

SURFACE APPLIED DETECTABLE/TACTILE WARNING SURFACES

SECTION 32 17 26

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PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 DESCRIPTION

A. This Section specifies furnishing and installing Surface Applied Detectable/Tactile Warning Tiles where indicated. Not recommended for asphalt applications.

1.03 SUBMITTALS

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

B. Samples for Verification Purposes: Submit two (2) tile samples minimum 6"x6" of the kind proposed for use.

C. Shop drawings are required for products specified showing fabrication details, composite structural system, tile surface profile, fastener locations, sound on cane contact amplification feature, plans of tile placement including joints, and material to be used as well as outlining installation materials and procedure.

D. Material Test Reports: Submit complete test reports from qualified accredited independent testing laboratory's to qualify that materials proposed for use are in compliance with requirements and meet or exceed the properties indicated on the specifications. All tests shall be conducted on a Surface Applied Detectable/Tactile Warning Tile system as certified by a qualified independent testing laboratory and be current within a 60 month period.

E. Maintenance Instructions: Submit copies of manufacturer's specified installation and maintenance practices for each type of Detectable Warning Tile and accessory as required.

1.04 QUALITY ASSURANCE

A. Provide Surface Applied Detectable/Tactile Warning Tiles and accessories as produced by a single manufacturer with a minimum of three (3) years experience in the manufacturing of Surface Applied Detectable/Tactile Warning Tiles.

B. Installer's Qualifications: Engage an experienced Installer certified in writing by Surface Applied Detectable/Tactile Warning Tile manufacturer as qualified for installation, who has successfully completed installations similar in material, design, and extent to that indicated for Project.

C. Americans with Disabilities Act (ADA): Provide Surface Applied Detectable/Tactile Warning Tiles which comply with the detectable warnings on walking surfaces section of the Americans with Disabilities Act (Title III Regulations, 28 CFR Part 36 ADA STANDARDS FOR ACCESSIBLE DESIGN, Appendix A, Section 4.29.2 DETECTABLE WARNINGS ON WALKING SURFACES).

D. California Code of Regulations (CCR): Provide only approved DSAAC detectable warning products as provided in the California Code of Regulations (CCR) Title 24, Part 2, Section 205 definition of "Detectable Warning". Section 1117A.4 and 1127B.5 for "Curb Ramps" and Section 1133B.8.5 for "Detectable Warnings at Hazardous Vehicular Areas".

E. Engineered Polymer Composite Surface Applied Detectable/Tactile Warning Tiles shall be manufactured from an ultra violet stabilized polymer composition with fiberglass reinforcement, the tile shall incorporate an in-line pattern of truncated domes measuring nominal 0.2" height, 0.91" base diameter, and 0.45" top diameter, spaced center-to-center 2.35" as measured side by side. For wheelchair safety the field area shall consist of a high density, diamond grip™ pyramid micro texture of raised points 0.05" high; "Access Tile" as manufactured by Access Products, Inc., Tel: 888-679-4022, or approved equal.

1. Dimensions: Surface Applied Detectable/Tactile Warning Tiles shall be held within the following dimensions and tolerances:

Specifiers Note: Edit section below by selecting desired length and width. Delete non-relevant dimensions.

Length and Width: [12x12] [24x36] [24x48] [24x60] [36x48] [36x60] [10' Radius Curve] {+/- .5"}

2. Compressive Strength of Tile when tested by ASTM D 695-08 not to be less than 25,000 PSI.

3. Tensile Strength of Tile when tested by ASTM D 638-08 not to be less than 12,500 PSI.

4. Flexural Strength of Tile when tested by ASTM D 790-07 Procedure A not to be less than 30,000 PSI.

1.05 DELIVERY, STORAGE AND HANDLING

A. Surface Applied Detectable/Tactile Warning 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. Surface Applied Detectable/Tactile Warning Tiles shall be delivered to location at building site for storage prior to installation.

1.06 SITE CONDITIONS

A. Environmental Conditions and Protection: Maintain minimum temperature of 40°F in spaces to receive Surface Applied Detectable/Tactile Warning Tiles for at least 24 hours prior to installation, during installation, and for not less than 24 hours after installation.

B. The use of water for work, cleaning or dust control, etc. shall be contained and controlled and shall not be allowed to come into contact with the general public. Provide barricades or screens to protect the general public.

1.07 WARRANTY

A. Surface Applied Detectable/Tactile Warning Tiles shall be warranted in writing for a period of five (5) years from date of final completion. The guarantee includes defective work, breakage, deformation, fading and loosening of tiles.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. The Engineered Polymer Composite Surface Applied Detectable/Tactile Warning Tile specified is based on Access Tile manufactured by Access Products, Inc. (888-679-4022) existing engineered and

field tested products, which have been in successful service for a period of three (3) years are subject to compliance with requirements, may be incorporated in the work and shall meet or exceed the specified test criteria and characteristics.

B. Color: Yellow conforming to Federal Color No. 33538. Color shall be homogeneous throughout the tile. Tiles are also available in Dark Grey (Federal Color No. 36118), Onyx Black (Federal Color No. 17038), Brick Red (Federal Color No. 22144), and Colonial Red (Federal Color No. 20109).

