

Roppe Raised Design Rubber Floor Tile



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Installation

6.1 General Preparation and Conditioning

Read the literature concerning the product description, product limitations, product installation, adhesive information, product maintenance, and warranty before installing the tile. All materials are to be delivered to the installation location in its original packaging with labels intact. Store products in a dry area protected from the weather on a smooth, flat, dry surface with temperatures maintained between 65° F (19°C) and 85° F (30°C). DO NOT stack pallets. Remove the tile from the cartons and stack evenly on a smooth dry surface with each stack no more than 18" high at least 48 hours prior to installation in order to acclimate. The installation area, substrate, rubber flooring, 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. Maintain room temperatures between 65° F (19°C) and 85° F (30°C) thereafter to prevent adhesive failure and to prevent distortion or destruction of the Raised Design Rubber Tile flooring. Notice: The Rubber Tile should be loose laid in the room or area prior to spreading of adhesive to determine the proper layout to ensure the best overall appearance. 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 the ROP360 Acrylic Tile & Stair Tread Adhesive, ROP435 Solvent Free Epoxy Flooring Adhesive or ROP535U "Universal" Two-Component Urethane Enhanced Epoxy Adhesive throughout the area approximately 50 feet apart 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 tile flooring from the substrate with adhesive bonding to the tile 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 flooring installation. Install tile and accessories after other finishing operations, including painting, have been completed. Prevent the sanded back of the tile from becoming contaminated and protect the face from damage. If the sanded back of the tile becomes soiled prior to installation, clean with a soft cloth dampened with denatured alcohol. Rubber Tile may be installed over radiant heated floors, provided the surface temperature is maintained between 65°F (19°C) and 85°F (30°C) excluding the use of ROP360 Acrylic Tile & Stair Tread Adhesive. If radiant-heated floors have cooled after installation, a gradual increase in temperature is required to prevent adhesive bond from being adversely affected. 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

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, paint, primers, curing compounds, parting agents, residual adhesives, adhesive removers, hardeners, resinous compounds, solvents, wax, oil, grease, asphalt,



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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, adhesive removers, or acid etching to clean the substrate. DO NOT install 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, or cause plasticizer migration into the new 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) 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 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 ROP535U Universal Urethane Enhanced Epoxy Adhesive or ROP 435 Solvent Free Epoxy Flooring Adhesive. ROP360 Vapor Emission Rate shall not exceed 4.0lbs and Relative Humidity Test shall not exceed 70%. If the substrate does not meet the above noted requirements, the flooring shall not be installed until the problem has been corrected. DO NOT install flooring if there is hydrostatic pressure. Every concrete floor slab on-grade or below grade to receive resilient flooring shall have a permanent, effective moisture vapor retarder installed below the slab. A pH test must be performed to test for excessive alkalinity using a pH pencil or litmus paper and deionized water. A scaly, sandy, or powdery surface is an indication of some form of contaminant, usually excessive alkalis or an alkali-silica residue. A pH reading higher than 8 is an indication of a potential problem and the concrete must be neutralized by rinsing with clear water. Apply clear water with a mop and allow to 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



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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" 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-



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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, primer, sealer, rust, and oxidation and properly sanded/grinded to provide a smooth, level, clean substrate to receive flooring. The 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 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 flooring material will not prevent deterioration of metal substrates from occurring.



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6.3 Adhesive Application

6.3.1 ROP360 Acrylic Tile & Stair Tread Adhesive: ROP360 Acrylic Tile & 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 only. Use of ROP360 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 is not recommended for Lug-Back Tile or 800 Series Rubber Tile. 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. Over smooth or non-porous substrates, allow adhesive to "flash-off" 20 minutes before installing. Coverage will vary according to the type of surface, surface texture, spreading angle, and adhesive temperature. Over extremely porous or rough concrete, a 1/16" x 1/16" x 1/16" Square notch trowel is required (125-184 sq/ft/gal) & allow adhesive to "flash-off" for 10 minutes before installing. Approximate Working Time: 20-30 minutes (depending on substrate temperature, humidity & trowel size). At least 90% transfer of adhesive to the products backing is required. Excessive heat or movement of any kind or from non-environmentally controlled areas, glass-filtered or direct sunlight or unfiltered ultra-violet rays can have an adverse effect on both the tile and adhesive, and these condition or substrates should be avoided to prevent adhesive bonding & tile failure. Caution: If too much adhesive is applied, oozing at seams, air-bubbles and telegraphing can occur along with permanent adhesive displacement and unsightly areas when the floor is rolled. Therefore, test trowel size and flooring prior to installation to avoid the above noted potential problems. Adhesive is available in 1-gallon and 4-gallon pails. Shelf Life: Limited to one year from date of manufacture stored at 70°F (21°C) in unopened container. Freeze Thaw Stability: The adhesive is freeze-thaw stable to 5 cycles at 20°F (6°C); however, it is recommended to protect all adhesive products from freezing. If frozen, DO NOT stir until material has completely thawed.

