

Section 9  
Resilient Flooring  
Rubber Tile

**1. Product Nomenclature****Assurance Detectable Warning Tile (ADWT)****2. Company Information****Flexco Corporation**1401 East 6<sup>th</sup> Street

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Internet: <http://www.flexcofloors.com>Sweet's Catalog: 09650/FLE; Buyline 0254; <http://www.sweets.com>**3. Product Description****3.1 Basic Application**

Flexco® Assurance Detectable Warning Tile (ADWT) is a solid color rubber tile with an orange-peel textured surface and grooves to serve as a detectable warning of the impending change to pedestrians who are blind or visually impaired. The information to be communicated must include 24 inches (610 mm) of advance warning of the platform edge and the precise orientation of the platform edge in relationship to the pedestrian. Assurance Detectable Warning Tiles are especially suitable for those applications to meet the needs of the visually impaired (ICC/ANSI 117.1-1998, Accessible and Usable Buildings and Facilities, Section 705.3.3, Equivalent Detectability). The Assurance Detectable Warning Tile is ideal for use in high traffic areas due to its rugged durability and safe footing. Flexco® Assurance Detectable Warning Tile has a ten (10) year Limited Wear Warranty. The textured surface provides superior traction reducing the risk of slipping. The decorative versatility of these classic solid color rubber tiles allows them to be used separately or in combination to offer limitless design possibilities. The extra resilient pure virgin synthetic rubber composition provides a quiet and extremely comfortable walking surface that reduces leg fatigue. This solid, homogeneous rubber tile has excellent resistance to abrasion, impact, scuffs, gouging, cigarette burns, and most chemicals. Although rugged and durable, it is flexible for fast and economical installations. A lower maintenance cost is a benefit due to its self-waxing ability during dry buffing, which requires no waxing or stripping. Flexco® Assurance Detectable Warning Tile has lower outgassing than most vinyl or linoleum flooring. Flexco® Assurance Detectable Warning Tile may be used in train terminals, shipboard interiors, athletic facilities, postal facilities, elevators, elevator lobbies, stairway landings, healthcare facilities, clean rooms, hospitals, prison facilities, retail stores, stadiums, and schools. It's also ideal for use in areas that require resistance to staining by fungi. Coordinating wall base, stair treads, risers, stringers, and accessories are also available. Custom color matching is available.

**3.2 Product Construction**

Flexco® Assurance Detectable Warning Tile is a solid, homogeneous, non-conductive rubber tile manufactured using first quality, virgin polymers and raw materials. Special waxes are used to migrate to the surface to maintain a pleasing surface luster. Its high rubber content provides excellent abrasion resistance, chemical resistance, im-

compact resistance, tear strength, and resiliency. The hard, textured surface reduces the marring and scratching normally found in a solid color rubber tile. This resilient, monolithic rubber tile is uniform with respect to color, pattern effect, and composition, throughout the thickness of the tile. Flexco® Assurance Detectable Warning Tile will pass the fungi resistance test and meets the recommended requirement of the ADA for slip resistance. Class A Fire Retardant compound is available.

### 3.3 Product Types

- Thickness: 1/8" (3.175mm)
- Tile Size: 36" x 36" (914.4mm x 914.4mm); 12" x 12" and 12" x 36" are available as special order
- Appearance: Orange-peel textured surface
- Grooves: approximately 9/16" (14.28mm) wide x 1/16" (1.58mm) deep and spaced approximately on 2 3/8" (60.32mm) centers
- Colors: Currently available in 10 FlexTones® colors.

### 4. Technical Data

**4.1** Meets ASTM F 1344, Specification for Rubber Floor Tile: Class I, Type A; Federal Specification SS-T-312B, Type II

