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6. Installation

6.1 General Preparation and Conditioning

Read the literature concerning the product description, product limitations, product installation, adhesive & ROPECC Epoxy Caulking Compound information, product maintenance, and warranty before installing stair treads. All materials are to be delivered to the installation location within 48 hours of installation in its original packaging with labels intact. Store products in a dry area protected from the weather with temperatures maintained between 65° F (19°C) and 85° F (30°C). DO NOT stack pallets. Remove all plastic wrapping and strapping from the pallets and un-box all material in the installation area at least 48 hours prior to installation. Stair Treads must be stored horizontally and placed on a smooth, level, dry surface, which supports the entire width of the stair treads. The installation area, substrate, rubber stair treads, associated material and adhesive 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. In addition, the subfloors temperature range must also be between 65°F (19°C) and 85°F(30°C) prior to installation, during installation and maintained thereafter. Inspect all material for proper type and color. Conduct the proper moisture emission and pH testing on the substrate. Proceed with the installation only when the conditions are proper and correct. A bond test using ROP360 Acrylic Tile and Stair Tread Adhesive, ROP435 Epoxy Adhesive, ROP535 Solvent-Free Two-Component Polyurethane Adhesive (required for metal and recommended non-porous substrates, and for butting stair tread installations), ROPECC Epoxy Caulking Compound, and ROP Quik-Stik Adhesive Tape must be conducted throughout the area approximately 50 feet apart and one test must be conducted per flight of stairs, in addition to each connecting landing areas 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 stair treads from the substrate with adhesive/ Quik-Stik Tape and ROPECC Caulking Compound or bonding to both the stair tread and the substrate. DO NOT proceed with the installation if the concrete subfloor has darkened, if visual moisture is present or if adhesive is still wet. Each is clear indications of subfloor moisture problems. Close the area to traffic during stair tread and flooring installation. Install stair treads and accessories after other finishing operations, including painting, have been completed. Do Not expose installed stair treads to dollies loaded with heavy material or drag items across stair treads to prevent stair tread nosing from cracking or adhesive failure. Prevent the back of the stair treads from becoming contaminated and protect the face from damage. If the back of the stair treads becomes soiled prior to installation, clean with denatured alcohol, rinse and a clean white cloth, and let dry. Warning: Follow all local, state, and federal standards and practices for the proper removal and disposal of flooring, adhesives, or other materials. Follow all local, state, federal, and manufacturer's safety standards for the use of all products and equipment.

6.2 Subfloor/Substrate Inspection and Preparation



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6.2.1 All subfloors/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, primers, 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 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, 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".

6.2.2 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) for 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 test for the first 1,000 sq. ft. and one additional test for each 1,000 sq. ft. or fraction thereof per grade level. The Vapor Emission Rate shall not exceed 5.0 lbs and Relative Humidity Test shall not exceed 75% when using Roppe 535U "Universal" Urethane Enhanced Epoxy, ROP435 Epoxy Adhesive and ROPECC Epoxy Caulking Compound. ROP360 Vapor Emission Rate shall not exceed 4.0lbs and Relative Humidity Test shall not exceed 70%. Quik-Stik Adhesive Vapor Emission Rate shall not exceed 3.0lbs and Relative Humidity Test shall not exceed 65%. 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.



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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 dry. Re-rinse with clear water, allow to 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, 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, 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, or other methods, or a combination thereof, 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. Refer to 6.2.1.

6.2.3 Wood subfloors to be used as subfloors/substrates are to follow the procedures recommended in 6.2.1 and 6.2.2. 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 no more than 16"



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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, 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 use are the responsibility of the manufacturer and/or contractor. DO NOT use plastic or resin filler to patch cracks. DO NOT use cement or rosin coated nails or 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.

6.2.4 Cementitious Terrazzo and ceramic floors to be used as subfloors/substrates are to follow the procedures recommended for concrete in 6.2.1 & 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 manufacturer's recommended 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. Do not install over epoxy based terrazzo. Cementitious terrazzo must first be sanded to remove all finishes, and then cleaned. Conduct a bond test with adhesive to ensure a successful bond can be achieved before installing. Roppe **will not** warranty the product if there is a bond failure caused by problems relating to the old flooring.

6.2.5 Metal floors to be used as subfloors/substrates must be thoroughly cleaned of any residue, oil, paint, sealer, rust, and oxidation and properly sanded/grinded to provide a smooth, level, clean substrate to receive stair treads and flooring. Metal floors and other substrates can only be slightly flexing. Do not install over extremely flexing substrates. The stair treads and flooring must be installed within 12 hours after sanding/grinding to prevent the metal from re-oxidizing. The metal subfloor shall be structurally sound. Deflection of the metal can cause a bond failure between the adhesive, Quik-Stik Adhesive Tape, ROPECC Epoxy Caulking



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Compound and the metal substrate. It is the contractor's responsibility to decide the feasibility of the application, and Roppe Corporation will not be held liable for failures caused by flexing or deterioration of metal substrates. 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. Refer to 6.2.1. Caution: The installation of Stair Treads, risers or other flooring material will not prevent deterioration of metal substrates from occurring.

6.3 Adhesive Application

6.3.1 ROP360 Acrylic Tile and Stair Tread Adhesive:

ROP360 Acrylic Tile and Stair Tread Adhesive is a solvent free, high strength, acrylic adhesive for indoor installations over recommended and properly prepared concrete and wood subfloors only, on grade or above grade. Use of this adhesive is limited to casual foot traffic, in areas where there are no lateral shear stresses or rolling loads, nor in areas that will not be subjected to topical moisture or liquids. (ROP360 must be used in combination with ROPECC Epoxy Caulking Compound). Do Not use ROP360 to install Butting Stair Treads. For Butting Stair Treads Installations, refer to ROP535U Adhesive and ROP435 Epoxy Adhesive Sections. Caution: Before applying the recommended Roppe Adhesive or ROPECC Epoxy Caulking Compound, the stair tread, riser and stringer's entire backing must first be thoroughly cleaned with Denatured Alcohol (always follow manufacturer's recommendations, cautions and warnings etc.) and a clean white cloth to remove contaminants which could interfere with the bonding process. Once cleaned with Denatured Alcohol, allow backing to dry completely before applying recommended Roppe Adhesive or ROPECC Epoxy Caulking Compound and then test to ensure a successful bond can be achieved. ROP360 Spread coverage using a 1/32" x 1/16" x 1/32" "U" notch trowel is approximately 200-300 square feet per US gallon on a smooth or non-porous substrate. Coverage will vary according to the type of surface, surface texture, spreading angle, and adhesive temperature. Note: Over extremely porous or rough concrete, a 1/16" x 1/16" x 1/16" Square notch trowel may be required (125-184 sq/ft/gal). Over porous substrates, allow adhesive to "flash-off" for 10 minutes before installing. Over smooth or non-porous substrates, allow adhesive to "flash-off" 20 minutes before installing. Approximate Working Time: 20-30 minutes (depending on substrate temperature, humidity & trowel size). At least 90% transfer to the products backing is required.

