

TufTile's 165,000 sq. ft. manufacturing and distribution facility is located in Lake Zurich, IL.



# TufTile<sup>®</sup>

ADA DETECTABLE WARNING PRODUCTS

## Wet-Set

ADA COMPLIANT • DURABLE • REPLACEABLE

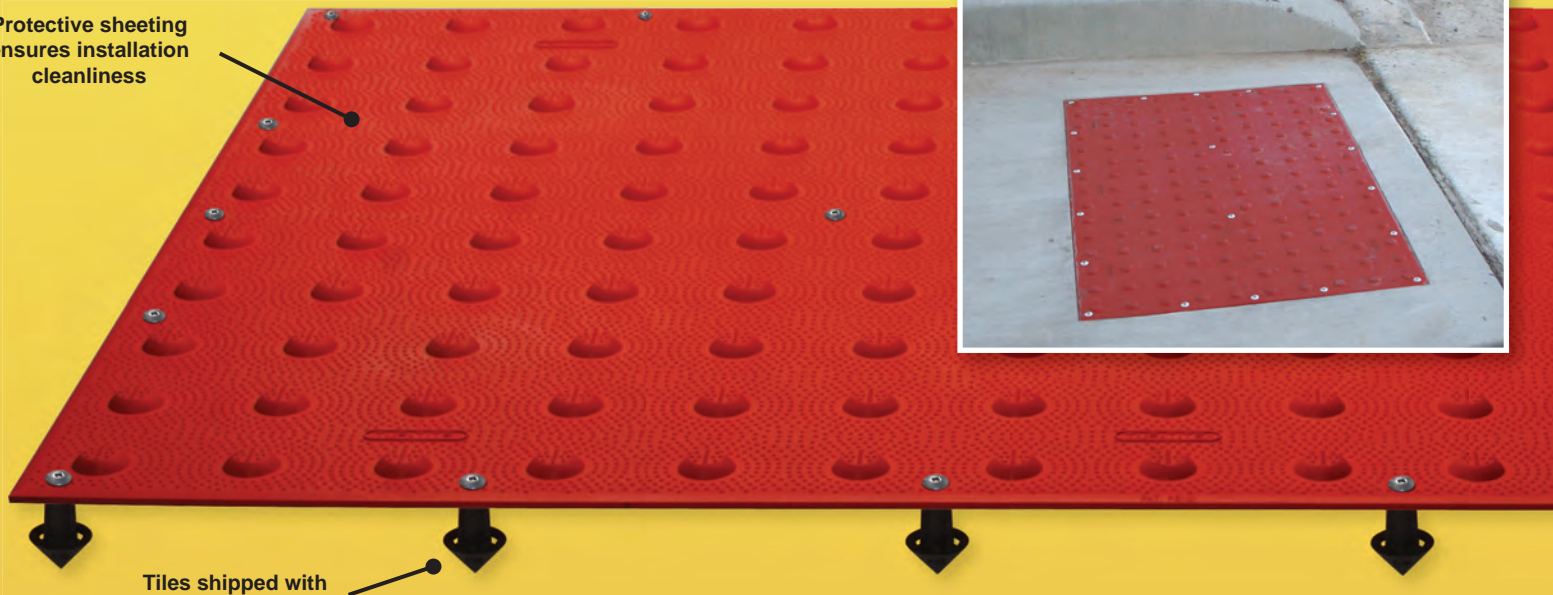
Radius ◆ Polymer



[www.TufTile.com](http://www.TufTile.com)

## HIGH-IMPACT POLYMER TILES WET-SET (REPLACEABLE)

Protective sheeting  
ensures installation  
cleanliness



Tiles shipped with  
anchors installed

### Wet-Set (Replaceable) Tiles

TufTile® WS is a UV stabilized, high-impact polymer engineered for superior impact-resistance, slip-resistance, wear-resistance, and long-term durability for new construction installations.

TufTile's unique umbrella designed anchors lock the tile securely into the concrete without displacing aggregate or trapping air beneath the tile's surface.

Concrete Keepers™ integrate with concrete "slurry" holding tile fast when concrete cures.

TufTile's exclusive design incorporates slip-resistant truncated domes molded to exact ADA specification for detectable warning systems. Homogenous materials, uniformly distributed throughout the thickness of the tile provides for superior strength and color stability.

TufTile's low profile coupled with beveled perimeter edges provides for an easy, safe transition from surrounding surfaces. This unique (replaceable) design is lightweight, strong and flexible so installations are efficient and easy.

TufTile® ADA Tiles have a 5-Year Limited Warranty – see website or contact customer service.

**TUFTILE® TACTILE IS ADAAG / PROWAG / CA TITLE 24 COMPLIANT**

**PAT. NO. US D691,743 S**

**In-Line truncated domes comply with all ADA Specifications**

**Molded manufacture identification**

**Tamper-resistant stainless fasteners provide security and efficient tile replacement if required**

**ADA Compliant wet and dry slip-resistant surfaces**

**English and Spanish installation instructions are attached to each tile**



**POLYMER RADIUS TILES**

25 foot radius line

Wedges are sized per the radius of the arc.

All field tiles are 2' x 2'.

Radius	COLORS
15 Foot	Colors to match corresponding Polymer tiles
20 Foot	
25 Foot	
30 Foot	

Molded in TufTile identification

Fastener locations

Made in USA



**TT-CONNECTOR**

Fastener locations

TUFTILE WET-SET (REPLACEABLE) TILES			COLORS					
SIZES	Tiles/Carton	Cartons/Pallet	BRICK RED FED 22144 COLOR I.D. BRD	YELLOW FED 33538 COLOR I.D. YEL	DARK GRAY FED 36118 COLOR I.D. GRY	COLONIAL RED FED 20109 COLOR I.D. CRD	BLACK FED 17038 COLOR I.D. BLK	SAFETY RED FED 31350 COLOR I.D. SRD
2' X 1'	10	12						
2' X 2'	10	12						
2' X 3'	6	12						
2' X 4'	5	12						
2' X 5'	4	12						

## TufTile Wet-Set Packaging Design



Location of 24" Lid Supports



Panel Corner Packaging Protection



Location of Carton Product Labels

TufTile®  
ADA TACTILE (POLYMER) PRODUCTS  
WET-SET

COLOR  Brick Red     Colonial Red     Yellow  
 Black     Dark Gray

Tile Size	Tiles	Screws	Anchors
2'x1'	10	13	13
2'x2'	10	17	17
2'x3'	6	20	20
2'x4'	5	25	25
2'x5'	4	30	30