**4.2** ASTM E 648 (NFPA 253), Critical Radiant Flux: Class 1, > 1.00 W/cm<sup>2</sup>

**4.3** ASTM E 662 (NFPA 258), Specific Optical Density of Smoke Generated by Solid Materials: Passes, < 450

**4.4** FMVSS 302, Title 49, Part 571, Flammability of Interior Materials: Passes

**4.5** MIL-DTL-15562G (Navy), Dielectric Strength: Passes, > 30,000 volts

**4.6** ASTM D 3389, Abrasion Resistance: Passes

**4.7** ASTM F 925, Resistance to Chemicals: Passes, List of chemicals available

**4.8** ASTM D 471, Water Absorption: Passes, < 0.20%

**4.9** ASTM D 471, Oil Absorption: Passes, < 0.20%

**4.10** ASTM D 2047, Static Coefficient of Friction (Slip Resistance): Passes; dry, flat surfaces

**4.11** ASTM F 970, Static Load Limit: 250 psi; Modified ASTM F 970, 1100 psi; Passes, maximum 0.003" indentation

**4.12** ASTM F 1515, Light Stability: Passes, Delta E < 8.0

**4.13** ASTM E 595, Outgassing: Excellent, Test results available

**4.14** ASTM F 137, Flexibility: Passes, bend around a 3/4" mandrel, no breaks or cracks

**4.15** ASTM G 21, Determining Resistance of Synthetic Polymeric Materials to Fungi: 0, No growth

**4.16** ASTM E 492, Impact Sound Transmission (Impact Insulation Class): 37

**4.17** ASTM C 423, Sound Absorption (Noise Reduction Coefficient): 0.05

**4.18** ASTM E 90, Airborne Sound Transmission (Sound Transmission Class): 51 **4.19** ASTM D 2240, Hardness

(Shore A Durometer): Passes, > 85

## **5. Product Limitations/Precautions**

Flexco® Assurance Detectable Warning Tile must be installed using either the Flexco® 16/86 Multi-Performance Tile and Tread Adhesive or the Flexco® 77 Solvent Free Epoxy Flooring Adhesive. Note: The RepelIM Assurance Detectable Warning Tile must be installed using the Flexco® 77 Solvent Free Epoxy Flooring Adhesive. The Flexco® 77 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, in areas subjected to moisture or other liquids, in areas where the substrate or flooring is not maintained within the specified temperature range, and on metal and some other non-porous substrates. The product must be installed in accordance with Flexco®'s recommendations in order for the product warranty to be in effect. Flexco® Assurance Detectable Warning Tile may be stained if it is allowed to remain in contact with other rubber products that may contain staining ingredients such as tires, casters, and walk-off mats. Fading can occur from extensive exposure to heavy direct or glass-filtered sunlight, or unfiltered ultra-violet rays. Ensure any disinfectant, cleaning agent, dye, floor care product, pesticide, or other chemical (solid, liquid, or gas) that may come in contact with the flooring will not produce permanent discoloration and/or damage to the flooring. If any chemical that may come in contact with the flooring is not on the stain resistance chart, the rubber must be tested prior to installation. Contact Flexco® Customer Service for a stain resistance chart and for assistance in conducting stain testing. Flexco® Assurance Detectable Warning Tile is not to be used in commercial kitchens or in areas exposed to animal fats, greases, oils, solvents, strong detergents, or where there is excessive moisture. Flexco® Assurance Detectable Warning Tile must not be used in areas that may be subjected to sharp spikes, cleats, sharp wheels, or other objects that could damage the flooring. DO NOT drag or move objects across the flooring or drop objects onto the flooring that may cause damage to the flooring. Use appropriate floor protection devices. The flooring is not to come in contact with direct heat, such as radiators, hot ovens, or other heated equipment. Ensure the proper product is used for the service application with regard to type and amount of traffic. Assurance Detectable Warning Tile is for indoor use only with temperatures maintained from 550 F to 950 F. Color selections must be made from actual samples as exact matching of color or shade may vary. Follow all local, state, and federal safety standards and practices.

## **6. 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 650 F and 850 F. DO NOT stack pallets. Remove all plastic wrapping and strapping from the pallets in the installation area at least 48 hours prior to installation. For proper acclimatization, remove the tile from the cartons and stack evenly on a smooth dry surface with each stack no more than 18" high. When stacking tiles prior to and during installation, place the tiles face-to-face and sanded back-to-sanded back to prevent the sanded back of the tiles from becoming contaminated and to protect the face from damage. The installation area, tile, and adhesive are to be maintained between 650 F and 850 F for at least 48 hours before installation, during installation, and 48 hours after the installation. Maintain room temperatures between 550 F and 950 F thereafter. Notice: 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 either the Flexco® 16/86 Multi-Performance Tile and Tread Adhesive or the Flexco® 77 Solvent Free Epoxy Flooring 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 tile from the substrate with adhesive bonding to the tile and the substrate. Close the area to traffic during flooring installation. Install tiles and accessories after other finishing operations, including painting, have been completed. If the back of the tile becomes soiled prior to installation, clean with a soft cloth dampened with a mild soap and water solution, rinse, let dry. Tile may be installed over radiant heated floors, provided the surface temperature is maintained between 650 F and 850 F. 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 subfloors/substrates must be clean, smooth, permanently dry, level, and structurally sound. The substrate must be free of moisture, dust, sealers, paint, curing compounds, parting agents, residual adhesives, adhesive removers, hardeners, resinous compounds, solvents, wax, oil, grease, asphalt, gypsum compounds, alkaline salts, excessive carbonation or laitance, mold, mildew, or any other extraneous coatings, films, or materials that could prevent a successful bond. DO NOT use sweeping compounds, solvents, citrus 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. Follow The Resilient Floor Covering Institute's (RFCI) recommended work practice for removal of existing floor covering and adhesive, and all applicable 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.

