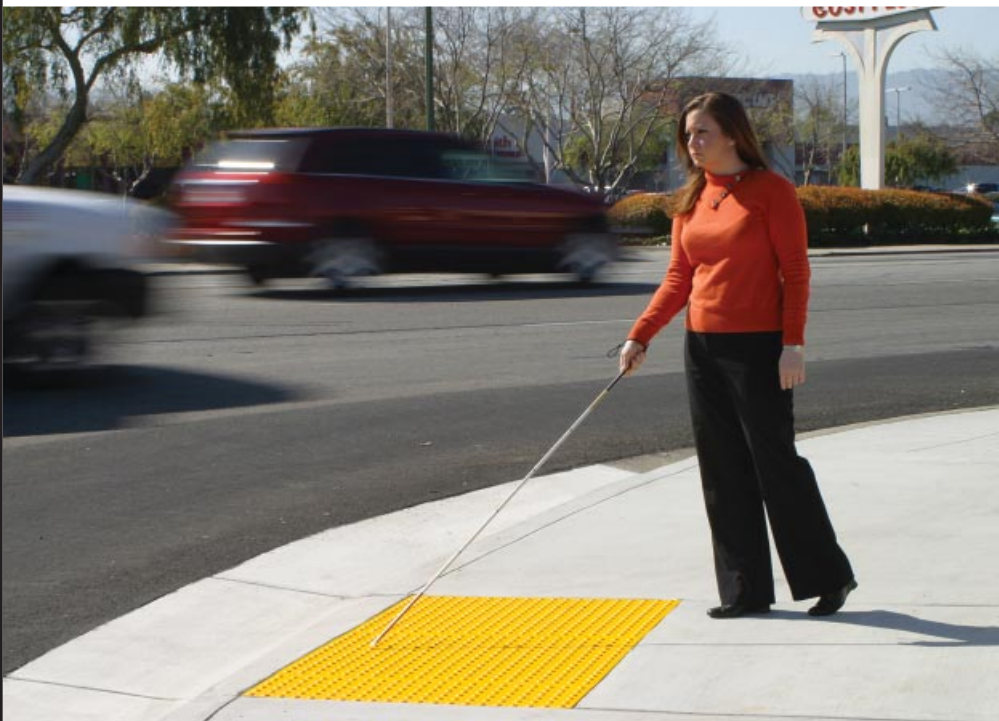


Armor-Tile™

Tactile Systems

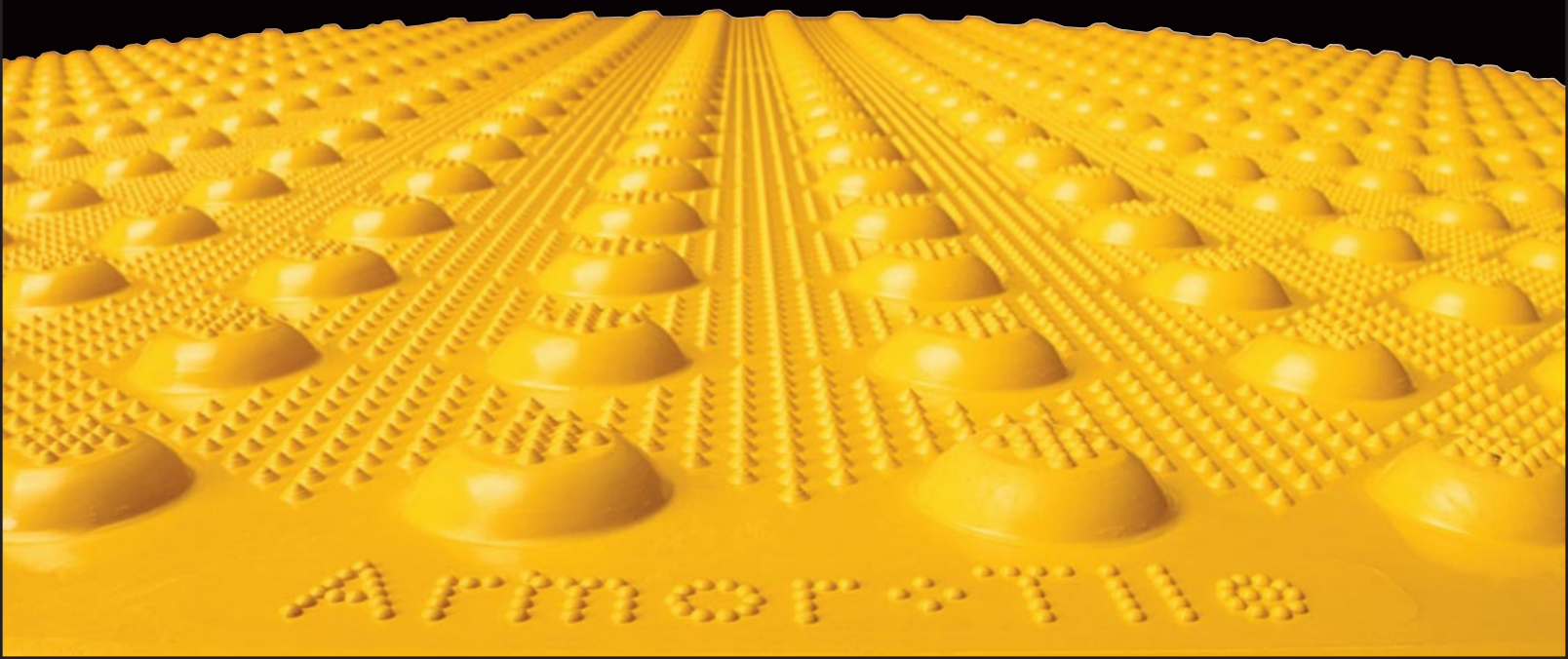


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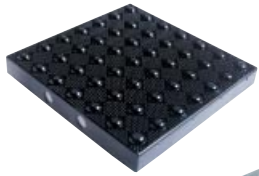


**Setting the
standard for
durability &
detectability in
tactile systems**

Leading The Way in Tactile Systems



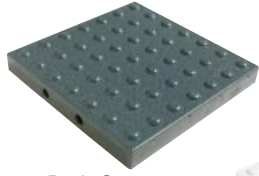
Detectable Warning Tiles



Onyx Black
(Federal No. 17038)



Light Gray
(Federal No. 26280)



Dark Gray
(Federal No. 36118)



Pearl White
(Federal No. 37875)



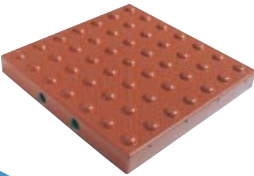
Ochre Yellow
(Federal No. 23594)



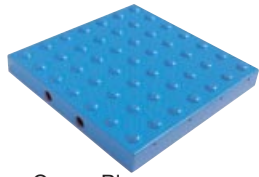
Federal Yellow
(Federal No. 33538)



Brick Red
(Federal No. 22144)



Colonial Red
(Federal No. 20109)



Ocean Blue
(Federal No. 15187)

Armor-Tile is your one-stop source for all tactile systems for the visually impaired.

Only Armor-Tile provides a complete range of products designed for the safety and convenience of the visually impaired, in full compliance with the Americans with Disabilities Act and the State of California Building Code Title 24.

The world's largest selection of detectable warning products for:

- Curb Ramps
- Vehicular Ways
- Parking Areas
- Stairwells