2.02 MATERIALS

A. Fasteners: Color matched, corrosion resistant, flat head drive anchor: ¼" diameter x 1 ½" long as supplied by Access Products, Inc.

PART 3 EXECUTION

3.01 INSTALLATION

A. During all surface preparation and Surface Applied Detectable/Tactile Warning Tile installation procedures, ensure adequate safety guidelines are in place and that they are in accordance with the applicable industry and government standards.

B. The application of all tiles, adhesives, mechanical fasteners, and caulking shall be in strict accordance with the guidelines set by their respective manufacturers. Not recommended for asphalt applications.

C. Coordinate with the Contractor or Engineer to ensure that the surfaces being prepared and fabricated to receive the tiles are constructed correctly and adequately for tile installation. Review manufacturer and contract drawings with the Contractor prior to the construction and refer any and all discrepancies to the Engineer.

D. Set the tile true and square to the curb ramp area as detailed in the design drawings, so that its location can be marked on the concrete surface. A thin permanent marker works well. Remove tile when done marking its location.

E. The surface to receive the Surface Applied Detectable/Tactile Warning Tile is to be mechanically cleaned with a diamond cup grinder or shot blaster to remove any dirt or foreign material. This cleaning and roughening of the concrete surface should include at least 4 inches around the perimeter of the area to receive the tile, and also along the cross pattern established by the corresponding areas on the backside of the tile. Those same areas should then be cleaned with a clean rag soaked in Acetone.

F. Immediately prior to installing the Surface Applied Detectable/Tactile Warning Tile, the concrete surfaces must be inspected to ensure that they are clean, dry, free of voids, curing compounds, projections, loose material, dust, oil, grease, sealers and determined to be structurally sound and cured for a minimum of 30 days.

G. Using Acetone, wipe the backside of the tile around the perimeter and along the internal cross pattern, to remove any dirt or dust particles from the area to receive the adhesive.

H. Apply adhesive to the back of the tile following the perimeter and internal cross pattern established by the tile manufacturer. Sufficient adhesive must be placed on the prescribed areas to have full coverage across the 2" width of the adhesive locator and shall be applied to within 1/4" continuously around the perimeter edge of the tile. The entire tube of adhesive shall be applied to the back of each tile, sizes 24" x 36" and greater.

I. Set the tile true and square to the curb ramp area as detailed in the design drawings.

J. Working from the center of the tile outwards, proceed to drill and install all fasteners in the tile's molded recesses.

K. Standing with both feet applying pressure around the molded recess provided in the tile, drill a hole true and straight to a depth of 3½" using a 1/4" masonry drill bit. Drill through the tile without hammer option (on the drill) until the tile has been successfully penetrated, then with hammer option (on the drill) to drill into the concrete. Maintaining foot pressure on both sides of the hole while drilling prevents concrete dust from accumulating between the tile and concrete which can affect the tile being installed flush and may compromise installation integrity.

L. Immediately after drilling each hole, before moving on to the next, and while still applying foot pressure, mechanically fasten tiles to the concrete substrate using a leather bound or hard plastic mallet to set the fasteners. Ensure the fastener has been placed to full depth in the dome, straight, and flush to the top of dome. Drive the pin of the fastener with the mallet, taking care to avoid any inadvertent blows to the truncated dome or tile surface.

M. Following the installation of the fasteners, the concrete dust should be vacuumed, brushed or blown away from the tile's surface and adjacent concrete. Using Acetone on a rag, wipe the concrete around the tile's perimeter to ensure a clean, dry surface to receive perimeter sealant.

N. Perimeter caulking sealant should be applied following the sealant manufacturer's recommendations. Tape all perimeter edges of the tile back 1/16" from the tile's perimeter edge and tape the adjacent concrete back 1/2" from the tile's perimeter edge to maintain a straight and even caulking line. Apply sealant around tile perimeter using care to work sealant into any void between the tile and concrete interface. Tool the perimeter caulking with a rounded plastic applicator or spatula to create a cove profile between the tile and adjacent concrete. Remove tape immediately after tooling perimeter caulking sealant.

O. Do not allow foot traffic on installed tiles until the perimeter caulking sealant has cured sufficiently to avoid tracking. Curing time is weather dependant (average cure time at 75° F is 30 minutes). Adhesive or caulking on the surface of the tile can be removed with Acetone.

P. If tiles are custom cut to size, if pre-molded recesses (to receive fasteners) are removed by the cut, or to maintain a tight installation to the substrate then any truncated dome can be center-drilled with a 1/4 inch masonry drill bit to create a through hole, and the through hole must be countersunk with a suitable carbide countersink bit to receive mechanical fasteners. Care should be taken to not countersink too widely or deeply. Fasteners should be flush with the top of the truncated dome when countersunk properly.

3.02 CLEANING, PROTECTING AND MAINTENANCE

A. Protect tiles against damage during construction period to comply with Tactile Tile manufacturer's specification.

B. Protect tiles against damage from rolling loads following installation by covering with plywood or hardwood.

C. Clean Tactile Tiles not more than four days prior to date scheduled for inspection intended to establish date of substantial completion in each area of project. Clean Tactile Tile by method specified by Tactile Tile manufacturer.

D. Comply with manufacturers maintenance manual for cleaning and maintaining tile surface and it is recommended to perform annual inspections for safety and tile integrity.

END OF SECTION