**6.2.2 Concrete substrates** must be tested in accordance with ASTM F 1869 to quantitatively determine the amount of moisture vapor emission at least one week prior to the installation. Conduct a minimum of one test for every 1000 square feet of flooring. The anhydrous calcium chloride test kits are available from Flexco®. The moisture emission shall not exceed 5 pounds per 1000 square feet per 24 hours. If the substrate does not meet the moisture emission requirement, the flooring shall not be installed until the problem has been corrected. DO NOT install the 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. The pH pencils are available from Flexco®. 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 10 is an indication of a potential problem and the concrete must be neutralized using a 10% muriatic acid and water solution (10 parts water to 1 part muriatic acid). Apply the solution on the substrate with a mop, allow the solution to thoroughly dry, rinse the substrate with a mop using clean water, let thoroughly dry, and retest. Continue to neutralize until the pH level is acceptable. Follow the recommended safety practices when using muriatic acid. 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 peaking, or curling. Ensure concrete is of adequate strength, which generally should be 140 pounds per cubic foot or more. Joints such as expansion joints, contraction joints, isolation joints, 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 surface cracks, grooves, depressions, saw cuts, control joints or other non-moving joints, 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 A 157.1, 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** should be of double layer construction with a minimum thickness of 1". Crawl spaces underneath wood subfloors shall be in compliance with local building code ventilation practices and have clearance of at least 18" of cross-ventilated space between the ground level and joists. Wood joists should be spaced on not more than 16" centers. Place a moisture retarder, having a maximum rating of 1.0 perm, on the top of the ground under the wood subfloor overlapped at least 8". APA, The Engineered Wood Association, Underlayment

Grade plywood, minimum 3/8" thick, with a fully sanded face is to be used. Use APA approved exterior grade plywood if finished floors are subjected to moisture. OSB, lauan, maranti, solid-core mahogany, waferboard, particleboard, chipboard, flakeboard, tempered hardboard, glass mesh mortar units or cementitious tile backer boards, sheathing-grade plywood, preservative-treated plywood, 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. 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. Refer to 6.2.1.

**6.2.4 Terazzo and ceramic floors** to be used as subfloors/substrates are to follow the procedures recommended for concrete in 6.2.2. Ensure all glazed, smooth, and/or shiny surfaces are properly sanded. Fill all grout lines and other irregularities with a Portland cement-based underlayment with a minimum compressive strength of 3500 psi. The subfloor must be structurally sound. Inspect and ensure there is an adequate bond of the old flooring to the original substrate. Flexco® will not warranty the product if there is a bond failure caused by problems relating to the old flooring. Refer to 6.2.1.

**6.2.5 Metal floors** to be used as a subfloor/substrate must be thoroughly cleaned of any residue or rust and properly sanded to provide a smooth, level, clean substrate to receive the resilient flooring. The metal subfloor shall be structurally sound. Deflection of the metal floor can cause a bond failure between the adhesive and the metal substrate. On an extremely smooth, non-porous, metal substrate, a longer "tack up" may be required in order to prevent the adhesive from oozing between the seams. Refer to 6.2.1.

