

## **CAST IRON DETECTABLE/TACTILE WARNING SURFACE INDICATOR PLATE**

### **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 Gray Cast Iron Detectable/Tactile Warning Surface Indicator Plates where indicated.

#### **1.03 SUBMITTALS**

- A. Product Data: Submit manufacturer's literature describing products, installation procedures and routine maintenance.
- B. Samples for Verification Purposes: Submit one plate sample that shows dome size and spacing.
- C. Shop drawings are required for products specified showing fabrication details, fastener and anchor locations, plans of plate 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 laboratories 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 Cast Iron Detectable/Tactile Warning Surface Indicator Plate (or approved equal) as certified by a qualified independent testing laboratory.
- E. Maintenance Instructions: Submit copies of manufacturer's specified installation and maintenance practices for each type of Detectable/Tactile Warning Surface Indicator Plate and accessory as required.

#### **1.04 QUALITY ASSURANCE**

- A. Provide Cast Iron Detectable/Tactile Warning Surface Indicator Plates and accessories by a single supplier with a minimum of three (3) years' experience in the supply of Cast Iron Detectable/Tactile Warning Surface Indicator Plates.
- B. Installer's Qualifications: Engage an experienced installer certified in writing by Cast Iron Detectable/Tactile Warning Surface Indicator Plate supplier as qualified for installation, who has successfully completed installations similar in material, design, and extent to that indicated for the project.
- C. Provide Cast Iron Detectable/Tactile Warning Surface Indicator Plates which are in compliance with the following standards (or most recent):

- a. 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).
  - b. California Code of Regulations (CCR): Provide only approved DSAAC detectable warning products as provided in the California Code of Regulations (CCR) Title 24, Chapter 2, Section 202 definition of "Detectable Warning". Section 11B-247 and 11B-705 "Detectable Warnings And Detectable Directional Texture"
- D. Gray Cast Iron Detectable/Tactile Warning Surface Indicator Plates shall be according to ASTM A 48M, Class 35B, and shall be bare and not coated with paint or other coatings or substances. Castings shall be sound, free from pouring faults, cracks, blowholes and other defects.
- E. Dimensions: The plate shall incorporate an in-line pattern of truncated domes measuring nominal 0.2" height, 0.90" base diameter, 0.45" top diameter spaced center-to-center 2.35" (+/- 0.05) For wheelchair safety the field area shall consist of a series of micro texture 0.06" high. Cast Iron Detectable/Tactile Warning Surface Indicator Plates shall be held within the following dimensions and tolerances:

Part No.	Size (Width x Height)	Radius	Weight (lbs)
ADV-CI-1824	18" (W) x 24" (H)	None	35
ADV-CI-2424	24"(W) x 24"(H)	None	42
ADV-CI-3024	30"(W)x24"(H)	None	54
ADV-CI-24-10R	24"(H)	10 Ft.	41
ADV-CI-24-15R	24"(H)	15 ft.	39
ADV-CI-24-17.5R	24"(H)	17.5 ft.	39
ADV-CI-24-20R	24"(H)	20 ft.	38
ADV-CI-24-25R	24"(H)	25 ft.	39
ADV-CI-24-30R	24"(H)	30 ft.	43
ADV-CI-24-35R	24"(H)	35 ft.	43

- F. Product Data: Gray Cast Iron Detectable/Tactile Warning Surface Indicator Plates shall meet or exceed the following test criteria:

ASTM Reference	Test Description	Value
ASTM C 1028	Static Coefficient of Friction	≥ 1.0 wet/dry
ASTM A 327	Impact Resistance	No damage @ 54 J
ASTM A 48	Standard Specification for Gray Iron Castings	
ASTM D695	Compressive Strength	114,000 psi
ASTM D638	Tensile Strength	35,000 psi
ASTM C 501	Abrasive Wear Index	≥ 8800

#### 1.05 DELIVERY, STORAGE AND HANDLING

- A. Cast Iron Detectable/Tactile Warning Surface Indicator Plates shall be suitably packaged or crated to prevent damage in shipment and handling. Detectable/Tactile Warning Surface Indicator plate type shall be identified by part number
- B. Cast Iron Detectable/Tactile Warning Surface Indicator Plates 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 41°F in spaces to receive Cast Iron Detectable/Tactile Warning Surface Indicator Plates 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 MANUFACTURER'S WARRANTY

- A. Cast Iron Detectable/Tactile Warning Surface Indicator Plates shall be warranted in writing for a period of ten (10) years from date of substantial completion. The warranty includes factory defects, breakage, and deformation.