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 ROP 435 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 or slightly flexing substrates) on grade, below grade, or above grade. The ROP435 Solvent Free Epoxy Flooring Adhesive must be used for installations in areas where the flooring will be subjected to lateral shear stresses and/or rolling loads, and most other non-porous substrates, excluding metal and other slightly flexing substrates. Spread rate coverage using the 1/32" x 1/16" x 1/32" flat "U" notch trowel over smooth or non-porous substrates 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 is required (125 – 185 sq/ft/gal). Caution: If too much adhesive is applied, oozing at seams, air-bubbles, permanent adhesive displacement, and telegraphing can occur when the floor is rolled or exposed to rolling loads resulting in loose and unsightly areas.



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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 units. Shelf life is one year @ 70°F (21°C) in an unopened container. Approximate Working Time: After properly mixed and immediately poured onto substrate: 30 - 40 minutes (depending on substrate temperature & trowel size). 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 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.

6.3.3 Roppe 535U "Universal" Urethane Enhanced Epoxy Two-Part Adhesive: Roppe 535U "Universal" Urethane Enhanced Epoxy is a solvent-free, two-component adhesive for high performance installations of Roppe Rubber Tile. ROP535U "Universal" is recommended for indoor installations over properly prepared and recommended concrete, plywood, metal and other non-porous substrates, on grade, below grade, or above grade. ROP535U "Universal" 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 topical moisture or other liquids, and over metal and some other non-porous substrates, in addition to radiant-heat floors. The spread coverage over porous or rough substrates using the required 1/16" x 1/16" x 1/16" square notch trowel is approximately 100- 125 square feet (Part A & B Mixed) per US gallon. Over non-porous or smooth substrates, the spread coverage using the required 1/32" x 1/16" x 1/32" "U" notch trowel is approximately 125-185 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). Caution: If too much adhesive is applied, oozing at seams, air-bubbles, adhesive displacement, and telegraphing can occur 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 @ 70°F (21°C) in an unopened container. Approximate Working Time: After properly mixed and immediately poured onto substrate: 30 - 40 minutes (depending on substrate temperature & trowel size). 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.



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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.