### **6.3 Adhesive Information**

#### **6.3.1 Flexco® 16/86 Multi-Performance Tile and Tread Adhesive**

Flexco® 16/86 Multi-Performance Tile and Tread Adhesive is a solvent free, high strength, acrylic adhesive for indoor installations over porous and some non-porous substrates on grade, below grade, or above grade. This adhesive contains antimicrobial protection that protects the dried/applied adhesive from mold, mildew, and bacteria that cause odors and product degradation. Use of this adhesive is limited to casual foot traffic, in areas where there are no lateral shear stresses or rolling loads, in areas where the temperature is maintained between 550 F and 950 F, and in areas that will not be subjected to moisture or other liquids. Flexco® 77 Solvent Free Epoxy Flooring Adhesive may be required on metal and some other non-porous substrates and for more severe service conditions. Spread coverage using a 1/16" x 1/16" x 1/16" flat "V" notch trowel is approximately 150 square feet on a smooth substrate. Coverage will vary according to the type of surface, surface texture, spreading angle, and adhesive temperature. Adhesive is available in 1-gallon and 4-gallon pails. Shelf life is one year stored at 700 F in an unopened container. Remove wet adhesive with a soft, clean cloth dampened with water or denatured alcohol. Dried adhesive can be removed using a soft, clean cloth dampened with mineral spirits. The adhesive is freeze/thaw stable to 5 cycles at 00 F; however, it is recommended to protect all adhesive products from freezing. If frozen, DO NOT stir until material has completely thawed. Label information is in English and Spanish. Read all MSDS information and follow the proper safety procedures. VOC grams per liter of coating: 0 grams.

#### **6.3.2 Flexco® 77 Solvent Free Epoxy Flooring Adhesive**

Flexco® 77 Solvent Free Epoxy Flooring Adhesive is a solvent free, non-flammable, high performance epoxy adhesive used for indoor installations over porous and non-porous substrates on grade, below grade, or above grade. The Flexco® 77 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, in areas subjected to moisture or other liquids, in areas where the substrate or flooring is not maintained within the specified temperature range, and on metal and some other non-porous substrates. The Flexco® 77 Solvent Free Epoxy Flooring Adhesive must be used

for Repel™ installations. When used on non-porous substrates, the adhesive must be allowed to “tack up”, but not allowed to cure. Spread coverage using the 1/16” x 1/16” x 1/16” flat “V” notch trowel is approximately 150 square feet and spread coverage using the 1/32” deep x 1/16” wide x 1/32” flats square notch trowel is approximately 175 square feet on a smooth substrate. Coverage will vary according to the type of surface, surface texture, spreading angle, and adhesive temperature. Adhesive is available in 1-quart and 1-gallon pails. Shelf life is one year @ 700 F in an unopened container. Although the epoxy components are non-freezing, the adhesive must be allowed to stabilize to ambient temperature before mixing. Any adhesive on the surface of the tiles or surrounding area must be removed immediately with a clean cloth dampened with warm soapy water or denatured alcohol. DO NOT allow the adhesive to cure on the surface of the tile. 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. VOC grams per liter of coating: 0 grams.

## **6.4 Adhesive Application and Product Installation**

### **6.4.1 Assurance Detectable Warning Tile Installation using Flexco® 16/86 Multi-Performance Tile and Tread Adhesive**

Read all installation literature before proceeding. Prior to adhesive application, dry lay the flooring to ensure desired aesthetics. When stacking tiles prior to and during installation, place the tiles face-to-face and sanded back-to-sanded back to prevent the sanded back of the tiles from becoming contaminated and to protect the face from damage. Follow safety precautions on the adhesive label and Material Safety Data Sheet. Must have adequate ventilation. Pour the contents of the container onto the substrate and spread evenly using a 1/16” x 1/16” x 1/16” flat “V” notch trowel, being careful to leave no puddles of adhesive. Spreading large areas of adhesive in excess of 150 square feet could possibly allow the adhesive to cure or setup before the tile is installed which would result in a bond failure. Allow the adhesive on the porous substrate to “flash off” for approximately 10 minutes before installing the flooring. For non-porous substrates, allow the adhesive to become dry to the touch so that there is very little transfer of adhesive to the finger. Note: A 1/32” deep x 1/16” open x 1/32” apart square notch trowel may be required on some semi-porous or non-porous substrates. Caution: “Tack up” time, 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 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 also not track the adhesive onto the tile. 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 or denatured alcohol. Line up the first row of tile along the string line. Ensure the grooves are properly aligned. DO NOT fit the tiles together forcibly. Using excessive pressure to fit the tiles can cause peaking of the seams. During installation, periodically lift a tile to ensure proper adhesive transfer. There should be at least a 90% coverage 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. Borders and other specialty cut tiles must be scribed and cut to fit snugly, not tightly, against the wall, threshold, transition strip, fixtures, or other obstacles. Forcing incorrectly sized tiles into smaller areas will cause buckling of the tile. DO NOT wait until the entire main aisle flooring has been installed to begin laying the borders. Lay the border tiles within the adhesive open time. Slowly roll and cross roll each section of tile laid with a 100-pound 3-section roller within 15 minutes after the tile section has been installed. 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 tiles 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. Slowly roll and cross roll a second time approximately 30 minutes after the initial rolling. There is to be no foot traffic on the floor for at least 48 hours and no wheeled traffic for at least 3 days. Protect flooring against marks, indentations, and other damage.

