

SECTION 09655

DETECTABLE GUIDE TACTILES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Section includes specifications for surface applied and recessed detectable guide or directional tactiles (tactiles) for use on the station platforms to provide guidance or direction to the Ticket Vending Machines (TVMs) and the passenger shelters, as well as to mark the location of the mini-high platforms.
- B. The tactiles shall be surface install for installation only on concrete surface.

1.02 REFERENCE STANDARDS

- A. American Society for Testing and Materials (ASTM International):
 - 1. B117 Practice for Operating Salt Spray (Fog) Apparatus
 - 2. C501 Test Method for Relative Resistance to Wear of Unglazed Ceramic Tile by the Taber Abraser
 - 3. C1028 Test Method for Determining the Static Coefficient of Friction of Ceramic Tile and Other Like Surfaces by the Horizontal Dynamometer Pull-Meter Method
 - 4. D543 Practices for Evaluating the Resistance of Plastics to Chemical Reagents
 - 5. D570 Test Method for Water Absorption of Plastics
 - 6. D638 Test Method for Tensile Properties of Plastics
 - 7. D695 Test Method for Compressive Properties of Rigid Plastics
 - 8. D790 Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials
 - 9. D1037 Test Methods for Evaluating Properties of Wood-Base Fiber and Particle Panel Materials
 - 10. D5420 Test Method for Impact Resistance of Flat, Rigid Plastic Specimen by Means of a Striker Impacted by a Falling Weight (Gardner Impact)
 - 11. E84 Test Method for Surface Burning Characteristics of Building Materials
 - 12. G155 Practice for Operating Xenon Arc Light Apparatus for Exposure of Non-Metallic Materials

1.03 SUBMITTALS

- A. Shop Drawings: Submit shop drawings showing fabrication details; tactile surface profile; fastener locations; plans of tactile placement including joints, and material to be used as well as outlining installation materials and procedure.
- B. Product Data: Submit manufacturer's literature describing products and installation procedures. Include product data for sealants.
- C. Samples: Submit samples of tactile and sealant for verification of color match.
- D. Samples for Verification Purposes: Submit samples of full size tactiles of the kinds proposed for use.
- E. Maintenance Instructions: Submit copies of manufacturer's specified maintenance practices for each type of tactile tile and accessory as required.
- F. Quality Assurance Submittals:
 - 1. Material Test Reports: Submit test reports from qualified independent testing laboratory indicating that materials proposed for use are in compliance with requirements and meet the properties in this Section.
 - 2. Submit list of projects in California that successfully demonstrate the proposed products durability and weatherability.

1.04 QUALITY ASSURANCE

- A. Provide tactiles and accessories as produced by a single manufacturer. Products shall have been in successful service for a period of two (2) years.
- B. Installer's Qualifications: Engage an experienced installer certified in writing by tile manufacturer as qualified for installation, who has successfully completed tactile installations similar in material, design, and extent to that indicated for Project.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Tactile type shall be identified by part number on packages.

1.06 SITE CONDITIONS

- A. Environmental Conditions and Protection: Perform field work only when environmental conditions fall within those recommended by manufacturers of each product.

1.07 WARRANTY

- A. Tactiles shall be covered by a written warranty for a period of five (5) years from date of final completion. The warranty includes defective work, breakage, deformation, fading, and chalking of finishes, and loosening of tactiles.

Warranty shall include furnishing of new tactiles, removal of existing tactiles, and installation of new tactiles.

1.08 EXTRA STOCK

- A. Furnish 10 linear feet long additional tactiles and corresponding amount of fasteners. Deliver extra stock to location (within 30 mile radius of work site) designated by the Engineer. Furnish extra stock materials from same manufactured lot as materials installed and enclose in protective packaging with appropriate identification.

PART 2 - PRODUCTS

2.01 TILES

- A. Nominal dimensions: 6 inches by 48 inches long by 0.125 inches thick and 0.325 inches thick at the top of the bars. Tactiles shall be formed with holes for anchors. Color: Federal Safety Yellow (FS 33538).
- B. Manufacturer: Armor Tile directional bar tiles, as manufactured by Engineered Plastics, Inc, or Engineer approved equal.
- C. Material: epoxy polymer composition employing aluminum oxide particles in the linear bars. Color shall be homogenous throughout the tactile.
- D. Performance characteristics: Tactiles shall meet the following standards.