- Pedestrian Crossings
- Escalator Approaches
- Transit Platforms
- Multi-Modal Transit

Armor-Tile is the world leader in detectable warning systems. Manufactured of diamond-hard vitrified polymer, Armor-Tile™ truncated dome tiles are the industry standard for durability, weather resistance and wear resistance.

Easy to Install - See www.armor-tile.com for installation slideshows. CD instructions are available. Manufacturers' training is available to establish quality standards.

5 styles to choose from in a variety of sizes and colors:

- Cast In Place
- Surface Applied
- Modular Pavers
- Detectable Directional
- Detectable Guidance

Armor-Tile™
Tactile Systems



Best Audible Detectability:

Armor-Tile™ Tactile Systems is rated easiest to detect under foot and by cane, in all types of weather.

- report for the
Sacramento Regional
Transit District



Three Basic Configurations for Installation

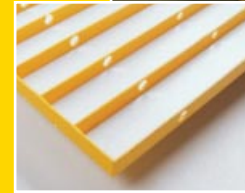
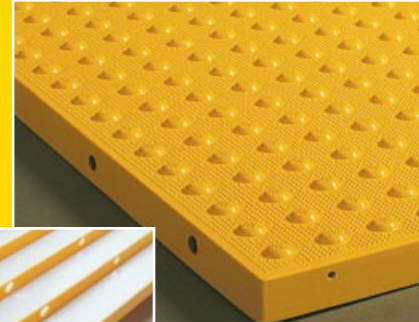
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Cast In Place System

Armor-Tile™ Tactile Systems Cast In Place Tiles are a highly durable cost effective solution for setting detectable warning tiles directly in newly poured concrete.