Calculated VOC's: ROP360 Acrylic Tile and Stair Tread Adhesive Calculated VOC's according to California SCAQMD Rule #1168: <13 grams per liter of coating. SCAQMD Rule 443.1: Grams of VOC per Liter of Material: < 10 gram/liter.

6.3.2 Roppe 535U "Universal" Urethane Enhanced Epoxy Two-Part Adhesive:

ROP535U Universal Urethane Enhanced Epoxy Flooring Adhesive is a solvent free, non-flammable, high performance adhesive for indoor installations over porous concrete, metal and other non-porous or slightly flexing substrates, on grade, below grade, or above grade. (ROP535U must be used in combination with ROPECC Epoxy Caulking Compound). Caution: Before applying the recommended Roppe Adhesive or ROPECC Epoxy Caulking Compound,



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the stair tread, riser and stringer's entire backing must first be thoroughly cleaned with Denatured Alcohol and a clean white cloth to remove contaminants which could interfere with the bonding process. Once cleaned with Denatured Alcohol, allow backing to dry completely before applying recommended Roppe Adhesive or ROPECC Epoxy Caulking Compound and test to ensure a successful bond can be achieved. The ROP535U must be used for installations in areas where the stair treads will be subjected to lateral shear stresses and/or rolling loads, over metal, other non-porous substrates, slightly flexing substrates and in areas subjected to topical moisture or other liquids. Butting Stair Tread installation must be installed with ROP535U with a minimum of six (6") inches of epoxy applied on either side of the seam and stair tread nosing to ensure the seams integrity. The remaining portion of the stair tread can be installed with ROP360 or the specifically recommended Roppe Adhesive depending on substrate and stair tread type. ROP535U spread coverage using the 1/32" deep x 1/16" wide x 1/32" "U" notch trowel is approximately 125-185 square feet (Part A & B Mixed) per US gallon on a smooth substrate. Coverage will vary according to the type of surface, surface texture, spreading angle, and adhesive temperature. Note: Over extremely porous or rough concrete, a 1/16" x 1/16" x 1/16" Square notch trowel may be required (100-125 sq/ft/gal). Caution: If too much adhesive is applied, air-bubbles, oozing and telegraphing may occur along with adhesive displacement when the floor is rolled or exposed to rolling loads resulting in loose and unsightly areas. Therefore, test trowel size and flooring prior to installation to avoid the above noted potential problems. Adhesive is available in 1-gallon units. Shelf life is one year @ 70F (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 white cloth dampened with warm soapy water or denatured alcohol. DO NOT allow the adhesive to cure on the surface of the flooring or stair treads. A bond failure will occur if the epoxy is not properly mixed. Read all of the product and safety information concerning the adhesive and any other chemicals or cleaning agents prior to installation.

Roppe 535U "Universal" Solvent Free Urethane Enhanced Epoxy Flooring Adhesive Calculated VOC's: Roppe 535U "Universal" Solvent Free Urethane Enhanced Epoxy Flooring Adhesive Calculated VOC's according to California Rule #1168: Roppe 535U Part A: 1.3 grams per liter of coating. Roppe 535U Part B: 2.4 grams per liter of coating. ROP535U Part A & Part B Mixed Calculated VOC's: 1.21 grams per liter of coating.

6.3.3 ROP435 Solvent Free Epoxy Flooring Adhesive

ROP 435 Solvent Free Epoxy Flooring Adhesive is a solvent free, non-flammable, high performance epoxy adhesive for indoor installations over porous and non-porous substrates (excluding metal) on grade, below grade, or above grade. (ROP435 must also be used in combination with ROPECC Epoxy Caulking Compound). Butting Stair Tread installation must be installed with ROP435 or ROP535U, depending on substrate type, with a minimum of six (6") inches of epoxy applied on either side of the seam and stair tread nosing to ensure the seams integrity. The remaining portion of the stair tread can be installed with ROP360 or the specifically recommended Roppe Adhesive depending on substrate and stair tread type.



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Caution: Before applying the recommended Roppe Adhesive or ROPECC Epoxy Caulking Compound, the stair tread, riser and stringer's entire backing must first be thoroughly cleaned with Denatured Alcohol (always follow manufacturer's recommendations, cautions and warnings etc.) and a clean white cloth to remove the factory mold release agent applied during the manufacturing process, along with any other contaminants which could interfere with the bonding process. Once cleaned with Denatured Alcohol, allow backing to dry completely before applying recommended Roppe Adhesive or ROPECC Epoxy Caulking Compound and test to ensure a successful bond can be achieved. The ROP435 Solvent Free Epoxy Flooring Adhesive must be used for installations in areas where stair treads will be subjected to lateral shear stresses and/or rolling loads, and most other non-porous substrates. Spread coverage using the 1/32" x 1/16" x 1/32" flat "U" notch trowel is approximately 185-245 square feet (Part A & B Mixed) per US gallon. Coverage will vary according to the type of surface, surface texture, spreading angle, and adhesive temperature. Note: Over extremely porous or rough concrete, a 1/16" x 1/16" x 1/16" Square notch trowel may be required (125 - 185 sq/ft/gal). Caution: If too much adhesive is applied, oozing at seams, air-bubbles, adhesive displacement, and telegraphing may occur along with adhesive displacement when the floor is rolled or exposed to rolling loads resulting in loose and unsightly areas. Therefore, test trowel size and flooring prior to installation to avoid the above noted potential problems. Adhesive is available in 1-quart and 1-gallon pails. Shelf life is one year @ 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 flooring. A bond failure will occur if the epoxy is not properly mixed. Label information is in English and Spanish. Read all of the product and safety information concerning the adhesive and any other chemicals or cleaning agents prior to installation.

Roppe 435 Solvent Free Epoxy Flooring Adhesive Calculated VOC's according to California Rule #1168: ROP 435 Part A: 10 grams per liter of coating. ROP 435 Part B: 49 grams per liter of coating. ROP435 Part A & Part B Mixed Calculated VOC's: 15 grams per liter of coating.

