

TufTile®

ADA DETECTABLE WARNING PRODUCTS

CAST IRON CALIFORNIA

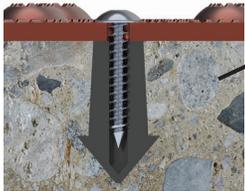


[TufTile.com](https://www.tuftile.com)

☎ 1-888-960-8897

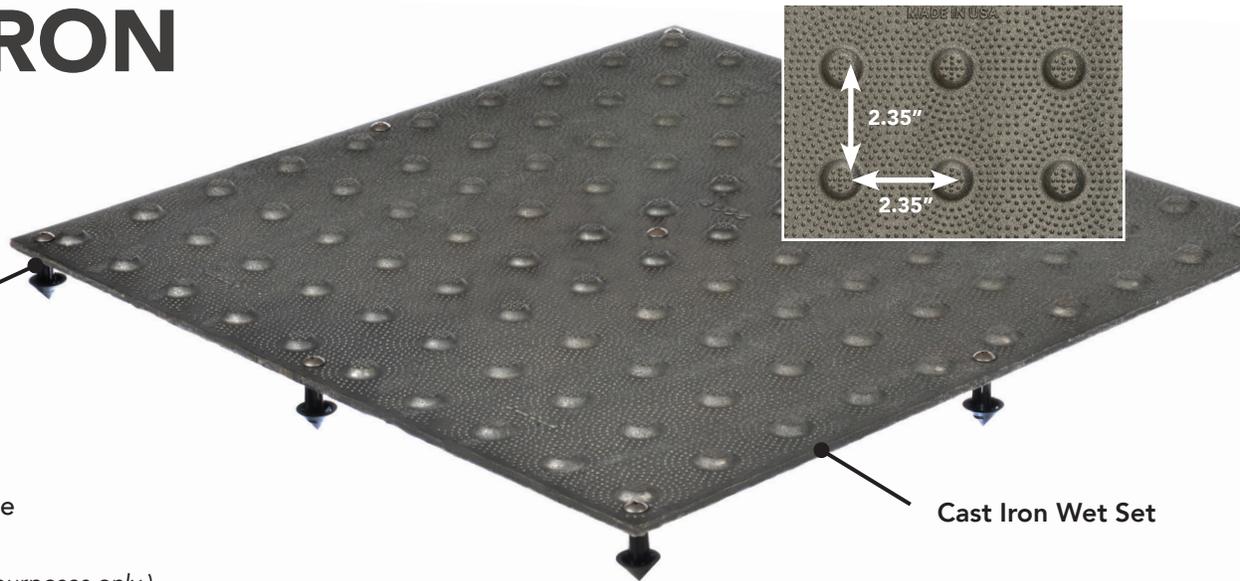
📍 905 Telsler Road, Lake Zurich, IL 60047

CAST IRON



Unique design allows aggregate to consolidate around anchor.

(Rendering for illustration purposes only.)



Cast Iron Wet Set

The Industry Leader in Flat-Back Design

PREMIUM PERFORMANCE

Superior strength outlasts the most demanding pedestrian surfaces including areas subject to snowplows.

EXCEPTIONAL DESIGN

The only flat-back design that limits potential air trapping during installation.

SUPERIOR COLOR & PROTECTION

In-house surface preparation and epoxy primer ensures lasting adhesion and bonding of powder coated finish.

10-YEAR WARRANTY

For full warranty information visit www.tuftile.com.

PRODUCT ASSORTMENT

Available in three standard tile sizes and 20 radius capabilities 9R-70R.

STOCK ITEM

Able to meet any standard size and color order.

ADA COMPLIANT

Complies with ADA Accessibility Guidelines (ADAAG) for Public Rights-Of-Way (July 26, 2011).

Meets Buy America Act 23 C.F.R. § 635.410.



Colors Available



Packaging Specifications

Cast Iron

Tile Size	Tile Weight/lbs.	Units/Pallet	Pallet Weight/lbs.*	Wedge Size	Wedge Weight/lbs.
2'x1'	19	52	985	15R Wedge	11.8
2'x2'	37	26	981	20R Wedge	10.5
2'x2.5'	46	26	1242	25R Wedge	9.3
				30R Wedge	8.5

* Note: Pallet weight will vary if top-loaded with wedges

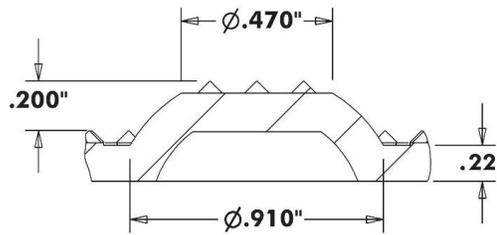
Simplify Installation by Connecting Tiles with the TT Connector Bar



PHYSICAL CHARACTERISTICS CAST IRON

Dome Geometry

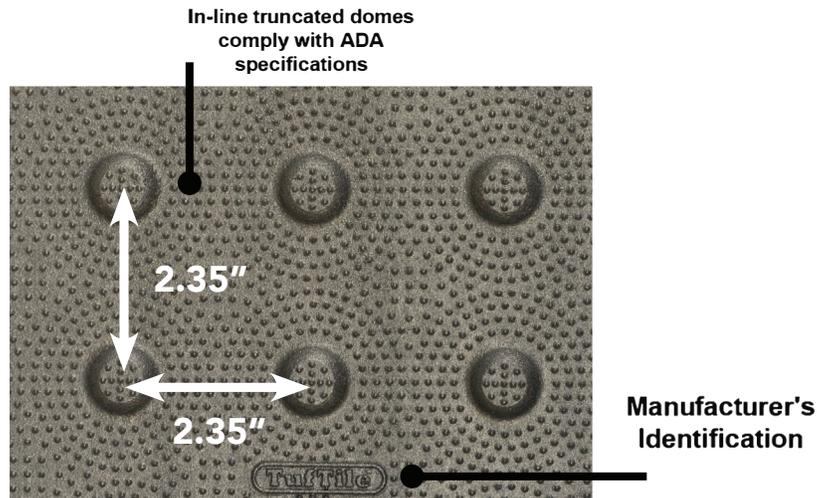
ADA (R305.1.1) specifies truncated domes shall have a base diameter of 0.9" minimum, a top diameter of 50%-65% of the base diameter minimum, and height of 0.2".