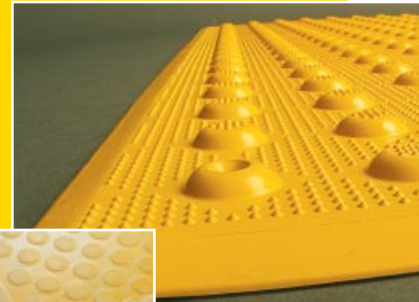
- lowest cost installation system available
- certified to meet ADA and State requirements
- integral embedment flanges are the complete anchoring system
- sustains dynamic vehicle loading, AASHTO HS20-44 wheel load test
- easily cut to conform to angled and radius ramps
- sizes available; 12"x12", 24"x24", 24"x36", 24"x48", 24"x60", 36"x48", 36"x60"
- nine (9) standard colors available with Federal Color identification



Surface Applied System

Armor-Tile™ Tactile Systems Surface Applied Tiles are the solution of choice for public rights of way requiring an upgrade to meet ADA requirements.

- cost effective for retrofitting or new construction
- complete system supplied; tile, adhesive, fasteners, sealant
- beveled edges for smooth transition meeting ADA requirements
- light weight and easy to handle
- easily cut to conform to angled and radius ramps
- sizes available; 12"x12", 24"x24", 24"x36", 24"x48", 24"x60", 36"x48", 36"x60"
- nine (9) standard colors available with Federal Color identification



Modular Paver System

Armor-Tile™ Tactile Systems Modular Paver Tiles are the solution of choice to integrate with landscape pavers.

- high strength modular paver can be dry laid on compacted fill or set in a grout bed or drypac
- sustains dynamic vehicle loading, AASHTO HS20-44 wheel load test
- easily cut to conform to angled and radius ramps
- sizes available; 12"x12", 24"x24"
- nine (9) standard colors available with Federal Color identification





Detectable Directional Tile

(Tactile pathway)

Armor-Tile™ Tactile Systems Surface Applied Directional Tiles create a tactile pathway in public rights of way to assist the visual community. Typical areas of use are university campuses, parks, sidewalks and transit facilities.

- cost effective for retrofitting or new construction
- complete system supplied; tile, adhesive, fasteners, sealant
- beveled edges for smooth transition, meeting ADA requirements
- sizes available; 12"x12", 6"x48", 12"x48", 24"x48", 36"x48", 36"x60"



Detectable Guidance Tile

(Pedestrian Crossing Guide Strip)

Armor-Tile™ Tactile Systems Cast In Place Guidance Tiles are set in a 12" wide concrete strip and are used as a tactile pathway for the visual community at pedestrian crossings in roadways.

- lowest cost installation
- integral embedment flanges are the complete anchoring system
- installed at less than 1/4" above adjacent surface for detectability
- size available; 4"x24"



SPECIFICATIONS

SECTION 09614 DETECTABLE/TACTILE WARNING SURFACES

PART 1 GENERAL

- 1.01 RELATED DOCUMENTS
- Drawings and general sections for specifications and supplementary conditions.
- 1.02 DESCRIPTION
- Furnishing and installing Detectable/Tactile Warning Surfaces. Not recommended for asphalt applications.
- 1.03 SUBMITTALS
- Manufacturer's literature describing products, installation and maintenance.
 - Submit samples of the tile type proposed for use.
 - Shop drawings are required for products showing fabrication details, tile placement, installation materials and procedure.
 - Material test reports from qualified independent testing laboratory, current within a 24 month period, indicating that materials proposed for use are in compliance with requirements and meet the properties indicated.
 - Maintenance instructions for each type of tile and accessory as required.
- 1.04 QUALITY ASSURANCE
- Provide Detectable/Tactile Warning Surfaces and accessories as produced by a single manufacturer with a minimum of three (3) years experience manufacturing detectable/tactile warning surfaces.
 - Engage an experienced Installer certified in writing by manufacturer as qualified for installation.
 - Detectable/Tactile Warning Surfaces must comply with the Americans with Disabilities Act.
 - Detectable/Tactile Warning Surfaces must comply with the California Code of Regulations (CCR) Title 24, Part 2.
 - Vitrified Polymer Composite (VPC) Detectable/Tactile Warning Surfaces shall be an epoxy polymer composition employing aluminum oxide particles in the truncated domes. "Armor-Tile" product as manu-

factured by Engineered Plastics Inc., Tel: 800-682-2525, or approved equal.