### **6.4.2 Assurance Detectable Warning Tile & Repel™ ADWT Installation using Flexco® 77 Solvent Free Epoxy Flooring Adhesive**

Read all installation literature before proceeding. Prior to adhesive application, dry lay the flooring to ensure desired aesthetics. When stacking tiles prior to and during installation, place the tiles face-to-face and sanded back-to-sanded back to prevent the sanded back of the tiles from becoming contaminated and to protect the face from damage. Follow safety precautions on the adhesive label and Material Safety Data Sheet. Must have adequate ventilation. DO NOT mix partial units of this adhesive, because the ratio of

Part A to Part B is not 1:1. Flexco® 77 Solvent Free Epoxy Flooring Adhesive is packaged in two separate containers marked Part A (epoxy resin) and Part B (polyamide resin, hardener). Remove the lids and add all of Part A into Part B. Mix the combined parts with the furnished paddle using a rotary motion while at the same time lifting from the bottom. A slow speed, 200 RPM maximum, drill with an attached mixing paddle may also be used. Mix 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 substrate. Immediately spread the adhesive evenly with a 1/32" x 1/16" x 1/32" square notch trowel or 1/16" x 1/16" x 1/16" flat "V" notch trowel while being careful to leave no puddles of adhesive. Note: A 1/32" deep x 1/16" open x 1/32" apart square notch trowel may be required on some semi-porous or non-porous substrates. If the substrate has been shot blasted or a rough textured underlayment has been applied, additional adhesive may have to be purchased to ensure proper adhesive coverage. Spreading large areas of adhesive in excess of 150 square feet could possibly allow the adhesive to cure or setup before the tile is installed which would result in a bond failure. On porous substrates, allow the adhesive to "flash off" for approximately 15 minutes. On non-porous substrates, allow the adhesive to "tack up" for approximately 30 minutes. Caution: "Tack up" time, open time, and curing characteristics will vary upon the type of substrate, temperature of the substrate, ambient temperature, humidity, proper mixing of the adhesive, and proper conditioning of the adhesive. 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 also not track the adhesive onto the tile. 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 adhesive with a cloth dampened with water or denatured alcohol before the epoxy cures. DO NOT allow the epoxy to cure on the surface of the tile. Line up the first row of tile along the string line. Ensure the grooves are properly aligned. DO NOT fit the tiles together forcibly. Using excessive pressure to fit the tiles can cause peaking of the seams. During installation, periodically lift a tile to ensure proper adhesive transfer. There should be at least a 90% coverage of adhesive on the back of the flooring. Observe the adhesive to ensure the adhesive has not surpassed its open time and started to cure. Borders and other specialty cut tiles must be scribed and cut to fit snugly, not tightly, against the wall, threshold, transition strip, fixtures, or other obstacles. DO NOT wait until the entire main aisle flooring has been installed to begin laying the borders. Slowly roll and cross roll each section of tile laid with a 100-pound 3-section roller within 30 minutes after the tile section has been installed. 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 tiles and that there is no adhesive on the surface of the tile. Inspect the entire flooring within one hour after installing each section laid to check for raised edges. Slowly roll and cross roll a second time approximately 30 minutes after the initial rolling. There is to be no foot traffic on the floor for at least 48 hours and no wheeled traffic for at least 3 days. Protect flooring against mars, indentations, and other damage.