SECTION A-A

Dome Spacing

ADA (R305.1.2) specifies truncated domes shall have a center-center of 1.6" to 2.4".



Cast Iron Wet-Set Material - Gray Iron

ASTM C 1028	Slip Resistance	Dry-.948 Wet-1.009
ASTM A 48	Tensile Strength	35,900 psi
ASTM C 501-84	Abrasion Resistance	88 (lower number = better wear properties)
ASTM D 695	Compressive Strength	81,700 psi
NCHRP Procedure T4-33	Impact Resistance	No substantial damage

BUY AMERICA ACT CERTIFICATION

By law, America manufactured products must be used in all Federal Transportation projects and all state and local government projects that use Federal Transportation funds.

The Buy America provision of the law explicitly requires steel, cast iron, and polymer-based products manufactured in United States mills, foundries, and other production facilities are used in Federal Transportation infrastructure projects. Under the various "Buy America" definitions, the following are those that we comply with:

- American Recovery and Reinvestment Act of 2009, Section 1605 – Buy America Act
- Infrastructure Investment and Jobs Act (IIJA; P.L. 117-58) November 2021
- Federal Highway Administration, 23 U.S.C. § 313 – Buy America; 23 C.F.R. § 635.410
- Federal Transit Administration, 49 U.S.C. § 5323(j)(1); 49 C.F.R. Part 661
- Federal Aviation Administration, 49 U.S.C. §50101

TufTile galvanized steel, cast iron, and polymer detectable warning tiles and radius-wedges are manufactured in the United States from United States made materials in accordance with Buy America, 23 C.F.R § 635.410 requirements.

A handwritten signature in black ink that reads "Ted Meyers".

Ted Meyers
President

CAST IRON SAFETY DATA SHEET (SDS)



SECTION I: MATERIAL IDENTIFICATION

PRODUCT NAME: Gray Iron
CHEMICAL FAMILY: Iron (Fe)
MANUFACTURER: Thyssen Krupp-Waupaca, Inc., Waupaca, WI 54981
CONTACT ADDRESS: TufTile® 905 Telser Rd., Lake Zurich, IL 60047
PHONE: (888) 960-8897

SECTION II: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components: None in solid form
Composition: Carbon (C), Chromium (Cr), Copper (Cu), Iron (Fe), Nickle (Ni), Silicon (Si), Tin (Sn)
Melting Temperature: 2350 Degrees Fahrenheit

SECTION III: PHYSICAL CHARACTERISTICS

Emergency Overview: This material is NOT HAZARDOUS by OSHA Hazard
Appearance and Odor: Solid Mass, No Odor
Specific Gravity: 7.86
Freezing Point: N/A
Solubility in Water: Insoluble
% Volatile by Volume: N/A
Boiling Point: 5000F
pH: N/A

SECTION IV: FIRE AND EXPLOSION INFORMATION

Flammability: Not Flammable
Means of Extinction: N/A
Special Procedures: None
Explosion Data: None Known
Sensitivity of Mechanical impact: None
Hazardous Combustion: None Known
Auto ignition Temp: N/A
Sensitivity to Static: N/A

SECTION V: HEALTH HAZARD DATA

Permissible Exposure: N/A for product (See Section II above)

SECTION VI: REACTIVITY DATA

Chemical Stability: Yes
Reactivity: N/A

SECTION VII: SPILL OR LEAK PROCEDURES

Spill: None (Solid Mass Product)
Waste Disposal: Recover or Recycle if possible

SECTION VIII: PROTECTIVE EQUIPMENT TO BE USED:

Protective Gloves: Wear resistant gloves
Eye Protection: Wear safety glasses with side shields when cutting tiles

SECTION IX: LEGAL DISCLAIMER

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.



CAST IRON WET SET (REPLACEABLE) INSTALLATION INSTRUCTIONS

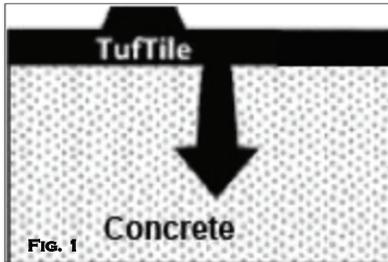


FIG. 1

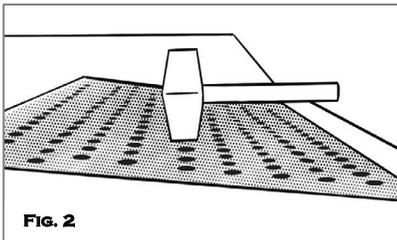


FIG. 2

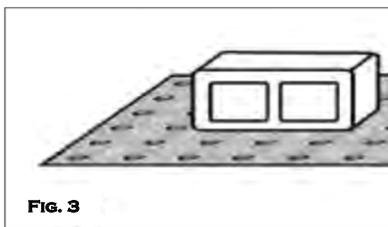


FIG. 3

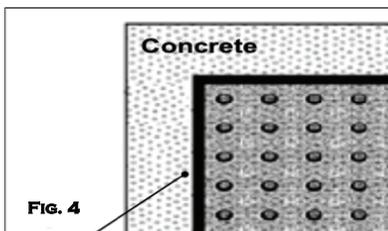


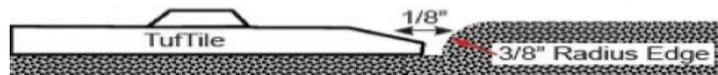
FIG. 4

1/8" Deep
Troweled Edge

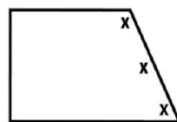
Read installation instructions thoroughly before you begin.

For Federal compliance documents [click here](#).