6.3.4 ROP Quik-Stik Adhesive Tape

ROP Quik-Stik Adhesive Tape is comprised of the same features and benefits of traditional adhesives which flooring contractors and architects have come to expect, but with increased installation value associated with stairway access time. (Quik-Stik Adhesive Tape must also be used in combination with ROPECC Epoxy Caulking Compound). Caution: Do Not use Quik-Stik Adhesive Tape for butting stair tread installations. Quik-Stik Adhesive Tape is recommended over properly prepared and recommended substrates as noted within this document. Quik-Stik Tape may also be used for stair tread installations over non-porous substrates, excluding butting stair tread installations. ROP Quik-Stik Adhesive Tape Vapor Emission Rate shall not exceed 3.0lbs and Relative Humidity Test shall not exceed 65%. Quik-Stik requires no cure time; therefore light foot traffic access to the stairways is immediate! Caution: ROPECC Epoxy Caulking Compound must be allowed to dry for at least 24 hours before exposing to normal foot



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traffic. Quik-Stik is a pressure sensitive hot-melt adhesive applied to a scrim reinforcement with a one-side covered with a protective paper developed to install Roppe Rubber Stair Treads, risers and stringers. Quik-Stik Adhesive Tape is also resistant to aging, free of solvents, formaldehyde and chlorine additives, economical and has no lingering odor associated with traditional adhesives! Quik-Stik is available in 9 ½" x 164' for adhering rubber stair treads, and 1 ½" x 164' rolls for adhering fixing nosing only. The 9 ½" width Quik-Stik is installed directly on each products entire backing (excluding ½" nose area), and the 1 ½" width is utilized for bonding the Stair Tread nosing. **Caution:** When installing Roppe Stair Treads, Stringers and Risers, the entire backing, including the stair treads nosing must first be thoroughly cleaned with Denatured Alcohol (always follow manufacturer's recommendations, cautions and warnings etc.) and a clean white cloth to remove contaminates which could interfere with Quik-Stik Tape and ROPECC Epoxy Caulking Compound from properly bonding. Once cleaned with Denatured Alcohol (always follow manufacturer's recommendations, cautions and warnings etc.), allow backing to dry completely before applying recommended Roppe Adhesive, Quik-Stik Adhesive Tape or ROPECC Epoxy Caulking Compound, and test to ensure a successful bond can be achieved. Once completed, Quik-Stik is then applied to the products entire backing and nosing. Quik-Stik is not to be applied inside the nosing of the tread, which will receive ROPECC Epoxy Nosing Compound. At least a ¼" gap on either side of the nosing must be left so a full ½" bead of ROPECC Epoxy Caulking Compound can be applied. DO NOT apply ROPECC directly over Quik-Stik Adhesive Tape. Once the Quik-Stik Adhesive Tape and ROPECC Epoxy Caulking Compound has been applied, remove the protective paper and install stair tread. Caution: If utilizing Quik-Stik Adhesive Tape to install stair tread leading edge vertical nose directly over risers, follow cleaning instructions noted above. In addition to using Quik-Stik Adhesive Tape to secure the stair treads leading edge vertical nose to the riser, once cleaned with denatured alcohol, ROPECC Epoxy Caulking Compound can also be used by applying a tight serpentine bead of adhesive covering the entire width and length of the stair treads nosing. Secure stair tread nosing with Painters Tape until ROPECC Epoxy Caulking has dried. Remove Painters Tape before exposing stair treads to traffic.

6.3.5 ROPECC Epoxy Caulking Compound

ROPECC Epoxy Caulking Compound (nose filler) is a Solvent-free epoxy caulking compound designed specifically to prevent the flexing and premature cracking of Roppe Rubber Stair Treads. ROPECC Epoxy Caulking Compound is applied directly inside the internal nose area of the stair treads, prior to installation, and when uniformly and properly applied fills slight voids or gaps between the internal nose angle of the tread and step edge, developing a strong bonding support between the two surfaces. Caution: Do Not apply ROPECC directly over recommended adhesives or Quik-Stik Adhesive Tape. ROPECC is for indoor installations to adhere rubber stair treads nose area only over properly prepared & recommended porous and non-porous substrates on grade, below grade, or above grade. Caution: Before applying the recommended Roppe Adhesive or ROPECC Epoxy Caulking Compound, the stair tread, riser and stringer's entire backing must first be thoroughly cleaned with Denatured Alcohol (always follow manufacturer's recommendations, cautions and warnings etc.) and a clean white cloth to remove contaminates which could interfere with the bonding process. Once cleaned with Denatured Alcohol, allow backing to dry completely before applying recommended Roppe



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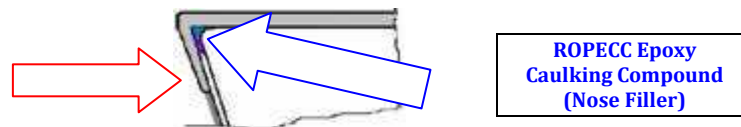
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Adhesive, Quik-Stik Adhesive Tape or ROPECC Epoxy Caulking Compound and test to ensure a successful bond can be achieved. Caution: When applying ROPECC Epoxy Caulking Compound (nose filler) in cartridges, the first six inches (6") of unmixed material from each cartridge must be discarded to prevent bond failure and oozing of unmixed material down the face of the riser! Only use the recommend ROPECC Epoxy Caulking Gun to apply ROPECC Epoxy Caulking Compound. ROPECC Epoxy Caulking Compound is available in 1-quart and 1-gallon pails and in 13.5-ounce dual cartridges. Shelf life is one year @ 70F (21°C) in an unopened container. Spread coverage is approximately 200 linear feet per US gallon on a smooth substrate. Spread rate using the 13.5 oz. dual cartridge applicator with the required 1/2" bead in the stair treads nosing is approximately 25 linear feet. Coverage will vary according to the type of surface, surface texture, and adhesive temperature. To secure the stair treads leading edge vertical nose to the riser, ROPECC Epoxy Caulking Compound must be applied in a tight serpentine bead pattern covering the entire width and length of the stair treads nosing. Secure stair tread nosing with Painters Tape until ROPECC Epoxy Caulking has dried. Remove Painters Tape before exposing stair treads to traffic. 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 flooring material or surrounding area must be removed immediately with a clean cloth dampened with denatured alcohol. 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 to one consistent color. Read all of the product and MSDS literature.

Roppe ROPECC Epoxy Caulking Compound (Stair Tread Nose Filler) Calculated VOC's according to California Rule #1168: Roppe ROPECC Part A: 2 grams per liter of coating. Roppe ROPECC Part B: 21 grams per liter of coating.



Adhering Stair Treads Nosing to Riser with ROPECC Epoxy Caulking Compound

6.4 Adhesive Application and Product Installation

6.4.1 ROP360 Acrylic Tile and Stair Tread Adhesive and ROPECC Epoxy Caulking Compound for Rubber Stair Tread, Stringer & Riser Installations (installation procedures only also apply when utilizing either ROP535U or Quik-Stik Adhesive Tape).