## **7. Product Maintenance**

### **7.1 Initial Maintenance**

#### **7.1.1 Wet Cleaning**

DO NOT scrub or mop the floor for at least 72 hours after the installation is complete to allow the adhesive to properly cure. Remove any covering that may have been used to protect the floor. The flooring must be properly cleaned before it is released for normal use. Sweep or vacuum to remove dirt and other particulate. Use a mild, neutral (pH 7 to 8) cleaner such as Taski Profi, Johnson Stride, or Butchers Hot Springs to clean the flooring. Follow the manufacturer's recommendations for dilution and use. DO NOT use highly alkaline, highly acidic, or solvent-based cleaners. Apply the diluted cleaning solution to the flooring with a soft-bristled deck brush or nylon mop. DO NOT flood the floor. Allow the cleaning solution to stand for approximately 10 to 15 minutes; however, DO NOT allow the solution to dry. In small installations, scrub with a soft-bristled deck brush. For large installations, scrub the area with a single disc 350 RPM maximum scrubbing machine using a soft-bristled nylon brush or a 3M 4100 White Super Polish Pad. Ensure the brush does not scratch the flooring. Wet vacuum or mop up the residue. Rinse with clean, cool water, remove the water, and allow the flooring dry thoroughly, normally 3 to 4 hours.

#### **7.1.2 Dry Buffing**

DO NOT dry buff until floor has been wet cleaned. For large installations, dry polish with single disc 350 maximum RPM polishing machine using a soft-bristled nylon brush or a 3M 4100 White Super Polish Pad. DO NOT

heel the polishing machine. For small installations, use a soft, clean cloth wrapped around a narrow push broom. If a higher sheen is desired, use a solution of Taski wiwax and water. Follow the manufacturer's recommendations for dilution and use. Using a nylon mop, mop the solution onto the flooring and allow to stand for approximately 5 minutes. Wring the mop in clean, cool water and remove the solution. Allow the surface of the flooring to dry thoroughly.

## **7.2 Regular Maintenance**

### **7.2.1 General Information**

Insufficient cleaning will reduce the wear life of the flooring. The amount of maintenance required is directly related to the amount and type of traffic and type of particulate deposited on the floor. Sweep or vacuum daily to remove dirt or other particulate. Spot clean using a clean, soft cloth dampened with a solution of a neutral (pH 7 to 8) cleaner and water. Hand buff with a clean, soft cloth or towel to bring back the shine. There are several alternative maintenance systems available: TASKI Professional Building Care (800-862-3600), Johnson Professional Wax (800-558-2332), or The Butcher Company (888-291-7510). The floor care product manufacturers will assist you in determining the best maintenance program. DO NOT use highly alkaline, highly acidic, or solvent-based cleaners. Caution: Some germicides, disinfectants, cleaning agents, floor maintenance products, and pesticides may stain or damage the surface of rubber tile; therefore, test the products to ensure they will not stain or damage the tile. Spills of any type must be removed immediately to help prevent staining or permanent damage. Contact Flexco® Customer Service to obtain information concerning stain resistance to various chemicals and products. DO NOT use sweeping or cleaning agents containing oil or solvents. DO NOT use treated mops and thoroughly clean new mops before use. DO NOT use kerosene, gasoline, naphtha, or other solvents on rubber flooring. DO NOT use varnish, shellac, paste wax, paint, or other substances that could discolor or damage the flooring. Caution: The use of floor finishes or wax may reduce the slip resistant properties of the flooring. Caution: When wet, flooring will become slippery; therefore, use the appropriate warning signs on the floor to eliminate foot or vehicular traffic.

### **7.2.2 Wet Cleaning**

Sweep, dust mop, or vacuum the flooring to remove dirt and other particulate. Use a mild, neutral (pH 7 to 8) cleaner such as Taski Profi, Johnson Stride, or Butchers Hot Springs to clean the flooring. Follow the manufacturer's recommendations for dilution and use. Apply the diluted cleaning solution to the flooring with a soft-bristled deck brush or nylon mop. DO NOT flood the floor. Allow the cleaning solution to stand for approximately 10 to 15 minutes; however, DO NOT allow the solution to dry. In small installations, scrub with a soft-bristled deck brush. For large installations, scrub the area with a single disc 350 RPM maximum scrubbing machine using a soft-bristled nylon brush or 3M 4100 White Super Polish Pad. Ensure the brush does not scratch the flooring. Wet vacuum or mop up the residue. Rinse with clean, cool water, remove the water, and allow the flooring dry thoroughly, normally 3 to 4 hours.