Property	ASTM Test Method	Nominal Value
Accelerated Weathering (3000 hours)	G155	Delta E: 4.5 max
Chemical Stain Resistance	D543	No stain or discoloration
Chemical Resistance	D1308	No Stain or Discoloration
Flexural Strength	D790	25,000 psi min
Compressive Strength	D695	28,000 psi min
Tensile Strength	D638	19,000 psi min
Gardner Impact Test	D5420	550 in-lb min
Flame Spread	E84	FSI: 15 max
Slip Resistance	C1028	Friction Coeff: 0.80 min (wet or dry)
Wear Resistance	C501	500 min
Water Absorption (2 weeks)	D570	0.05% max
Salt Spray (200 hours)	B117	No Change

2.02. ACCESSORIES

- A. Fasteners: Stainless steel low profile expansion anchors 3/16 inch diameter by 2 inches long.
- B. Adhesive: Type approved by the tactile manufacturer.

- C. Sealant: Urethane sealant of type approved by the tactile manufacturer.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Apply adhesives, sealants and mechanical fasteners in strict accordance with the guidelines set by their respective manufacturers.
- B. Lay out area to receive tactile and mark with a thin indelible felt pen a reference grid for the tile to be laid. Lines shall be covered by tile or sealant or removed in completed installation.
- C. Set the diamond head planer to the appropriate depth to achieve the necessary recess in the area to receive the tactile.
- D. After planing, vacuum and power wash surface with clean clear water, free from all dirt and debris. Visually inspect surface for obtrusions or foreign matter. If obtrusions are present, remove by grinding. Remove foreign matter by grinding or further washing, as appropriate.
- E. Immediately prior to application of the setting adhesive, inspect surfaces to receive tactile to ensure that they are clean, dry, free of voids, curing compounds, projections, loose material, dust, oils, grease, sealers, and other contaminants. Verify that surfaces are structurally sound and that concrete has cured a minimum of 30 days.
- F. Clean backs of tactiles in accordance with manufacturer's instructions.
- G. Apply the adhesive to provide a sound resonating affect after the tactile is installed. All perimeter edges of the tactile shall receive a minimum of a 1 inch perimeter bond of adhesive.
- H. Inspect the tactile and clean with acetone all dust and other contaminants from the surfaces to be adhered, then set the tile in place, true and square. Drill holes true and straight to the depth required using the recommended bit with holes located by the molded recesses provided in the tactile. Clean dust from the holes with acetone to provide clear passage for the anchor and eventually the concealed cap.
- I. Mechanically fasten tactiles to surface using equipment and technique per manufacturer's instructions. Ensure the fastener has been set to full depth, straight and true, leaving sufficient clearance between the top of fastener and top of dome to not interfere with the concealed cap. Prevent damage to tile surface from inadvertent blows with the hammer.
- J. Maintain gap between tactiles for expansion and contraction in accordance with manufacturer's instructions.
- K. Following the installation of the tactiles, apply sealant to the joint between abutting tactiles and between tactiles and adjacent surface in accordance with

sealant manufacturer instructions, including masking and tooling. Clean joint and remove any debris. Cut away any excess adhesive. At sawcut, cut away any excess adhesive to provide sufficient depth for the sealant in the saw cut as indicated on the Contract Drawings.

3.02 CLEANING AND PROTECTING

- A. After the area has been fully tiled and sealant system applied, clean tactile surface, following the manufacturer recommended maintenance and cleaning procedures.
- B. Protect panels against damage during construction period to comply with tile manufacturer's specification.
- C. Protect tactiles against damage from rolling loads following installation by covering with plywood or hardwood.
- D. Clean tactiles not more than 4 days prior to date schedule for inspection intended to establish completion for each area. Clean tactile by method specified by the manufacturer.

END OF SECTION