77 Solvent Free Epoxy Adhesive must be used for all Repel™ Oil and Grease Resistant Compound installations. When used on non-porous substrates, the adhesive must be allowed to "tack up", but not allowed to cure. The approximate coverage (spread) rate using the 1/32" deep x 1/16" wide x 1/32" flat "U" notch trowel is 175 square feet on a smooth substrate. Using the 1/16" x 1/16" x 1/16" flat "V" notch trowel, the approximate coverage (spread) rate is 150 square feet. Coverage will vary according to the type of surface, surface texture, spreading angle and/or adhesive temperature. Adhesive is available in 1-quart and 1-gallon units. Shelf life is one year at 70° F (21°C) in an unopened container. Although the epoxy components are non-freezing, the adhesive must be allowed to stabilize to ambient temperature before mixing. Any adhesive on the surface of the tiles or surrounding area must be removed immediately with a clean cloth dampened with warm soapy water or denatured alcohol. **DO NOT** allow the adhesive to cure on the surface of the tile. **Caution:** A bond failure will occur if the epoxy is not properly mixed. Read all MSDS information and follow the proper safety procedures. Flexco 77 Solvent-Free Epoxy Adhesive Calculated VOC's according to California Rule #1168: Flexco 77 Part A: 1.3 grams per liter of coating. Flexco 77 Part B: 2.4 grams per liter of coating. Flexco 77 Part A & Part B Mixed Calculated VOC's: 1.21 grams per liter of coating.

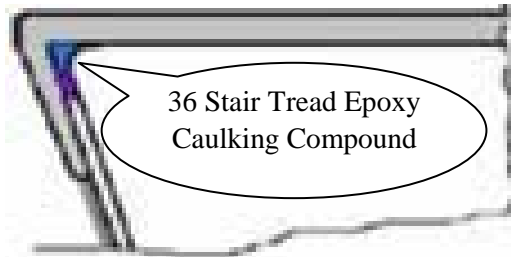
3.3 Flexco FlexTape Adhesive

Flexco 36 Stair Tread Epoxy Nose Caulking must be used in conjunction with the Flexco FlexTape Adhesive. Flexco FlexTape is a double-coated high-tack modified polyacrylate adhesive with polyester thread protected with a heavy-duty treated paper liner for easy release. The reinforcements add dimensional stability and tensile strength to the adhesive. This tape is non-flammable with no known toxicity and may be disposed of as household waste. This product is for the indoor installation of Flexco Rubber Stair Treads with or without risers. Flexco FlexTape may be used on dry, porous and some non-porous substrates on grade or above grade. The Flexco FlexTape is available in two sizes, 9.45" wide by 164' long and 1" wide by 164' long. Use one linear foot of tape for every linear foot of tread and riser. Shelf life is two years stored at 70° F (21° C) in an unopened container. The Flexco FlexTape is freeze/thaw stable to 5 cycles at 0° F (-17° C). If frozen, **DO NOT** use until it has completely thawed. FlexTape is for indoor use only with temperatures between 65° F (19°C) and 85° F (30°C). Use only in dry areas as exposure to water or other liquids will cause an adhesion failure. Read all MSDS information and follow the proper safety procedures.

3.4 Flexco 36 Stair Tread Epoxy Caulking Compound

Flexco 36 Stair Tread Epoxy Caulking Compound must be used on all Flexco Rubber Stair Tread installations. Flexco 36 Stair Tread Epoxy Caulking Compound is a solvent free, non-flammable, high performance Epoxy Caulking Compound used for indoor installations of Flexco Rubber Stair Treads over porous and non-porous substrates on grade, below grade, or above grade. This epoxy caulking compound provides support to the "nose" area, particularly on stairs that are badly worn or irregularly shaped. Flexco 36 Stair Tread Epoxy Caulking Compound is available in quart units, gallon units and a 13 ½ ounce dual cartridge. Approximate coverage is 120 linear feet for the quart unit, 480 linear feet for the gallon unit and 25 linear feet for the 13 ½ ounce dual cartridge with a ½" bead. Coverage will