1. Be sure that concrete is compliant with ADA guidelines and engineer's specifications to ensure that proper installation can be achieved.
2. Slowly press tile into concrete starting at one side and continue placement until flush with the surface. (Fig. 1) **IMPORTANT: Do not stand on tile during installation.** For Radius or Connected Tiles, see box below.
3. Using a rubber mallet, tap the entire surface of the tile to ensure consolidation around the anchors. (Fig. 2)
NOTE: Installing tiles after moisture is gone from the top will help control floating. If needed, weight may be added. (Fig. 3)
4. **IMPORTANT: Using an edging tool, go around entire perimeter of the tile to allow for expansion.** (Fig. 4)

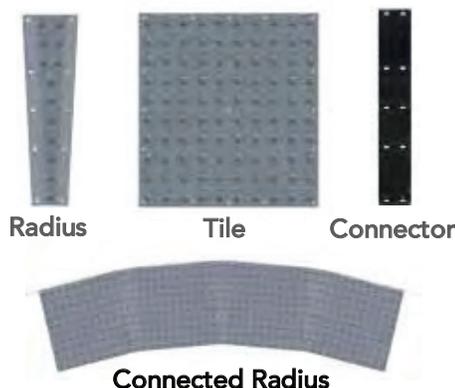


5. Finish concrete to required specifications. **NOTE: Do not stand or walk on tile until concrete is fully cured.**
6. Clean any excess concrete slurry that may have consolidated inside perimeter edge and on the top surface.



NOTE: If a tile is cut, new 1/4" holes need to be drilled and anchors reinstalled along the edge.

Installation is now complete.



Radius or Connected TufTile® Installation

Before step 3 above, do the following.

1. Remove anchors from straight tile edge.
2. Align tile with radius flange or holes in connector.
3. Reinstall anchors connecting tile to wedge or connector making sure there are no gaps between them.
4. Continue with steps 2 - 6 above.

[Click here](#) for more information including an installation video tutorial.

Contact us at 888-960-8897 with questions.

HIERRO FUNDIDO INSTALACIÓN HÚMEDA (REEMPLAZABLE) INSTRUCCIONES DE INSTALACIÓN

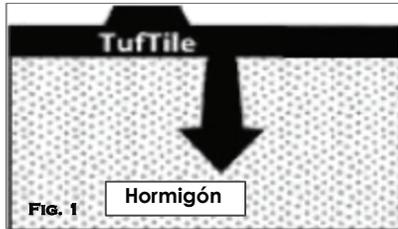


Fig. 1

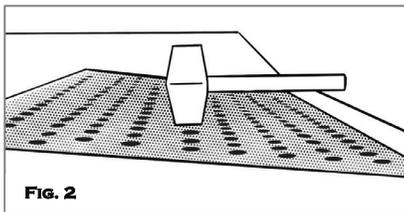


Fig. 2

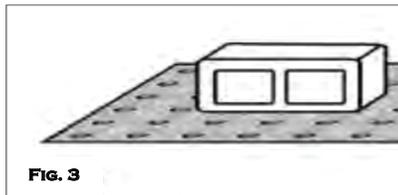


Fig. 3

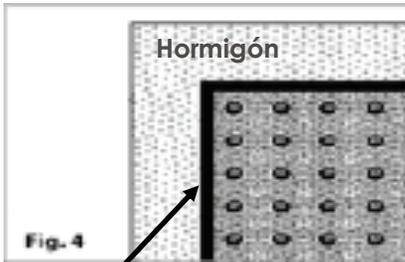
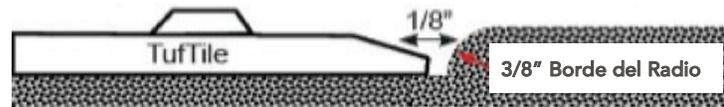


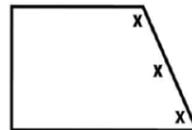
Fig. 4

1/8" Borde con llana profunda



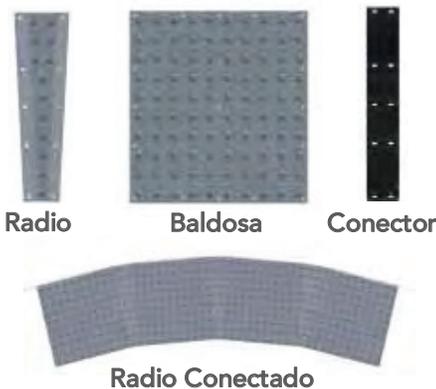
- Lea por completo las instrucciones de instalación antes de empezar.
Haga clic aquí para los documentos de cumplimiento Federal.
1. Asegure que el hormigón cumpla con las especificaciones del ADA y del ingeniero para lograr la instalación correcta.
 2. Despacio y con cuidado ubique la baldosa en el hormigón empezando por un lado y continuando hasta que la baldosa entera sea uniforme con la superficie. (Fig. 1) **IMPORTANTE: No se pare encima de la baldosa durante la instalación.** Para el Radio o las Baldosas Conectadas, vea la caja más abajo.
 3. Usando un mazo de goma, pulse toda la superficie de la baldosa, asegurando la consolidación alrededor de los anclajes. (Fig. 2)
NOTA: La instalación de baldosas después de que la humedad haya evaporado de la parte más superficial ayudará a controlar que flote. Si es necesario se puede agregar un peso. (Fig. 3)
 4. **IMPORTANTE: Con una herramienta de corte haga un borde alrededor del perímetro entero para permitir su expansión.** (Fig. 4)

5. Termine el hormigón según las especificaciones. **NOTA: No se pare ni camine sobre la baldosa hasta que el hormigón esté completamente curado.**
6. Limpie cualquier exceso de lechada de hormigón que pueda haberse consolidado dentro del perímetro del borde y sobre la superficie.



NOTA: Si se corta una baldosa hay que hacer hoyos nuevos de 1/4" e insertar más pasadores a lo largo del borde.

La instalación ya está completa.



Instalación de Radio o Conectados TufTile®

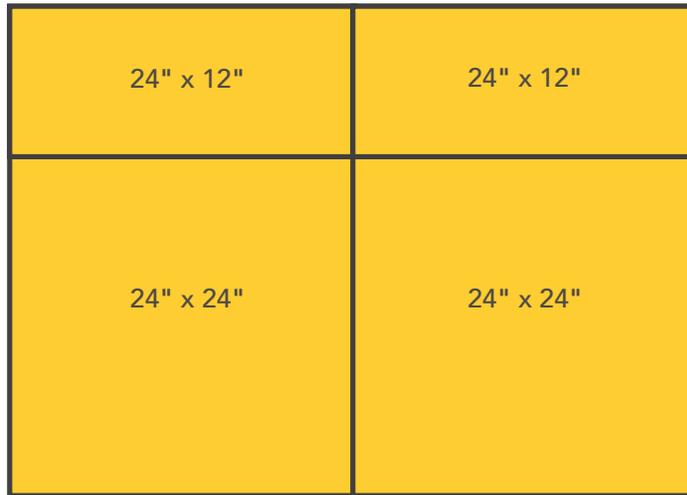
Antes de cumplir con el paso #3, haga lo siguiente.