Read all installation, product limitations/precautions, and maintenance literature before proceeding. **Caution:** Follow all Federal, State and local guidelines before proceeding with stair tread, stringers and riser installation (See Section 6.4.5). Must have adequate ventilation. Repair worn or damaged steps with a manufacturer's approved Portland cement based underlayment with a minimum compressive strength of 3500 PSI to ensure a smooth, level, structurally sound substrate. Caution: Before applying ROP360 or the recommended Roppe Adhesive (depending on type of substrate and stair tread) or ROPECC Epoxy Caulking Compound, the stair tread, riser and stringer's entire backing must first be thoroughly cleaned



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with Denatured Alcohol (always follow manufacturer's recommendations, cautions and warnings etc.) and a clean white cloth to remove contaminants which could interfere with the bonding process. Once cleaned with Denatured Alcohol, allow backing to dry completely before applying recommended Roppe Adhesive or ROPECC Epoxy Caulking Compound and test to ensure a successful bond can be achieved. To secure the stair treads leading edge vertical nose to risers after thoroughly cleaned with denatured alcohol, ROPECC Epoxy Caulking Compound must be applied in a tight serpentine bead pattern covering the entire width and length of the stair treads nosing. Secure stair tread nosing with Painters Tape until ROPECC Epoxy Caulking has dried. Remove Painters Tape before exposing to traffic. Do not use ROP360 for butting stair tread installations or when installing over metal or flexing substrates of any kind, ceramic tile, cementitious terrazzo, non-porous substrate, below grade, or if the stair treads will be exposed to lateral shear and/or rolling loads. For these substrate types, use ROP535U. It is the installer's responsibility to inspect and dry lay each product to make sure there are no imperfections, irregularities, or color variations prior to installation. If any imperfections are found, it is the installer's responsibility not to proceed with the installation and contact the appropriate authority. Stair read and risers must be trimmed to fit each step and dry laid prior to applying adhesive. Since each step can vary slightly in width, depth and squareness, each stair treads and riser must be cut only for the step/riser to which it is being installed:

INDIVIDUAL STAIR TREAD INSTALLATION

- **Caution:** For ADA, Federal, State or Local Guidelines specified installations requiring stair tread nosing and risers to be scribed (non-overlapping stair tread nosing over rubber risers), see Section 6.4.5.
- **Caution:** Before applying the recommended Roppe Adhesive, depending on the type of stair tread and substrate, or ROPECC Epoxy Caulking Compound, the stair tread, riser and stringer's entire backing must first be thoroughly cleaned with Denatured Alcohol (always follow manufacturer's recommendations, cautions and warnings etc.) and a clean white cloth to remove the factory mold release agent applied during the manufacturing process, along with any other contaminants which could interfere with the bonding process. Once cleaned with Denatured Alcohol, allow backing to dry completely before applying recommended Roppe Adhesive or ROPECC Epoxy Caulking Compound and test to ensure a successful bond can be achieved.
- DO NOT flex or bend treads with carborundum strips.
- Cut carborundum strips at least 1/8" from edge of treads
- DO NOT distort the stair treads nosing.
- Risers and treads should be installed on an alternating basis, first a riser, then a tread, starting with the bottom riser on the flight of steps.
- Before cutting the stair treads, check to ensure the proper pattern match is acceptable.
- For individual stair tread installations, first measure across the width of the step and mark the center point with a pencil on the riser indicating the center of the step. Then locate the center of the stair tread and mark using a pencil.



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- Fit the left side to the stair tread tightly against the stringer. Set divider point to center marks of step and stair tread, scribe and trim.
- Reposition the stair tread tightly against right stringer, set the divider to center marks of step and stair tread, scribe and trim.
- To locate the proper depth of the stair tread, place a 2" x 2" under the stair treads nose and position securely against the step. Set dividers to the exact width of the 2" x 2", and scribe the back of the stair tread and trim.
- Dry fit the tread, and then make any necessary adjustments.
- The recommended Roppe Adhesive & ROPECC Epoxy Caulking Compound must be used to install Individual Stair Treads and Risers and One-Piece Stair Treads and Risers, which will depend on the substrate and stair tread type.
- To adhere rubber stair nosings leading edge vertical to rubber riser, first clean the stair treads nosing and rubber riser with Denatured Alcohol (always follow manufacturer's recommendations, cautions and warnings etc.) and a clean white rag and allow to dry completely. ROPECC Epoxy Caulking Compound is then applied in a tight serpentine bead pattern covering the entire width and length of the stair treads nosing. Secure stair treads nosing with Painters Tape until ROPECC Epoxy Caulking Compound has dried. Remove Painters Tape before exposing to traffic. Do not use ROP360 over metal & other non-porous risers, Use Quik-Stik Adhesive Tape, ROP535U or ROP435 to secure depending on substrate type, and then secure Painters Tape until adhesive has fully cured. Remove Painters Tape before exposing to traffic. Do not use ROP360 over metal or other non-porous substrates.
- **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 cracking.
- On adjustable nose treads, either ROP535U, ROP435, Quik-Stik Adhesive Tape or 3M 2141 Contact Adhesive (always follow manufacturer's recommendations, cautions and warnings etc.) must be used on the inside nose face and rubber riser interface to secure the nose at the proper angle. Rubber riser must first be cleaned with Denatured Alcohol before applying recommended adhesive. Pre-cut and fit the treads prior to spreading adhesive. Scribe and fit treads to the proper step depth and length. Then thoroughly clean the stair tread nosing and riser with Denatured Alcohol and a clean white cloth and allow to dry. DO NOT use fans to expedite the drying of adhesive. When installing stair treads leading edge vertical nose to metal or other non-porous substrates, ROP535U must be used and secured with Painters Tape until adhesive has fully cured. Quik-Stik Tape can also be used over metal or other non-porous substrates.
- Caution: See Section 6.4.4 for instructions, cautions and warnings regarding the installation of rubber stair treads risers and stringers with Roppe's Quik-Stik Adhesive Tape before proceeding with installation.