- Dimensions: Detectable/Tactile Warning Surfaces 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] [24x24] [24x36] [24x48] [24x60] [36x48] [36x60] nominal
Face Thickness: 0.1875 +/-5% max.
Warpage of Edge: 0.5% max.
- Water Absorption - ASTM D 570-98 less than 0.05%.
- Slip Resistance - ASTM C 1028-96 greater than 0.80.
- Compressive Strength - ASTM D 695-02a greater than 28,000 psi.
- Tensile Strength - ASTM D 638-03 greater than 19,000 psi.
- Flexural Strength - ASTM D 790-03 greater than 25,000 psi.
- Chemical Stain Resistance - ASTM D 543-95 no discoloration or staining.
- Abrasive Wear - ASTM D 2486-00 less than 0.060 after 1000 cycles.
- Wear Resistance - ASTM C 501-84 greater than 500.
- Fire Resistance - ASTM E 84-05 flame spread less than 15.
- Impact Resistance - ASTM D 5420-04 greater than 550 in. lb/in.
- Accelerated Weathering - ASTM G 155-05a for 3000 hrs. $\Delta E < 4.5$ tile color 33538, no fading or chalking.
- Freeze Thaw - ASTM D 1037-99 no cracking, delamination, or other defects.
- Salt Spray - ASTM B 117-03 for 200 hours no deterioration.

- AASHTO HB-17 single wheel HS20-44 loading no failure @10,400lbs.

1.05 DELIVERY, STORAGE AND HANDLING

- Detectable/Tactile Warning Surfaces shall be suitably packaged or crated to prevent damage in shipment or handling.
- Detectable/Tactile Warning Surfaces shall be delivered to location at building site for storage prior to installation.

1.06 SITE CONDITIONS

- Environmental Conditions and Protection: Maintain minimum temperature of 40°F in spaces to receive Detectable/Tactile Warning Surfaces for at least 24 hours prior to installation, during installation, and for not less than 24 hours after installation.
 - The use of water for cleaning and dust control shall be contained, not to come into contact with the general public.
- 1.07 GUARANTEE
- Detectable/Tactile Warning Surfaces shall be guaranteed in writing for a period of five years from date of final completion. The guarantee includes defective work, breakage, deformation, and loosening of tiles.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- 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:
 - The Vitrified Polymer Composite (VPC) Detectable/Tactile Warning Surface Tile specified is based on "Armor-Tile" product manufactured by Engineered Plastics Inc. (800-682-2525).
 - Color: Color shall be homogeneous throughout the tile. Federal Color Numbers are: Yellow - 33538, Light Grey No. 26280, Dark Grey No. 36118, Onyx Black No. 17038, Pearl White No. 37875, Brick Red No. 22144, Ocean Blue No. 15187, Ocre Yellow No. 23594, Colonial Red No. 20109.

2.02 MATERIALS

- Color matched, flat head drive anchors 1/4" diameter x 1-1/2" long. Armor-Drive™ anchors as supplied by Engineered Plastics Inc.
- Armor-Bond™ Adhesive as supplied by Engineered Plastics Inc.
- Armor-Seal™ Perimeter Sealant as supplied by Engineered Plastics Inc.

PART 3 EXECUTION

3.01 INSTALLATION

- Cast In Place: Pour and float concrete, set tile by tamping down into concrete until all air voids are removed, edge around the perimeter, cut off protective plastic sheet.
- Surface Applied Installation: Grind substrate, remove dust on tile and substrate, apply adhesive to back of tile, drill into concrete, install fasteners, clean tile surface, apply perimeter sealant.
- Modular Paver: Box out or saw cut concrete, lay a gravel or mortar bed, tamp paver onto substrate, place 3/8" diameter foam rope at bottom of all joints, apply joint sealant.
- Directional Tile: Grind substrate 3/16" deep, 6" wide, saw cut two 3/4" deep grooves, remove dust on tile and substrate, apply adhesive to back of tile, drill into concrete, install fasteners, clean tile surface, apply perimeter sealant.
- Guidance Tile: Pour and float concrete, set tile by tamping down into concrete until all air voids are removed, edge around the perimeter.

3.02 CLEANING AND PROTECTING

- Protect tiles against damage during construction period to comply with manufacturer's specification.
- Protect tiles against damage from rolling loads following installation by covering with plywood or hardwood.
- Clean tiles by method specified by manufacturer not more than four days prior to date scheduled for inspection.

END OF SECTION

Armor-Tile™

Tactile Systems



www.armor-tile.com

Engineered Plastics Inc.

300 International Drive, Suite 100, Williamsville, NY 14221

Tel: 800-682-2525 • Fax: 800-769-4463

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DIRECTORY



CATALOG FILES



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