1. Remueva los anclajes del borde recto de la baldosa.
2. Alinéala con el reborde del radio.
3. Re-instale los anclajes conectando la baldosa a la cuña o al conector, asegurando de no dejar espacios entre ellos.
4. Continúe con los pasos 2 a 6.

Haga clic aquí para más información incluyendo un video tutorial de la instalación. Llámenos al 888-960-8897 con sus preguntas.

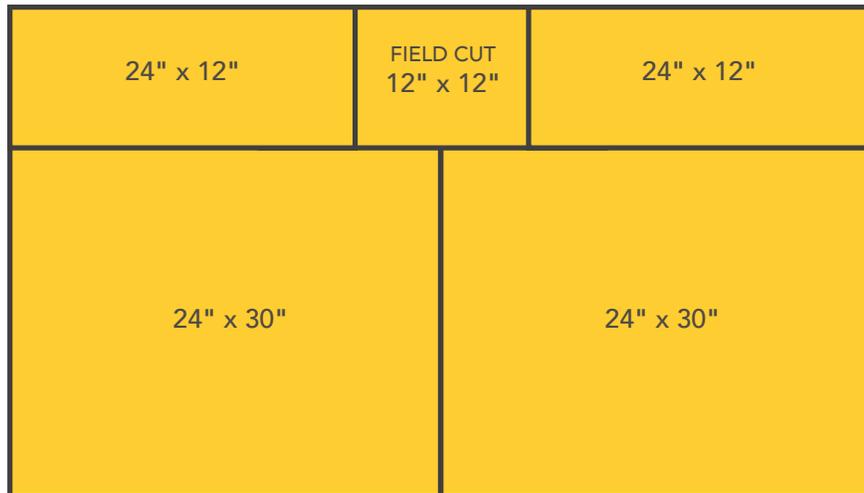
STATE OF CALIFORNIA CAST IRON RAMP LAYOUT

RAMP SIZE
3' x 4'



TILE SIZE	QUANTITY
24" x 24"	2
24" x 12"	2
TT CONNECTOR	2

RAMP SIZE
3' x 5'



TILE SIZE	QUANTITY
24" x 30"	2
24" x 12"	3
12" x 12"	FIELD CUT
TT CONNECTOR	1

TT CONNECTOR



12" X 12" WET SET (REPLACEABLE)

CAST IRON DETECTABLE WARNING TILE

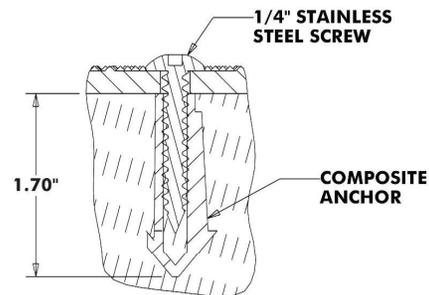
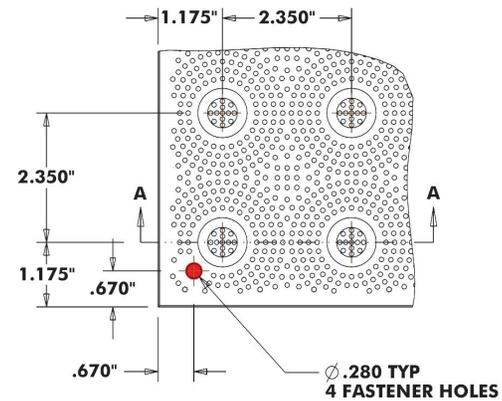
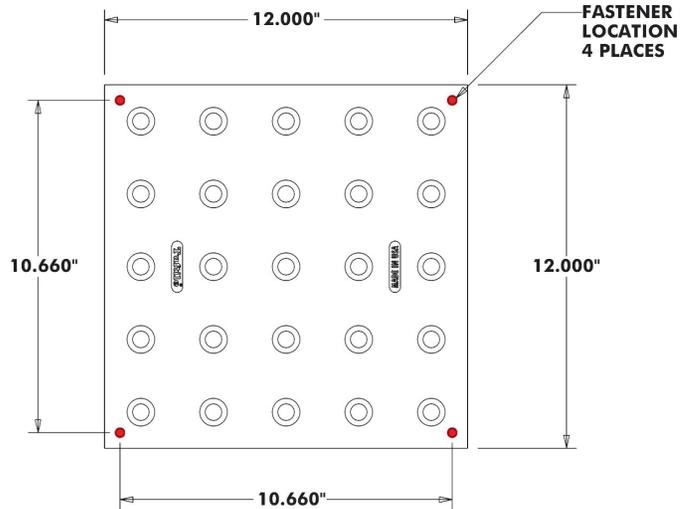
2.350 DOME SPACING



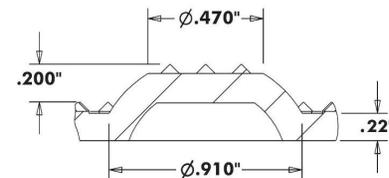
DRW NO	TTCI1212-WS-XXX	DRAWN	GM	DATE	12-30-20
TOLERANCE	+/- 0.050	SCALE		REV	DATE

NOTES:

"XXX" DESIGNATES COLOR



**WET SET ANCHOR DETAIL
(FRESH CONCRETE)**



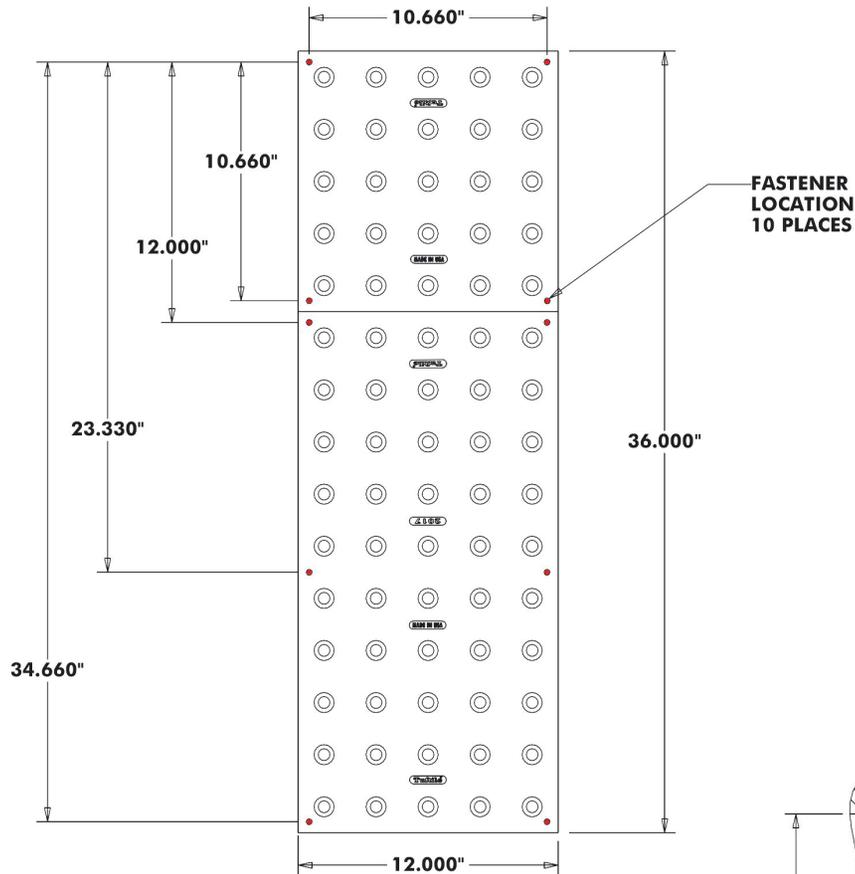
SECTION A-A



36" X 12" WET SET (REPLACEABLE)

CAST IRON DETECTABLE WARNING TILE

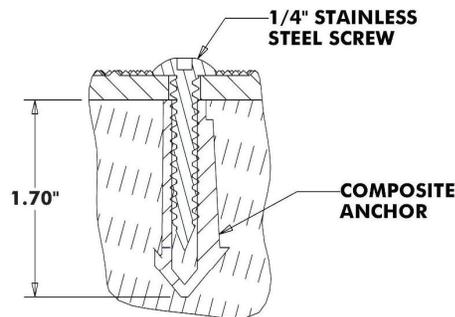
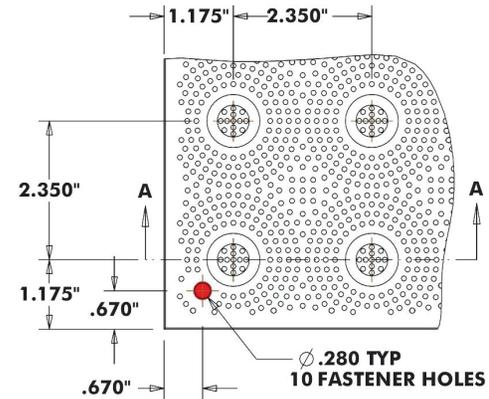
2.350 DOME SPACING



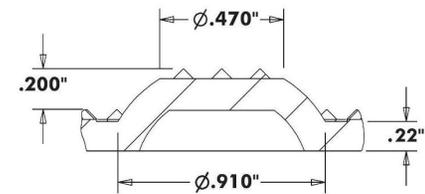
FASTENER LOCATION
10 PLACES

DRW NO	TTCI3612-WS-XXX		DRAWN	GM	DATE	12-30-20
TOLERANCE	+/- 0.050	SCALE	REV		DATE	

NOTES:
"XXX" DESIGNATES COLOR



WET SET ANCHOR DETAIL
(FRESH CONCRETE)



SECTION A-A



36" X 24" WET SET (REPLACEABLE)

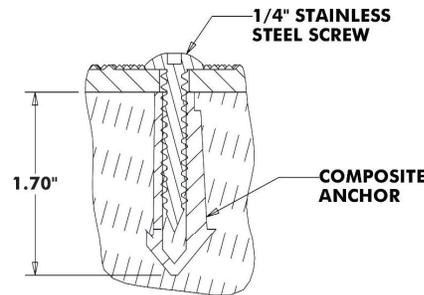
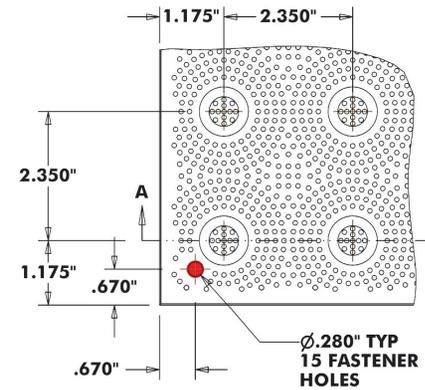
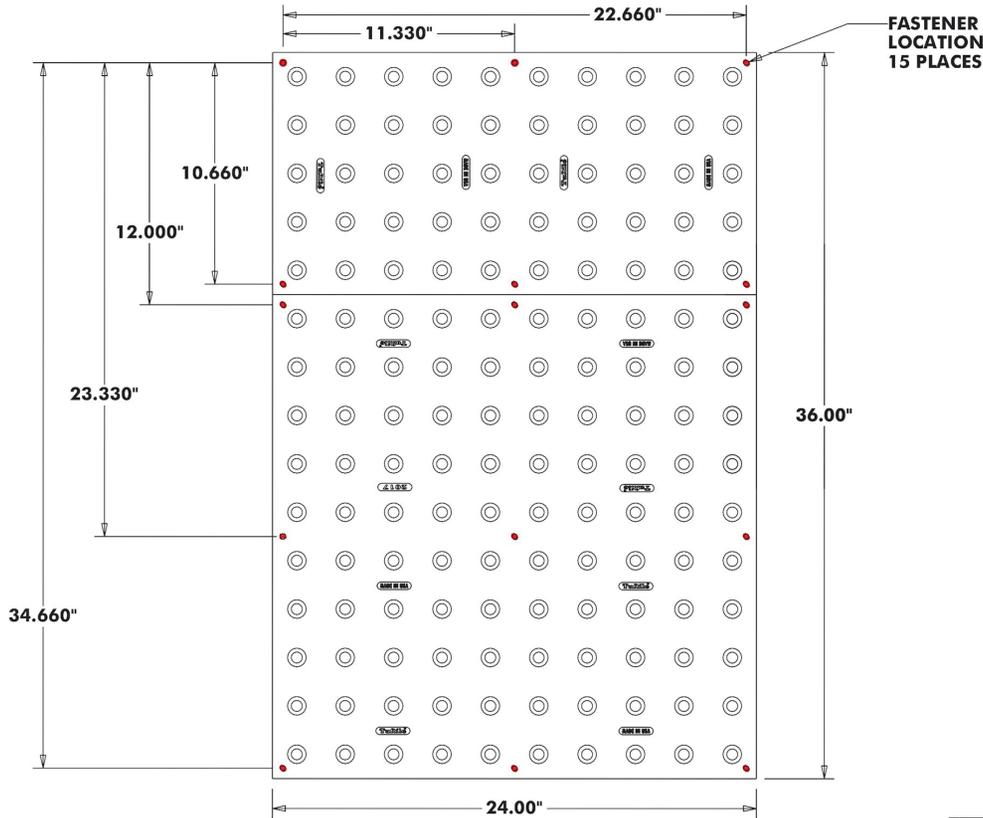
CAST IRON DETECTABLE WARNING TILE