Carton Product Label

## Panel Sizes, Quantities and Packaging Dimensions



Panel Size	2' x 1'	2' x 2'	2' x 3'	2' x 4'	2' x 5'
Units/Carton	10	10	6	5	4
Cartons/Pallet	12	12	12	12	12
Units/Pallet	120	120	72	60	48
Weight	380	721 lbs	666 lbs	735 lbs	716 lbs
Dimensions	48"x48"x52"	48"x48"x82"	54"x40"x85"	52"x52"x72"	52"x62"x56"

## TufTile Radius Calculator

Reset Values

Feet/Inches  
 Metric

Polymer  Cast Iron

Radius Length  feet

Have Radius  Have Height

Chord Length  feet

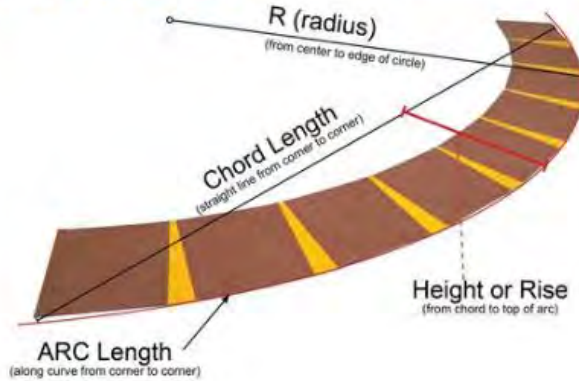
Have Chord Length  Have Arc Length

Arc Length  Segment Length  (tile + wedge)  Arc Overrun  Variance

Recommended Tile Size  
 Recommended Wedge Size

Quantity  
 Quantity

Calculate



Enter values in the 2 fields provided (Radius Length and Chord Length) then click the 'Calculate' button to create the estimate for your Radius installation. You can enter the Height or Rise in lieu of the Radius Length. Arc Length can be used as an alternative to the Chord as well. The recommended Tile Size, Wedge Size and their respective Quantities will display in the space provided.

The Metric option will expect the lengths to be entered in Meters.

Polymer vs Cast Iron will make use of the 24"x36" tiles or 24"x30" respectively as required.

The values 'arc length', 'segment length', 'arc overrun' and 'variance' are informational.

Arc Length is calculated when the chord length is given. Segment Length is known by adding the top edge lengths of 1 selected Tile and Wedge. Arc overrun is the remainder when the Arc Length is different than the sum of the Tiles and Wedges. Variance occurs when the Radius calculated is different than the Radius made from the suggested components. The variance amount is the distance between those two values.

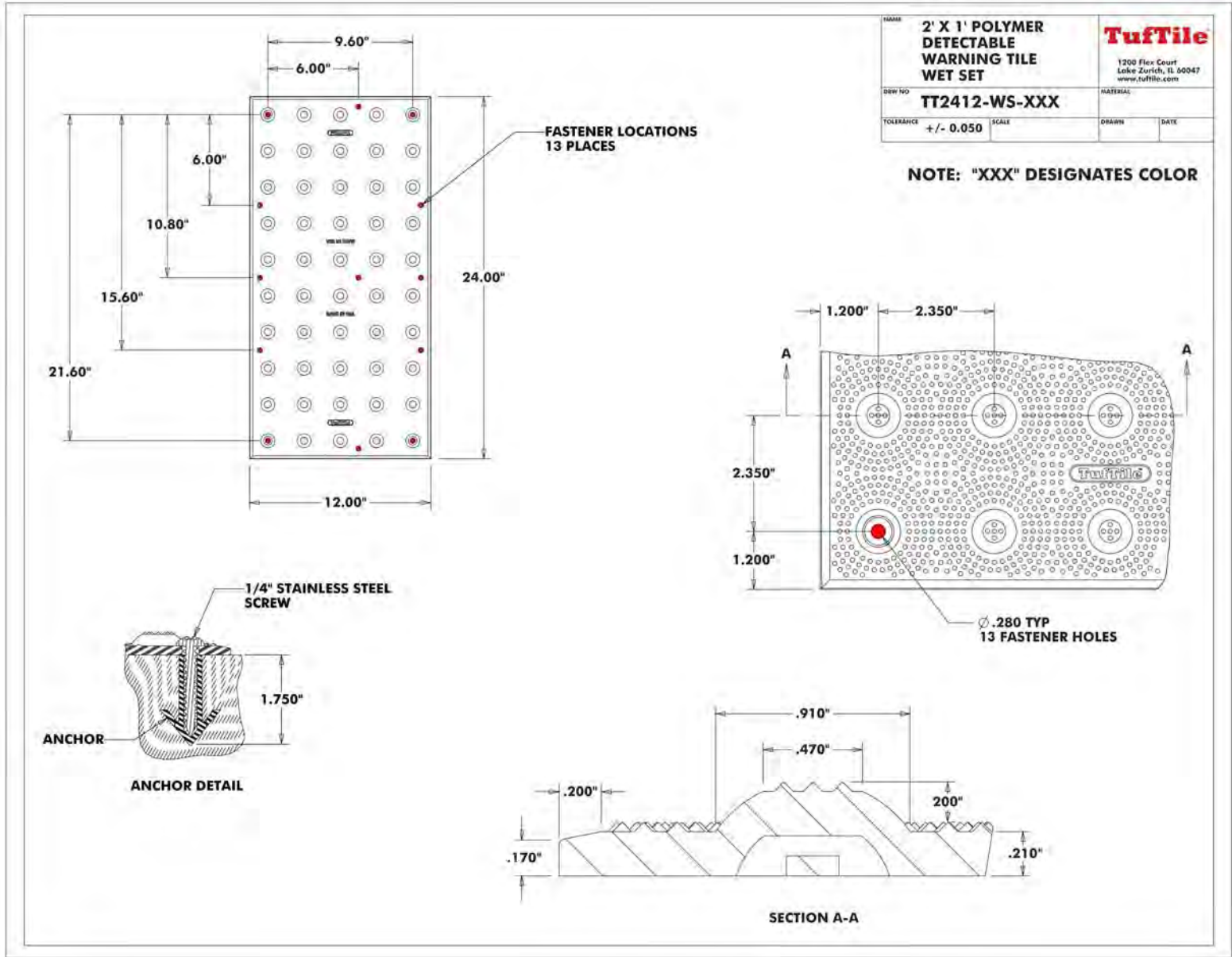
The Size change warning line will display when the program calculates an 'Arc overrun' that is negative. In the case when a smaller tile will leave less extra radius it recommends that instead of just adding another equal width tile. So if the job calls for 7 24"x24" tiles and 7 wedges and it leaves less than 14 inches of remaining radius, it tells the user to order 1 24"x12" tile instead of another 24"x24". The same goes for 30" and 36" wide tiles where it can substitute a 24"x12" or 24"x24" as required. This is only a suggested solution.