6.4 Adhesive Application and Product Installation

6.4.1 Roppe Raised Design Rubber Tile Installation using ROP360 Acrylic Tile & Stair Tread Adhesive: Read product limitation/precautions and installation literature before proceeding. Follow safety precautions on the adhesive label and Material Safety Data Sheet. Must have adequate ventilation. Un-box the tile and allow it to acclimate at least 48 hours before installing. If more than one box is used, ensure each have the same run number. The room must be precisely measured in order to square-off the area, in order to determine the center point. First, measure area where tile is to be installed to determine the best starting position in the room. Then use a chalk line to mark two lines that intersect these positions at right angles, creating four (4) quadrants. Starting at the corner of one (1) quadrant, install tiles in a pyramid design, ensuring proper tile alignment and proper adhesive (90%) transfer to the products backing. Alignment is to be checked continuously throughout the installation and corrected if needed. Tile can be installed diagonally or staggered joint configuration to achieve the appearance desired. Carefully select the ideal layout to avoid seams in high traffic areas, while achieving an equal balanced in the room, and all side cuts should be equal in dimension. Fit tile tightly together. Seams are approximately 6” away from any seams in the underlayment or substrate. Allow enough material for doorways, closets and alcoves etc. Allow an extra 3” for trimming or more if necessary for walls that are not square. Dry lay the flooring first to ensure desired aesthetics can be achieved & check for manufacturing imperfections and irregularities prior to installing. If the sanded back of the flooring becomes soiled prior to installation, clean with a soft cloth dampened with denatured alcohol and allow to dry before installing. Pour the adhesive onto the substrate and spread evenly using a 1/32” x 1/16” x 1/32” “U” notch trowel for smooth or non-porous substrate, and allow adhesive to “flash-off” 20 minutes before installing. Note: Over extremely porous or rough concrete, a 1/16”x 1/16” x 1/16” Square notch trowel is required, and allow adhesive to “flash-off” for 10 minutes before installing Caution: If too much adhesive is applied, oozing at seams, air-bubbles and telegraphing can occur along with permanent adhesive displacement when the floor is rolled. Spreading large areas of adhesive in excess of 150 square feet could possibly allow the adhesive to cure or setup before the flooring is installed, which would result in a bond failure. When laying the flooring, use a kneeling board, or for best results, work off the flooring whenever possible to avoid shifting of the tile and to prevent permanent adhesive displacement, and to also not track the adhesive onto the tile. Lay the tile into the adhesive to avoid trapping air. DO NOT drop the tile into the adhesive. DO NOT fit the tile forcibly. Using excessive pressure to fit the tile can cause peaking. Starting at the center, slowly roll and cross roll with a 100-pound 3-section roller within 15 minutes after each section has been installed. Re-roll & cross roll 30-45 minutes after initial rolling. The rolling time may need to be adjusted to climate conditions. Use a hand roller in areas that cannot be reached with the larger roller. Conduct a visual inspection during the rolling process to ensure there has been no shifting of the tile and that there is no adhesive on the surface of the tile. DO NOT wait until the entire installation is completed before rolling as the adhesive may have



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surpassed the open time and be cured. Clean the seams of any adhesive. DO NOT trowel fresh adhesive over previously spread adhesive. The adhesive ridgeline can telegraph through the product. After the first section of the tile has been laid and rolled, repeat the procedure for the remaining sections. If the adhesive is bleeding or oozing at the seams, either too much adhesive is being applied, or the adhesive is too “wet”. Immediately remove excessive wet adhesive with a soft, clean cloth dampened with warm soapy water. Periodically, lift the flooring to check for proper adhesive transfer. There should be at least a 90% coverage or better of adhesive on the back of the flooring. Observe the adhesive to ensure that the adhesive has not surpassed the open time and has not begun to cure. It may be necessary to weight the tile’s seams to ensure they remain flat and level. The flooring for borders and other specialty areas must be scribed and cut to fit snugly, not tightly, against the wall, threshold, transition strip, fixtures, and other obstacles. Forcing incorrectly sized tile or cut pieces into smaller areas will cause buckling of the flooring. DO NOT wait until the entire main aisle flooring has been installed to begin laying the borders. Lay the border tiles within the adhesive open time. There is to be no foot traffic on the floor for at least 48 hours and no maintenance performed for at least 3 days. Protect flooring against mars, marks, indentations and other damage.

6.4.2. Roppe Raised Design Rubber Tile Installation using ROP435 Solvent Free Epoxy Flooring Adhesive: Read product limitation/precautions and installation literature before proceeding. Follow safety precautions on the adhesive label and Material Safety Data Sheet. Must have adequate ventilation. Un-box the tile and allow it to acclimate at least 48 hours before installing. If more than one box is used, ensure each have the same run number.. The room must be precisely measured in order to square-off the area, in order to determine the center point. First, measure area where tile is to be installed to determine the best starting position in the room. Then use a chalk line to mark two lines that intersect these positions at right angles, creating four (4) quadrants. Starting at the corner of one (1) quadrant, install tiles in a pyramid design, ensuring proper tile alignment and proper adhesive (90%) transfer to the products backing. Alignment is to be checked continuously throughout the installation and corrected if needed. Tile can be installed in a staggered joint configuration to achieve the appearance desired. The flooring can also be installed diagonally. Carefully select the ideal layout to avoid seams in high traffic areas, while achieving an equal balanced in the room, and all side cuts should be equal in dimension. Fit tile tightly together. Seams are approximately 6” away from any seams in the underlayment or substrate. Allow enough material for doorways, closets and alcoves etc. Allow an extra 3” for trimming or more if necessary for walls that are not square. Dry lay the flooring first to ensure desired aesthetics can be achieved & check for manufacturing imperfections and irregularities prior to installing. If the sanded back of the flooring becomes soiled prior to installation, clean with a soft cloth dampened with denatured alcohol and allow to dry before installing. 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. DO NOT mix partial units of this adhesive! ROP435 Solvent Free Epoxy Flooring Adhesive is packaged in two separate containers marked Part A (epoxy resin) and Part B (polyamide resin, hardener). Mix adhesive by hand or use a slow speed, less than 300 RPM maximum, drill with an attached mixing paddle may also be used. Mix approximately 4 minutes. After mixing, the adhesive must be one consistent solid color. Caution: Higher mixing speeds and/or longer mixing time will reduce the open time/working time and can