2.350 DOME SPACING

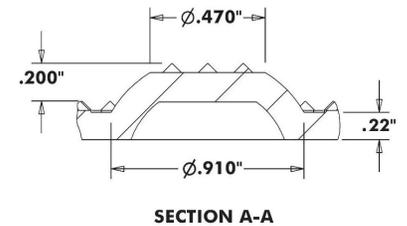


DRW NO	TTCI3624-WS-XXX	DRAWN	GM	DATE	12-30-20
TOLERANCE	+/- 0.050	SCALE	REV	DATE	

NOTES:
"XXX" DESIGNATES COLOR



WET SET ANCHOR DETAIL
(FRESH CONCRETE)



36" X 48" WET SET (REPLACEABLE)

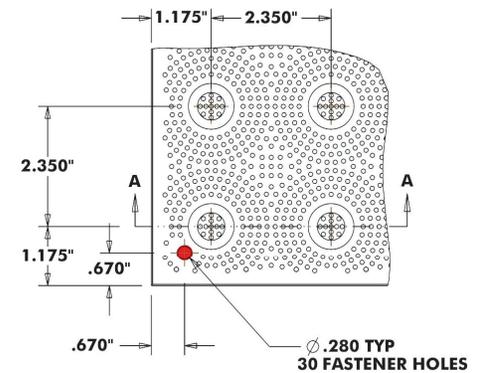
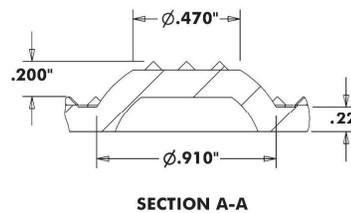
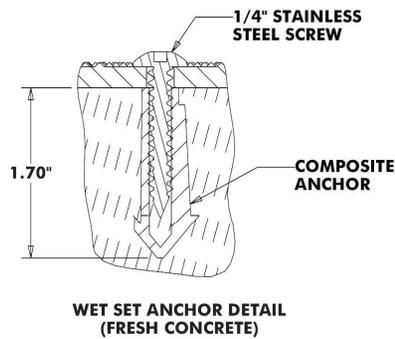
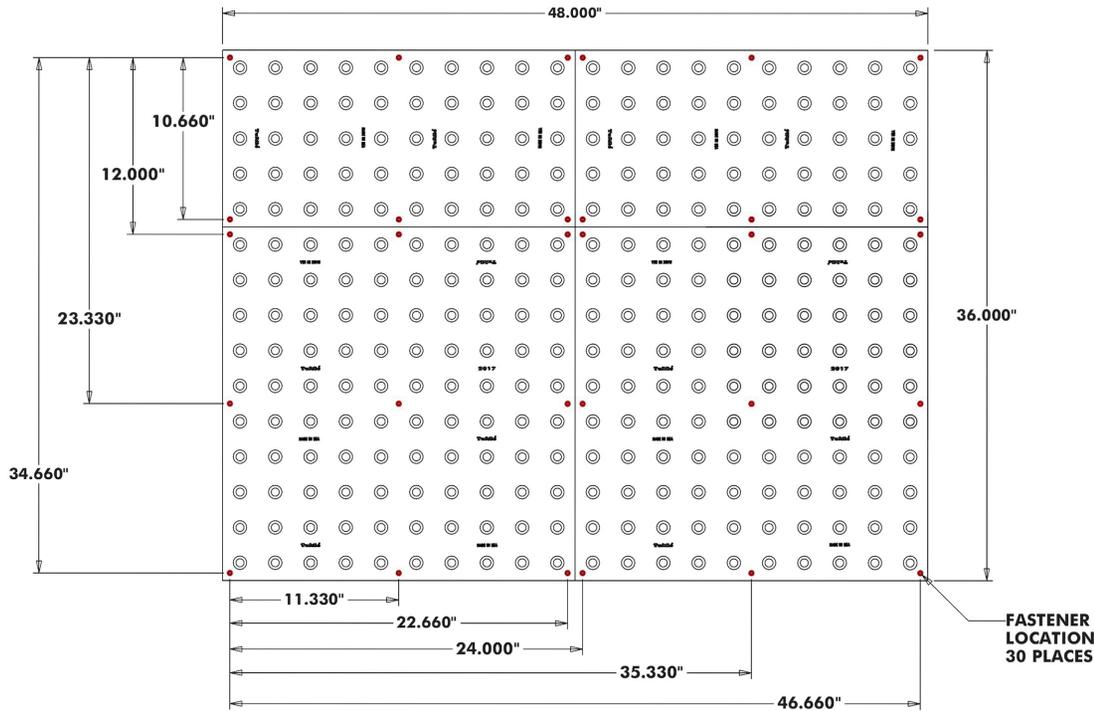
CAST IRON DETECTABLE WARNING TILE