*Our Radius calculator is provided as a reference to help you estimate the amount of material you need for your project. This calculator provides an ESTIMATE.*

*Coverage is affected by a number of factors. \*\* In order for us to ensure that you have adequate material for your job, please round up to the nearest foot.*

## 2' X 1' WET-SET TACTILE TILE (REPLACEABLE) 2.350 DOME SPACING

TEL 888-960-8897 FAX 847-550-8004 www.tuftile.com

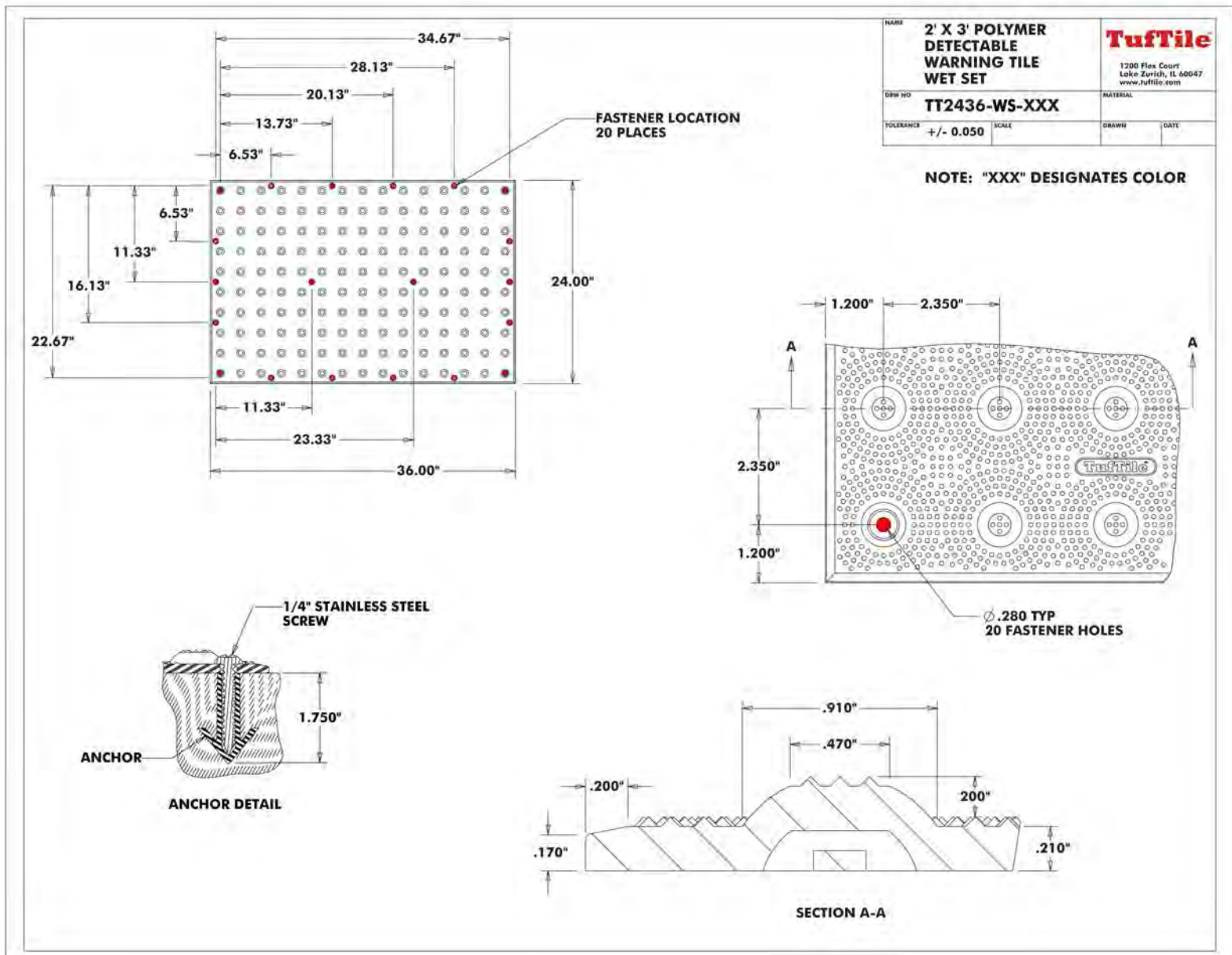




## 2' X 3' WET-SET (REPLACEABLE)

TACTILE TILE  
2.350 DOME SPACING

TEL 888-960-8897 FAX 847-550-8004 www.tuftile.com



