

U.S. Patent  
No. 7,779,581

Proudly Made in  
the U.S.A.

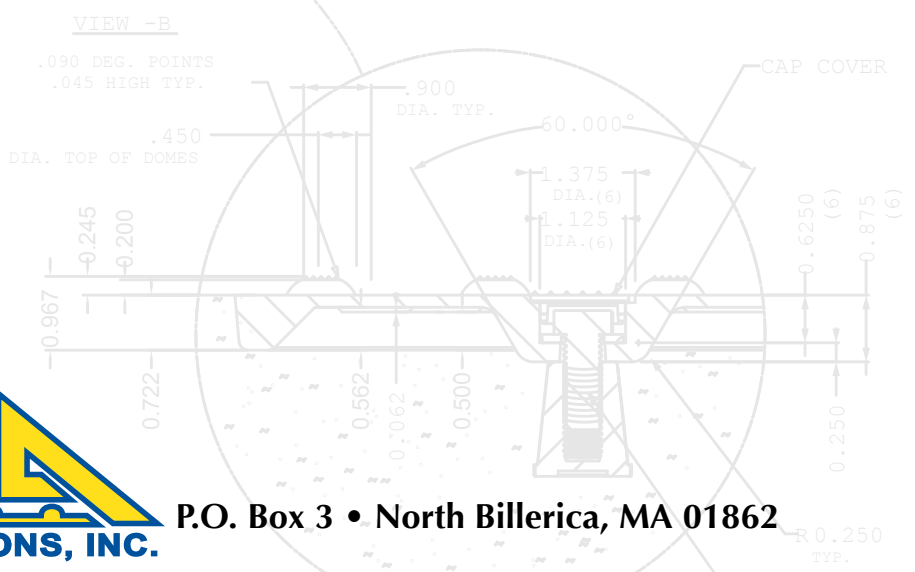
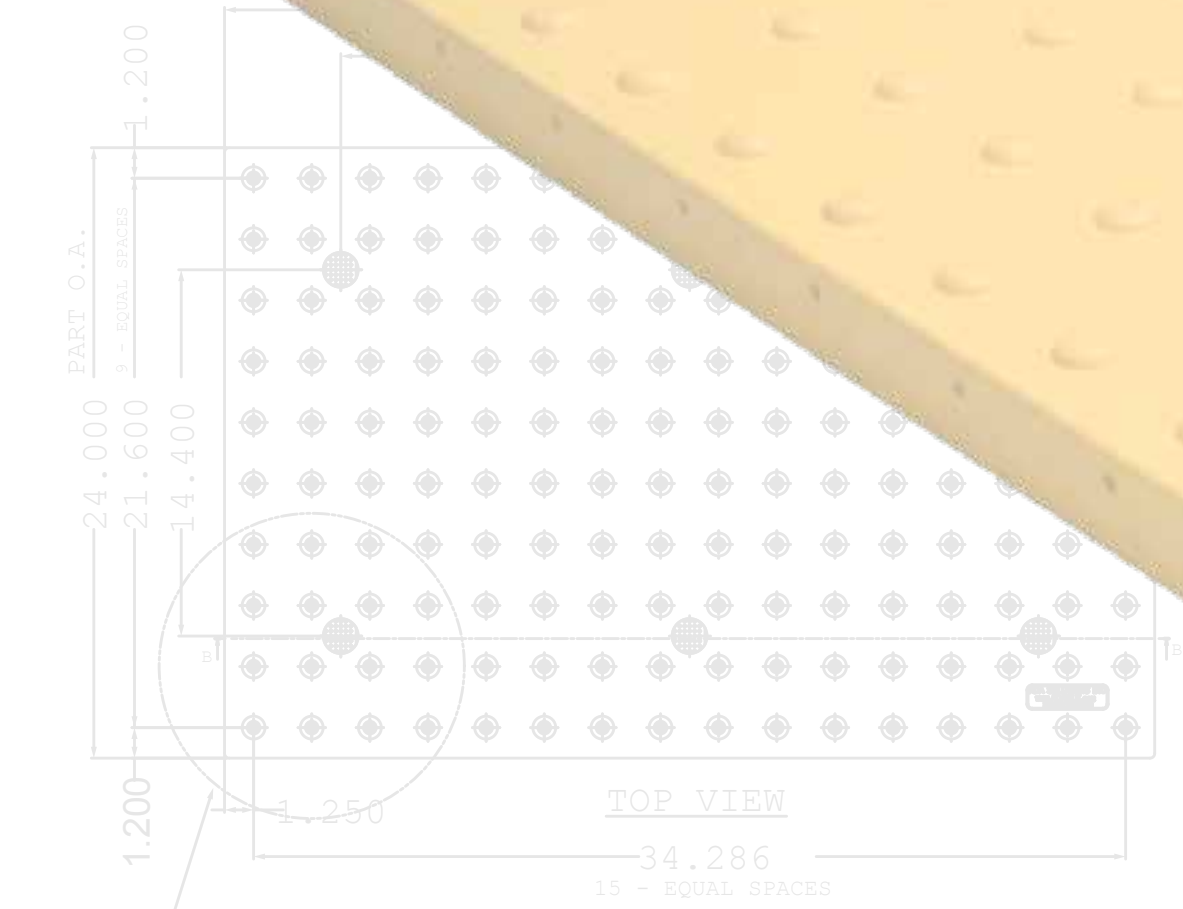


**ADA SOLUTIONS, INC.**  
**DETECTABLE WARNING SURFACES**  
**FOR PEDESTRIAN CROSSINGS**



*Service, Delivery and Price*  
*Make ADA Solutions, Inc. the Obvious Choice*

WWW.ADATILE.COM • 800-372-0519



P.O. Box 3 • North Billerica, MA 01862

**VIEW -B 3 x SIZE**





# COMPOSITE DETECTABLE WARNING SURFACES FOR PEDESTRIAN CROSSINGS

- Cast-In-Place Replaceable
- Radius Replaceable (WET-SET)
- Radius Surface Mount
- Surface Mount (Retrofit)
- Cast-In-Place (WET-SET)

## ADA Products Feature:

*Cost Effective, Readily Available, and Easy to Install*

### ADAAG/PROW/CA Title 24 Compliant

- Pleasing architectural quality appearance and high performance product with geometry strictly compliant with all applicable codes.
- Approved for use by all major municipalities, DPW's and state DOT's.

### Superior Wear Resistance

- Wear resistance properties far superior to that achieved with concrete based materials of any type.
- ADA's product will conform to irregular underlying substrates.
- Eliminates hairline cracking observed in epoxy based and VPC (Vitrified Polymer Composite) based materials.

### Maintenance

- Virtually impervious to absorption (key indicator of durability) when compared to concrete, epoxy, or VPC materials. Not affected by chemical exposure.
- Performs well when subjected to snow removal operations.
- Easy to clean and replace when necessary.

### Homogenous Materials allow for Superior Color Stability

- Pigment is uniformly distributed throughout the thickness of our products.
- Long term color stability without the need for secondary coatings.

### Product Availability

- Immediate delivery
- National distribution

### Proudly Made in the U.S.A.

We offer unmatched selection, service, delivery and price, with a strong focus on customer satisfaction. ADA Solutions, Inc. is leading the way in the detectable warning marketplace. Use us once and you'll see why so many companies across the country choose ADA Solutions, Inc.

In stock colors

Yellow

Brick Red

Black

Dark Gray

Clay Red

Light Reflectance Values			
ADA's Composite TWS Product Line		Federal Color Standards (595B)	
	Color	Description	LRV
1.	Federal Yellow	#33538 (lusterless)	43.8
2.	Brick Red	#20109 (lusterless)	7.3
3.	Black	#37038 (lusterless)	2.5
4.	Dark Gray	#36118 (lusterless)	2.5
5.	Clay Red	#22144 (lusterless)	7.8
6.	Safety Red	#31350 (lusterless)	8.6

# AVAILABLE SIZES & COLORS

		Dome Spacing	Yellow	Brick Red	Dark Gray	Black	Clay Red
REPLACEABLE	2' x 3'	2.35"	✓	✓	✓	✓	✓
	2' x 4'	2.35"	✓	✓	✓	✓	✓
	2' x 5'	2.35"	✓	✓	✓	✓	✓
	3' x 4'	2.35"	✓	✓	✓	✓	
	3' x 5'	2.35"	✓	✓	✓	✓	
RADIUS REPLACEABLE	2' x 33¼"	Varies	✓	✓	✓	✓	✓
RADIUS SURFACE MOUNT	2' x 33¼" (16)	Varies	✓	✓	✓	✓	✓
SURFACE MOUNT	2' x 3' Fasteners/tile> (12)	1.67"	✓	✓	✓	✓	✓
		2.35"	✓	✓	✓	✓	✓
	2' x 4' (15)	1.67"	✓	✓	✓	✓	✓
		2.35"	✓	✓	✓	✓	✓
	2' x 5' (18)	1.67"	✓	✓	✓	✓	✓
		2.35"	✓	✓	✓	✓	✓
	3' x 4' (20)	1.67"	✓	✓	✓	✓	
3' x 5' (24)	1.67"	✓	✓	✓	✓		
CAST-IN-PLACE	2' x 3'	1.67"	✓	✓	✓	✓	✓
		2.35"	✓	✓	✓	✓	✓
	2' x 4'	1.67"	✓	✓	✓	✓	✓
		2.35"	✓	✓	✓	✓	✓
	2' x 5'	1.67"	✓	✓	✓	✓	✓
		2.35"	✓	✓	✓	✓	✓
	3' x 4'	1.67"	✓	✓	✓	✓	
3' x 5'	1.67"	✓	✓	✓	✓		



## USE OF CHEM LINK M-1® ADHESIVE/SEALANT TO INSTALL ADA TACTILE WARNING SURFACE & WAYFINDING PANELS



ADA Solutions, Inc. offers the most complete and cost effective composite tactile warning surface (TWS) and wayfinding product line in the industry. ADA the North American market share leader. ADA offers Surface Applied (SA) TWS Panels to meet your project requirements. ADA's TWS products offer outstanding long-term performance, are slip resistant, offer superior long-term color stability, and can be installed with a minimum of effort under a wide variety of conditions. ADA's products comply with ADAAG, PROW, and CATitle 24 requirements. ADA recommends the use of Chem Link M-1® Adhesive/Sealant and/or urethane adhesives for installation of its tactile warning surface and wayfinding products.



### TYPICAL PHYSICAL PROPERTIES

V.O.C. Compliant	Less than 20 grams/liter
Color	White, Gray
Weight	11.7 lbs per gallon
Hardness	45+3 Shore A Type
Flash Point	N/A
Sheer Strength	400 PSI
Elongation	400-550%
Low Temp Flex	-10° F
Cure Time	24 hours
Service Temperature	
Normal Use	-40° F to 200° F
Continuous Immersion	120° F

### Green Standards:

- LEED 2.2 for New Construction and Major Renovations: Low Emitting Materials (Section 4.1) 1 Point
- NAHB Model Green Home Building Guidelines: 5 Global Impact Points
- VOC Content at 240° F: less than 20 grams/liter (including water), ASTM D2369, EPA Method 24

### Adhesive Information

	Part #	Description	Coverage/Yield
	ADH100Z	10oz Caulking Tube	Up to 10 sq ft
	ADH5GAL	5 Gallon Pail	Approx. 250 sq ft



# **CAST-IN-PLACE (WET-SET) REPLACEABLE TACTILE**



*Proudly Made in  
the U.S.A.*



**U.S. Patent  
No. 7,779,581**

WADAI SOLUTIONS, INC.  
WWW.WADAI.COM



# CAST-IN-PLACE REPLACEABLE TACTILE

## Installation Procedure

**Be sure to read and understand all of these instructions before you begin.**

**A.** The physical characteristics of the concrete shall be as specified in the contract documents while maintaining a slump range of 4-7 inches to permit the solid placement of the ADA Cast-In-Place Replaceable Tactile Unit (ADAREP) in the wet cement.

**B.** The concrete shall be poured and finished level, true and smooth to the required dimensions prior to the placement of the ADAREP unit.

**C.** Place the ADAREP unit 6-8 inches from the curb line. Working in a grid pattern, tamp the ADAREP unit into the wet concrete using a rubber mallet and a piece of wood. Continue this process until all of the air has been released, and the ADAREP unit surface is flush with the surrounding area. **IMPORTANT: Avoid striking the surface of the ADAREP unit directly.**

**D.** Following the placement, the ADAREP unit elevation should be checked to the adjacent surface with a straight edge. The ADAREP unit elevation should be consistent with the Contract Drawings and Specifications. Any required adjustments must be made prior to the time when the concrete begins to set.

**E.** **IMPORTANT NOTICE TO INSTALLER:** *To allow for expansion and contraction, after tile is installed, use a 1/4" finish edge trowel around entire perimeter. On a continuous run, be sure to space each unit 1/8" apart.*

**F.** When you are confident that the ADAREP unit is in place and no further adjustments are needed, place a cinder block on both ends to hold the ADAREP unit in place while the concrete sets.

**G.** During and after the ADAREP unit installation, as well as the concrete curing stage, no walking or external forces can be placed on the ADAREP unit. The area must be protected from pedestrian traffic until concrete is cured. The ADAREP Warning Surface will be ready for pedestrian traffic within 2-4 hours.

**H.** Be sure to remove plastic protective covering from the face of the ADAREP unit once the concrete is cured.

*\*Not recommended or warranted for asphalt installation.*



**PRODUCT SIZES**  
2'x3' 2'x4' 2'x5'  
3'x4' 3'x5'

**APPLICATION**  
Fresh Pour  
Concrete Ramps  
& Replacement

**Do not cut Cast-In-Place Replaceable Tactile. Use an appropriate sized tactile or Radius Tactile to fit the requirement. Contact manufacturer for more details.**



# CAST-IN-PLACE REPLACEABLE TACTILE

(WET-SET)

## Replacement Procedure

**Be sure to read and understand all of these instructions before you begin.**

- A.** Lift the existing composite bolt cap from each anchor location on the ADA Cast-In-Place Replaceable Tactile unit (ADAREP) with a flat head screw driver.
- B.** Remove the existing 1/2" x 1 1/2" heavy duty steel bolt & washer from each anchor location on the ADAREP unit with a ratchet. Save & reuse.
- C.** Tap around all sides of the ADAREP unit and across the middle with a rubber mallet, working in a grid pattern.
- D.** Pry the existing ADAREP unit from the concrete ramp with a small prybar, working around the edges until it can be lifted cleanly away.
- E.** Be sure to remove all small debris and dust from the existing impression in the concrete ramp.  
**IMPORTANT: Be careful not to get debris into anchor locations.**
- F.** Replace new ADAREP unit, of same size and orientation, into impression in concrete ramp. Lightly tamp down the ADAREP unit with a rubber mallet and a piece of wood. Continue this process until the ADAREP unit is set firmly into existing impression in concrete ramp.  
**IMPORTANT: Avoid striking the ADAREP unit directly.**
- G.** Bolt existing 1/2" x 1 1/2" heavy duty steel bolt & washer back into each anchor location on new ADAREP unit.
- H.** Snap a new composite bolt cap provided, into each anchor location on the ADAREP unit. The ADAREP unit is ready for pedestrian traffic immediately after installation is complete.



**View additional photos, drawings and specifications on our website: [www.adatile.com](http://www.adatile.com).  
Call (800) 372-0519 with any questions.**

**U.S. Patent  
No. 7,775,981**

# CAST-IN-PLACE REPLACEABLE TACTILE

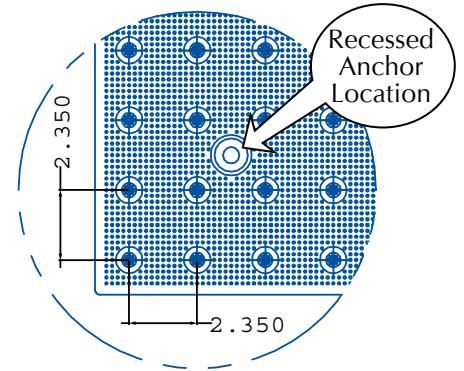
## Inline Dome Pattern

### DOMES GEOMETRY

In accordance with ADA Regulations for Detectable Warning on Curb Ramps: Raised truncated domes with a diameter of nominal 0.9", a height of nominal 0.2" and a center-to-center spacing of 2.35".