2.350 DOME SPACING



DRW NO	TTCI3648-WS-XXX		DRAWN	GM	DATE	12-30-20
TOLERANCE	+/- 0.050	SCALE	REV		DATE	

NOTES:
"XXX" DESIGNATES COLOR



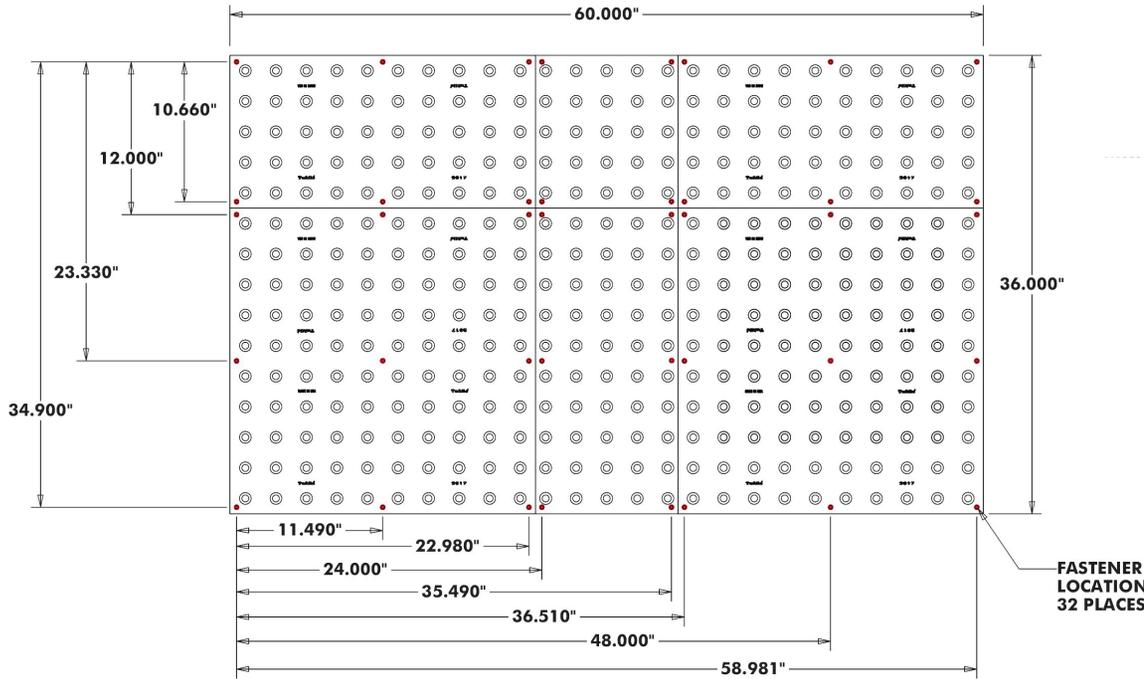
36" X 60" WET SET (REPLACEABLE)

CAST IRON DETECTABLE WARNING TILE

2.350 DOME SPACING

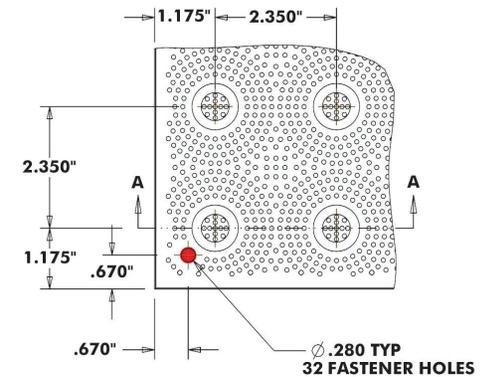
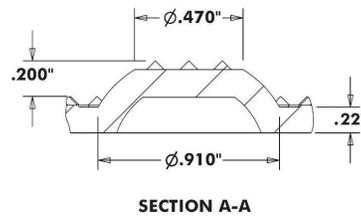
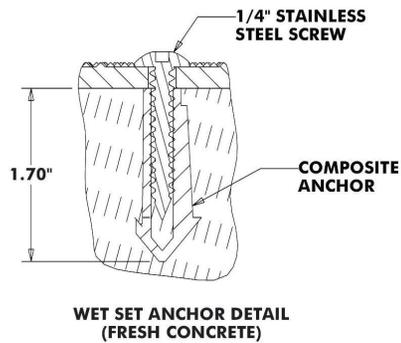


DRW NO	TTCI3660-WS-XXX	DRAWN	GM	DATE	12-30-20
TOLERANCE	+/- 0.050	SCALE	REV	DATE	



FASTENER LOCATION
32 PLACES

NOTES:
"XXX" DESIGNATES COLOR



CAST IRON 10-YEAR LIMITED WARRANTY

TufTile, Inc. values your business, and the TufTile, Inc. tactile cast iron tile (the "product") you purchased comes with a limited warranty that the product will be free from defects for a period of ten years from date of installation subject to ordinary wear and tear. Damage to powder coating caused by snow removal equipment is considered normal or "ordinary" wear and tear. Failure to comply with recommended applications and installation of the product voids this warranty. Customer misuse including negligence, physical abuse and defects resulting from improper installation are not covered by this warranty. Local building codes may require minimum tactile tile performance specifications, and TufTile, Inc. does not warrant product installations that violate building codes. While within the limited warranty period, if the product is not in good working order for its intended purposes, a suitable field repair or in extreme cases, replacement product shall be made available to the purchaser of the product. Purchaser's remedy is limited to replacement of the product and no consequential or incidental damages and costs (including, but not limited to, lost profits, labor or transportation costs in connection with the removal, replacement and installation of the product) are recoverable or within the coverage of this limited warranty. Any representations made in connection with the sale of this product that differ from the terms of this limited warranty are not covered and should be brought to the attention of TufTile, Inc. immediately. No claim for replacement of a defective product will be honored without TufTile, Inc.'s reservation of its right to inspect the product for the claimed defect and its determination that the replacement of the product is covered by this warranty. The term of this limited warranty shall commence on the date of installation. Proof of purchase shall be required to be eligible for this warranty and to establish the commencement date of this limited warranty. No warranty replacement of the product is provided unless the purchaser's written replacement claim is submitted to TufTile, Inc. before the expiration of ten years from the date of installation of the product.