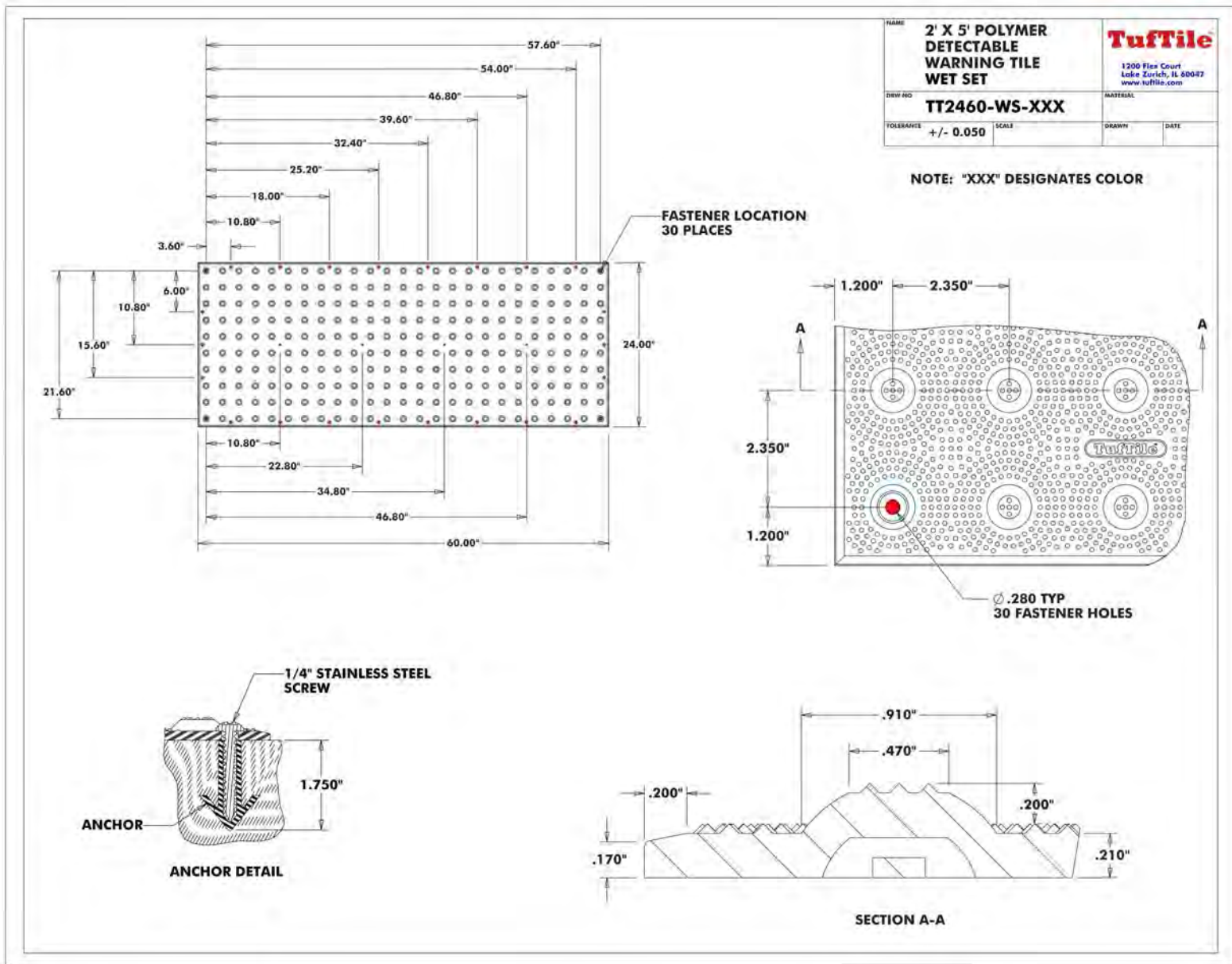




## 2' X 5' WET-SET (REPLACEABLE)

TACTILE TILE  
2.350 DOME SPACING

TEL 888-960-8897 FAX 847-550-8004 [www.tuftile.com](http://www.tuftile.com)



# 15R WET SET

(REPLACEABLE)

## POLYMER DETECTABLE WARNING RADIUS—WEDGE TILE

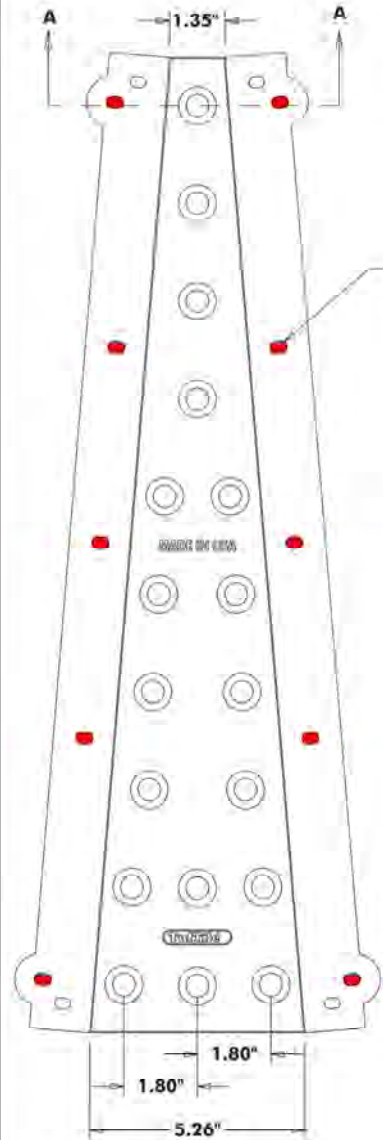
TEL 888-960-8897

FAX 847-550-8004

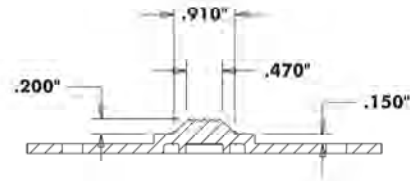
www.tufite.com

NAME <b>15R POLYMER WET-SET DETECTABLE WARNING RADIUS - WEDGE TILE</b>		<b>Tufite</b> 1200 Flex Court Lokar Zurich, IL 60047 www.tufite.com	
DRW NO. <b>TT15R-WS-XXX</b>	MATERIAL		
TOLERANCE +/- 0.050	SCALE	DRAWN	DATE