### PANEL DIMENSIONS

ADA Cast-In-Place Replaceable Tactile units (ADAREP) are available in 24" x 36", 24" x 48", 24" x 60", 36" x 48" and 36" x 60" sizes. Do not cut Cast-In-Place Replaceable Tactile. Use an appropriate sized tactile or Radius Tactile to fit the requirement. Contact manufacturer for further details. ADAREP units measure 1/4" nominal thickness and feature a 3/8" thick x 1" wide perimeter "flange."



### MATERIAL

A homogenous glass and carbon composite which is colorfast and UV stable. Truncated domes are fiberglass reinforced for enhanced durability. The color of the ADAREP unit is uniform throughout and does not rely on any type of paint coating to achieve color stability. Standard colors include: Federal Yellow, Brick Red, Clay Red, Safety Red, Blue, Dark Gray and Black. For superior wheelchair, walker and shopping cart mobility, truncated domes have a center-to-center (horizontally and vertically) spacing of 2.35 inches.

### PHYSICAL CHARACTERISTICS

Compressive Strength	28,900 psi	ASTM D 695
Flexural Strength	29,300 psi	ASTM D 790
Water Absorption	.07%	ASTM D 570
Slip Resistance	1.18 Dry, 1.05 Wet	ASTM C 1028
Flame Spread Index	20	ASTM E 84
Salt Spray	No Change (200 hours)	ASTM B 117
Chemical Stain Testing	No Deterioration	ASTM 1308
Abrasion Resistance	549	ASTM C 501
Accelerated Weathering	Delta E<5.0 (2,000 hours)	ASTM G 155
Tensile Strength	11,600 psi	ASTM D 638
Load Bearing at 16,000 lbs.	No Damage	AASHTO-H20
Freeze/Thaw/Heat	No Disintegration	ASTM C 1026

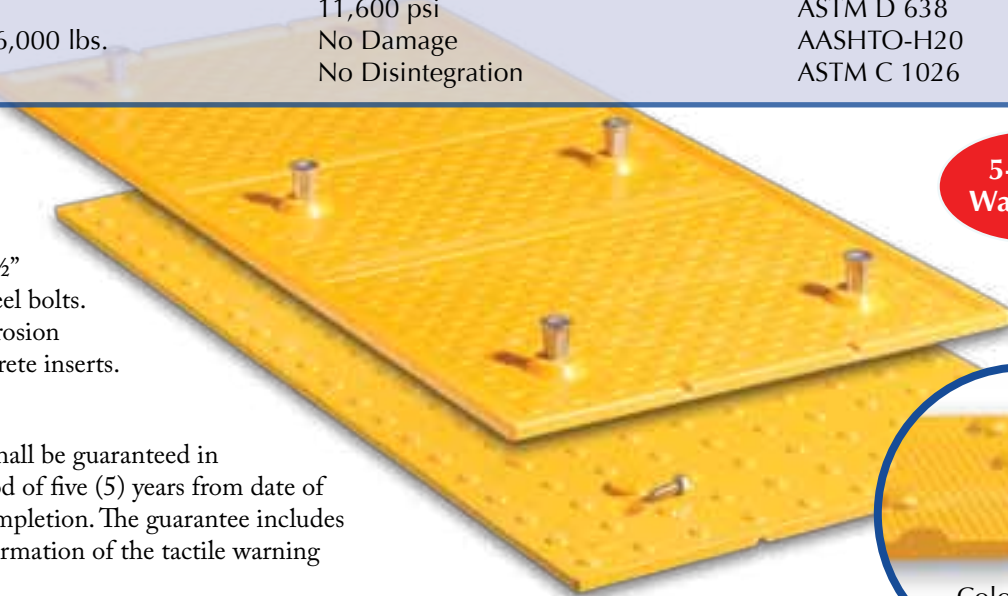
### INCIDENTALS

**Fasteners:** 1/2" x 1 1/2"  
heavy duty steel bolts.

**Anchors:** 1 1/2" corrosion  
resistant concrete inserts.

### WARRANTY

ADAREP units shall be guaranteed in writing for a period of five (5) years from date of contract's final completion. The guarantee includes breakage and deformation of the tactile warning surface material.



5-Year  
Warranty



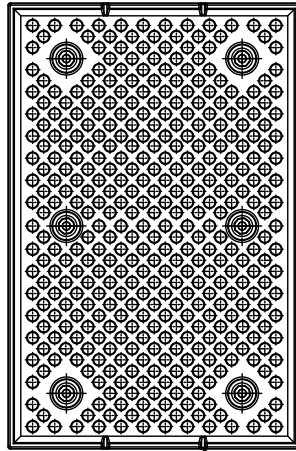
Color  
Throughout



# CAST-IN-PLACE REPLACEABLE TACTILE

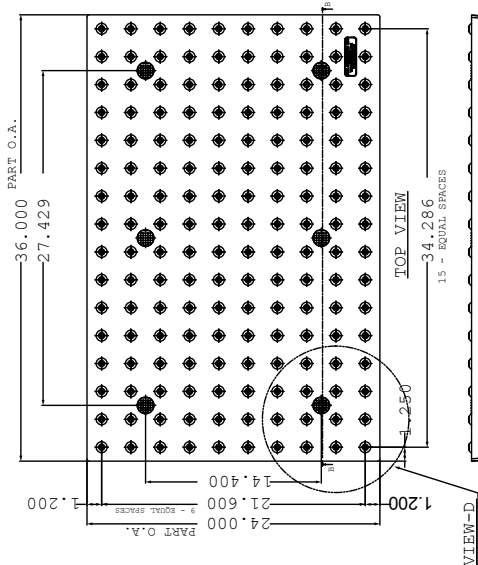
(WET-SET)

24"x36" Tile  
2.35" Dome Spacing



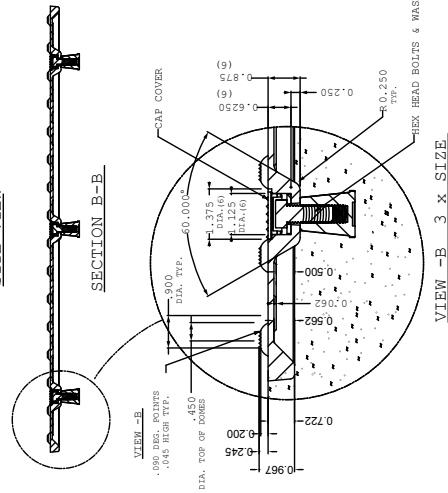
BOTTOM VIEW

PAIR VENTS LOCATED ON THE ENDS OF THE PANEL



SIDE VIEW

SECTION B-B



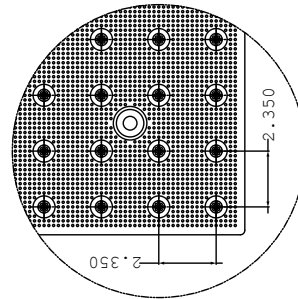
U.S. PATENT NO. 7,779,581

MATERIAL LIST			
ITEM	DESCRIPTION	PART NO.	QTY
1			
2			
3			
4			

PROJECT	WET SET ADA AND REPLACEABLE TACTILE WARRING SURFACE UNIT
DESCRIPTION	6-BOLT LOCATIONS
DETAILS	PLEASE REFER TO THE INDICATED DOME PATTERN PLANS AND DETAILS

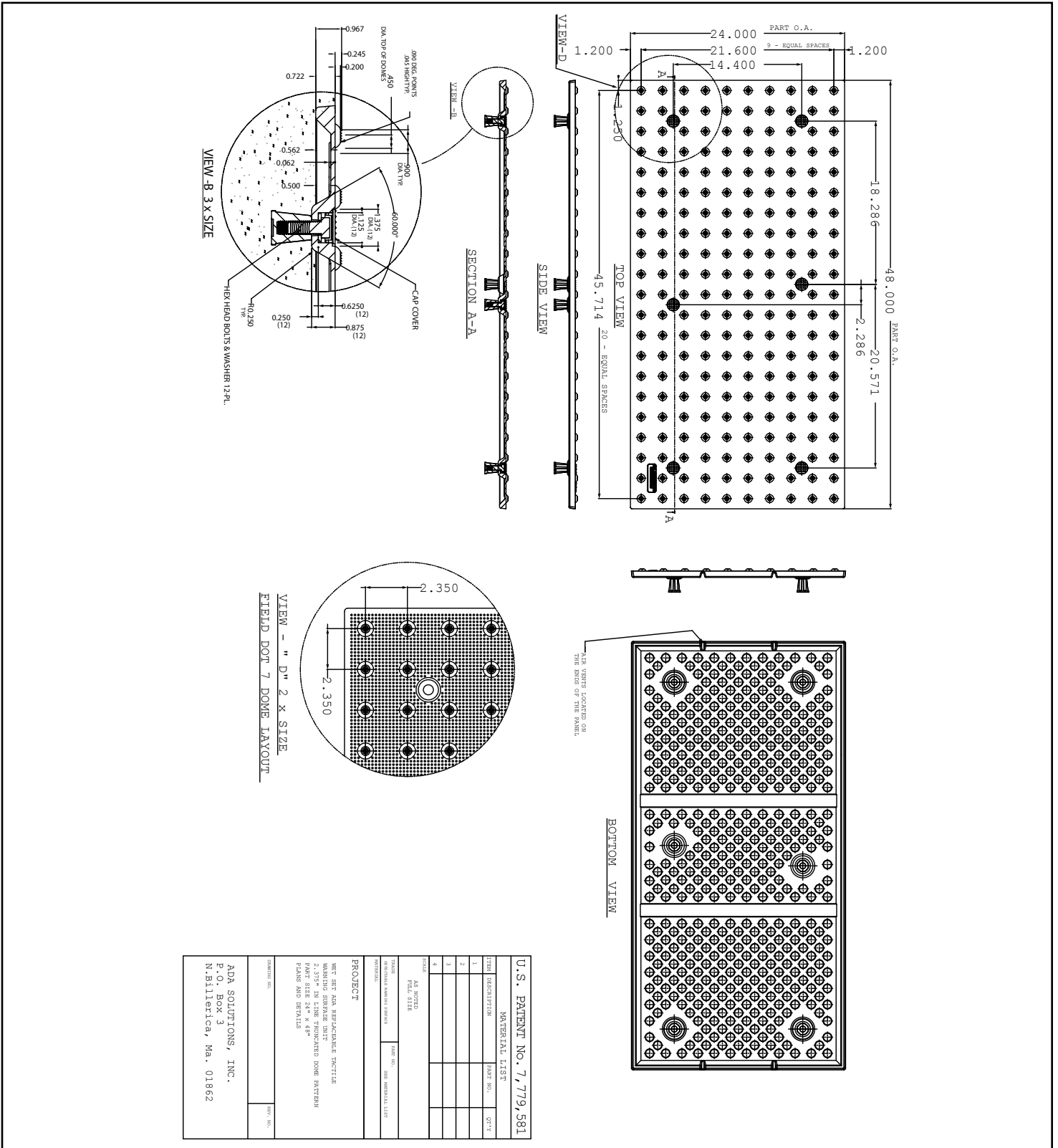
DATE	BY	CHKD.	REV.

ADA SOLUTIONS, INC.  
P.O. Box 3  
N.Billerica, Ma. 01862



# CAST-IN-PLACE REPLACEABLE TACTILE

24"x48" Tile  
2.35" Dome Spacing





# CAST-IN-PLACE REPLACEABLE TACTILE

(WET-SET)

24"x60" Tile  
2.35" Dome Spacing

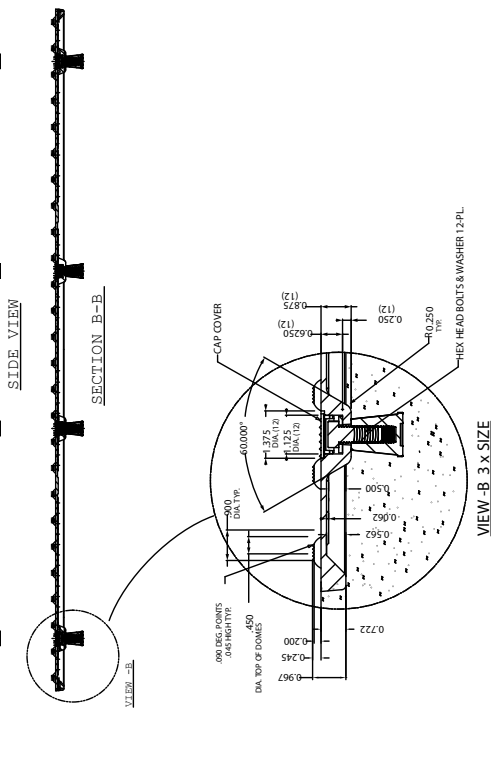
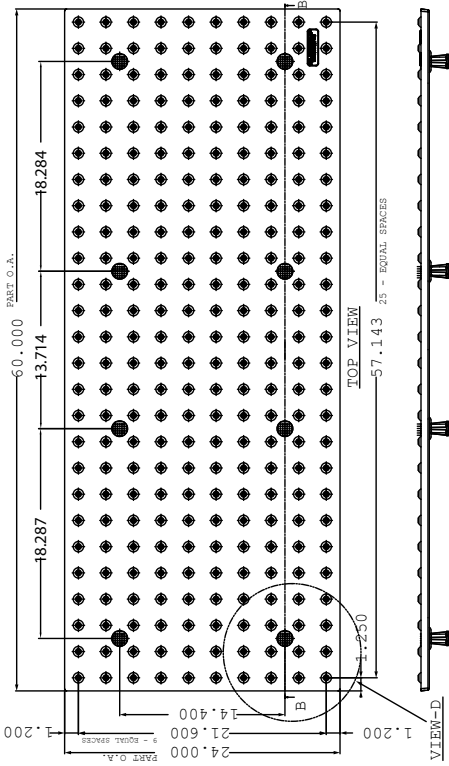
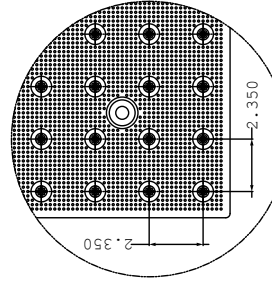
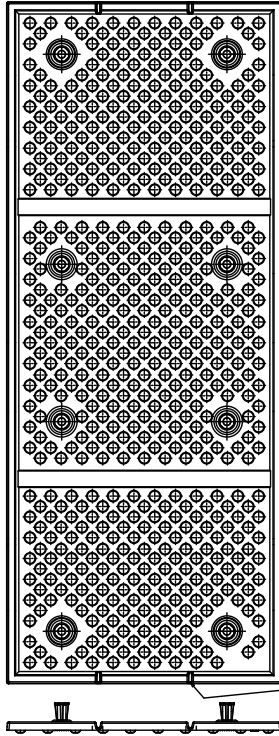
U.S. PATENT NO. 7,779, 581

MATERIAL LIST		QTY
ITEM	DESCRIPTION	
1		
2		
3		
4		
5		
6		
7		

AS NOTED:  
FILL SET

PROJECT:  
WET SET ADA REPLACEABLE TACTILE  
WARNING SURFACE UNIT  
2.35" IN DIAM THICKNESS DOME PATTERN  
FOR ADA 508  
PLEASE SEE 2011  
PLANS AND DETAILS

