ADA APPROVED SURFACE APPLIED DETECTABLE WARNING SYSTEM

SECTION 09305

PART 1 GENERAL

1. RELATED DOCUMENTS
   A. Drawings and general provisions of Contract, including General and Special Conditions, apply to this Section.

2. DESCRIPTION
   A. This Section specifies furnishing and installing surface applied self adhesive /pressure sensitive, non-rigid detectable warning mat/strip or tile system, capable of being fastened without use of any metal fastener and anchoring system, to be installed on post tensioned decks or asphalt surfaces, where indicated, using a, surface applied detectable warning mat/strip or tile system, herein.

3. SUBMITTALS
   A. Product Data: Submit manufacturer’s literature describing products, installation procedures and routine maintenance.

   B. Samples for Verification Purposes: Submit two (2) full size samples of the surface applied detectable/tactile warning tiles of the kind proposed for use, for each color noted in the specifications (2 colors are noted for total of 4 samples).

   C. Shop drawings are required for products specified showing fabrication details; mat/strip or tile system surface profile; non metal fastening method; plans of placement including joints, and material to be used as well as outlining installation materials and procedure.

   D. Material Test Reports: Submit test reports from qualified independent testing laboratory indicating that materials proposed for use are in compliance with requirements of State of California and meet the properties indicated.

   E. Maintenance Instructions: Submit copies of manufacturer’s specified maintenance practices for each type of proposed detectable mat/strip or tile system and any special accessory as required.
4. QUALITY ASSURANCE

A. Provide surface applied pressure sensitive, adhesive, non-rigid detectable warning mat/strip or tile system, and any special primer, adhesive or accessories as specified by the manufacturer.

B. Installer’s Qualifications: Engage an experienced Installer certified in writing by the manufacturer as qualified for installation, for a minimum of two years, who has successfully completed the application and installations of similar system and material, design, and extent to that indicated for Project. Manufacturer’s supervisor shall be present at all times.

C. Americans with Disabilities Act (ADA): Provide detectable warning surfaces which comply with the detectable warnings on walking surfaces section of the Americans with Disabilities Act (Title 49 CFR TRANSPORTATION, Part 37.9 STANDARDS FOR ACCESSIBLE TRANSPORTATION FACILITIES, Appendix A, Section 4.29.2 DETECTABLE WARNINGS ON WALKING SURFACES. In addition products must comply with CALIFORNIA TITLE 2 requirements regarding patterns, color and sound on cane contact.

D. The proposed non-rigid detectable/tactile warning tiles to be manufactured from an injection molded TPO compound using impact resistant, stabilized UV package comprised of light stabilizers, absorbers and anti-oxidants with a pressure sensitive adhesive backing for installation in structurally sensitive locations. A Thermoplastic Olefin polymeric alloy (TPO NC) material or equal is preferred for the tile.

E. Tile Dimensions: as best suited for the site with least amount of joints and cuts, and as accepted by the Airport. Thickness at edges of the tile to be less than 0.155 inches. The center to center distance spacing of domes to be between 1.67 to 2.35 inches, the thickness at domes to be compliant with ADAAG and California Building Code.

F. Thermoplastic Olefin polymeric alloy (TPO NC) Surface Applied Detectable/Tactile Warning Tiles adhered to concrete or asphalt shall meet or exceed the following test criteria:

1. Slip resistance of Tile when tested by ASTM F 609 Wet/Dry Static Coefficient of Friction values are not to be less than 0.80 on top of domes and field area.

2. Abrasion resistance tested using ASTM D 1044 (Accumulated Wear Index) not to exceed 0.01 after 1,000 abrasion cycles measured on the top surface of the dome representing the average of six measurement locations per sample.

3. RCRA Subtitle C classification: Non-Hazardous
5. DELIVERY, STORAGE AND HANDLING

A. Tiles shall be suitably packaged or crated to prevent damage in shipment or handling. Finished surfaces shall be protected by sturdy wrappings, and tile type shall be identified by part number.

B. Tiles shall be delivered to location at building site for storage prior to installation.

6. SITE CONDITIONS

A. Environmental Conditions and Protection: Maintain minimum temperature of 50 degrees F in spaces to receive tactile tiles for at least 48 hours prior to installations, during installation, and for not less than 48 hours after installation. Store the detectable/tactile tiles material in spaces where they will be installed for at least 48 hours before beginning installation. Subsequently, maintain minimum temperature of 50 degrees F in areas where work is completed.

B. When applying the primer and or the paint the weather temperature and humidity of the surface shall meet the manufacturer’s recommendation.

C. The use of water for work, cleaning or dust control, etc. shall be in contained and controlled and shall not be allowed to come into contact with the passengers or public. Provide barricades or screens to protect passengers or public if necessary, or perform the work during afterhours when no passengers are using the Airport.

D. Disposal of any liquids or other materials of possible contamination shall be made in accordance with federal state and local laws and ordinances.

E. Cleaning materials shall have code acceptable low VOC solvent content and low flammability if used on the site.

F. Contractor shall coordinate phasing and flagging personnel operations with JWA Operations and submit traffic plan if necessary for JWA’s approval.

7. EXTRA STOCK

A. Deliver extra stock to warehouse designated by the Airport. Furnish new materials from same manufactured lot as materials installed and enclose in protective packaging with appropriate identification. Furnish not less than two (2) % of the supplied materials for each type, color and pattern installed.