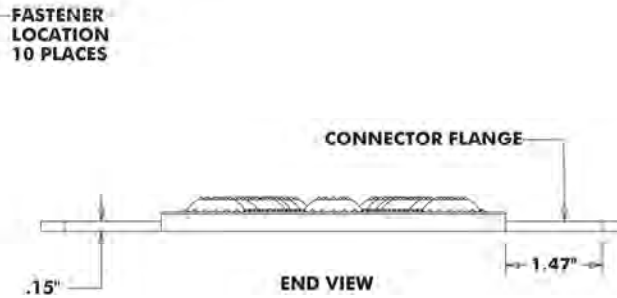
NOTES: "XXX" DESIGNATES COLOR



RADIUS - WEDGE TILE



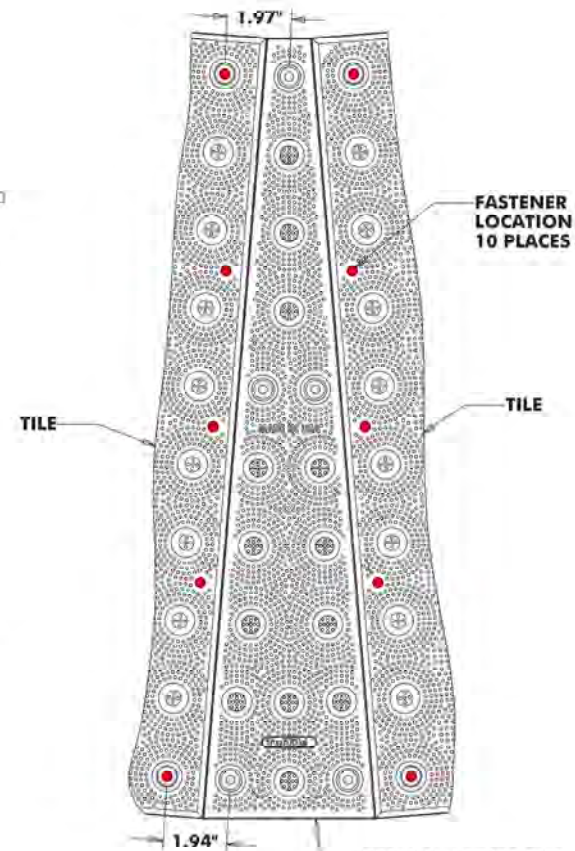
SECTION A-A



END VIEW



ANCHOR DETAIL



CONNECTED VIEW

# 20R WET SET

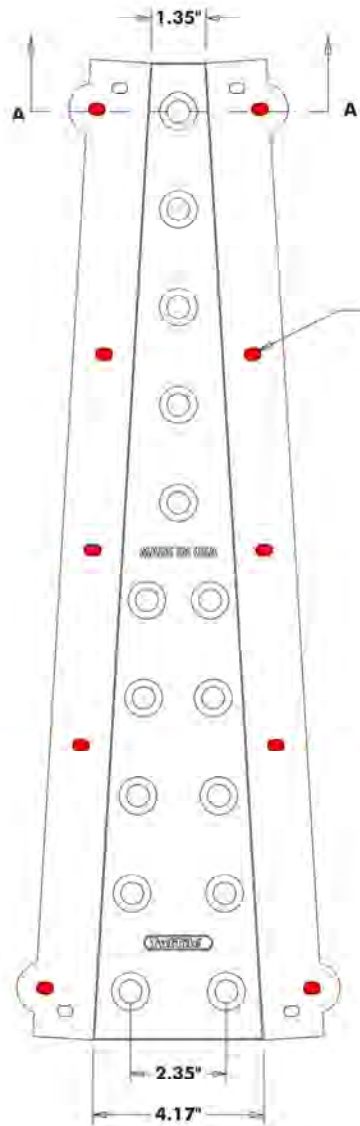
(REPLACEABLE)

## POLYMER DETECTABLE WARNING RADIUS—WEDGE TILE

TEL 888-960-8897

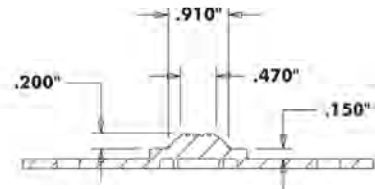
FAX 847-550-8004

www.tufile.com

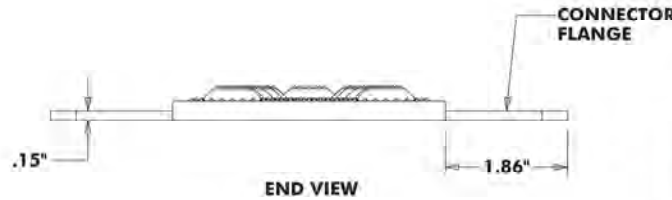


RADIUS - WEDGE TILE

FASTENER  
LOCATION  
10 PLACES

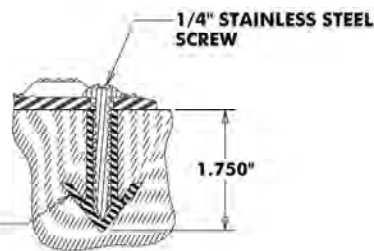


SECTION A-A



END VIEW

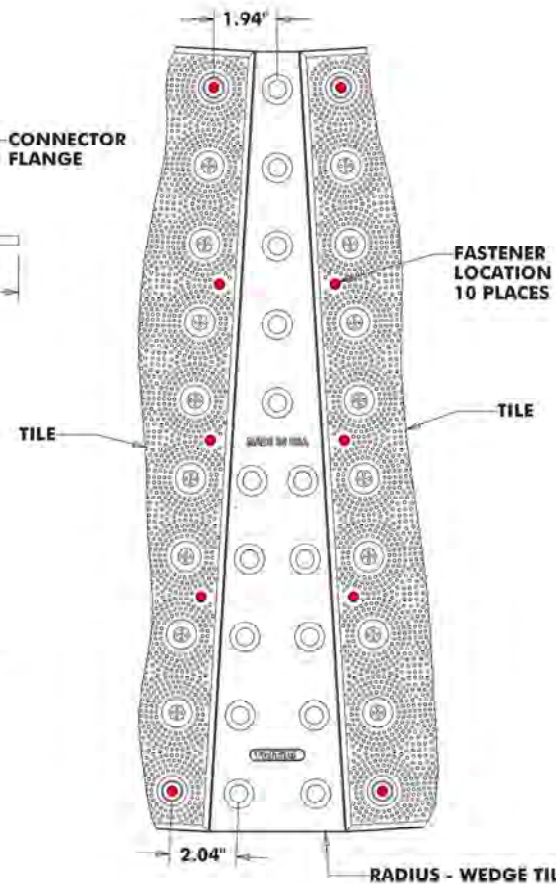
CONNECTOR  
FLANGE



ANCHOR DETAIL

NAME <b>20R POLYMER WET-SET DETECTABLE WARNING RADIUS - WEDGE TILE</b>		<b>TufTile</b> 1209 Flex Court Lake Zurich, IL 60047 www.tufile.com	
DWG NO. <b>TT20R-WS-XXX</b>		MATERIAL	
TOLERANCE +/- 0.050	SCALE	DRAWN	DATE

NOTES: "XXX" DESIGNATES COLOR



CONNECTED VIEW

# 25R WET SET

(REPLACEABLE)

## POLYMER DETECTABLE WARNING RADIUS—WEDGE TILE

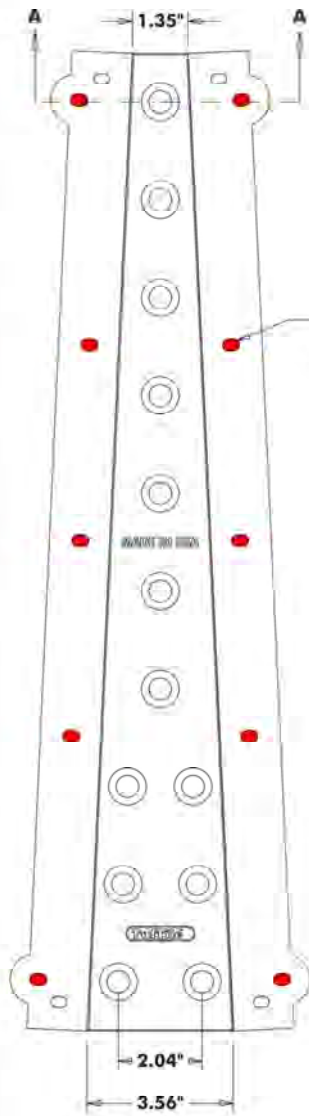
TEL 888-960-8897

FAX 847-550-8004

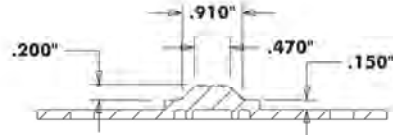
www.tufile.com

NAME <b>25R POLYMER WET-SET DETECTABLE WARNING RADIUS - WEDGE TILE</b>		<b>TuFile</b> 1200 Flex Court Lisle, Illinois, IL 60547 www.tufile.com	
REV# 10 <b>TT25RW-WS-XXX</b>		MATERIAL	
TOLERANCE +/- 0.050	SCALE	DRAWN	DATE