ADA SOLUTIONS, INC.  
P.O. Box 3  
N.Billerica, Ma. 01862



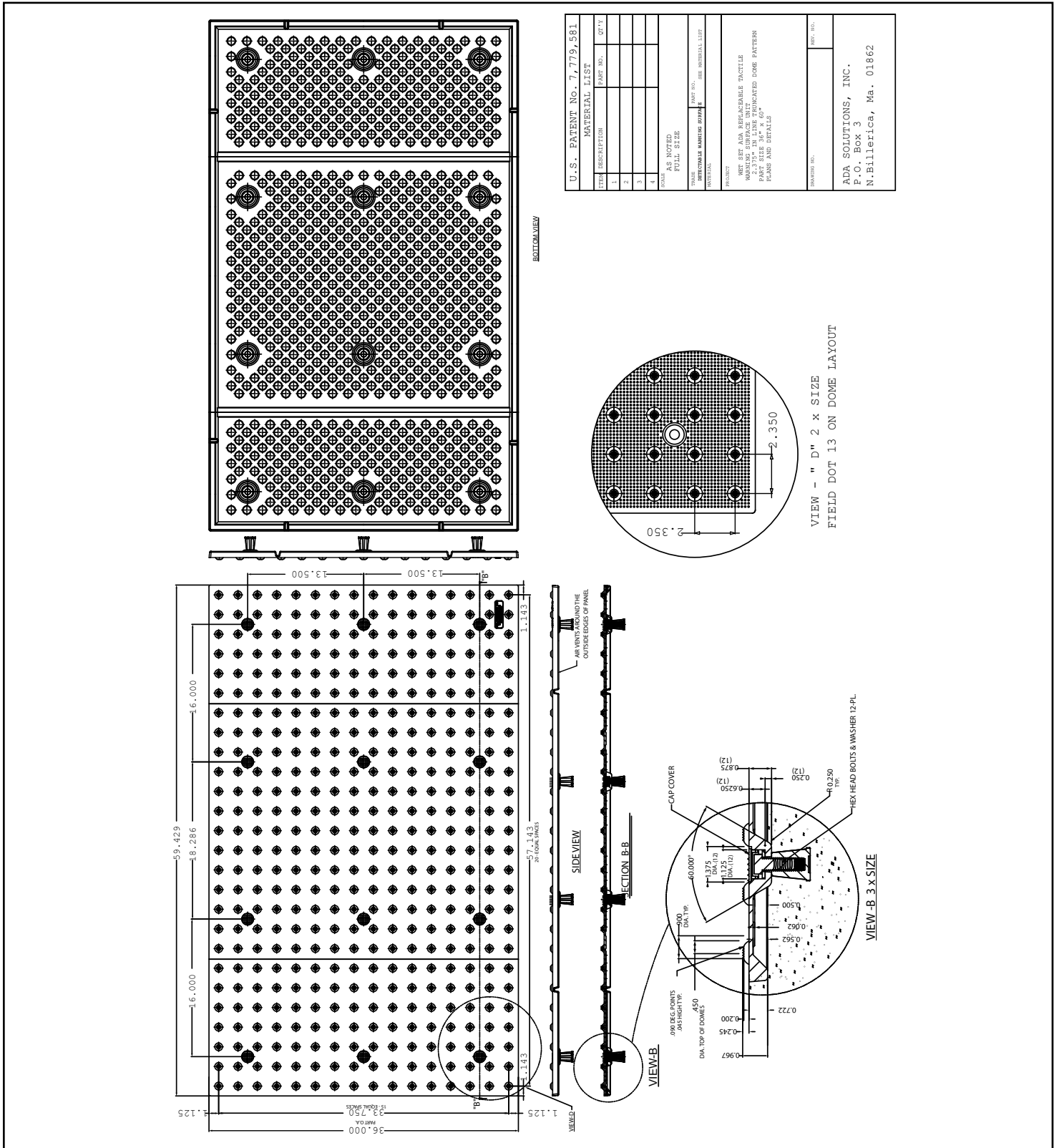




# CAST-IN-PLACE REPLACEABLE TACTILE

(WET-SET)

36x60" Tile  
2.35" Dome Spacing



U.S. Patent  
No. 7,779,581



# **RADIUS TACTILE**

**CAST-IN-PLACE REPLACEABLE (WET-SET)  
OR SURFACE MOUNT**



**Proudly Made in  
the U.S.A.**





# RADIUS TACTILE - REPLACEABLE

## Installation Procedure

**Be sure to read and understand all of these instructions before you begin.**

**A.** The physical characteristics of the concrete shall be as specified in the contract documents while maintaining a slump range of 4-7 inches to permit the solid placement of the ADA Replaceable Tactile Unit (ADAREP) in the wet cement.

**B.** The concrete shall be poured and finished level, true and smooth to the required dimensions prior to the placement of the ADAREP unit.

**C.** Working in a grid pattern, tamp the ADAREP unit into the wet concrete using a rubber mallet and a piece of wood. Continue this process until all of the air has been released, and the ADAREP unit surface is flush with the surrounding area.  
**IMPORTANT: Avoid striking the surface of the ADAREP unit directly.**

**D.** Following the placement, the ADAREP unit elevation should be checked to the adjacent surface with a straight edge. The ADAREP unit elevation should be consistent with the Contract Drawings and Specifications. Any required adjustments must be made prior to the time when the concrete begins to set.

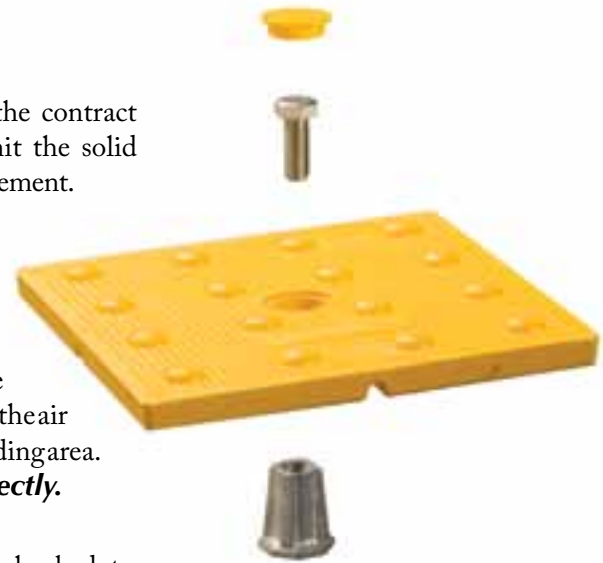
**E.** **IMPORTANT NOTICE TO INSTALLER:** *To allow for expansion and contraction, after tile is installed, use a 1/4" finish edge trowel around entire perimeter. On a continuous run, be sure to space each unit 1/8" apart.*

**F.** When you are confident that the ADAREP unit is in place and no further adjustments are needed, place a cinder block on both ends to hold the ADAREP unit in place while the concrete sets.

**G.** During and after the ADAREP unit installation, as well as the concrete curing stage, no walking or external forces can be placed on the ADAREP unit. The area must be protected from pedestrian traffic until concrete is cured. The ADAREP Warning Surface will be ready for pedestrian traffic within 2-4 hours.

**H.** Be sure to remove plastic protective covering from the face of the ADAREP Unit once the concrete is cured.

\*Not recommended or warranted for asphalt installation.



**PRODUCT SIZES**  
2' x 33 1/4"

**APPLICATION**  
Fresh Pour  
Concrete Ramps  
& Replacement

*View additional photos, drawings and specifications  
on our website: [www.adatile.com](http://www.adatile.com).*

*Call (800) 372-0519 with any questions.*

# RADIUS TACTILE - REPLACEABLE

(WET-SET)

## Replacement Procedure

**Be sure to read and understand all of these instructions before you begin.**

- A.** Lift the existing composite bolt cap from each anchor location on the ADA Replaceable Tactile unit (ADAREP) with a flat head screw driver.
- B.** Remove the existing 1/2" x 1 1/2" heavy duty steel bolt & washer from each anchor location on the ADAREP unit with a ratchet. Save & reuse.
- C.** Tap around all sides of the ADAREP unit and across the middle with a rubber mallet, working in a grid pattern.
- D.** Pry the existing ADAREP unit from the concrete ramp with a small prybar, working around the edges until it can be lifted cleanly away.
- E.** Be sure to remove all small debris and dust from the existing impression in the concrete ramp.  
**IMPORTANT: Be careful not to get debris into anchor locations.**
- F.** Replace new ADAREP unit into impression in concrete ramp. Lightly tamp down the ADAREP unit with a rubber mallet and a piece of wood. Continue this process until the ADAREP unit is set firmly into existing impression in concrete ramp.  
**IMPORTANT: Avoid striking the ADAREP unit directly.**
- G.** Bolt existing 1/2" x 1 1/2" heavy duty steel bolt & washer back into each anchor location on new ADAREP unit.
- H.** Snap a new composite bolt cap provided, into each anchor location on the ADAREP unit. The ADAREP unit is ready for pedestrian traffic immediately after installation is complete.



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Call (800) 372-0519 with any questions.

# RADIUS TACTILE - REPLACEABLE

## Inline Dome Pattern

### DOMES GEOMETRY

ADAAG, PROWAG and ADA/ABA Compliant in-line truncated dome pattern.

### UNIVERSAL RADIUS TWS PANEL

Universal Radius TWS Panel is scored on backside for a 10', 15' and 20' radial condition and may be cut by a table saw to accommodate site conditions.

### RADIUS PANEL SIZES

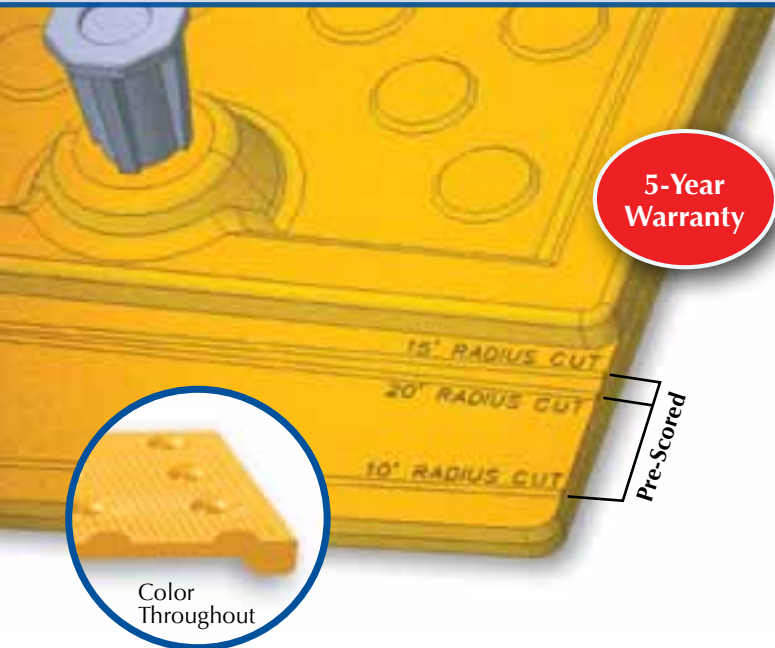
- ADA Replaceable TWS Unit: 24" x 33 1/4", 6 recessed and capped 1/2" x 1 1/2" steel bolts with concrete inserts and heavy duty perimeter detail.

### MATERIAL

A homogenous glass and carbon reinforced composite which is colorfast and UV stable. Truncated domes are fiberglass reinforced for enhanced durability. The color of the TWS Unit is uniform throughout and does not rely on any type of paint coating to achieve color stability. Standard colors: Federal Yellow, Brick Red, Clay Red, Safety Red, Blue, Dark Gray, and Black.

### PHYSICAL CHARACTERISTICS

Compressive Strength	28,900 psi	ASTM D 695
Flexural Strength	29,300 psi	ASTM D 790
Slip Resistance	1.18 Dry, 1.05 Wet	ASTM C 1028
Chemical Stain Testing	No Deterioration	ASTM D 543
Abrasion Resistance	549	ASTM C 501
Accelerated Weathering	Delta E < 5.0 (2,000 hours)	ASTM G 155
Tensile Strength	11,600 psi	ASTM D 638
Load Bearing at 16,000#	No Damage	AASHTO-H20
Freeze/Thaw/Heat	No Disintegration	ASTM C 1026



### INSTALLATION

- ADA Replaceable TWS Unit (New Construction): TWS unit is easily installed in wet concrete in minutes. TWS unit can be quickly removed and replaced with basic tools.

### WARRANTY

ADAREP units shall be guaranteed in writing for a period of five (5) years from date of contract's final completion. The guarantee includes breakage and deformation of the tactile warning surface material.









# RADIUS TACTILE – SURFACE MOUNT

## Installation Procedure

**Be sure to read and understand all of these instructions before you begin.**

- A.** The installation area should be cleaned of all debris, oil and grease, making sure the area is completely free of moisture. Tactile Panel may be surface mounted on existing pre-cleaned substrate.
- B.** Lay out the Tactile Panel on the substrate as it will appear when installed.
- If required, Universal Radius TWS Panel is scored on backside for a 10', 15' and 20' radial condition and may be cut by a table saw to accommodate site conditions. See web site for more details.
- C.** Place a 3/8" bead of adhesive on the frame of the bottom of each Tactile Panel. Adhesive yield: 10SF per 10 ounce cartridge.
- D.** Set the Tactile Panel in the installation area. Make all necessary adjustments prior to fastening.
- E.** Fasteners shall be installed in pre-formed fastener locations. Holes shall be drilled using a hammer drill with 1/4" x 2" min SDS bits. The drilled holes must be a minimum of 2" deep. Place fasteners in hole and hammer into place.
- If additional fasteners are required, use a 1/2", six point, 82 degree countersink to add a new fastener location. Follow the same drilling method for installing the fastener.
- F.** Caulk around perimeter of entire installation using BASF NP1 or equivalent.
- All concrete dust present on the Tactile Panel resulting from the drilling process must be cleaned off of the Tactile Panel prior to using any caulking materials.



\*Not recommended or warrantied for asphalt installation.

**PRODUCT SIZES**

**2' x 33¼"**

**APPLICATION**

**Existing  
Concrete Ramps**

**View additional photos, drawings and specifications on our website:  
[www.adatile.com](http://www.adatile.com). Call (800) 372-0519 with any questions.**

# RADIUS TACTILE – SURFACE MOUNT

## Inline Dome Pattern

### DOMES GEOMETRY

ADAAG, PROWAG and ADA/ABA Compliant in-line truncated dome pattern.

### UNIVERSAL RADIUS TWS PANEL

Universal Radius TWS Panel is scored on backside for a 10', 15' and 20' radial condition and may be cut by a table saw to accommodate site conditions.

### RADIUS PANEL SIZES

- ADA Surface Applied TWS Panel: 24" x 33 $\frac{3}{4}$ ", 16 composite sleeve anchors with stainless steel pins, adhesive & perimeter sealant.

### MATERIAL

A homogenous glass and carbon reinforced composite which is colorfast and UV stable. Truncated domes are fiberglass reinforced for enhanced durability. The color of the TWS Unit is uniform throughout and does not rely on any type of paint coating to achieve color stability. Standard colors: Federal Yellow, Brick Red, Clay Red, Safety Red, Blue, Dark Gray, and Black.

### PHYSICAL CHARACTERISTICS

Compressive Strength	28,900 psi	ASTM D 695
Flexural Strength	29,300 psi	ASTM D 790
Slip Resistance	1.18 Dry, 1.05 Wet	ASTM C 1028
Chemical Stain Testing	No Deterioration	ASTM D 543
Abrasion Resistance	549	ASTM C 501
Accelerated Weathering	Delta E<5.0 (2,000 hours)	ASTM G 155
Tensile Strength	11,600 psi	ASTM D 638
Load Bearing at 16,000#	No Damage	AASHTO-H20
Freeze/Thaw/Heat	No Disintegration	ASTM C 1026

### INSTALLATION

- ADA Surface Applied TWS Panel (Existing Concrete): TWS panel can be easily installed (adhered, fastened & sealed) in a matter of minutes.

### INCIDENTALS

**Fasteners:**  $\frac{1}{4}$ " x  $1\frac{5}{8}$ ", composite sleeve anchor with stainless steel pins.

**Adhesive:** One component structural elastomeric adhesive.

**Sealant:** BASF NP1, Sikaflex 1A, or equivalent.

### WARRANTY

Tactile Units shall be guaranteed in writing for a period of five (5) years from date of contract's final completion. The guarantee includes breakage and deformation of the tactile warning surface material.