### **7.2.3 Dry Buffing**

After wet cleaning, dry buffing can be performed on a routine basis to maintain the surface luster. Sweep, dust mop, or vacuum the floor to remove dirt and other particulate before dry buffing. For large installations, dry polish with single disc 350 maximum RPM polishing machine using a soft-bristled nylon brush or a 3M 4100 White Super Polish Pad. DO NOT heel the polishing machine. For small installations, use a soft, clean cloth wrapped around a narrow push broom. If a higher sheen is desired, use a solution of Taski wiwax and water. Follow the manufacturer's recommendations for dilution and use. Using a clean nylon mop, mop the solution onto the flooring, and allow to stand for approximately 5 minutes. Wring the mop in clean, cool water and remove the solution. Allow the flooring to dry thoroughly. If a higher sheen is desired, apply an approved floor finish such as Butchers Mainstay, Taski vision matt, or Johnson Show Place. Some floor finishes may inhibit the slip resistant properties of the rubber flooring. After the floor finish has thoroughly dried, buffing with a lamb's wool pad will maintain the luster. After a period of time, the build up of wax or floor finish will need to be removed. Use an approved stripper such as Butchers Over Drive, Taski lino-strip, or Johnson Bravo. Use the wet cleaning procedure described in 7.2.2 to remove the build up and for restorative maintenance.

## **8. Technical Services**

### **8.1 Technical Assistance**

Technical service information and assistance may be obtained by calling Flexco® Customer Service at 1-800-633-

3151 or by visiting [www.flexcofloors.com](http://www.flexcofloors.com).

## **8.2 Sample**

Samples may be obtained by calling Flexco® Customer Service at 1-800-633-3151 or by visiting [www.flexcofloors.com](http://www.flexcofloors.com).

## **9. Availability and Cost**

Products are available through Flexco® distributors. Contact Flexco® Customer Service at 1-800-633-3151 or visit [www.flexcofloors.com](http://www.flexcofloors.com) for a distributor near you.

## **10. Limited Warranty**

Flexco® Corporation manufactures and markets its floor products under the trade name Flexco®. Flexco® Assurance Detectable Warning Tile is warranted for a period of one (1) year from date of installation to be free of defects in material and workmanship. Flexco® has a ten (10) year Limited Wear Warranty, if installed, maintained, and used strictly in accordance with Flexco®'s written instructions and installed with the recommended Flexco® adhesive. Instructions may be obtained from a Flexco® distributor or by writing Flexco®, Attention: Sales Service Manager, P.O. Box 553, Tuscumbia, Alabama, 35674. Notice of any defect must be made in writing to Flexco® within thirty (30) days after buyer learns of the defect. No merchandise is to be returned prior to Flexco®'s inspection and written approval. Buyer's sole and exclusive remedy against Flexco® and Dealer for claims arising hereunder for any and all losses and damages resulting from any cause shall be a pro rata credit based on the period remaining in this Limited Warranty toward the purchase of new Flexco® Assurance Detectable Warning Tile. Replacement credit shall be equal to the proportion of Limited Warranty time remaining multiplied by the current price of Flexco® Assurance Detectable Warning Tile. In no event shall Flexco® be liable for incidental or consequential damages, even if some other provision of this Limited Warranty is unenforceable. Buyer waives all other claims and remedies of any nature. Flexco® Assurance Detectable Warning Tile is not designed for use in or near commercial kitchens or for outdoors use. Flexco® shall have no liability whatsoever to Buyer in the event the goods become defective if such defect is caused in whole or part by cuts, tears, vandalism, fire, willful destruction, damage from high heels, spiked footwear, improper installation, improper maintenance, subfloor and/or substrate irregularities, accidents, natural causes, or acts of God. Flexco® will not be liable for labor costs or lost profits resulting from the use of or inability to use the product. Flexco® will not be liable for labor costs for material that is installed with obvious defects. Products designated as "seconds", "mill run", "non-conforming", not being of first quality, are sold as-is and Flexco® makes no warranties whatsoever, expressed or implied, with respect thereto, including warranties of merchantability or fitness for a particular use. These warranties are expressly in lieu of any other warranties expressed or implied, including, but not limited to any implied warranty of merchantability or fitness for a particular purpose. By retaining Flexco®'s merchandise for more than five (5) days after receipt of such merchandise, Buyer agrees that it accepts the terms of this Limited Warranty and that there are no warranties or rights beyond those contained herein. All claims must be made in writing and sent to Flexco®, Attn: Claims Manager, P.O. Box 553, Tuscumbia, Alabama, 35674. All claims for surface defects or variations in color or pattern must be delivered to Flexco® in writing before the product is installed. Flexco® will not accept the return of any product without prior written approval of the Flexco® Claims Department.