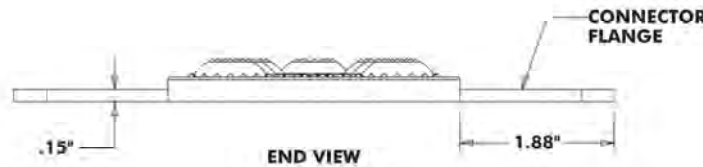
NOTES: "XXX" DESIGNATES COLOR



RADIUS - WEDGE TILE



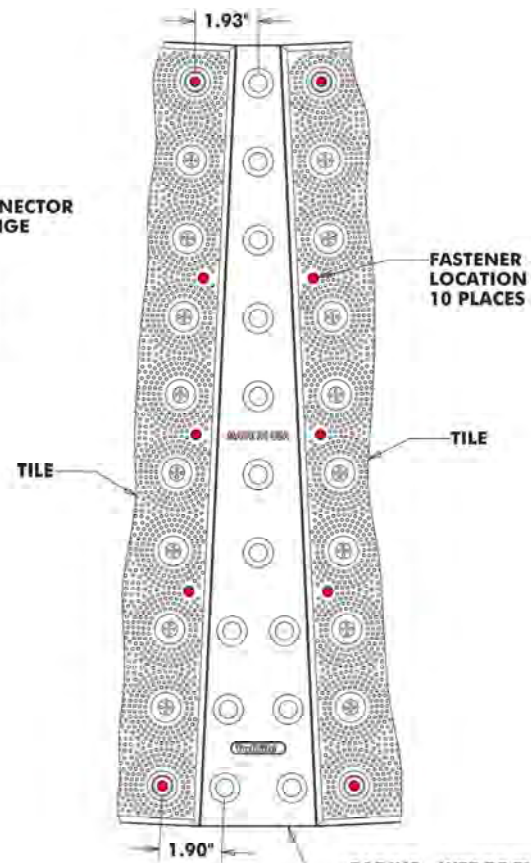
SECTION A-A



END VIEW



ANCHOR DETAIL



CONNECTED VIEW

# 30R WET SET

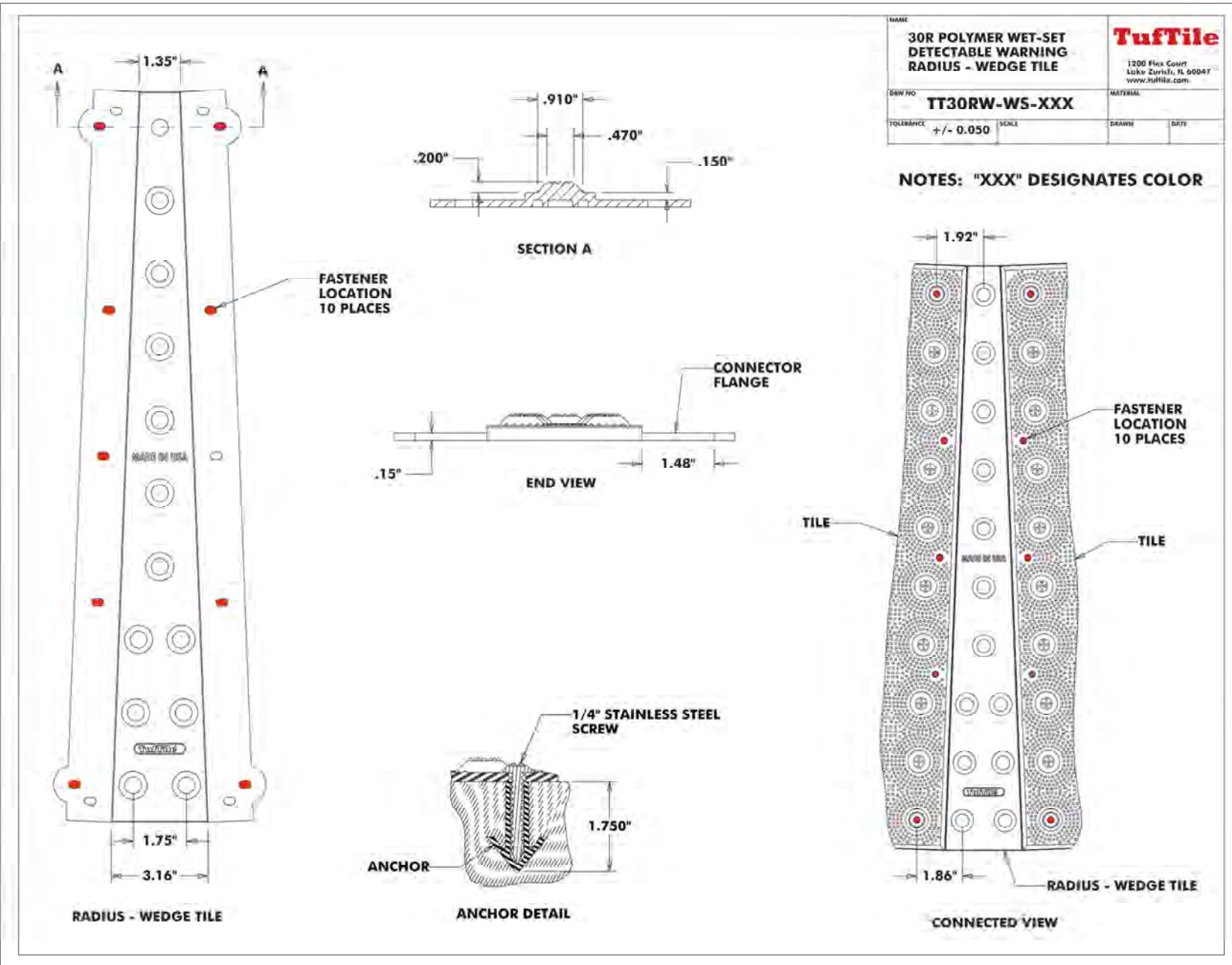
(REPLACEABLE)