INDIVIDUAL RISER INSTALLATION



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- **Caution:** For ADA, Federal, State or Local Guidelines specified installations requiring stair tread nosing and risers to be scribed (non-overlapping stair tread nosing over rubber risers), see Section 6.4.5.
- **Caution:** Before applying the recommended Roppe Adhesive or ROPECC Epoxy Caulking Compound, the stair tread, riser and stringer's entire backing must first be thoroughly cleaned with Denatured Alcohol (always follow manufacturer's recommendations, cautions and warnings etc.) and a clean white cloth to remove the factory mold release agent applied during the manufacturing process, along with any other contaminants which could interfere with the bonding process. Once cleaned with Denatured Alcohol, allow backing to dry completely before applying recommended Roppe Adhesive or ROPECC Epoxy Caulking Compound and test to ensure a successful bond can be achieved.
- Risers and treads should be installed on an alternating basis, first a riser, then a tread, starting with the bottom riser on the flight of steps.
- To install individual risers, follow the same instructions listed under Individual Stair Tread for scribing left and right hand side of stair tread installations. The riser's height should be cut to under-lap the tread nose and should be approximately ¼" from the top of the steps nosing. DO NOT allow the riser to extend above the steps nosing, as this will cause the stair tread's nose to extend beyond the nose of the step resulting in cracking of the stair tread's nose.
- To secure the rubber riser to the steps riser, use recommended adhesive depending on substrate type. Do not use ROP360 over metal or other non-porous substrates. Instead, use Quik-Stik Adhesive Tape, ROP535U or ROP435 to adhere depending on substrate type. ROP535U is required when installing over metal substrates.
- **Caution:** See Section 6.4.4 for instructions, cautions and warnings regarding the installation of rubber stair treads, risers and stringers with Roppe's Quik-Stik Adhesive Tape before proceeding with installation.

ONE-PIECE STAIR TREAD & RISER INSTALLATION

- **Caution:** For ADA, Federal, State or Local Guidelines specified installations requiring stair tread nosing and risers to be scribed (non-overlapping stair tread nosing over rubber risers), see Section 6.4.5.
- **Caution:** Before applying the recommended Roppe Adhesive or ROPECC Epoxy Caulking Compound, the stair tread, riser and stringer's entire backing must first be thoroughly cleaned with Denatured Alcohol (always follow manufacturer's recommendations, cautions and warnings etc.) and a clean white cloth to remove the factory mold release agent applied during the manufacturing process, along with any other contaminants which could interfere with the bonding process. Once cleaned with Denatured Alcohol, allow backing to dry completely before applying recommended Roppe Adhesive or ROPECC Epoxy Caulking Compound and test to ensure a successful bond can be achieved.
- DO NOT flex or bend treads with carborundum strips.



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- Cut carborundum strips at least 1/8" from edge of treads.
- DO NOT distort the stair treads nosing.
- For installations requiring one-piece stair tread and risers, scribe the tread and riser at the same time, utilizing the instructions noted under Individual Stair Tread and Riser Installations.
- For one-piece stair tread and riser installations, use Roppe's #44 Fillet Strip at the step/riser junction to ensure the proper bend of the riser portion of the tread.
- Use ROP535U or 3M 2141 (always follow manufacturer's recommendations, cautions and warnings etc.) contact adhesive for the adhering Roppe #44 Fillet Strip.
- The recommended Roppe Adhesive & ROPECC Epoxy Caulking Compound must be used to install One-Piece Stair Treads and risers, which will depend on the type of stair tread installed and substrate.
- To adhere stair treads vertical nosing to rubber riser, first clean the stair treads nosing and rubber riser with Denatured Alcohol (always follow manufacturer's recommendations, cautions and warnings etc.) and a clean white rag and allow to dry completely. ROPECC Epoxy Caulking Compound is then applied in a tight serpentine bead pattern covering the entire width and length of the stair treads vertical nosing. Secure stair treads vertical nosing with Painters Tape until ROPECC Epoxy Caulking Compound has dried. Remove Painters Tape before exposing to traffic. Do not use ROPECC over metal risers, Use ROP535U & secure with Painters Tape until adhesive has fully cured. Remove Painters Tape before exposing to traffic. Quik-Stik Adhesive tape can also be used over metal risers.
- On adjustable nose treads, either ROP535U, ROP435, Quik-Stik Adhesive Tape or 3M 2141 Contact Adhesive (always follow manufacturer's recommendations, cautions and warnings etc.) can be used on the inside nose face and riser interface to secure the vertical nose at the proper angle. Pre-cut and fit the treads prior to spreading adhesive. Scribe and fit treads to the proper step depth and length. Then thoroughly clean the stair tread vertical nosing and riser with Denatured Alcohol (always follow manufacturer's recommendations, cautions and warnings etc.) and a clean white cloth and allow to dry. DO NOT use fans to expedite the drying of adhesive.
- Caution: See Section 6.4.4 for instructions, cautions and warnings regarding the installation of rubber stair treads, risers and stringers with Roppe's Quik-Stik Adhesive Tape before proceeding with installation.

STRINGER INSTALLATION

- Stringers are to be applied prior to the installation of stair treads and risers.
- Caution: Before applying the recommended Roppe Adhesive or ROPECC Epoxy Caulking Compound, the stair tread, riser and stringer's entire backing must first be thoroughly cleaned with Denatured Alcohol (always follow manufacturer's



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recommendations, cautions and warnings etc.) and a clean white cloth to remove the factory mold release agent applied during the manufacturing process, along with any other contaminants which could interfere with the bonding process.

Once cleaned with Denatured Alcohol (always follow manufacturer's recommendations, cautions and warnings etc.), allow backing to dry completely before applying recommended Roppe Adhesive or ROPECC Epoxy Caulking Compound and test to ensure a successful bond can be achieved.

- First, make a template using cardboard or felt-scribing paper. Position template on steps and scribe step and riser pattern using a set of dividers. Transfer pattern onto stringer and adhere using the recommended adhesive depending on the type of stringer substrate.
- Caution: See Section 6.4.4 for instructions, cautions and warnings regarding the installation of rubber stair treads, risers and stringers with Roppe's Quik-Stik Adhesive Tape before proceeding with installation.

BUTTING STAIR TREADS

- Caution: Before applying the recommended Roppe Adhesive or ROPECC Epoxy Caulking Compound, the stair tread, riser and stringer's entire backing must first be thoroughly cleaned with Denatured Alcohol (always follow manufacturer's recommendations, cautions and warnings etc.) and a clean white cloth to remove the factory mold release agent applied during the manufacturing process, along with any other contaminants which could interfere with the bonding process. Once cleaned with Denatured Alcohol (always follow manufacturer's recommendations, cautions and warnings etc.), allow backing to dry completely before applying recommended Roppe Adhesive or ROPECC Epoxy Caulking Compound and test to ensure a successful bond can be achieved.
- Butting Stair Treads: Roppe stair treads are not recommended for end butting, unless specifically ordered.
- For installations requiring butting treads, the treads must be specially ordered from the factory. Roppe will make the necessary manufacturing changes to ensure butting installation requirements.
- Butting tread installation must be installed, depending on substrate type, with either ROP435 Two-Part Epoxy or ROP535U Urethane Enhanced Epoxy Adhesive (required over metal) with a minimum of six (6") inches of adhesive applied on either side of the seam and stair tread nosing to ensure the seams integrity. The remaining portion of the stair tread can be installed with ROP360 or the specifically recommended Roppe Adhesive depending on the substrate and stair tread type.
- DO NOT flex or bend treads with carborundum strips.
- Cut carborundum strips at least 1/8" from edge of treads.
- DO NOT distort the stair treads nosing.
- If it is required to adhere the tread nosing to the under step, ensure the inside of