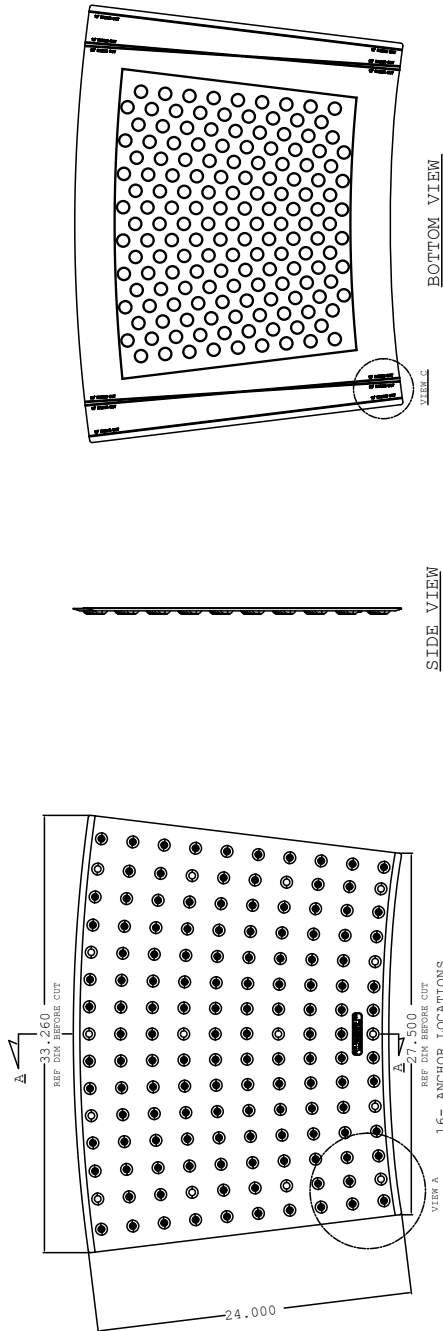
5-Year  
Warranty

Pre-Scored

Color  
Throughout

# RADIUS TACTILE - SURFACE MOUNT

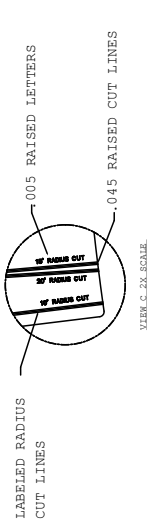
24"x33.25" Tile  
2.35" Dome Spacing



BOTTOM VIEW

SIDE VIEW

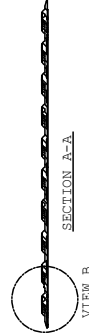
TOP VIEW



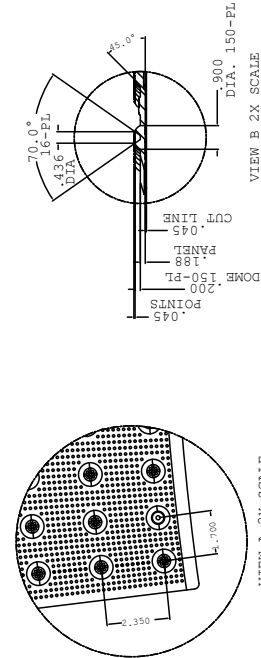
Labeled radius cut lines and dome profile.



FRONT VIEW

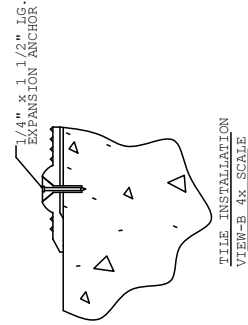


SECTION A-A



VIEW B, 2X SCALE

VIEW A, 2X SCALE



TILE INSTALLATION

MATERIAL LIST		PART NO.	QTY
1.			
2.			
3.			
4.			
SCALE		AS NOTED FULL SIZE	
UNITS		SEE MATERIAL LIST	
DEFECTABLE WORKING SURFACE		SEE MATERIAL LIST	
MATERIAL		ADA SURFACE PANEL APPLIED DEFECTABLE TMS 24" X 10", 15", 20" RADIAL SOUND ATTENUATING CURB RAMP PANELS AND CURB PANELS AND BEZELS	
PROJECT		REF. NO.	
FRAME NO.		REF. NO.	

ADA SOLUTIONS, INC.  
 P.O. Box 3  
 N.Billerica, Ma. 01862





# **SURFACE MOUNT TACTILE**

*Proudly Made in  
the U.S.A.*



IONS INC  
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# SURFACE MOUNT TACTILE



## Installation Procedure

**Be sure to read and understand all of these instructions before you begin.**

- A.** The installation area should be cleaned of all debris, oil and grease, making sure the area is completely free of moisture. Tactile Panel may be surface mounted on existing pre-cleaned substrate.
- B.** Lay out the Tactile Panel on the substrate as it will appear when installed.
- If required, the Tactile Panel may be cut using a table saw and carbide blade. See web site for more details.
- C.** Place a 3/8" bead of adhesive on the frame of the bottom of each Tactile Panel. Adhesive yield: 10SF per 10 ounce cartridge.
- D.** Set the Tactile Panel in the installation area. Make all necessary adjustments prior to fastening.
- E.** Fasteners shall be installed in pre-formed fastener locations. Holes shall be drilled using a hammer drill with 1/4" x 2" min SDS bits. The drilled holes must be a minimum of 2" deep. Place fasteners in hole and hammer into place.
- If additional fasteners are required, use a 1/2", six point, 82 degree countersink to add a new fastener location. Follow the same drilling method for installing the fastener.
- F.** Caulk around perimeter of entire installation using BASF NP1 or equivalent.
- All concrete dust present on the Tactile Panel resulting from the drilling process must be cleaned off of the Tactile Panel prior to using any caulking materials.



\*Not recommended or warranted for asphalt installation.

*View additional photos, drawings and specifications  
on our website: [www.adatile.com](http://www.adatile.com).  
Call (800) 372-0519 with any questions.*

**PRODUCT SIZES**  
2'x3' 2'x4' 2'x5'  
3'x4' 3'x5'

**APPLICATION**  
Existing  
Concrete Ramps



# SURFACE MOUNT TACTILE

## Inline Dome Pattern

### DOMES GEOMETRY

In accordance with ADA Regulations for Detectable Warning on Curb Ramps: Raised truncated domes with a diameter of nominal 0.9", a height of nominal 0.2", and a center-to-center spacing of nominal 1.67" minimum and 2.35" maximum.

### PANEL DIMENSIONS

Tactile Panels are available in 24"x36", 24"x48", 24"x60", 36"x48" and 36"x60" sizes and measure 3/16" thick. Panels can be custom cut to fit field conditions. All four edges of each panel have a 1/2" beveled edge. Each panel has 12 to 24 pre-formed fastener locations based upon panel size.



### MATERIAL

A homogenous glass and carbon reinforced composite which is colorfast and UV stable. Truncated domes are fiberglass reinforced for enhanced durability. The Tactile panel color is uniform throughout and does not rely on any type of paint coating to achieve color stability. Standard colors include: Federal Yellow, Brick Red, Clay Red, Safety Red, Blue, Dark Gray and Black.

### PHYSICAL CHARACTERISTICS

Compressive Strength	28,900 psi	ASTM D 695
Flexural Strength	29,300 psi	ASTM D 790
Water Absorption	.07%	ASTM D 570
Slip Resistance	1.18 Dry/1.05 Wet	ASTM C 1028
Flame Spread Index	20	ASTM E 84
Salt Spray	No Change (200 hours)	ASTM B 117
Chemical Stain Testing	No Deterioration	ASTM 1308
Abrasion Resistance	549	ASTM C 501
Accelerated Weathering	Delta E<5.0 (2,000 hours)	ASTM G 155
Tensile Strength	11,600 psi	ASTM D 638
Adhesion to Conc. (20-180 degrees)	No Delamination or Degradation	ASTM C 903
Freeze/Thaw/Heat	No Disintegration	ASTM C 1026

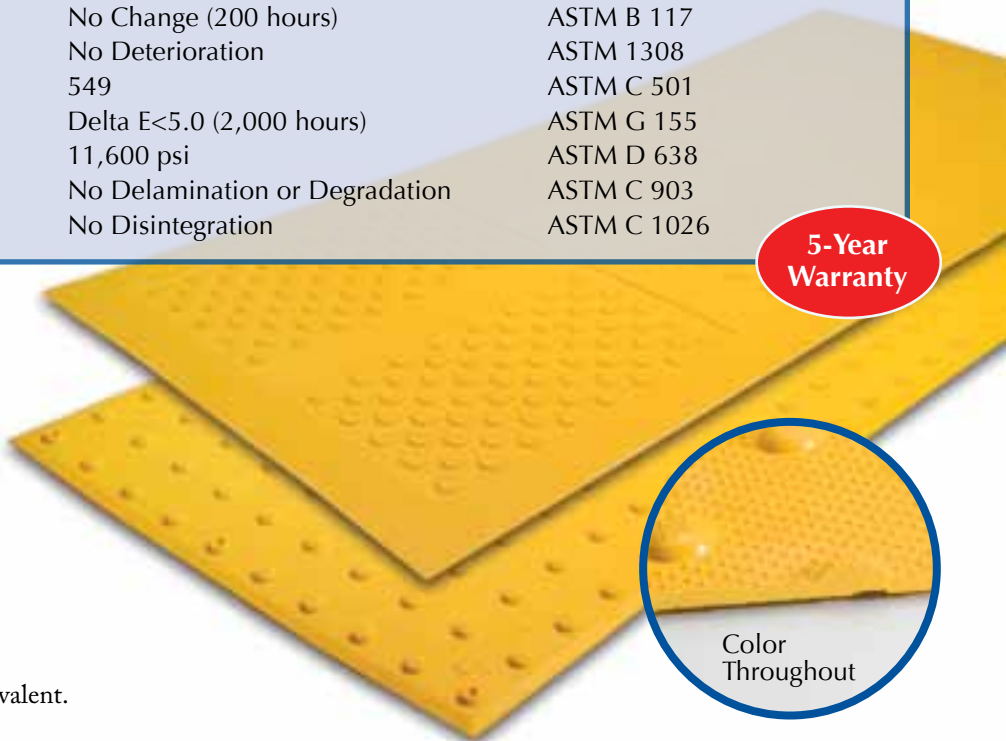
5-Year  
Warranty

### INSTALLATION

- ADA Surface Applied TWS Panel (Existing Concrete): TWS panel can be easily installed (adhered, fastened & sealed) in a matter of minutes.

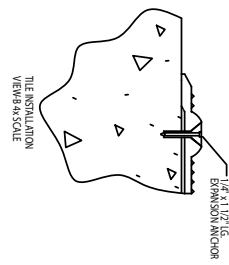
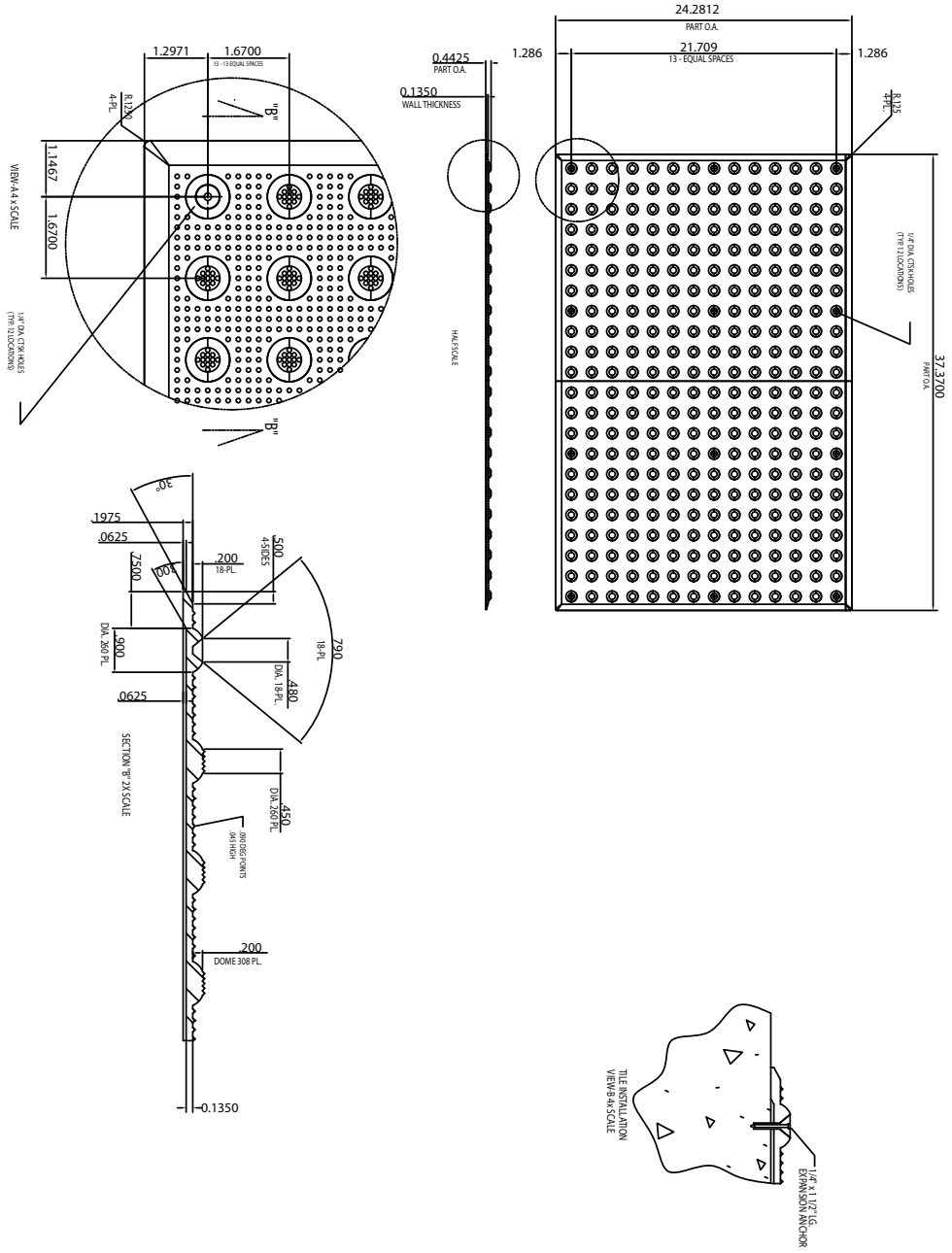
### INCIDENTALS

- Fasteners:** 1/4" x 1 3/8", composite sleeve anchor with stainless steel pins.
- Adhesive:** One component structural elastomeric adhesive.
- Sealant:** BASF NP1, Sikaflex 1A, or equivalent.



# SURFACE MOUNT COMPOSITE TACTILE

## 24"x36" Tile 1.67" Dome Spacing



MATERIAL LIST		
TOTAL	DESCRIPTION	QTY
1	24" x 36" SURFACE MOUNT COMPOSITE TACTILE	
2	1/4" DIA. EXP. ANCHOR	
3	1/4" DIA. PL.	
4	200 DIST. POINTS	
5	DOME 308 PL.	