## POLYMER DETECTABLE WARNING RADIUS—WEDGE TILE

TEL 888-960-8897

FAX 847-550-8004

www.tufile.com



## TufTile® INSTALLATION INSTRUCTIONS WET-SET (REPLACEABLE)

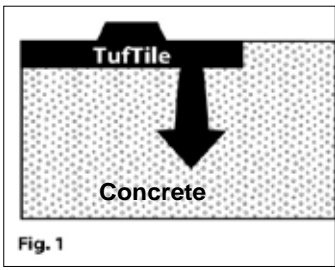


Fig. 1

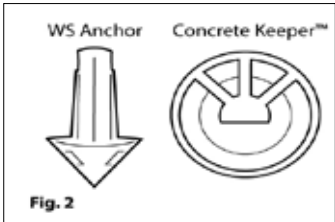


Fig. 2

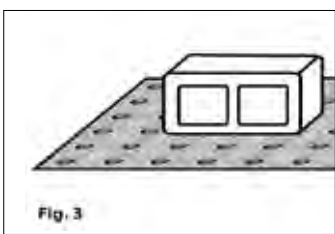


Fig. 3

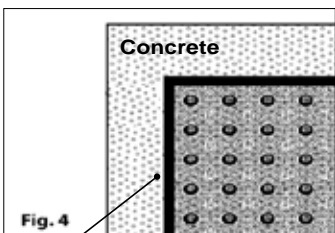
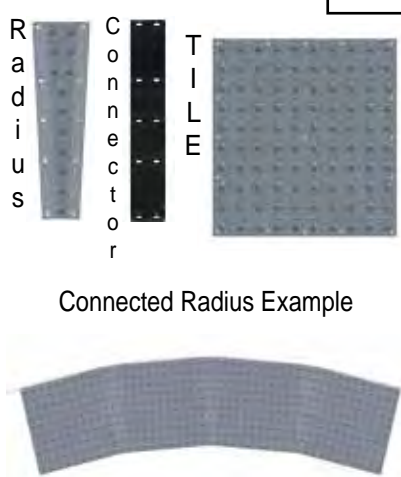


Fig. 4

1/8" Deep Troweled Edge

1. Read these instructions thoroughly before you begin. Consult the Access-Board, PROWAG guidelines R208 & R305 for tile placement location before beginning. Go to [www.TufTile.com](http://www.TufTile.com) for Federal compliance documents.
2. The concrete physical properties need to comply with the project's specifications. The proper slump range will ensure TufTiles maintain a solid connection with the cured concrete.
3. For Radius or Connected Tiles, see below. For normal tile install, do not remove protective plastic covering from TufTile until it's installed and concrete is fully cured.
4. Slowly press the TufTile into the wet concrete until the base of the truncated domes is flush with the concrete. **(Figure 1) Do not stand on the tile during installation.** (TufTile polymer products are not recommended for asphalt installations)
5. To ensure proper integration between TufTile WS anchors, \*Concrete Keepers™, and the concrete it is important to tap the entire TufTile surface with a rubber mallet. **(Figure 2)** \*Concrete Keepers™ are a feature of TufTile polymer products only.
6. OPTIONAL: In drier or wetter concrete mixes a weight like a sand bag or block may be laid on top of the installed tile to hold the tile at the desired depth and prevent it from "floating" during the curing process. **(Figure 3)**
7. IMPORTANT! WHILE THE CONCRETE IS WORKABLE, AN 1/8" DEEP TROWELED EDGE MUST BE INSTALLED AROUND THE TILE PERIMETER. **(Fig. 4)**
8. Finish the concrete as required in the specifications. Do not stand or walk on the TufTile until the concrete is fully cured.
9. Remove protective plastic sheeting after all post-installation treatments are complete and the concrete has cured. TufTile's protective film does not wrap under the tile and can be fully removed. Your TufTile installation is now complete.



### Radius or Connected TufTile® Installation

**Instead of Step 3 above, do the following:**

3. Peel back the protective coating on the tile edges.
- 3a. Remove anchors from edges that join.
- 3b. Insert Radius or Connector part between the tiles.
- 3c. Re-install anchors through tile and Radius or Connector.
- 3d. Locate the complete surface in position over wet concrete

**Resume installation at Step 4 above**

Additional installation information including an installation tutorial is available at [www.TufTile.com](http://www.TufTile.com)  
If you have any additional questions please contact TufTile®

## TufTile® INSTRUCCIONES DE APLICACIÓN HÚMEDO-SET (REEMPLAZABLE)

1. Lea estas instrucciones antes de comenzar. Consulte la tabla de acceso, PROWAG directrices R208 y R305 para la ubicación de colocación de baldosas antes de empezar. Visita [www.TufTile.com](http://www.TufTile.com) para documentos federales de cumplimiento.
2. Las propiedades físicas del concreto deben cumplir con las especificaciones del proyecto. El rango de asentamiento adecuado asegurará **TufTiles** mantener una sólida conexión con el concreto curado.
3. Para radio o azulejos conectados, ver abajo. Para baldosas de instalación normal, no retire la cubierta plástica protectora de **TufTile** hasta que esté instalado y el hormigón esté completamente curado.
4. Con cuidado presione el **TufTile** en el concreto húmedo hasta que la base de las cúpulas truncadas quede al nivel con el concreto adyacente. (**Figura 1**) No se pare sobre la baldosa durante la instalación.
5. Para asegurar una adecuada integración entre anclajes **TufTile** WS,\*Concrete Keepers™, y lo concreto es importante pulsar toda la superficie **TufTile** con un mazo de goma. (**Figura 2**) \*Concrete Keepers™ son una característica de sólo productos del almidón de **TufTile**.
6. Opcional: En mezclas secas o más húmedas un peso como una bolsa de arena o blo que puede colocarse en la parte superior de la baldosa instalada para mantener a la profundidad deseada y prevención flotante que forman mientras que el cemento se endurece y se cura. (**Figura 3**)
7. **IMPORTANTE! MIENTRAS EL CONCRETO SE PUEDA TRABAJAR, DEBERA UTILIZAR Y DESLIZAR UNA HERRAMIENTA LLANA DE 1/8" PARA HACER UN BORDE ALREDEDOR DEL PERÍMETRO DEL BALDOSA. (Figura 4)**
8. Termine el concreto como se requiere en las especificaciones. No se pare ni camine sobre el **TufTile** hasta que el concreto esté completamente curado.
9. La cubierta de plástico protectora se puede retirar después de todos los tratamientos de concreto instalación este completa y el este curado. La lámina protectora del **TufTile** no se ajusta bajo la baldosas y se puede quitar totalmente. Su instalación se ha completado.