vary according to the type of surface, surface texture and adhesive temperature. Shelf life is one year stored at 70° F (21° C) in an unopened container. Although the epoxy components are non-freezing, the adhesive must be allowed to stabilize to ambient temperature before mixing. Any adhesive on the surface of the tiles or surrounding area must be removed immediately with a clean cloth dampened with denatured alcohol **Caution:** When applying 36 Epoxy Caulking Compound (nose filler) in cartridges, the first 6" of unmixed material from each cartridge must be discarded to prevent bond failure and oozing of unmixed material down the face of the riser! See diagram that follows for proper placement of the Flexco 36 Stair Tread Epoxy Caulking Compound. **DO NOT** allow the adhesive to cure on the surface of the tile. A bond failure will occur if the epoxy is not properly mixed. Read all MSDS information and follow the proper safety procedures. Flexco 36 Stair Tread Epoxy Caulking Compound Calculated VOC's according to California Rule #1168: Flexco 36 Part A: < 30 grams per liter of coating. Flexco 36 Part B: < 30 grams per liter of coating.



4. Adhesive Application and Product Installation

4.1 Rubber Stair Tread Installation Preparation

Read all installation, product limitations/precautions and maintenance literature before proceeding. When installing Flexco Stair Treads, Risers and Stringers; the entire back surface including the inside radius of the stair tread nose, must first be thoroughly cleaned. Denatured Alcohol and a clean white cloth should be used to remove the factory mold release and/or any other contaminants that could prevent adhesion. Once cleaned, allow material to completely dry before applying any adhesives. Flexco stair treads are not recommended for butting installations, unless special ordered from Flexco. Butting stair tread installations must be installed with Flexco 77 Solvent Free Epoxy Adhesive. **DO NOT** flex or bend treads with carborundum strips as this will cause the strips to become wrinkled and fail.

Install all stringers prior to the installation of any rubber treads or risers. Pre-cut and fit the stringers prior to spreading any adhesive. Use a non-staining building felt or cardboard to make a pattern for the stringers. Spread Flexco 16/86 Multi-Performance Tile and Tread Adhesive on back of stringer with a 1/8" saw-tooth spreader and install. Roll stringer with a hand roller to ensure adequate adhesive transfer.

Before installing Flexco Rubber Stair Treads and Risers, inspect all steps and risers for any damage or wear. For wood substrates, replace or repair any damage with the appropriate materials. For concrete substrates, repair worn or damaged steps with a Portland cement based underlayment with a minimum compressive strength of 3500 PSI to ensure a smooth, level, structurally sound substrate. Treads and risers should be installed on an alternating basis, first a riser then a tread starting with the first step. The risers should be scribed to abut to the tread nose for an ADA installation. For a non-ADA installation it is permissible to allow the riser to extend under the nose of the tread. **DO NOT** allow the riser to extend too high under the nose of the tread, as this will allow the nose to extend beyond the nose of the step resulting in the nose breaking. If there is a requirement to adhere the tread nose to the riser, ensure the inside of the nosing and the respective portion of the riser are thoroughly sanded and cleaned. On adjustable nose treads use 3M 2141 contact adhesive or FlexTape to secure the inside of the nose to the face of the riser. When installing one-piece stair treads, use the #195 Cove Stick Filler at the junction of the step and riser to fill void behind the radius of the tread/riser. This can be installed with adhesive being used to install treads. Pre-cut and fit the treads prior to spreading adhesive. Scribe the treads to the stringers or wall on each end to fit the treads to the proper step length. To fit the tread to the depth of the step, set divider or bar scribe to width of a two-by-two board. Put the two-by-two board inside the nose of the tread with the tread positioned correctly on the step, and push the nose of the tread back until the board is against the step. When scribing the tread, ensure the scribe is perpendicular to the surface that is being scribed. Carefully undercut the tread along the scribe mark to remove the unwanted portion of the tread. Check the fit and make any necessary adjustments. **Caution:** Cutting the tread too long and/or too deep for the step will cause