TITLE	DATE
FINAL	11/11/16

PROJECT	DATE
SURFACE APPLIED DETECTABLE WARNING SURFACE SYSTEM 24" x 36" SOUND ATTENUATING CURB RAMP TILE (IN-LINE DOME) PLANS AND DETAILS	11/11/16

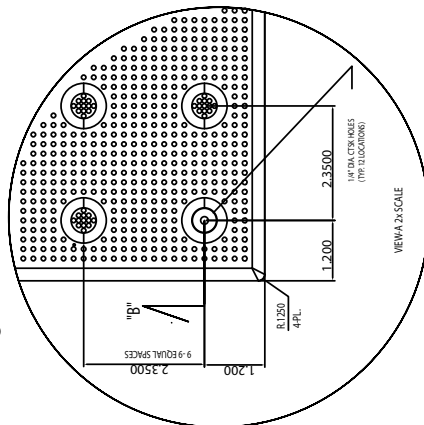
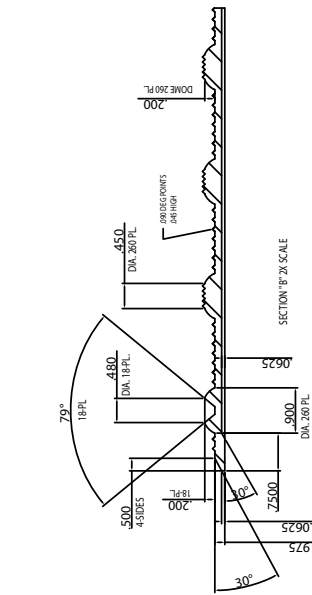
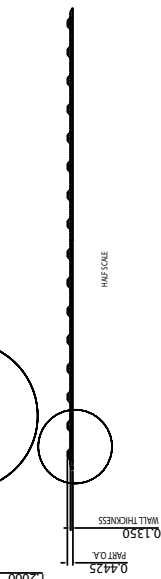
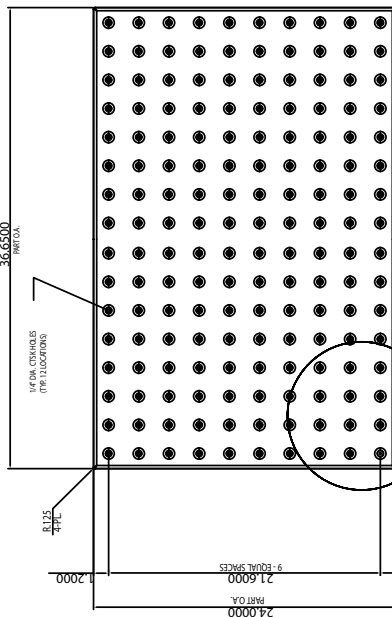
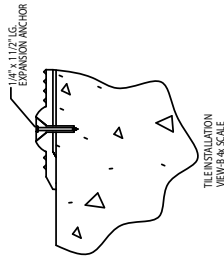
  

DESIGNED BY	DATE
ADA SOLUTIONS, INC. PO Box 3 N.Billerica, Ma. 01862	11/11/16

# SURFACE MOUNT COMPOSITE TACTILE

**24"x36" Tile**  
**2.35" Dome Spacing**

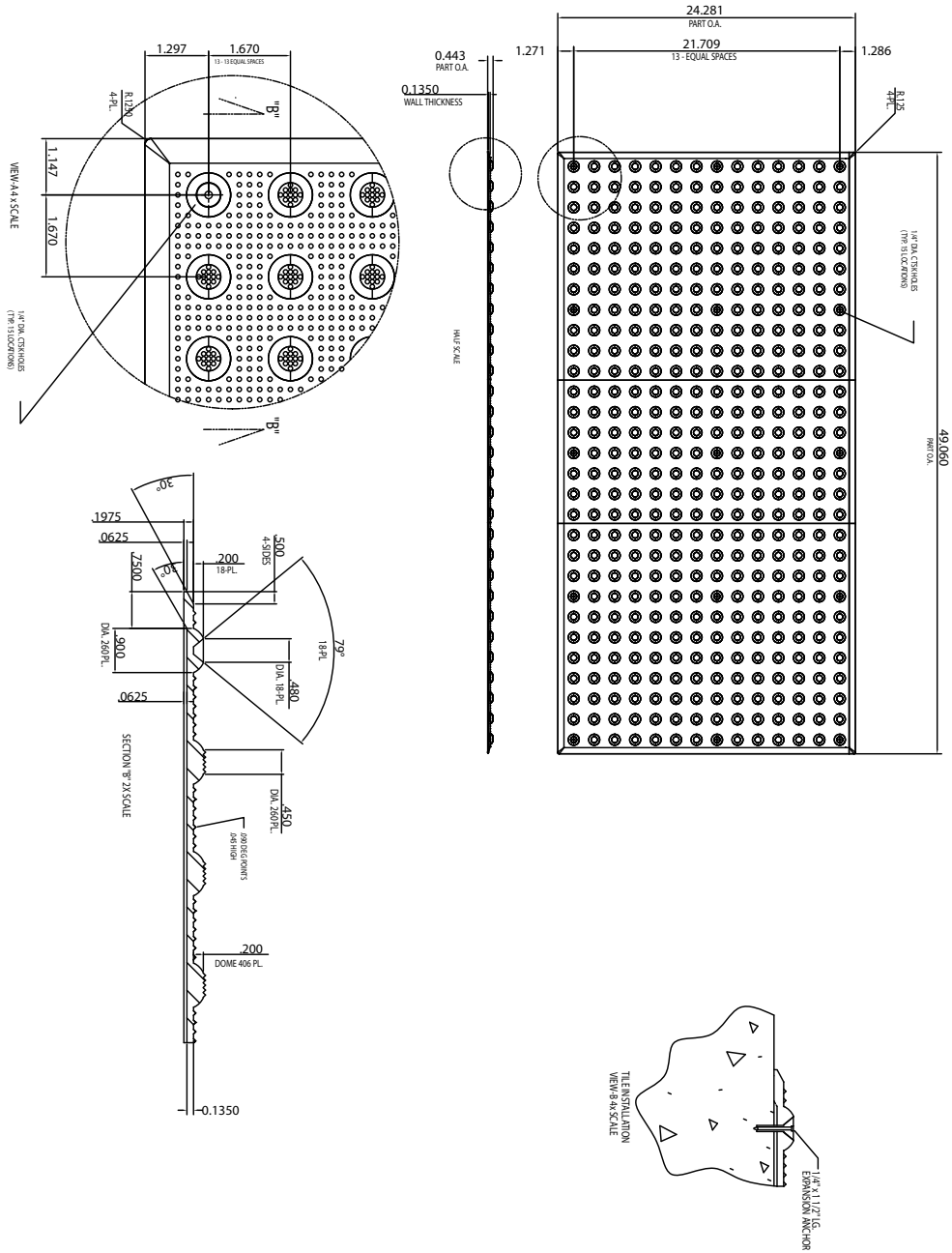
MATERIAL LIST			
ITEM	DESCRIPTION	PART NO.	QTY.
1			
2			
3			
4			
SCALE			
TILE SIZE (MINIMUM SURFACE MATERIAL)		PART NO.	QUANTITY
ASSORTED FULL SIZE			
PRODUCT			
SURFACE APPLIED DETECTABLE WARNING SURFACE SYSTEM			
24" x 36" SOUND ATTENUATING CURB RAMP TILE (INLINE DOME) PLANS AND DETAILS			
DRAWING NO.		REV. NO.	
ADA SOLUTIONS, INC.		PO Box 3	
N.Billerica, Ma. 01862			





# SURFACE MOUNT COMPOSITE TACTILE

24"x48" Tile  
1.67" Dome Spacing



MATERIAL LIST			
ITEM	DESCRIPTION	PART NO.	QTY
1			
2			
3			
4			
SCALE		AS SHOWN FULL SIZE	

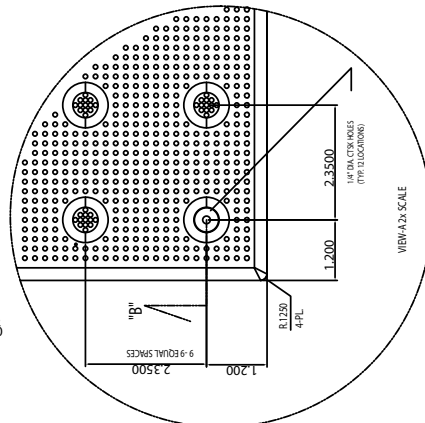
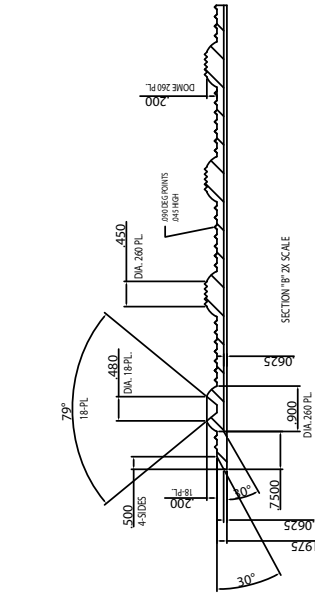
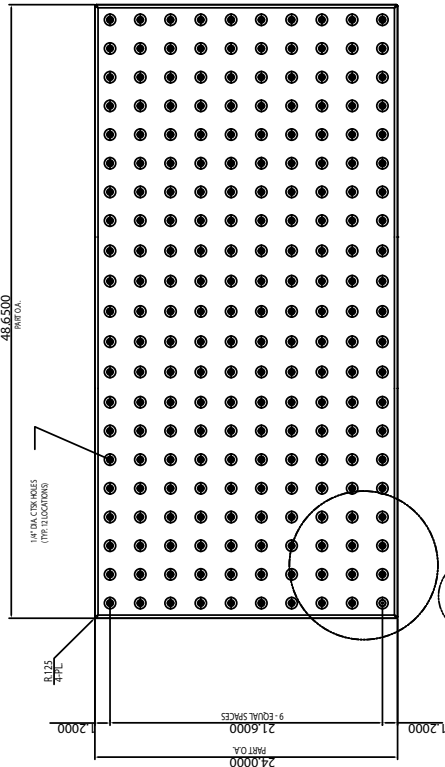
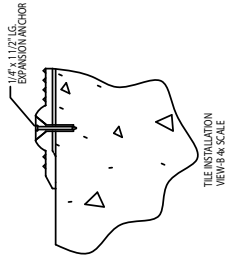
  

DATE	BY	APPROVED
DATE	DATE	DATE
PROJECT		
SURFACE APPLIED DETECTABLE WARNING SURFACE SYSTEM 24" X 48" SOUND ATTENUATING CURB RAMP TILE (ONLINE DOME) PLANS AND DETAILS		
COMPANY NO.	REV. NO.	
ADA SOLUTIONS, INC. PO Box 3 N Billerica, Ma. 01862		

# SURFACE MOUNT COMPOSITE TACTILE

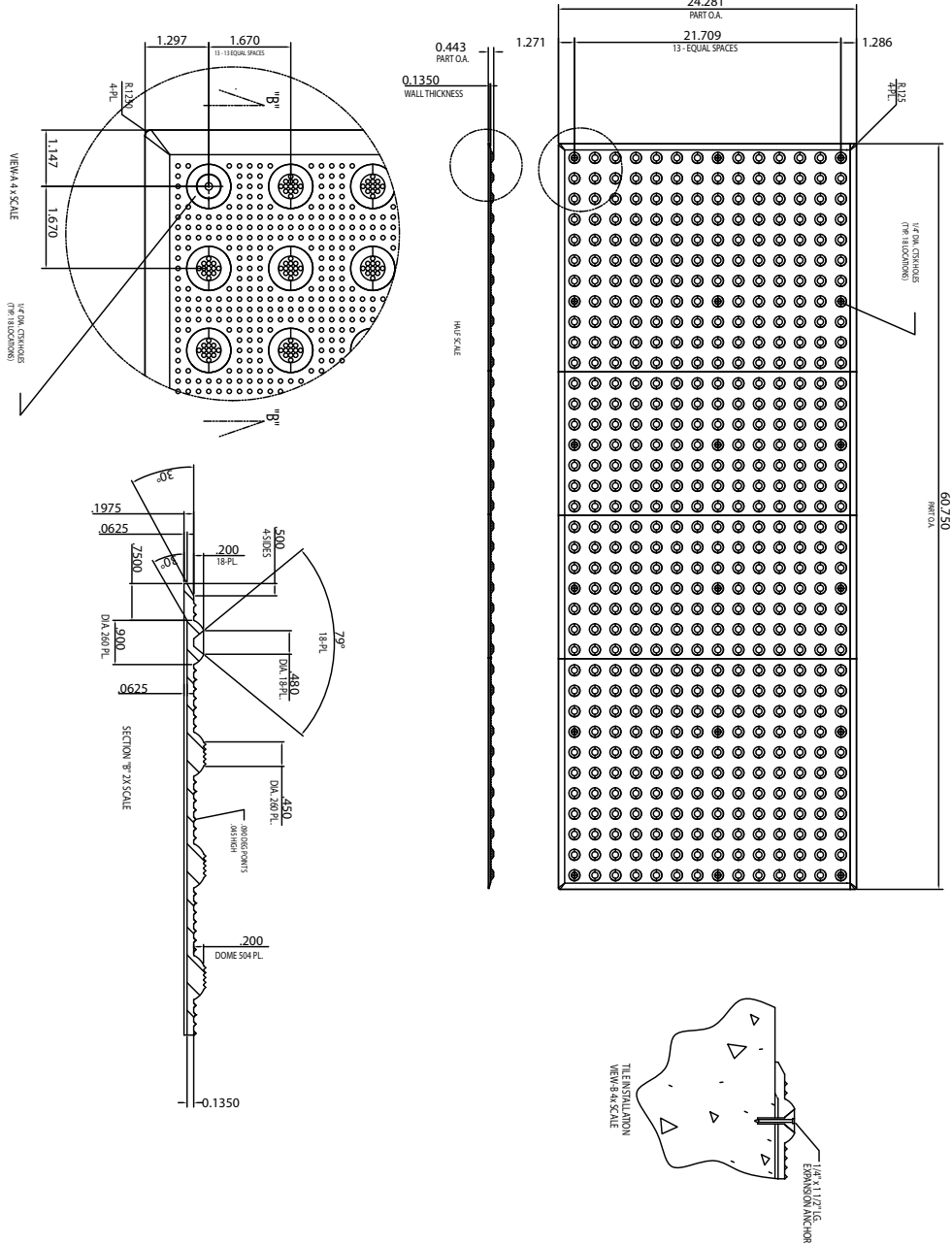
24"x48" Tile  
2.35" Dome Spacing

MATERIAL LIST		
ITEM	DESCRIPTION	QTY
1		
2		
3		
4		
SCALE		
AS NOTED FULL SIZE		
TRAC	FINISHING SURF	PART NO.
MATERIAL		AS SHOWN IN LIST
PROJECT		
SURFACE APPLIED DETECTABLE WARNING SURFACE SYSTEM 24" x 48" SOUND ATTENUATING CURB RAMP TILE (IN LINE DOME) PLANS AND DETAILS		
DRAWING NO.		REV. NO.
ADA SOLUTIONS, INC. 1 Survey Circle N.Billerica, Ma. 01862		



# SURFACE MOUNT COMPOSITE TACTILE

24"x60" Tile  
1.67" Dome Spacing



## MATERIAL LIST

ITEM	DESCRIPTION	PART NO.	QTY
1			
2			
3			
4			

## AS NOTED FULL SIZE

THICKNESS	PART NO.	QTY

MATERIAL	PART NO.	QTY

PROJECT: SURFACE APPLIED DETECTABLE WARNING SURFACE SYSTEM

24" X 60" SOUND ATTENUATING CURB RAMP TILE (INLINE DOME) PLANS AND DETAILS

EXAMINATION	PART NO.

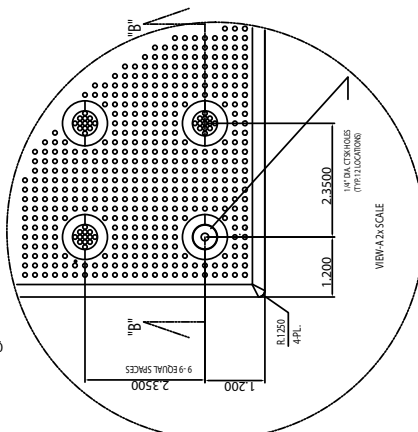
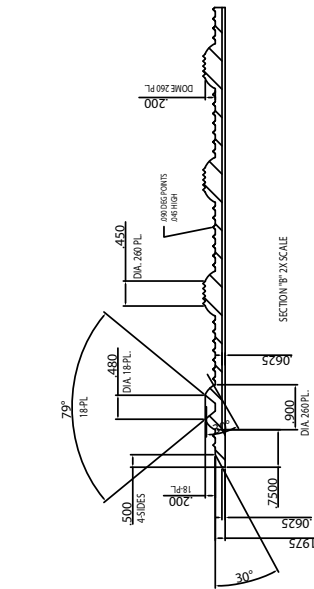
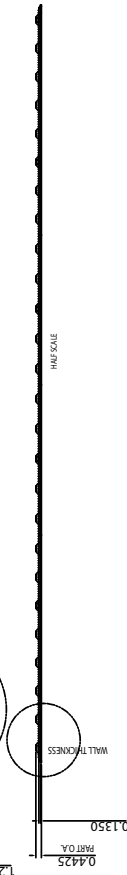
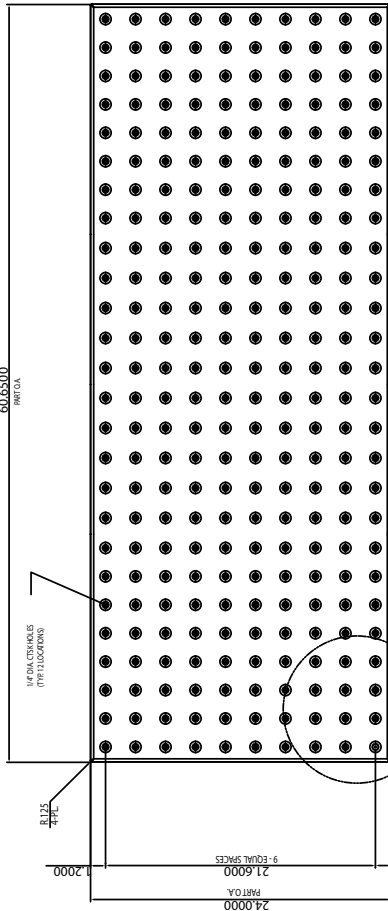
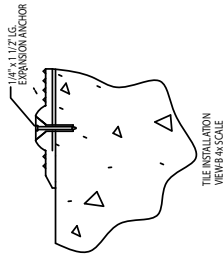
ADA SOLUTIONS, INC.  
PO Box 3  
N.Billerica, Ma. 01862