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- the nosing and the respective portion of the riser are sanded and clean.
- On adjustable nose treads, either ROP535U, ROP435, Quik-Stik Adhesive Tape or 3M 2141 Contact Adhesive (always follow manufacturer's recommendations, cautions and warnings etc.) can be used on the inside nose face and riser interface to secure the vertical nose at the proper angle. Pre-cut and fit the treads prior to spreading adhesive. Scribe and fit treads to the proper step depth and length. Then thoroughly clean the stair tread nosing and riser with Denatured Alcohol (always follow manufacturer's recommendations, cautions and warnings etc.) and a clean white cloth and allow to dry. DO NOT use fans to expedite the drying of adhesive.
- Caution: See Section 6.4.4 for instructions, cautions and warnings regarding the installation of rubber stair treads, risers and stringers with Roppe's Quik-Stik Adhesive Tape before proceeding with installation.

After the stair tread has been scribed, trimmed and fitted and thoroughly cleaned with Denatured Alcohol (always follow manufacturer's recommendations, cautions and warnings etc.), apply ROP360 Acrylic Tile and Stair Tread Adhesive or recommended adhesive depending on substrate or installation type, with recommended trowel. DO NOT allow ROP360 or recommended adhesive/tape to come in direct contact with the portion of the step nosing where ROPECC Epoxy Caulking Compound will be applied. Coverage will vary according to the type of surface, surface texture, spreading angle, and adhesive temperature. When installing Square Nose Stair Treads, start 1/4" from the steps nose, spread the adhesive evenly using the recommended trowel notch noted in the adhesive section, leaving no puddles of adhesive. Caution: Spreading adhesive on a large number of steps and treads could possibly allow the adhesives to cure or setup before the treads are installed which would result in a bond failure. For porous substrates, allow the adhesive to "flash off" for approximately 10 minutes before installing the tread, however do not allow adhesive to dry or skin-over. On smooth substrates, allow the adhesive to flash-off longer, but do not allow adhesive to dry or skin-over. **Caution:** Open time and curing characteristics 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. After applying ROP360 Acrylic Tile and Stair Tread Adhesive, at least a 1/2" bead of ROPECC Epoxy Caulking (nose filler) Compound is then applied directly inside the nose of the square nose stair treads, prior to installation, and when uniformly and properly applied fills slight voids or gaps between the internal nose angle of the tread and step edge, developing a strong bonding support between the two surfaces. ROPECC Epoxy Caulking Compound is available in cartridges and quart and gallon containers. ROPECC Epoxy Caulking Compound quart and gallon containers consist of two units, 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 B into Part A. 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, ensuring that the adhesive is uniform in color with no streaking. **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



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adhesive will not properly cure. Once mixed, the epoxy nose caulking 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 epoxy adhesive on cardboard or similar material and apply the adhesive to the tread nose before the epoxy sets up. Whether using a spatula or dual cartridge applicator, apply a ½" bead of ROPECC Epoxy Caulking Compound to the inner radius of the tread nose so that all voids are filled when the tread is placed into position. To secure the stair treads vertical nosing to the rubber riser, ROPECC Epoxy Caulking Compound must be applied in a tight serpentine bead pattern covering the entire width and length of the stair treads nosing. Do not use ROPECC over metal, ROP535U must be used, or Quik-Stik Adhesive Tape. Secure stair treads nosing with Painters Tape until ROPECC Epoxy Caulking Compound or ROP535U has dried. Remove Painters Tape before exposing to traffic. If utilizing ROPECC dual cartridges, simply remove cap and insert the special mixing and applicator tip. **Caution:** When applying ROPECC Epoxy Caulking Compound (nose filler) in cartridges, the first six inches (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! Only use the recommend ROPECC Epoxy Caulking Gun to apply ROPECC Epoxy Caulking Compound. **Notice:** The use ROPECC Epoxy Caulking Compound's dual-cartridge and disposable mixing nozzle with Roppe's recommended applicator gun is recommended so that the premature curing or non-curing of the epoxy prior to application to the nose is virtually eliminated. When cartridges are utilized, no additional mixing is necessary, since all 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. **Caution:** The nose caulking is not to be buttered on the step or riser. This is extremely important on treads with adjustable noses. After the adhesive and nose caulking have been applied, place the tread nose onto the step nose 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 square nose stair tread has been put into place, remove the tread and inspect the step nose for adequate adhesive transfer to ensure that ROPECC is sufficient to fill all voids and irregularities along the step nosing. Remove tread and inspect the steps nose for adequate ROPECC transfer is sufficient to fill all voids and irregularities. If there are missing or light spots of ROPECC along the step nosing, increase the amount of nose caulking until all voids are filled. Replace the first tread after applying additional nose caulking in the inner radius of tread nose. If all step nosings have the same wear, the same amount of nose caulking should be used on the remaining treads. Forcing incorrectly sized treads into smaller areas will cause buckling of the tread and/or the tread nose to protrude beyond the step nosing, which will result in nose cracking. Work off the treads to avoid shifting and to also not track adhesive onto the surface of the treads. **Caution:** DO NOT kneel on or against the tread nosings. Immediately remove excessive wet adhesive with a clean white cloth and denatured alcohol (always follow manufacturer's recommendations, cautions and warnings etc.) . Follow the recommended safety practices. Periodically, lift the tread to check for proper adhesive transfer. There should be at least 100% coverage of stair tread adhesive on the back of the tread and 100% coverage of ROPECC Epoxy Caulking Compound in the treads nosing. Observe the stair tread adhesive and the epoxy nose caulking adhesive to ensure that the adhesives have not surpassed their open time



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and have not begun to cure. Roll and cross roll each tread against the step substrate with a J-type roller within 15 minutes after the tread has been installed. **Caution:** DO NOT roll the tread nose. Rolling the tread nose will squeeze out the epoxy nose caulking. 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. **Notice:** If the tread slips forward causing an air space at the nose, cracking at the nose will eventually occur. 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. Notice: On landings, use recommended stair nosing and install with recommended adhesive depending on substrate type. If stair tread is to be utilized instead, there may be a height difference between the stair tread and landing tile. It is the installer/floor contractor's responsibility to ensure a smooth transition between the stair treads and landing tile by either utilizing Roppe's Sub-Floor Leveler, utilizing a portland-based underlayment or by sanding either the back of the stair tread or 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. Do not clean stair treads or other associated products for 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. Do not flood the stair treads during cleaning, which will have an adverse effect on either the adhesive, Quik-Stik Adhesive Tape or ROPECC Epoxy Caulking Compound used resulting in a failure.