#### 1.08 INSTALLATION WARRANTY

- A. Cast Iron Detectable/Tactile Warning Surface Indicator Plate installation shall be warranted in writing for a period of two (2) years. Alternate products approved during

the tendering process must be guaranteed for an additional three (3) years. Product must be guaranteed from defective work.

## **PART 2 PRODUCTS**

### **2.01 MANUFACTURERS**

- A. The Gray Cast Iron Detectable/Tactile Warning Surface Indicator Plate specified is based on Advantage Cast Iron Tactile [www.advantagetactile.com](http://www.advantagetactile.com) as distributed exclusively by Advantage Tactile Inc. Buffalo, New York (1-800-679-4022). 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.

### **2.02 MATERIALS**

- A. Optional fasteners required if plates are assembled together prior to installation: Corrosion resistant, hex head bolt, 3/8" diameter x 1-3/4" long. Min. two per Detectable/Tactile Warning Surface Indicator plate connection.

## **PART 3 EXECUTION**

### **3.01 INSTALLATION**

- A. During all surface preparation and installation procedures, ensure adequate safety guidelines are in place and that they are in accordance with the applicable industry and government standards.
- B. The specifications and related materials shall be in strict accordance with the contract documents and the guidelines set by their respective manufacturers. Contact manufacturer for asphalt applications.
- C. Coordinate with the Contractor or Engineer to ensure that the surfaces being prepared and fabricated to receive the plates are constructed correctly and adequately for plate installation. Review manufacturer and contract drawings with the Contractor prior to the construction and refer any and all discrepancies to the Engineer.
- D. The physical characteristics of the concrete shall be consistent with the contract specifications while maintaining a slump range of 3-4 inches to permit solid placement of the Cast Iron Detectable/Tactile Warning Surface Indicator Plates.
- E. When preparing to set the plate, ensure that the area to receive the plates has been finished to its final elevation. The concrete shall be poured and finished true and smooth to the required dimensions and slope prior to the plate placement. Vents in the plate allow air and displaced concrete to escape during the installation process.

- F. Lift the Detectable/Tactile Warning Surface Indicator plate and gently place into position onto the wet concrete. The plate shall be placed true and square to the curb edge in accordance with the contract drawings. Press into the concrete. The Cast Iron Detectable/Tactile Warning Surface Indicator Plates shall be tamped into the fresh concrete to ensure that the field level of the plate is flush to the adjacent concrete surface.
- G. Immediately after placement, the plate elevation is to be checked to adjacent concrete, and the concrete around the perimeter of the tile should be finished. The elevation and slope should be set consistent with contract drawings to permit water drainage to curb as the design dictates. Ensure that the field surface of the plate is flush with the surrounding concrete and back of curb so that no ponding is possible on the plate at the back side of curb, and to eliminate tripping hazards between adjacent finishes.
- H. While concrete is workable, create a 1/4" concrete-free recess around the perimeter of the plate. Use a 3/8" radius edging tool to create a finished edge of concrete, then a steel trowel shall be used to finish the concrete around the plate's perimeter, flush to the field level of the plate.
- I. Clean the surface of the tile of any concrete that has protruded from the vent holes.
- J. During and after the Detectable/Tactile Warning Surface Indicator Plate installation and the concrete curing stage, it is imperative that there is no walking, leaning or external force placed on the plate that may rock the plate causing a void between the underside of Detectable/Tactile Warning Surface Indicator Plate and concrete.
- K. Following Detectable/Tactile Warning Surface Indicator Plate placement, review installation tolerances to contract drawings and adjust plate before the concrete sets.
- L. Following the concrete curing stage, a soft brass wire brush will clean the residue without damage to the plate surface.

### **3.02 PROTECTION AND MAINTENANCE**

- A. Protect plates against damage during construction period to comply with Detectable/Tactile Warning Surface Indicator plate manufacturer's specification.
- B. Protect plates against damage from rolling loads following installation by covering with plywood or hardwood.
- C. Comply with manufacturer's maintenance manual for cleaning and maintaining plate surface. It is recommended to perform annual inspections for safety and plate integrity.

### **END OF SECTION**