# SURFACE MOUNT COMPOSITE TACTILE

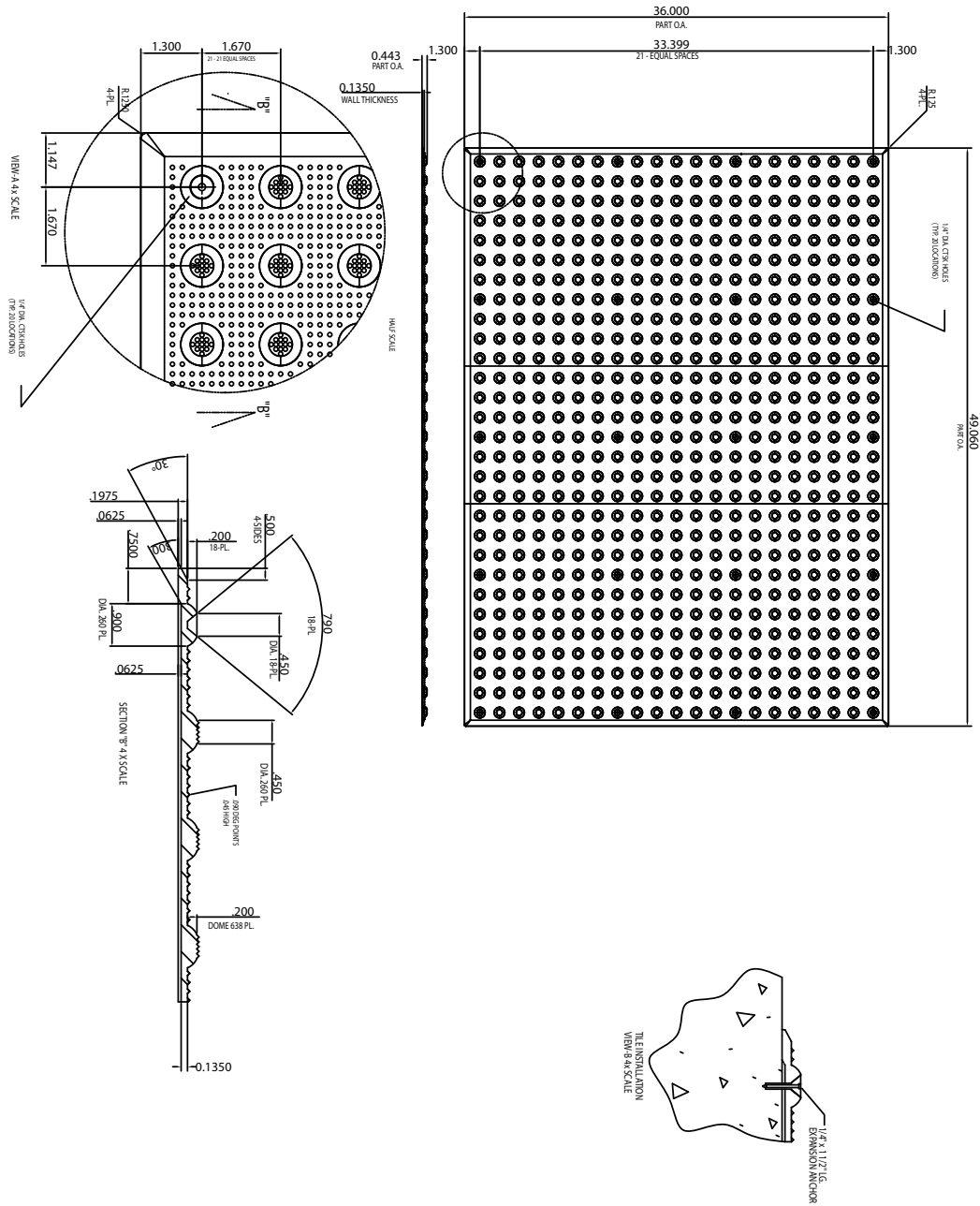
**24"x60" Tile**  
**2.35" Dome Spacing**

MATERIAL LIST		
ITEM	DESCRIPTION	QTY
1		
2		
3		
4		
SCALE		AS NOTED
TRACE	DATE/REV/WH/NO/UR/RC	PART NO. SEE MATERIAL LIST
MATERIAL		
PROJECT	SURFACE APPLIED DETECTABLE WARNING SURFACE SYSTEM 24" X 60" SOUND ATTENUATING CURB PAW-TILE (INLINE DOME) PLANS AND DETAILS	
DRAWING NO.		REV. NO.
ADA SOLUTIONS, INC. P.O. Box 3 N.Billerica, Ma. 01862		



# SURFACE MOUNT COMPOSITE TACTILE

**36"x48" Tile**  
**1.67" Dome Spacing**



MATERIAL LIST			
ITEM	DESCRIPTION	PART NO.	QTY
1			
2			
3			
4			

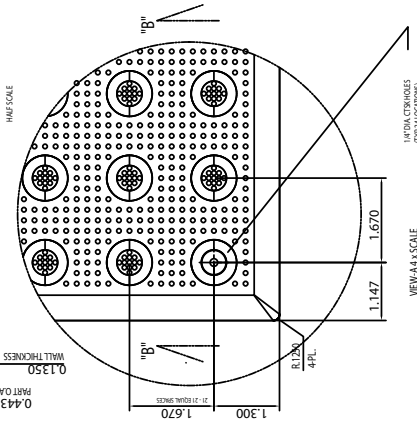
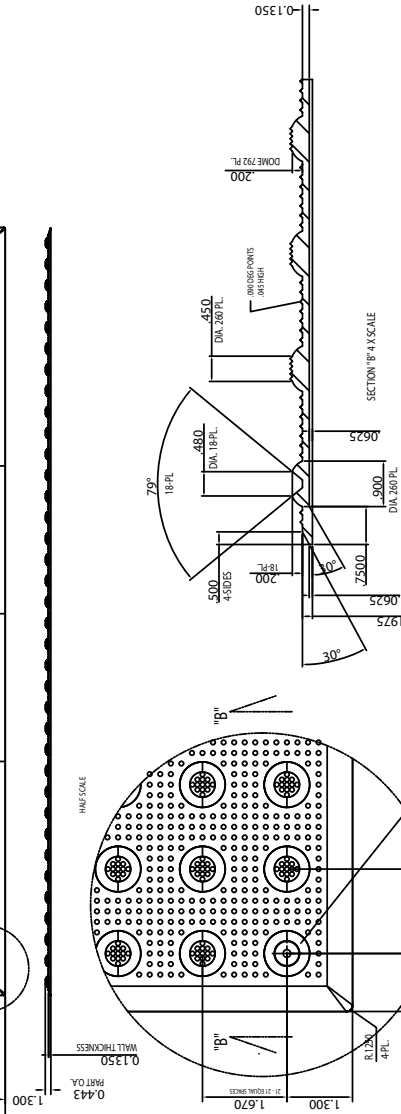
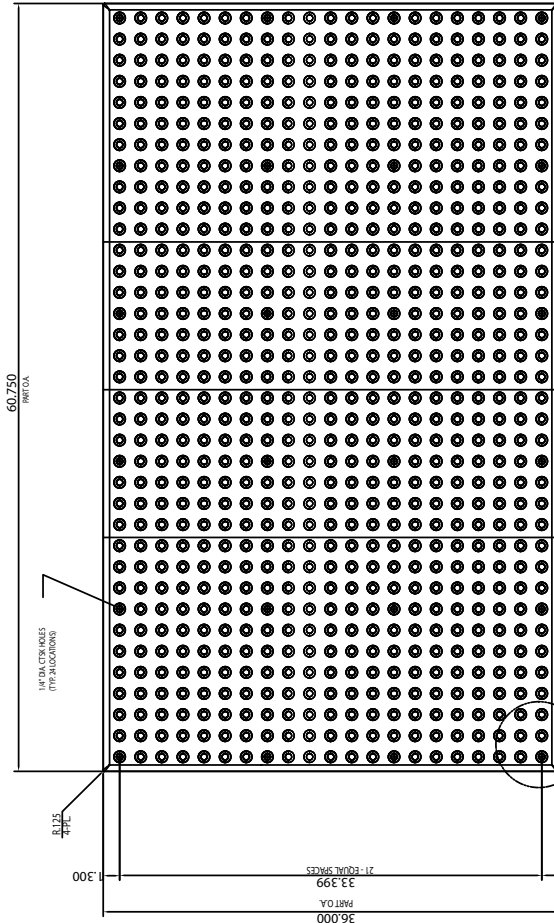
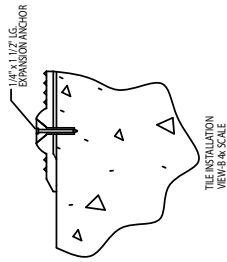
  

TILE		PART NO.		SECTIONAL LIST	
MATERIAL LIST		PART NO.		SECTIONAL LIST	
PROJECT					
SURFACE APPLIED DETECTABLE					
WARNING SURFACE SYSTEM					
36" X 48" SOUND ATTENUATING					
CURB RAMP TILE (INLINE DOME)					
PLANS AND DETAILS					
DIMENSIONS					
ADA SOLUTIONS, INC.					
PO BOX 3					
N.Billerica, Ma. 01862					

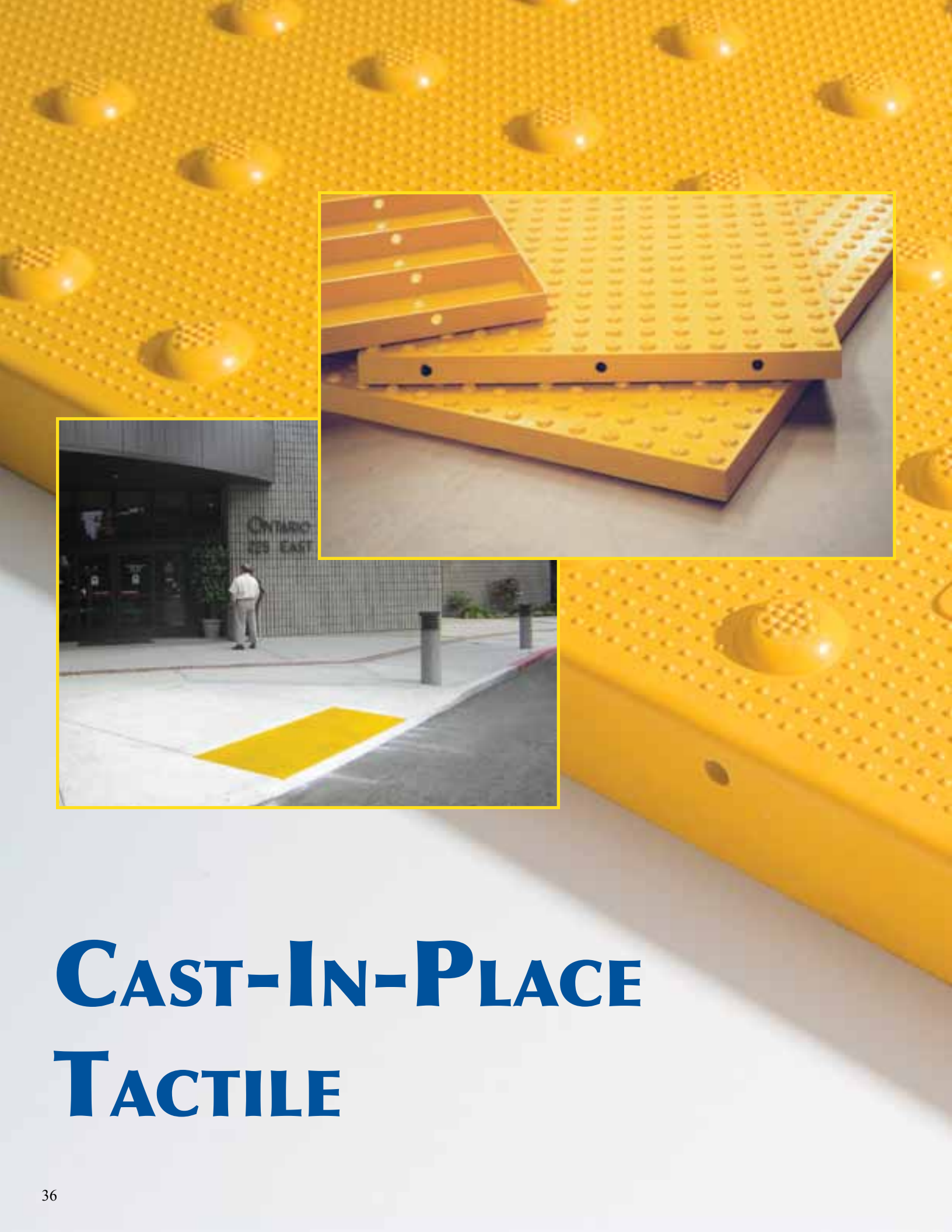
# SURFACE MOUNT COMPOSITE TACTILE

**36"x60" Tile**  
1.67" Dome Spacing

MATERIAL LIST		PART NO.	QTY
ITEM	DESCRIPTION		
1			
2			
3			
4			
SCALE		AS NOTED FULL SIZE	
TRACE		PART NO. SEE MATERIAL LIST	
MATERIAL			
PROJECT			
SURFACE APPLIED DETECTABLE WARNING SURFACE SYSTEM 36" X 60" SOUND ATTENUATING CURB RAMP TILE (INLINE DOME) PLANS AND DETAILS			
DRAWINGS		REVNO.	
ADA SOLUTIONS, INC. PO Box 3 N.Billerica, Ma. 01862			







# CAST-IN-PLACE TACTILE

*Proudly Made in  
the U.S.A.*



ADATA SOLUTIONS INC  
WWW.ADATILE.COM





# CAST-IN-PLACE TACTILE

## Installation Procedure

**Be sure to read and understand all of these instructions before you begin.**

**A.** The physical characteristics of the concrete shall be as specified in the contract documents while maintaining a slump range of 4-7 to permit the solid placement of the Tactile Unit in the wet cement.

**B.** The concrete shall be poured and finished level, true and smooth to the required dimensions prior to the placement of the Tactile Unit.

**C.** Place the Tactile Unit 6-8 inches from the curb line. Working in a grid pattern, tamp the Tactile Unit into the wet concrete using a rubber mallet and a piece of wood. Continue this process until all of the air has been released, and the Tactile Unit surface is flush with the surrounding area. **IMPORTANT: Avoid striking the surface of the Tactile Unit directly.**

**D.** Following the placement, the Tactile Unit elevation should be checked to the adjacent surface with a straight edge. The Tactile Unit elevation should be consistent with the contract drawings and specifications. Any required adjustments must be made prior to the time when the concrete begins to set.

**E.** **IMPORTANT NOTICE TO INSTALLER:** *To allow for expansion and contraction, after tile is installed, use a 1/4" finish edge trowel around entire perimeter. On a continuous run, be sure to space each unit 1/8" apart.*

**F.** When you are confident that the Tactile Unit is in place, and no further adjustments are needed, place a cinder block on both ends to hold the Tactile Unit in place while the concrete sets.

**G.** During and after the Tactile Unit installation, as well as the concrete curing stage, no walking or external forces can be placed on the Tactile Unit. The area must be protected from pedestrian traffic until concrete is cured. The Tactile Warning Surface will be ready for pedestrian traffic within 2-4 hours.

**H.** Be sure to remove plastic protective covering from the face of the Tactile Unit once the concrete is cured.

\*Not recommended or warranted for asphalt installation.



### PRODUCT SIZES

2'x3' 2'x4' 2'x5'  
3'x4' 3'x5'

### APPLICATION

Fresh Pour  
Concrete  
Ramps

View additional photos, drawings and specifications on our website:  
[www.adatile.com](http://www.adatile.com). Call (800) 372-0519 with any questions.



# CAST-IN-PLACE TACTILE

## Inline Dome Pattern

### DOME GEOMETRY

*In accordance with ADA Regulations for Detectable Warning on Curb Ramps:* Raised truncated domes with a diameter of nominal 0.9", a height of nominal 0.2", and a center-to-center spacing of 1.67" minimum and 2.35" maximum.