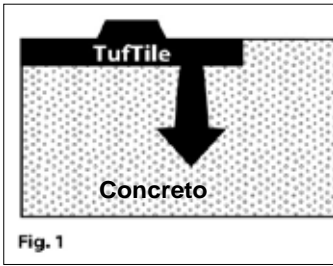


Fig. 1

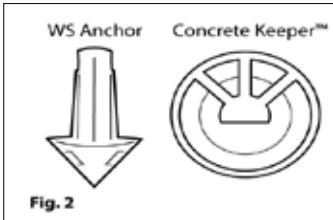


Fig. 2

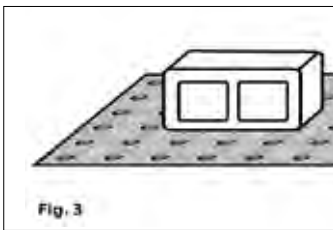


Fig. 3

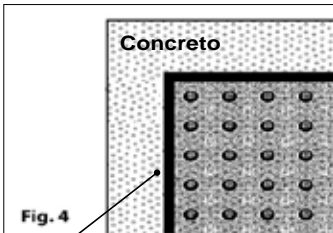
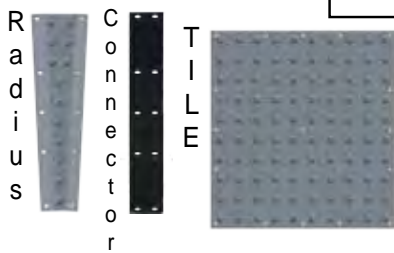


Fig. 4

1/8" del borde profundo llana



Ejemplo radio Conectado



### Instalación de radio o conectados **TufTile®**

En lugar de paso 3, haga lo siguiente:

3. Remueva la capa protectora en los bordes de los azulejos.
- 3a. Retire los anclajes de los bordes que se unen.
- 3b. Asemble el conector o al radio entre los TufTiles.
- 3c. Volver a instalar los anclajes a través de baldosas y Radio o Conector.
- 3d. Localice la superficie montaje completa en posición sobre el hormigón húmedo.

Reanudar la instalación en el paso 4 anterior

Información adicional de instalación que incluye un tutorial de instalación está disponible en [www.TufTile.com](http://www.TufTile.com)

Si usted tiene alguna pregunta adicional, por favor, póngase en contacto con **TufTile®**.

Gracias por su preferencia!

1-888-960-8897

[www.TufTile.com](http://www.TufTile.com)



## MATERIAL SAFETY DATA SHEET (MSDS)

### SECTION I: MATERIAL IDENTIFICATION

**PRODUCT NAME:** Thermoplastic Polymer  
**CHEMICAL FAMILY:** Polyolefin  
**MANUFACTURER & CONTACT ADDRESS:** TufTile™ 1200 Flex Court, Lake Zurich, IL 60047

### SECTION II: COMPOSITION/INFORMATION ON INGREDIENTS

**Hazardous Components:** None  
**Composition:** Proprietary Polyolefin  
**Melting Temperature:** 293 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:** 1.1-1.25  
**Freezing Point:** N/A  
**Solubility in Water:** N/A  
**% Volatile by Volume:** N/A  
**Boiling Point:** N/A  
**pH:** N/A

### SECTION IV: FIRE AND EXPLOSION INFORMATION

**Flammability:** Class A Rating  
**Means of Extinction:** Water or Chemical Fire Extinguisher  
**Special Procedures:** None  
**Explosion Data:** None Known  
**Sensitivity of Mechanical impact:** None  
**Hazardous Combustion:** None Known  
**Auto ignition Temp:** 410 Degrees Celsius  
**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:** Recycle or deposit in landfill in accordance to local, state and federal regulations

### SECTION VIII: PROTECTIVE EQUIPMENT TO BE USED:

**Protective Gloves:** Wear resistant gloves  
**Eye Protection:** Wear safety glasses when cutting panels

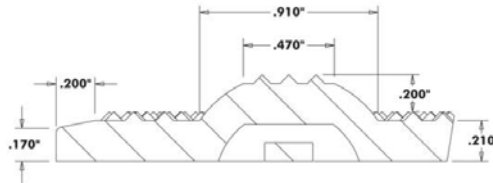
### SECTION IX: LEGAL DISCLAIMER

*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.™*

## PHYSICAL CHARACTERISTICS - POLYMER

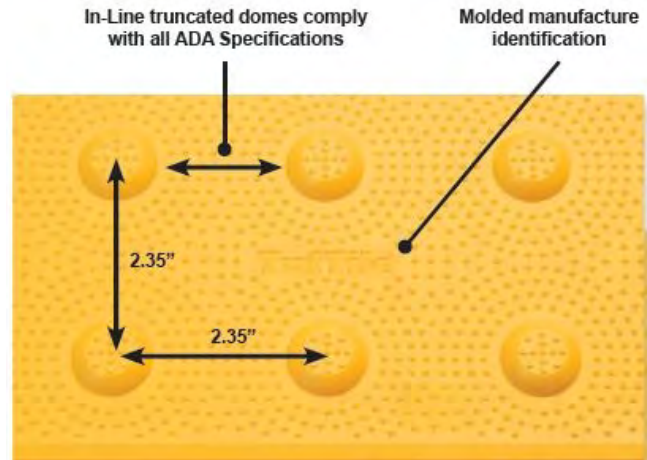
### DOME GEOMETRY

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



### DOME SPACING

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



### POLYMER WET-SET (REPLACEABLE) / SURFACE APPLIED (REPLACEABLE)

Material – Proprietary Thermoplastic Polyolefin

ASTM C 501	Abrasion Resistance	124 (lower number = better wear properties)
ASTM C 1028	Slip Resistance	Dry-1.28, Wet-1.23
ASTM D 570	Water Absorption	0.04%
ASTM D 1308	Chemical Stain Effects	No Effect
	-70Hrs/70° C	No Effect
	-Motor Oil	No Effect
	-Antifreeze	No Effect
	-Coffee	No Effect
ASTM B 117	Salt Spray (200 Hrs)	No Change
ASTM D 790	Flexural Strength	3901 psi
ASTM D 638	Tensile Strength	2885 psi
ASTM D 695	Compressive Properties	11,100 psi
RCRA-C	Non-Hazardous Classification	Non-Hazardous
ASTM D 1709 (modified)	(Dart Drop Impact Test: 48 lb steel dart with spherical head and 1.8" diameter radius dropped from 2 feet equaling 100ft/lbs of force)	Nubs flattened on tile, tile did not crack

## WARRANTY

TufTile, Inc. 5-Year Limited Warranty. TufTile, Inc. values your business, and the TufTile, Inc. tactile tile (the “product”) you purchased comes with a limited warranty that the product will be free from defects for a period of five years from date of installation subject to 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 or resulting from outside forces (including, but not limited to, snow plows causing damage) 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 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 differs 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 five 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.**

# The Law and Detectable Warning Surfaces

## FEDERAL

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](http://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.