6.4.2 ROP 435 Solvent Free Epoxy Flooring Adhesive and ROPECC Epoxy Caulking Compound for Individual and Combination Rubber Stair Tread & Riser Installations. ROP 435 Solvent Free Epoxy Flooring Adhesive is a solvent free, non-flammable, high performance epoxy adhesive for indoor installations over porous and non-porous substrates (excluding metal) on grade, below grade, or above grade. When installing over metal and other slightly flexing substrates, ROP535U must be used. The ROP435 Solvent Free Epoxy Flooring Adhesive must be used for installations in areas where stair treads will be subjected to lateral shear stresses and/or rolling loads, and most other non-porous substrates. Caution: Before applying the recommended Roppe Adhesive or ROPECC Epoxy Caulking Compound, the stair tread, riser and stringer's entire backing must first be thoroughly cleaned with Denatured Alcohol (always follow manufacturer's recommendations, cautions and warnings etc.) and a clean white cloth to remove the factory mold release agent applied during the manufacturing process, along with any other contaminants which could interfere with the bonding process. Once cleaned with Denatured Alcohol (always follow manufacturer's recommendations, cautions and warnings etc.) , allow backing to dry completely before applying recommended Roppe Adhesive or ROPECC Epoxy Caulking Compound and test to ensure a successful bond can be achieved. DO NOT allow ROP435 to come in contact with the portion of the step nosing where ROPECC Epoxy Caulking Compound will be applied. Caution: For installations requiring butting treads, the treads must be specially ordered from the factory. Roppe will make the necessary manufacturing changes to ensure butting installation requirements. Butting tread installation



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must be installed with ROP435 Two-Part Epoxy with a minimum of six (6") inches of epoxy applied on either side of the seam and stair tread nosing to ensure the seams integrity. The remaining portion of the stair tread can be installed with ROP360 or the specifically recommended Roppe Adhesive depending on the substrate and stair tread type. Butting Stair Treads: Roppe stair treads are not recommended for end butting, unless specifically ordered. Spread coverage using the 1/32" x 1/16" x 1/32" "U"- notch trowel is approximately 185-245 square feet (Part A & B Mixed) per US gallon. Coverage will vary according to the type of surface, surface texture, spreading angle, and adhesive temperature. Note: Over extremely porous or rough concrete, a 1/16" x 1/16" x 1/16" Square notch trowel may be required (125 - 185 sq/ft/gal). DO NOT mix partial units of this adhesive, because the ratio of Part A to Part B is not 1:1. ROP435 Epoxy Adhesive is packaged in two separate containers marked Part A (Urethane epoxy resin) and Part B (polyamide resin, hardener). Remove the lids and add all of Part B into Part A. 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 4 minutes. After mixing, there should be no streaking. Caution: Higher mixing speeds and/or longer mixing time will reduce the open time and can cause premature curing of the adhesive. Adhesive will not cure if not properly mixed. DO NOT allow the mixed epoxy adhesive to stand in the container. Immediately after mixing, pour the contents onto the porous substrate and immediately spread the adhesive evenly using the recommended trowel. Caution: If too much adhesive is applied, oozing at seams, air-bubbles and telegraphing may occur along with adhesive displacement when the tread is rolled or subjected to rolling loads resulting in loose or unsightly areas. If the substrate has been shot blasted, or rough/porous underlayment has been applied, or the substrate is extremely porous, additional adhesive may have to be purchased to ensure proper adhesive coverage. Caution: Spreading adhesive on a large number of steps and treads could possibly allow the adhesives to cure or setup before the treads are installed which would result in a bond failure. Caution: Allowing the adhesive to remain open too long will result in bond failure. When installing stair treads, use a kneeling board, or for best results, work off the stair treads whenever possible to avoid shifting and to also not track the epoxy adhesive onto the flooring or stair treads. To secure the stair treads vertical nosing to the rubber riser, ROPECC Epoxy Caulking Compound must be applied in a tight serpentine bead pattern covering the entire width and length of the stair treads nosing. Use ROP535U (required over metal) or ROP435 when installing over non-porous substrates. Secure stair tread nosing with Painters Tape until ROPECC Epoxy Caulking has dried. Remove Painters Tape before exposing to traffic. For stair treads, risers and ROPECC Epoxy Caulking Compound installation instructions, warnings and cautions, refer to section 6.4.1.

Read all of the product and safety information concerning the adhesive and any other chemicals or cleaning agents prior to installation.

Roppe 435 Solvent Free Epoxy Flooring Adhesive Calculated VOC's according to California Rule #1168: ROP 435 Part A: 10 grams per liter of coating. ROP 435 Part B: 49 grams per liter of coating.



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6.4.3 ROP535U “Universal” Urethane Enhanced Epoxy Adhesive and ROPECC Epoxy Caulking Compound for Individual Rubber Stair Tread, Stinger & Riser Installations.