### PANEL DIMENSIONS

Tactile Units are available in 2'x3', 2'x4', 2'x5', 3'x4' and 3'x5' sizes. Tactile Units may also be custom configured to accommodate specific project requirements. Tactile Units measure 0.25" nominal thickness and feature embedment ribs at 3" on center.

### MATERIAL

A homogenous glass and carbon reinforced composite which is colorfast and UV stable. Truncated domes are fiberglass reinforced for enhanced durability. The color of the Tactile Unit is uniform throughout and does not rely on any type of paint coating to achieve color stability. Standard colors include: Federal Yellow, Brick Red, Clay Red, Safety Red, Blue, Dark Gray and Black.

### INSTALLATION

Tactile Units are to be used on new curb ramp locations. The Tactile Units can be pre-filled with concrete and set in place or pressed into place in the freshly poured concrete.



### PHYSICAL CHARACTERISTICS

Compressive Strength	28,900 psi	ASTM D 695
Flexural Strength	29,300 psi	ASTM D 790
Water Absorption	.07%	ASTM D 570
Slip Resistance	1.18 Dry, 1.05 Wet	ASTM C 1028
Flame Spread Index	20	ASTM E 84
Salt Spray	No Change (200 hours)	ASTM B 117
Chemical Stain Testing	No Deterioration	ASTM 1308
Abrasion Resistance	549	ASTM C 501
Accelerated Weathering	Delta E<5.0 (2,000 hours)	ASTM G 155
Tensile Strength	11,600 psi	ASTM D 638
Load Bearing at 16,000 lbs.	No Damage	AASHTO-H20
Freeze/Thaw/Heat	No Disintegration	ASTM C 1026

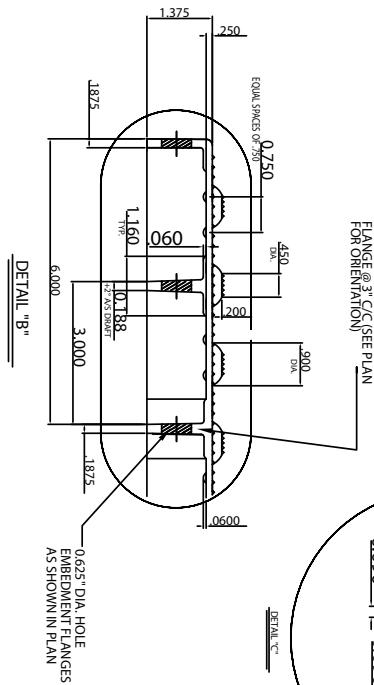
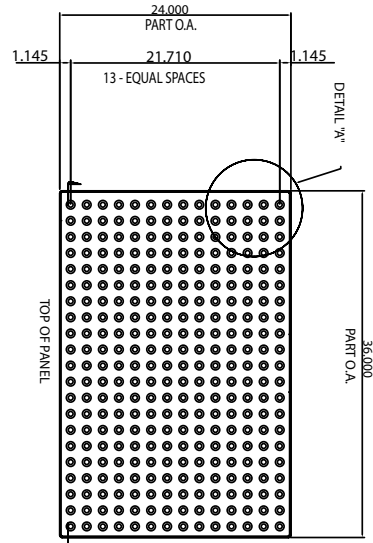
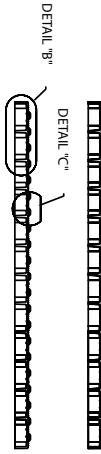
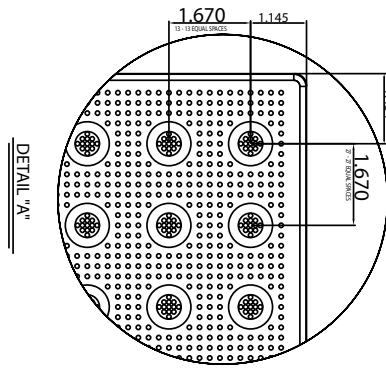


Color  
Throughout

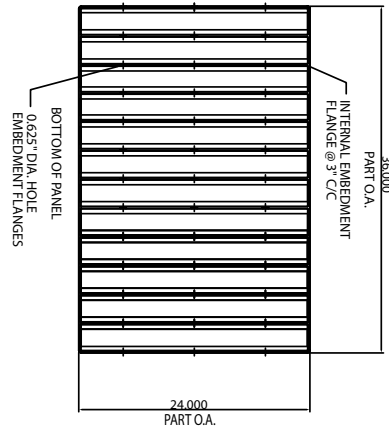
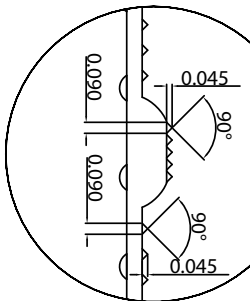
5-Year  
Warranty

# CAST-IN-PLACE TACTILE

24"x36" Tile  
1.67" Dome Spacing



FLANGE @ 3" C/C (SEE PLAN FOR ORIENTATION)



MATERIAL LIST	
ITEM DESCRIPTION	QTY
1	
2	
3	
4	

SCALE: AS NOTED FULL SIZE

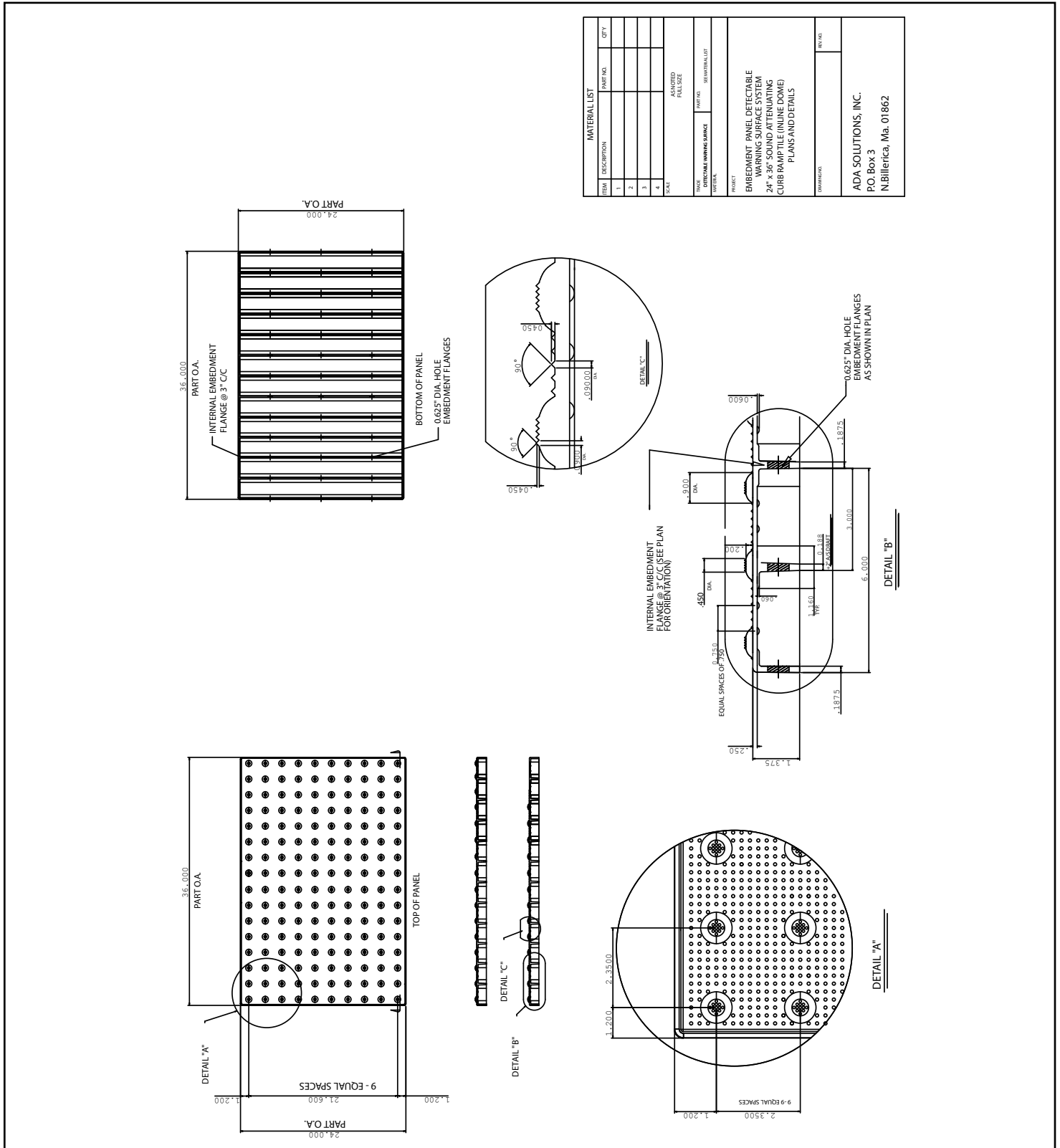
TITLE	DATE	BY	CHKD.
DATE	BY	CHKD.	
DATE	BY	CHKD.	

PROJECT: EMBEDMENT PANEL, DETECTABLE WARNING SURFACE SYSTEM 24" x 36" SOUND ATTENUATING CURB RAMP TILE (INCLUDE DOME) PLANS AND DETAILS

ADA SOLUTIONS, INC.  
P.O. Box 3  
N Billerica, Ma. 01862

# CAST-IN-PLACE TACTILE

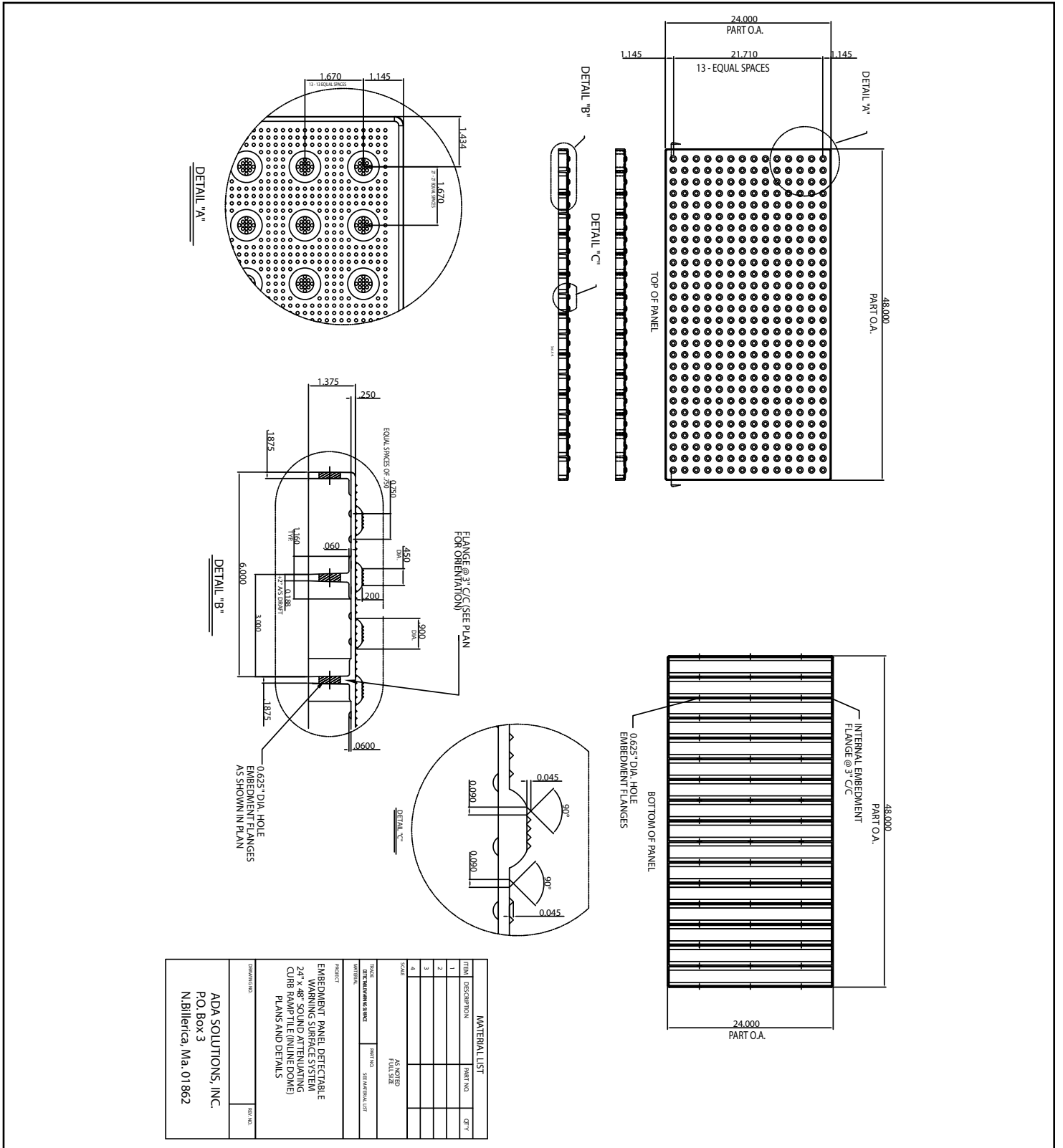
**24"x36" Tile**  
**2.35" Dome Spacing**





# CAST-IN-PLACE TACTILE

24"x48"  
1.67" Dome Spacing



# CAST-IN-PLACE TACTILE

**24"x48" Tile**  
**2.35" Dome Spacing**

ITEM	DESCRIPTION	PART NO.	QTY
1			
2			
3			
4			
5			
6			
7			
8			
9			

**MATERIAL LIST**

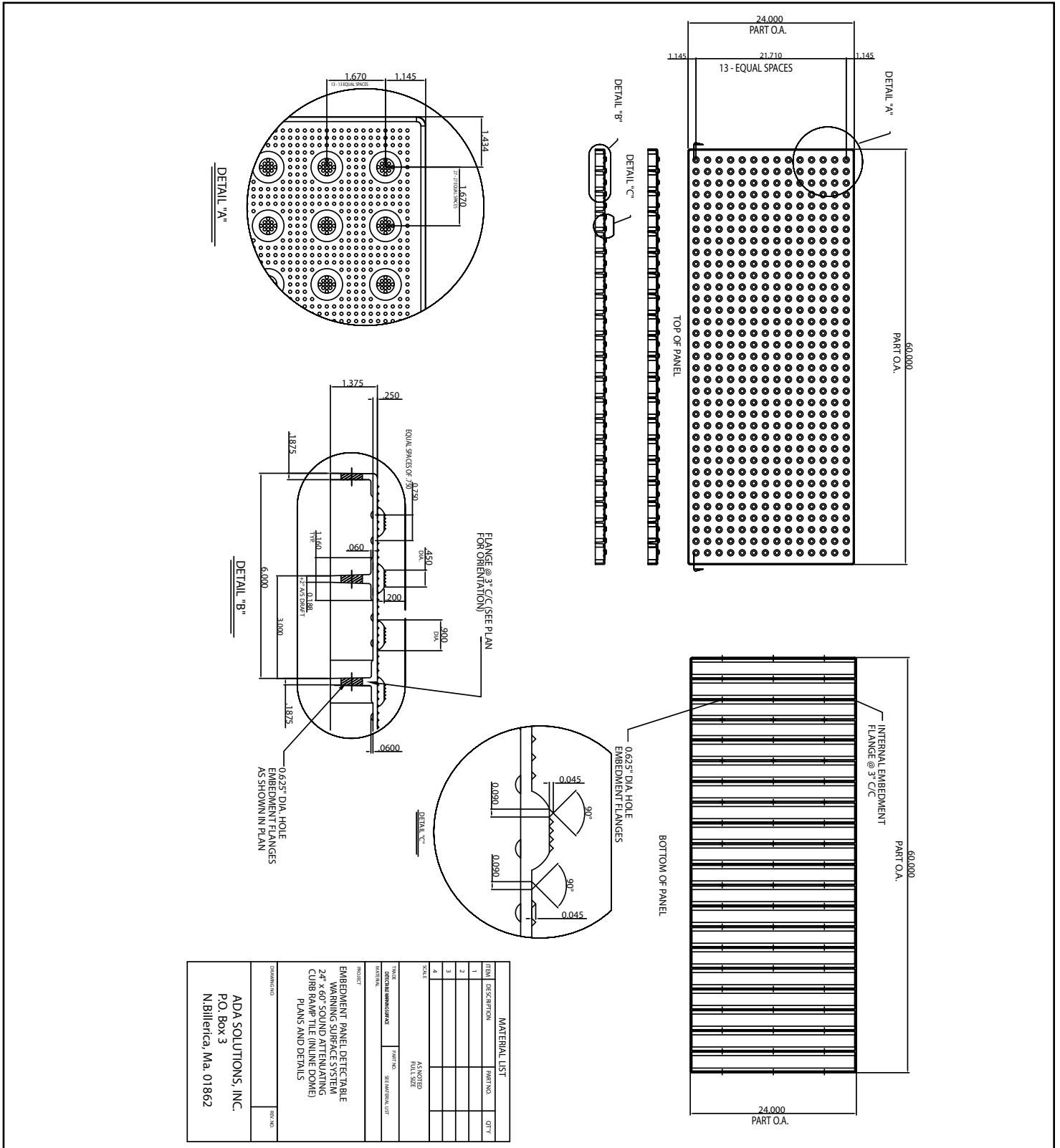
ITEM	DESCRIPTION	PART NO.	QTY
1			
2			
3			
4			
5			
6			
7			
8			
9			