buckling of the tread nosing and/or the tread nose to protrude beyond the step nosing, which will cause nose breakage. Once the treads and risers are pre-cut to fit the steps apply the appropriate adhesive to the substrate (*see specific adhesive information listed below for mixing and trowel information*). Start spreading the adhesive while leaving ½” from the edge of the tread with no adhesive, ensuring there are no puddles of adhesive. Leaving the ½” will ensure that the 36 Stair Tread Epoxy Caulking Compound will not become mixed with the other adhesive and create an adhesive failure. Do not spread more adhesive than can be covered within the open time of the adhesive. **Caution:** Open time and curing characteristics of Flexco adhesives will vary upon the type of substrate, substrate temperature, ambient temperature, humidity, and proper conditioning of the adhesive. Allowing the adhesive to remain open too long will result in a bond failure. With a spatula or dual cartridge applicator, apply a ½” bead of the 36 Stair Tread Epoxy Caulking Compound to the inner radius of the stair tread nose so that all voids are filled when the tread is placed into position. **DO NOT** butter the caulking compound on the step or riser. After the adhesive and epoxy caulking compound have been applied, place the tread nose onto the step using even pressure. The nose of the tread is to fit tightly against the nose of the step. Place the remaining portion of the tread into the adhesive on the step. After the first tread has been put into place, remove the tread and inspect the step nose for adequate adhesive transfer to ensure that the ½” bead of adhesive is sufficient to fill all voids and irregularities along the step nosing. If there are missing or light spots of adhesive along the step nosing, increase the amount of caulking compound to approximately 3/8” or until all voids are filled. Replace the first tread after applying additional caulking compound in the inner radius of stair tread nose. If all step nosings have the same wear, use the same amount of caulking compound on the remaining treads. Begin placing the remainder of the treads in an alternating manner; riser, tread, riser etc until the stair well is complete. Periodically, lift the stair treads to check for proper adhesive transfer and to ensure the adhesive is not curing. There should be at least 90% coverage on the back of the treads and 100% coverage of the caulking compound in the inner tread nose. Roll and cross roll each tread against the step substrate with a J-type roller within 15 minutes after the tread has been installed. **DO NOT** roll the tread nose or kneel against the tread as this will cause displacement of the 36 Stair Tread Epoxy Caulking Compound. The rolling time may need to be adjusted to climatic conditions. Conduct a visual inspection during the rolling process to ensure there has been no shifting of the treads and that there is no adhesive on the surface of the tread. **DO NOT** wait until the entire installation is completed before rolling as the adhesive may have surpassed the open time and be cured. Roll and cross roll a second time with a J-type roller approximately 30 minutes after the initial rolling. At the top of the stairs, cut the final tread off along the back of the design and dry fit it on the landing. Ensure that the color match of the tread and landing tile is acceptable. Install a piece of building felt on the landing and butt it up to the end of the tread to ensure that the tile on the landing and the top stair tread will be the same level where they meet. If necessary, sand the treads backing and thoroughly clean to create a smooth, level fit with the landing tile. Install the final tread and landing tiles. There is to be no foot traffic on the treads for at least 48 hours and no wheeled conveyances for at least 72 hours. Allowing traffic on the treads before the adhesive hardens will cause the treads to slip forward creating an air space at the nose, which will cause cracking of the nose at a later date. Protect treads against mars, indentations and other damage until released to end user.