TO THE MAXIMUM EXTENT APPLICABLE AND ALLOWABLE UNDER LAW, THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE FACE OF THE TUFTILE INC. LIMITED WARRANTY, AND TUFTILE INC. DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, REGARDING THE PRODUCT, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT. TO THE MAXIMUM EXTENT ALLOWABLE BY FEDERAL AND STATE LAW, THIS WARRANTY SUPPLEMENTS OR SUPERSEDES FEDERAL AND STATE CONSUMER GOODS WARRANTY PROTECTION.





California Department of Transportation Detectable Warning Surface Authorized Material List

The following products have been found acceptable for use on State Highway Contracts

Vendor	Product Name	Expiration
TufTile, Inc 1200 Flex Ct. Lake Zurich, IL 60047	Galvanized/Powder Coated Cast-in-Place (replaceable) Steel Tile	Nov 17, 2025
Don Kimble 847-307-3070 don@tuftile.com www.tuftile.com	Galvanized/Powder Coated Surface-Applied Steel Tile	
	Cast Iron/Powder Coated Cast-in-Place (replaceable Tile)	

For additional information, please send email to rebecca.mowry@dot.ca.gov



COMPLIANCE CERTIFICATION

TufTile®, Inc. certifies that TufTile Galvanized Steel tiles are in compliance with the following:

Americans with Disabilities Act (ADA) (42.U.S.C. 12101 et seq.) (Title III Regulations, 28 CFR Part 36 ADA STANDARDS FOR ACCESSIBLE DESIGN, Appendix A, Section 4.29.2 DETECTABLE WARNINGS ON WALKING SURFACES) and ADA Accessibility Guidelines (ADAAG) for Public RightsOf-Way (July 26, 2011).

California Code of Regulations (CCR) Title 24, Chapter 2, Section 202 definition of "Detectable Warning". Section 118-247 and 118-705 "Detectable Warnings and Detectable Directional Warning Texture"

Additional information on our products and services can be found on our web site www.tuftile.com or call us directly.

Don Kimble
ADA Compliance Manager
TufTile, Incorporated
don@tuftile.com

FEDERAL LAW AND DETECTABLE WARNING SURFACES

The Americans with Disabilities Act (ADA) (42 U.S.C. 12101 et seq.) is a federal civil rights law that prohibits discrimination against individuals with disabilities. The regulations issued by the Department of Justice include accessibility standards for the design, construction, and alteration of facilities. One of those requirements requires installation of detectable warning surfaces as described in these sections of the ADA Accessibility Guidelines (ADAAG) for Public Rights-Of-Way (July 26, 2011). To view the entire proposed guidelines document, go to www.access-board.gov.

R305.1.1 Dome Size

The truncated domes shall have a base diameter of 23 mm (0.9 in) minimum and 36 mm (1.4 in) maximum, a top diameter of 50 percent of the base diameter minimum and 65 percent of the base diameter maximum, and a height of 5 mm (0.2 in).

R305.1.2 Dome Spacing

The truncated domes shall have a center-to-center spacing of 41 mm (1.6 in) minimum and 61 mm (2.4 in) maximum, and a base-to-base spacing of 17 mm (0.65 in) minimum, measured between the most adjacent domes.

R305.1.3 Contrast

Detectable warning surfaces shall contrast visually with adjacent gutter, street or highway, or pedestrian access route surface, either light-on-dark or dark-on-light.

R305.1.4 Size

Detectable warning surfaces shall extend 610 mm (2.0 ft) minimum in the direction of pedestrian travel. At curb ramps and blended transitions, detectable warning surfaces shall extend the full width of the ramp run (excluding any flared sides), blended transition, or turning space. At pedestrian at-grade rail crossings not located within a street or highway, detectable warnings shall extend the full width of the crossing. At boarding platforms for buses and rail vehicles, detectable warning surfaces shall extend the full length of the public use areas of the platform. At boarding and alighting areas at sidewalk or street level transit stops for rail vehicles, detectable warning surfaces shall extend the full length of the transit stop.

R305.2 Placement

The placement of detectable warning surfaces shall comply with R305.2.

R305.2.1 Perpendicular Curb Ramps

On perpendicular curb ramps, detectable warning surfaces shall be placed as follows:

1. Where the ends of the bottom grade break are in front of the back of curb, detectable warning surfaces shall be placed at the back of curb.
2. Where the ends of the bottom grade break are behind the back of curb and the distance from either end of the bottom grade brake to the back of curb is 1.5 m (5.0 ft) or less, detectable warning surfaces shall be placed on the ramp run within one dome spacing of the bottom grade break.
3. Where the ends of the bottom grade break are behind the back of curb and the distance from either end of the bottom grade brake to the back of curb is more than 1.5 m (5.0 ft), detectable warning surfaces shall be placed on the lower landing at the back of curb.

R305.2.2 Parallel Curb Ramps

On parallel curb ramps, detectable warning surfaces shall be placed on the turning space at the flush transition between the street and sidewalk.

R305.2.3 Blended Transitions

On blended transitions, detectable warning surfaces shall be placed at the back of curb. Where raised pedestrian street crossings, depressed corners, or other level pedestrian street crossings are provided, detectable warning surfaces shall be placed at the flush transition between the street and the sidewalk.

R305.2.4 Pedestrian Refuge Islands

At cut-through pedestrian refuge islands, detectable warning surfaces shall be placed at the edges of the pedestrian island and shall be separated by a 610 mm (2.0 ft) minimum length of surface without detectable warnings.

R305.2.5 Pedestrian At-Grade Rail Crossings

At pedestrian at-grade rail crossings not located within a street or highway, detectable warning surfaces shall be placed on each side of the rail crossing. The edge of the detectable warning surface nearest the rail crossing shall be 1.8 m (6.0 ft) minimum and 4.6 m (15.0 ft) maximum from the centerline of the nearest rail. Where pedestrian gates are provided, detectable warning surfaces shall be placed on the side of the gates opposite the rail.

R305.2.6 Boarding Platforms

At boarding platforms for buses and rail vehicles, detectable warning surfaces shall be placed at the boarding edge of the platform.

R305.2.7 Boarding and Alighting Areas

At boarding and alighting areas at sidewalk or street level transit stops for rail vehicles, detectable warning surfaces shall be placed at the side of the boarding and alighting area facing the rail vehicles.