8. GUARANTEE

A. The proposed surface applied detectable warning system shall be guaranteed for material and labor for installation in writing for a period of (5) years from date of final completion. The guarantee includes defective work, breakage, deformation, fading and chalking of finishes, and loosening of panels. Contractor to remove, clean and re-install
Part 2: PRODUCTS

1. MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated in the Work include, but are not limited to, the following:

B. Non-rigid injection molded tile, with pressure sensitive adhesive backing. Existing engineered ADA and California Title 24 field tested products in service for a minimum of 2 years which are subject to compliance with requirements, may be incorporated in the work and shall meet or exceed the specified test criteria and characteristics.

C. Color: uniformly integrated as part of the tile, and to be chosen by the Airport from either Light Grey (Federal Color No. 26280) or Dark Grey (Federal Color No. 36118).

D. Substitutions: Substitutions shall be made only under provisions of the contract and must meet all applicable standards for compliance with Americans with Disabilities Act (ADA). Any proposed substitution must meet standards specified in paragraph 1.4 B, 1.4 C and must be equivalent in appearance and function to the tile specified herein.

2. MATERIALS

A. Thermoplastic primer as manufactured by Ennis (Pervo TP-3000) or approved equal.

B. Heavy duty elastomeric polyurethane construction sealant as manufactured by Sika or approved equal.

PART 3: EXECUTION

1. INSTALLATION

A. During all surface preparation and tile installation procedures ensure adequate safety guidelines are in place and that they are in accordance with the applicable industry and government standards and the Airport safety requirements.

B. The application of all adhesives or sealants shall be in strict accordance with the guidelines set by their respective manufacturers.
C. Throughout the installation phases of surface preparation and tile placement, ensure that care is taken to prevent damage to any work.

D. Lay out area to receive tile and mark with an indelible felt pen the location of the tile on the concrete or asphalt surface. All joint locations to be approved by the Airport in advance of the installation.

E. Visually inspect all surfaces for obstructions or foreign matter. If obstructions are present, using a grinder with a wire cup or diamond blade attachment, promptly grind away any obstructions or foreign matter. The surface is to be prepared per manufacturer’s recommendation, completely clean, vacuumed and free from all dirt and debris. The surface to be completely dry. The temperature and humidity of the weather at the site to be as acceptable by manufacturer’s recommendation, prior to any application or installation of the primer, tile and or paint.

F. Immediately prior to installing the surface applied tiles’ primer, all surfaces must be inspected to ensure that they are clean, properly dry, free of voids, curing compounds, projections, loose material, dust, oils, grease, sealers and determined to be structurally sound before the application of the TPO primer. The TPO primer requires that the substrate and the ambient temperature are 50 degree F minimum. In addition, new concrete pours require a minimum 30-day curing, prior to the permanent installation of the primer, tile and or paint.

G. Spread the primer to provide complete coverage over the prepared concrete surface and platform edge, using manufacturer’s tools and procedure. Complete coverage is best achieved using a paint roller. It is not recommended to use a sprayer to apply primer. Applying primer requires the use a NIOSH approved cartridge respirator suitable to keep airborne mists and vapor concentrations below the time weighted threshold limit values. When using in poorly ventilated and confined spaces, use fresh-air supplying respirator or a self contained breathing apparatus. Use sufficient amounts of the primer as noted by the manufacturer. Allow curing time of minimum 3 minutes, or as recommended by the manufacturer, before attaching the tile.

H. After primer has cured, carefully remove the paper backing that is protecting the pressure sensitive adhesive from bottom of the tile. Set the tile square to the marked corners on the surface area as outlined in the design drawings before laying the tile into position.

I. Using the proper manufacturer’s recommended roller applicator or applying foot pressure to the entire surface of the tile, apply sufficient pressure to the tile to insure complete contact with surface. Start by applying pressure in the middle of the tile and working your way to the tile edges.

J. All subsequent tiles are set following the same procedures as outlined in G, H and I. Be sure to leave a ¼-inch or otherwise as per manufacturer’s recommended gap between tiles to allow for expansion and contraction of substrate and tile. Failure to leave a proper joint between adjacent units could result in conformation problems or damage to the tiles. Do not allow tiles to “butt-up” end to end or allow overlapping of tiles during
installation. Plastic tile spacers may be used to insure a uniform joint when ¼-inch wide nominal joint is required by the manufacturer.

K. Mechanical fasteners are not permitted to secure tile to the concrete surface.

L. Apply SikaBond Construction adhesive/sealant or approved equal, around tile perimeter. It is important to force the sealant into any gaps or spaces between the tiles edge and concrete by using a plastic shaping tool, spatula or a gloved finger making a cupped shaped profile between the tile and adjoining concrete. Immediately remove masking tape from the tile and concrete surface after tooling the perimeter. Any adhesive on the tile surface shall be removed with mineral spirits.

M. When using the recommended adhesive/sealant, be sure cut the tip at a 45-degree angle, and puncture the seal inside of the nozzle and place the cartridge in a caulk gun. Only use adhesive recommended by the manufacturer. Wear protective gloves and safety goggles when applying adhesive.

2. CLEANING AND PROTECTING

A. Protect tiles against damage during construction period to comply with surface applied detectable/tactile warning tile manufacturer’s specification.

B. Clean surface applied detectable/tactile warning tiles not more than two days prior to date scheduled for inspection intended to establish date of substantial completion in each area of project. Clean surface applied detectable/tactile tiles by method specified by tile manufacturer.

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