4.1.1 Flexco 36 Stair Tread Epoxy Caulking Compound

The use of the Flexco 36 Stair Tread Epoxy Caulking Compound dual-cartridge and disposable mixing nozzle with the Flexco Item # F88015XT Stair Tread Cartridge Gun is recommended. Premature curing of the caulking compound prior to the application in the nose is virtually eliminated. When cartridges are used, no additional mixing is necessary as the mixing is done within the special applicator nozzle. Any remaining epoxy in the cartridge, that is not used, can be saved for use at a later date by removing the disposable nozzle and capping the cartridge. Flexco 36 Stair Tread Epoxy Caulking Compound consists of two unit containers, Part A (epoxy resin) and Part B (hardener). **DO NOT** mix partial units of this adhesive, because the ratio of Part A to Part B is not 1:1. Open the two units and pour all of Part A into Part B. Mix the combined parts with the furnished paddle using a rotary motion while at the same time lifting from the bottom. A slow speed, 200 RPM maximum, drill with an attached mixing paddle may also be used. Mix thoroughly 4 minutes. After mixing, there must be no streaking of the two parts in the caulking compound; it will be consistent grey color. **Caution:** Higher mixing speeds and/or longer mixing time will reduce the open time and can cause premature curing of the caulking compound; however, if not mixed long enough, the caulking compound will not properly cure. Once mixed, the caulking compound must not be allowed to remain in the mixing container since the chemical reaction will be hastened, causing the caulking compound to prematurely cure or set up which would render the caulking compound unusable. After mixing, pour the caulking compound on cardboard or similar material and apply to the tread nose before the epoxy sets up.

4.1.2 Flexco 16/86 Multi-Performance Tile and Tread Adhesive

Flexco 16/86 Multi-Performance Tile and Tread Adhesive comes in 1 gallon and 4 gallon containers. Open the container and use a mixing stick to stir any moisture that has accumulated on the surface back into the product. Use a 1/16" x 1/16" x 1/16" square notch trowel to apply the adhesive to the substrate. For porous substrates, allow the adhesive to "flash off" for approximately 10 minutes before installing the stair treads.

4.1.3 Flexco 77 Solvent Free Epoxy Adhesive

Flexco 77 Solvent Free Epoxy Adhesive consists of two unit containers, Part A (epoxy resin) and Part B (hardener). **DO NOT** mix partial units of this adhesive, because the ratio of Part A to Part B is not 1:1. Open the two units and pour all of Part A into Part B. Mix the combined parts with the furnished paddle using a rotary motion while at the same time lifting from the bottom. A slow speed, 200 RPM maximum, drill with an attached mixing paddle may also be used. Mix thoroughly 4 minutes. After mixing, there must be no streaking of the two parts in the adhesive; it will be consistent cream color. **Caution:** Higher mixing speeds and/or longer mixing time will reduce the open time and can cause premature curing of the adhesive; however, if not mixed long enough, the adhesive will not properly cure. Once mixed, the adhesive must not be allowed to remain in the mixing container since the chemical reaction will be hastened, causing the adhesive to prematurely cure or set up which would render the adhesive unusable. Immediately after mixing, pour the contents onto the substrate and spread with a 1/16" x 1/16" x 1/16" square notch trowel while being careful to leave no puddles of adhesive. (**Note:** A 1/32" x 1/16" x 1/32" "U" notch trowel may be required on some semi-porous or non-porous substrates. Spreading large numbers of steps could possibly allow the adhesive to cure or setup before the stair treads are installed which would result in a bond failure. For porous substrates, allow the adhesive to "flash off" for approximately 20 minutes before installing the stair treads. For non-porous substrates, allow the adhesive to "flash off" for approximately 30 minutes before installing the stair treads.

4.1.4 Flexco FlexTape Adhesive

Flexco FlexTape Adhesive is designed to be used on all Rubber Stair Treads, including one-piece tread/riser combinations. **DO NOT** use the FlexTape with an installation that is to be butted or with Stair Treads produced with the Repel formulation. After stair treads have been properly cleaned and allowed to thoroughly dry, apply the FlexTape to the back of the stair tread starting 1" from the inner radius of the nose. This will leave room for the caulking compound to be applied. The 1" wide FlexTape can be applied to the back of the stair tread nose if adhesion of the nose is required. Roll the FlexTape with a J-type roller to ensure adequate bond to the stair tread surface. After application of the FlexTape and caulking compound, remove the protective paper and install stair tread by fitting nose first against the step. Press remainder of stair tread into place against the steps surface. This procedure is critical, if the FlexTape is allowed to make contact with the step first it can not be moved or slid into place.