EMBEDMENT PANEL DETECTABLE WARNING SURFACE SYSTEM  
 24" x 48" SOUND ATTENUATING CURB RAMP TILE (INLINE DOME) PLANS AND DETAILS

ADA SOLUTIONS, INC.  
 P.O. Box 3  
 N.Billerica, Ma. 01862

# CAST-IN-PLACE TACTILE

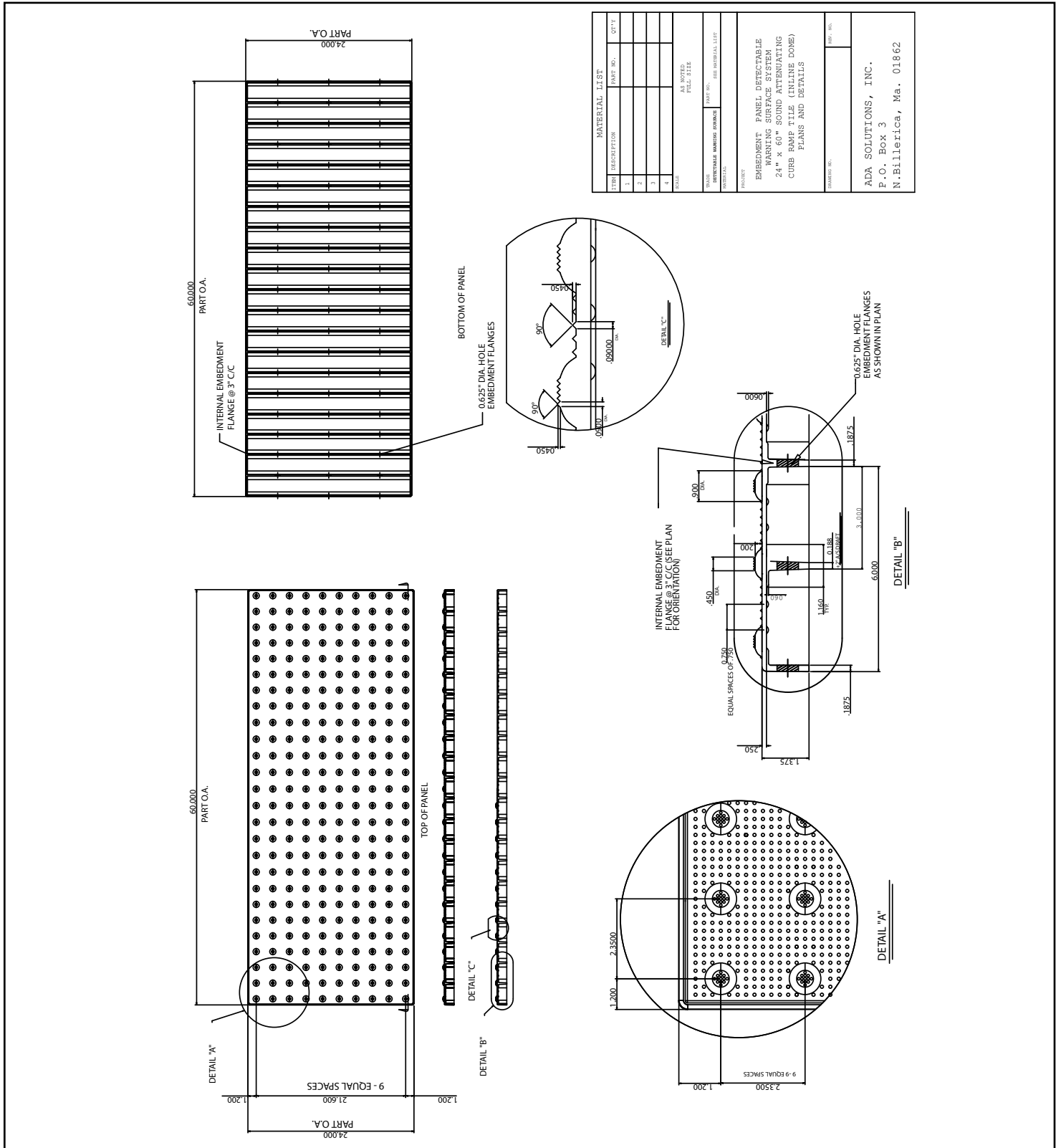
## 24"x60" Tile 1.67" Dome Spacing





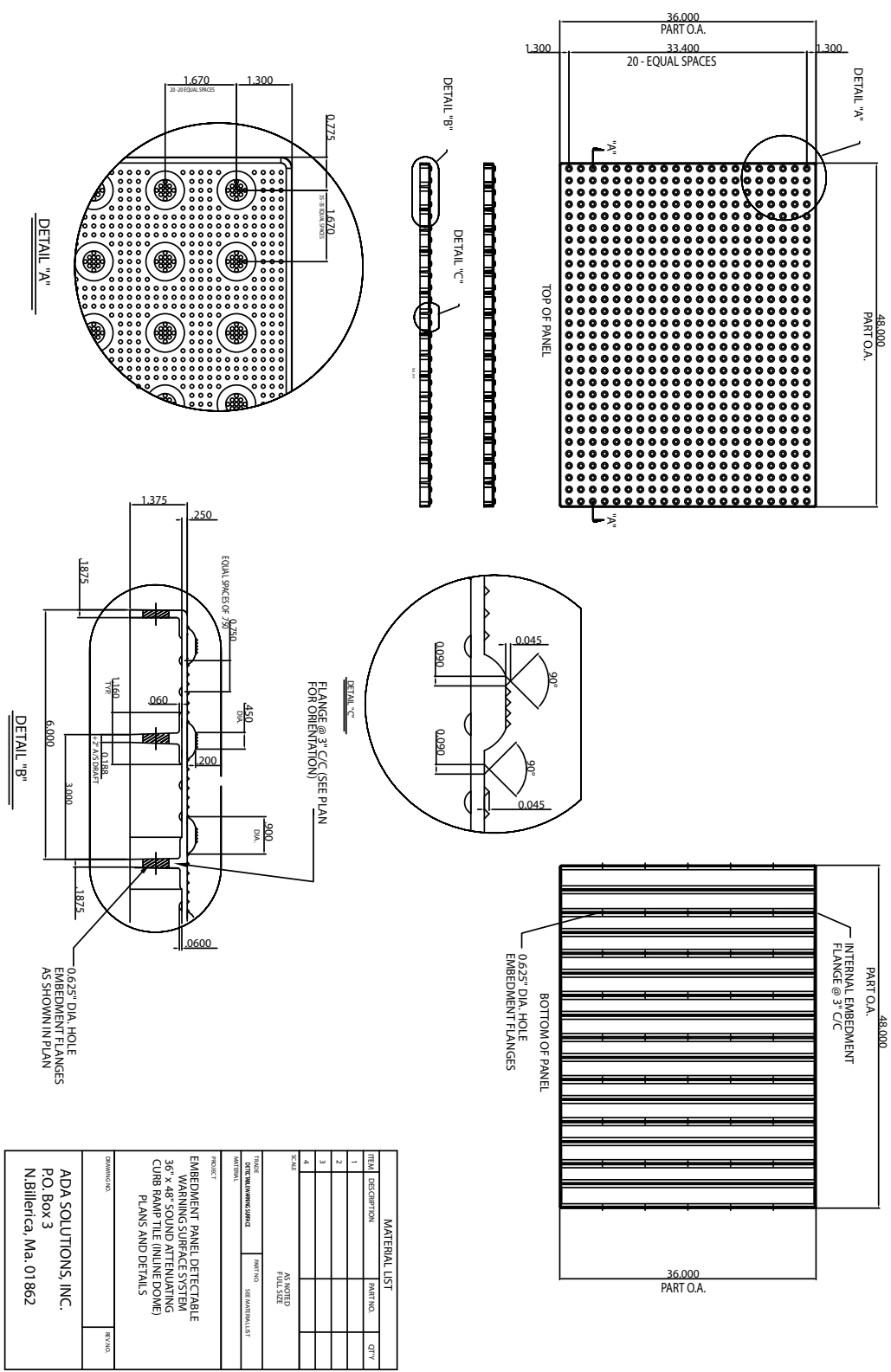
# CAST-IN-PLACE TACTILE

**24"x60" Tile**  
**2.35" Dome Spacing**



# CAST-IN-PLACE TACTILE

**36"x48" Tile**  
**1.67" Dome Spacing**



MATERIAL LIST			
ITEM	DESCRIPTION	PART NO.	QTY.
1			
2			
3			
4			

SCALE: AS NOTED FULL SIZE

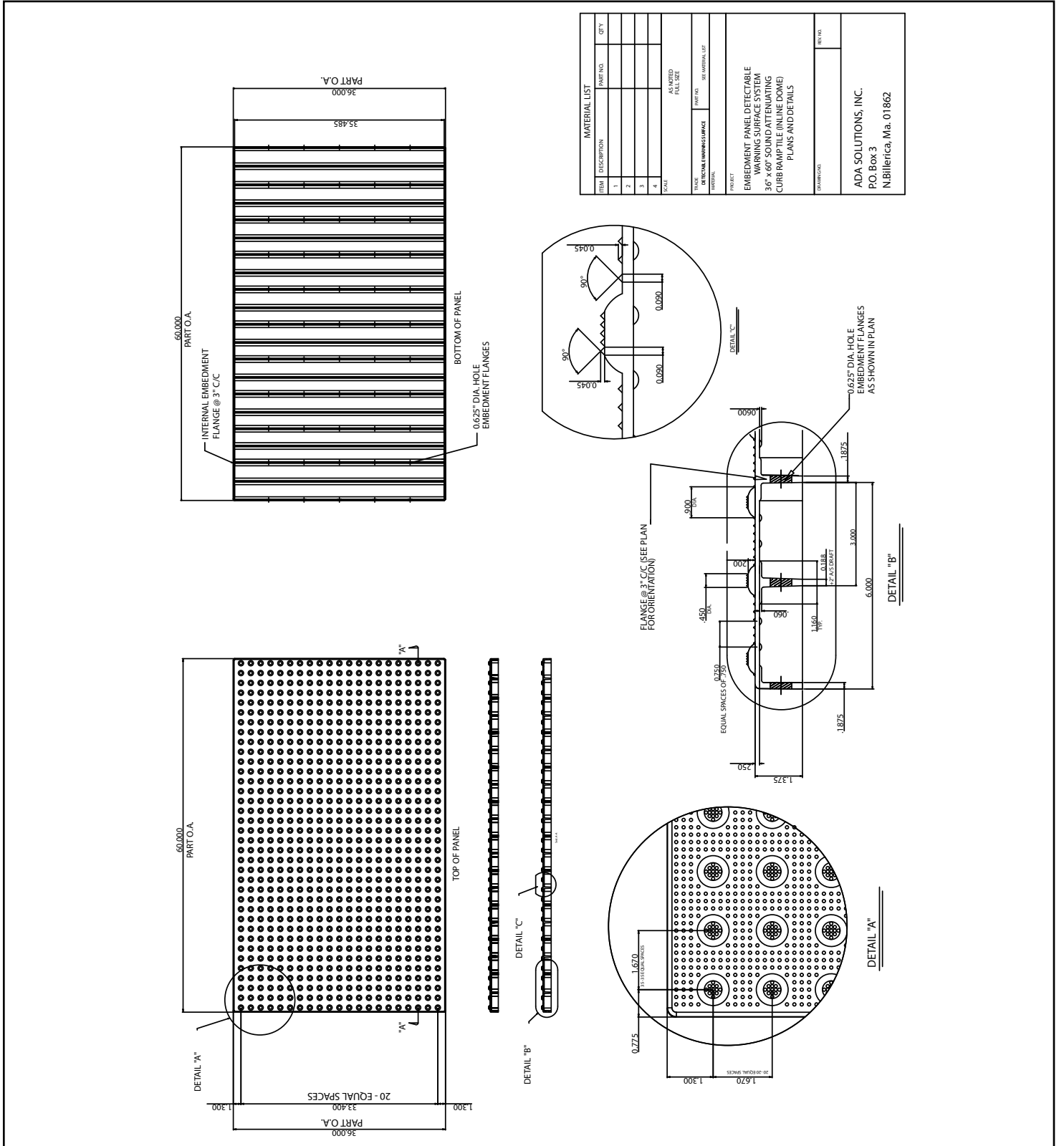
TITLE: CAST-IN-PLACE TACTILE	PROJECT NO.: 18-000000-001
DATE: 08/20/2018	PROJECT: ADA SOLUTIONS, INC.
DRAWN BY: J. B. BULLER	PROJECT: ADA SOLUTIONS, INC.
CHECKED BY: J. B. BULLER	PROJECT: ADA SOLUTIONS, INC.
APPROVED BY: J. B. BULLER	PROJECT: ADA SOLUTIONS, INC.

PROJECT: EMBEDMENT PANEL DETECTABLE WARNING SURFACE SYSTEM  
 36" x 48" SOUND ATTENUATING CURB RAMP TILE (INLINE DOME)  
 PLANS AND DETAILS

DATE: 08/20/2018  
 PROJECT: ADA SOLUTIONS, INC.  
 P.O. Box 3  
 N.Billerica, Ma. 01862

# CAST-IN-PLACE TACTILE

**36" x 60" Tile**  
**1.67" Dome Spacing**





## Summary

To view the entire report published by the Access Board go to  
<http://www.access-board.gov/rowdraft.htm>

### REVISED DRAFT GUIDELINES:

#### Accessible Public Rights-Of-Way (11/23/05)

##### *R304 Detectable Warning Surfaces*

**R304.1 General.** Detectable warnings shall consist of a surface of truncated domes aligned in a square or radial grid pattern and shall comply with R304.

**R304.1.1 Dome Size.** Truncated domes in a detectable warning surface shall have a base diameter of 23 mm (0.9 in) minimum to 36 mm (1.4 in) maximum, a top diameter of 50 percent of the base diameter minimum to 65 percent of the base diameter maximum, and a height of 5 mm (0.2 in).

**R304.1.2 Dome Spacing.** Truncated domes in a detectable warning surface 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 (.65 in) minimum, measured between the most adjacent domes.

**R304.1.3 Contrast.** Detectable warning surfaces shall contrast visually with adjacent gutter, street or highway, or walkway surface, either light-on-dark, or dark-on-light.

**R304.1.4 Size.** Detectable warning surfaces shall extend 610 mm (24 in) minimum in the direction of travel and the full width of the curb ramp (exclusive of flares), the landing, or the blended transition.

##### **R304.2 Location and Alignment**

**R304.2.1 Perpendicular Curb Ramps.** Where both ends of the bottom grade break complying with R303.3.4 are 1.5 m (5.0 ft) or less from the back of the curb, the detectable warning shall be located on the ramp surface at the bottom grade break. Where either end of the bottom grade break is more than 1.5 m (5.0 ft) from the back of the curb, the detectable warning shall be located on the lower landing.

**R304.2.2 Landings and Blended Transitions.** The detectable warning shall be located on the landing or blended transition at the back of the curb.

**R304.2.3 Alignment.** The rows of truncated domes in a detectable warning surface shall be aligned to be perpendicular or radial to the grade break between the ramp, landing, or blended transition and the street.



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- SURFACE MOUNT (RETROFIT)
- CAST IN PLACE (WET-SET)
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