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cause premature curing of the adhesive. Adhesive will not cure if not properly mixed. DO NOT allow the mixed epoxy adhesive to remain in the container. Immediately after mixing, pour the contents onto the substrate and spread the adhesive evenly over smooth substrates using a 1/32" x 1/16" x 1/32" flat "U" notch trowel, being careful to leave no puddles of adhesive. Note: Over extremely porous or rough substrates, a 1/16" x 1/16" x 1/16" Square notch trowel is required. Caution: If too much adhesive is applied, oozing at seams, air-bubbles and telegraphing can occur along with permanent adhesive displacement when the floor is rolled or subject to rolling loads resulting in loose or unsightly areas. Spreading large areas of adhesive in excess of 150 square feet could possibly allow the adhesive to cure or setup before the flooring is installed which would result in a bond failure. Spreading large areas of adhesive in excess of 150 square feet could possibly allow the adhesive to cure or setup before the flooring is installed which would result in a bond failure. Caution: Allowing the adhesive to remain open too long will result in bond failure. When laying the flooring, use a kneeling board, or for best results, work off the flooring whenever possible to avoid shifting of the tile and to prevent permanent adhesive displacement and to also not track the epoxy adhesive onto the tile. Lay the tile into the adhesive to avoid trapping air. DO NOT drop the tile into the adhesive. DO NOT fit the tile forcibly. Using excessive pressure to fit the tile can cause peaking. Starting at the center, slowly roll and cross roll with a 100-pound 3-section roller. Re-roll flooring 30 minutes after initial rolling. The rolling time may need to be adjusted to climatic conditions. Use a hand roller in areas that cannot be reached with the larger roller. Conduct a visual inspection during the rolling process to ensure there has been no shifting of the tile and that there is no adhesive on the surface of the tile. DO NOT wait until the entire installation is completed before rolling as the adhesive may have surpassed the open time and be cured. Clean the seams of any adhesive. The ridges of the adhesive should be flattened. After the first section of the tile has been laid and rolled, repeat the procedure for the remaining sections. If the adhesive is bleeding or oozing at the seams, either too much adhesive is being applied, or the adhesive is too "wet". Immediately remove excessive wet adhesive with a soft, clean cloth dampened with warm soapy water. Periodically, lift the flooring to check for proper adhesive transfer. There should be at least a 90% coverage or better of adhesive on the back of the flooring. Observe the adhesive to ensure that the adhesive has not surpassed the open time and has not begun to cure. It may be necessary to weight the tile's seams to ensure they remain flat and level. The flooring for borders and other specialty areas must be scribed and cut to fit snugly, not tightly, against the wall, threshold, transition strip, fixtures, and other obstacles. Forcing incorrectly sized tile or cut pieces into smaller areas will cause buckling of the flooring. DO NOT wait until the entire main aisle flooring has been installed to begin laying the borders. Lay the border tiles within the adhesive open time. There is to be no foot traffic on the floor for at least 48 hours. There is to be no wheeled conveyances or maintenance performed for at least 72 hours. Protect flooring against mars, marks, indentations and other damage.