Read all installation, product limitations/precautions, and maintenance literature before proceeding. ROP535U Universal Urethane Enhanced Epoxy Flooring Adhesive is a solvent free, non-flammable, high performance adhesive for indoor stair tread installations over porous concrete, metal and other non-porous or flexing substrates, on grade, below grade, or above grade. Caution: Before applying the recommended Roppe Adhesive, Quik-Stik Adhesive Tape or ROPECC Epoxy Caulking Compound, the stair tread, riser and stringer’s entire backing must first be thoroughly cleaned with Denatured Alcohol (always follow manufacturer’s recommendations, cautions and warnings etc.) and a clean white cloth to remove contaminants which could interfere with the bonding process. Once cleaned with Denatured Alcohol, allow backing to dry completely before applying recommended Roppe Adhesive or ROPECC Epoxy Caulking Compound and test to ensure a successful bond can be achieved. To secure the stair treads vertical nosing to the rubber riser, first clean rubber riser with denature alcohol and then ROPECC Epoxy Caulking Compound must be applied in a tight serpentine bead pattern covering the entire width and length of the stair treads nosing. When installing over non-porous substrates, ROP535U (required over metal and approved non-porous substrates) must be used, or Quik-Stik Adhesive Tape. Secure stair tread nosing with Painters Tape until ROPECC Epoxy Caulking has dried. Remove Painters Tape before exposing to traffic. DO NOT allow ROP535U to come in contact with the portion of the step nosing where ROPECC Epoxy Caulking Compound will be applied. The ROP535U must be used for installations in areas where the stair treads will be subjected to lateral shear stresses and/or rolling loads, installed over metal, other non-porous substrates, flexing substrates, Butting Stair Treads and in areas subjected to topical moisture or other liquids, in areas where the substrate or flooring is not maintained within the specified temperature range 65°F (19°C) and 85°F(30 °C). DO NOT mix partial units of this adhesive, because the ratio of Part A to Part B is not 1:1. ROP535U Universal Urethane Enhanced Epoxy Adhesive is packaged in two separate containers marked Part A (Urethane epoxy resin) and Part B (polyamide resin, hardener). Remove the lids and add all of Part B into Part A. 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 4 minutes. After mixing, there should be no streaking. Caution: Higher mixing speeds and/or longer mixing time will reduce the open time and can cause premature curing of the adhesive. Adhesive will not cure if not properly mixed. DO NOT allow the mixed epoxy adhesive to stand in the container. Immediately after mixing, pour the contents onto the porous substrate and immediately spread the adhesive evenly using a 1/32” x 1/16” x 1/32” “U” -notch trowel, being careful to leave no puddles of adhesive. Note: Over extremely porous or rough concrete, a 1/16” x 1/16” x 1/16” Square notch trowel may be required. Caution: If too much adhesive is applied, oozing at seams, air-bubbles and telegraphing may occur along with adhesive displacement when the tread is rolled or subjected to rolling loads resulting in loose or unsightly areas. If the substrate has been shot blasted, a rough/porous underlayment has been applied, or the substrate is extremely porous, additional adhesive may have to be purchased to ensure proper adhesive coverage. Caution: Spreading adhesive on a large number of steps and treads could possibly allow the adhesives to cure or setup before the treads are installed which would result in a bond failure. Caution: Allowing the

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adhesive to remain open too long will result in bond failure. When installing stair treads, use a kneeling board, or for best results, work off the stair treads whenever possible to avoid shifting and to also not track the epoxy adhesive onto the flooring. For stair treads, risers and ROPECC Epoxy Caulking Compound installation instructions, warnings and cautions, refer to Installation Section within this document.

6.4.4 ROP Quik-Stik Adhesive Tape and ROPECC Epoxy Caulking Compound for Individual and Rubber Stair Tread, Stringer & Riser Installations.

These instructions are for the installation of Roppe Rubber Treads, Stringers and Risers only. DO NOT use Quik-Stik Adhesive Tape for Butting Stair Tread Installations. Quik-Stik Tape may also be used for stair tread installations over non-porous substrates, excluding butting stair tread installations. ROP Quik-Stik Adhesive Tape Vapor Emission Rate shall not exceed 3.0lbs and Relative Humidity Test shall not exceed 65%. Read all installation, product limitations/precautions, and maintenance literature before proceeding. Must have adequate ventilation. Repair worn or damaged steps with a manufacturer's approved Portland cement based underlayment with a minimum compressive strength of 3500 PSI to ensure a smooth, level, structurally sound substrate. **Caution:** Roppe's Rubber Stair Treads, Risers and Stringers must first be thoroughly cleaned with Denatured Alcohol and a clean white cloth to remove contaminants which could interfere with Quik-Stik Tape and ROPECC Epoxy Caulking Compound from properly bonding. Once cleaned with Denatured Alcohol, allow backing to dry completely before applying recommended Quik-Stik Adhesive Tape or ROPECC Epoxy Caulking Compound and test to ensure a successful bond can be achieved. Once completed, Quik-Stik is then applied to the products entire backing. However, Quik-Stik is not to be applied inside the nosing of the square nose stair treads, which will receive ROPECC Epoxy Caulking Compound. At least a ¼" gap on either side of the nosing must be left so a full ½" bead of ROPECC Epoxy Caulking Compound can be applied. DO NOT apply ROPECC directly over Quik-Stik Adhesive Tape. Also apply Quik-Stik Adhesive to the back of the stair treads nosing to bond directly to the riser. If utilizing Quik-Stik Adhesive Tape to install stair tread nosing directly over risers, first follow cleaning instructions noted above. In addition to using Quik-Stik Adhesive Tape to secure the stair treads nosing to the riser, ROPECC Epoxy Caulking Compound can be used by applying a tight serpentine bead of adhesive covering the entire width and length of the stair treads nosing. Secure stair tread nosing with Painters Tape until ROPECC Epoxy Caulking has dried. Remove Painters Tape before exposing to traffic. Once the tape and nosing compound has been applied, remove the protective paper and install stair tread fitting the stair tread nosing first against the steps nosing and then press the landing area of the treads firmly against the steps surface. This procedure is critical. If the Quik-Stik is allowed to make contact with the step first, it can not be moved or slid into place. Use a non-staining building felt to make a pattern for the stringers. Pre-cut, clean, and then fit the treads, risers, stringers, and accessories prior to applying tape. Identify each tread and riser to the respective step to which it will be installed to ensure proper fit. Risers should be scribed/cut to under-lap the tread nose and should be approximately ¼" from the steps nosing, except when complying with ADA, State or Local Guidelines specified installation instructions requiring the stair treads nosing and rises to be scribed (non-overlapping stair tread nosing over risers), See Section 6.4.5 for additional



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details. DO NOT allow the riser to extend above the steps nosing, as this will allow the stair tread's nose to extend beyond the nose of the step resulting in cracking of the tread nose. DO NOT install non-cleaned stair treads, stringers or risers with Quik-Stik Adhesive Tape since an installation failure will result. For stair treads, risers and ROPECC Epoxy Caulking Compound installation instructions, warning and cautions, refer to section 6.4.1.

6.4.5 ADA Installation Instructions

For ADA, Federal, State or Local Guidelines specified installations requiring the stair tread nosing and risers to be scribed (non-overlapping stair tread nosing over risers); first follow all installation guidelines, instructions and cautions noted within this document. Starting with the first riser on the flight of steps, first trim both the stair tread and riser and position the nose directly over the riser. Then carefully scribe a line on the riser using the stair nosing as a guide. Once scribed, trim the riser so it butts directly against the stair treads nosing for a tight fit. Continue scribing the stair treads nosing and risers for the remaining steps. Use the appropriate adhesive and required ROPECC Caulking Compound only over recommended substrates listed in this document. Roppe Colored Caulk is available in for a seamless appearance. If unsure the desired requirement or appearance attempting is being achieved (overlap nosing/riser vs. scribed fit), first check with the facility owner, general contractor, architect, state, federal and local guidelines before proceeding. Follow all Federal, State and local guidelines before proceeding with stair tread, riser, stringer or flooring installation.