6.4.3 Roppe Raised Design Rubber Tile Installation using Roppe 535U "Universal" Urethane Enhanced Epoxy Two-Part Adhesive: Read product limitation/precautions and installation literature before proceeding. Follow safety precautions on the adhesive label and Material Safety Data Sheet. Must have adequate ventilation. Un-box the tile and allow it to acclimate at least 48 hours before installing. If more than one box is used, ensure each have the same run number. The room must be precisely measured in order to square-off the area, in order to



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determine the center point. First, measure area where tile is to be installed to determine the best starting position in the room. Then use a chalk line to mark two lines that intersect these positions at right angles, creating four (4) quadrants. Starting at the corner of one (1) quadrant, install tiles in a pyramid design, ensuring proper tile alignment and proper adhesive (90%) transfer to the products backing. Alignment is to be checked continuously throughout the installation and corrected if needed. Tile can be installed in a staggered joint configuration to achieve the appearance desired. The flooring can also be installed diagonally. Carefully select the ideal layout to avoid seams in high traffic areas, while achieving an equal balanced in the room, and all side cuts should be equal in dimension. Fit tile tightly together. Seams are approximately 6" away from any seams in the underlayment or substrate. Allow enough material for doorways, closets and alcoves etc. Allow an extra 3" for trimming or more if necessary for walls that are not square. Dry lay the flooring first to ensure desired aesthetics can be achieved & check for manufacturing imperfections and irregularities prior to installing. If the sanded back of the flooring becomes soiled prior to installation, clean with a soft cloth dampened with denatured alcohol and allow to dry before installing. 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. DO NOT mix partial units of this adhesive!. ROP535U Universal Flooring Adhesive is packaged in two separate containers marked Part A (polyurethane epoxy resin) and Part B (polyamide resin, hardener). Mix adhesive by hand or use a slow speed less than 300 RPM maximum, drill with an attached mixing paddle. Mix 3-5 minutes. After mixing, the adhesive must be one consistent solid color. Caution: Higher mixing speeds and/or longer mixing time will reduce the open time/working 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 remain in the container. Immediately after mixing, pour the contents onto the porous substrate and immediately spread the adhesive evenly over smooth substrates using a 1/32" x 1/16" x 1/32" square "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 is required. For the installation of Roppe's Lug-Back Tile, ROP535U must be used and applied using a 1/8" x 1/8" x 1/16" "U" notch trowel yielding approximately 60-75 sq/ft per U.S. Gallon. Caution: If too much adhesive is applied, oozing at seams, air-bubbles and telegraphing can occur along with permanent adhesive displacement when the floor is rolled or subjected to rolling loads resulting in loose or unsightly areas. Spreading large areas of adhesive in excess of 150 square feet could possibly allow the adhesive to cure or setup before the flooring is installed which would result in a bond failure. Caution: Allowing the adhesive to remain open too long will result in bond failure. When laying the flooring, use a kneeling board, or for best results, work off the flooring whenever possible to avoid shifting of the tile and prevent permanent adhesive displacement, and to also not track the epoxy adhesive onto the tile. Lay the tile into the adhesive to avoid trapping air. DO NOT drop the tile into the adhesive. DO NOT fit the tile forcibly. Using excessive pressure to fit the tile can cause peaking. Starting at the center, slowly roll and cross roll with a 100-pound 3-section roller. Re-roll flooring 30 minutes after initial rolling. The rolling time may need to be adjusted to climatic conditions. Use a hand roller in areas that cannot be reached with the larger roller. Conduct a visual inspection during the rolling process to ensure there has been no shifting of the tile and that there is no adhesive on the surface of the tile. DO NOT wait until the entire installation is completed before



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rolling as the adhesive may have surpassed the open time and be cured. Clean the seams of any adhesive. The ridges of the adhesive should be flattened. After the first section of the tile has been laid and rolled, repeat the procedure for the remaining sections. If the adhesive is bleeding or oozing at the seams, either too much adhesive is being applied, or the adhesive is too “wet”. Immediately remove excessive wet adhesive with a soft, clean cloth dampened with warm soapy water. Periodically, lift the flooring to check for proper adhesive transfer. There should be at least a 90% coverage or better of adhesive on the back of the flooring. Observe the adhesive to ensure that the adhesive has not surpassed the open time and has not begun to cure. It may be necessary to weight the tile’s seams to ensure they remain flat and level. The flooring for borders and other specialty areas must be scribed and cut to fit snugly, not tightly, against the wall, threshold, transition strip, fixtures, and other obstacles. Forcing incorrectly sized tile or cut pieces into smaller areas will cause buckling of the flooring. DO NOT wait until the entire main aisle flooring has been installed to begin laying the borders. Lay the border tiles within the adhesive open time. There is to be no foot traffic on the floor for at least 48 hours and no wheeled conveyances nor maintenance performed for at least 3 days. Protect flooring against mars, marks, indentations and other damage.

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