



DURABILITY WITH DISTINCTION

TOLAR MANUFACTURING COMPANY INC

**258 MARIAH CIRCLE
CORONA, CA 92879**

**INSTALLATION
INSTRUCTIONS
FOR
SHELTER: 39704-01**

17' AD BUS STOP SHELTER

ACCESSORY OPTIONS:

12092-111: 4' PERFORATED BENCH W/ 1 VAGRANT BAR

1578-01: 20 GAL POLE MOUNT TRASH CAN

15902-100: SOLAR BRACKETS

TOLAR MANUFACTURING COMPANY INC.

TRANSIT SHELTERS | STREET FURNITURE | DISPLAYS & DIRECTORIES | TRANSIT SOLAR LIGHTING
258 Mariah Circle, Corona, CA USA 92879-1751 | 800-339-6165 | 951-808-0081 | www.tolarmfg.com

ANCHORING SPECIFICATION SHEET

4.3.4 Kwik Bolt TZ Expansion Anchor

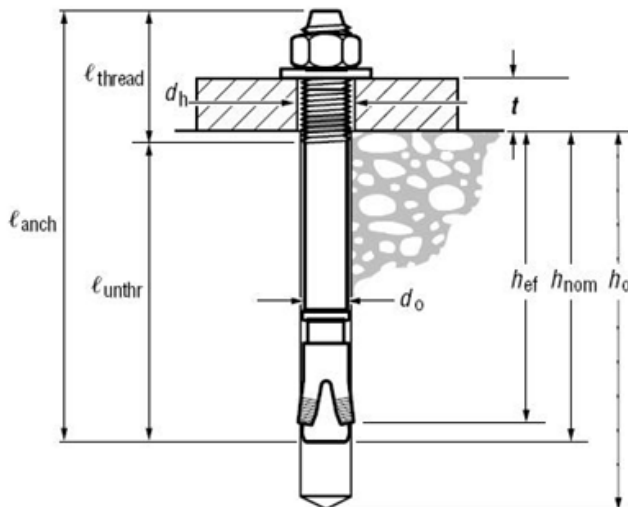
4.3.4.3 Technical Data

Table 1 — Kwik Bolt TZ Specification Table

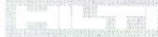
SETTING INFORMATION	Symbol	Units	Nominal anchor diameter (In.)													
			3/8		1/2		5/8		3/4							
Anchor O.D.	d_o	In. (mm)	0.375 (9.5)		0.5 (12.7)		0.625 (15.9)		0.75 (19.1)							
Nominal bit diameter	d_{bit}	In.	3/8		1/2		5/8		3/4							
Effective min. embedment	h_{ef}	In. (mm)	2 (51)	2 (51)	3-1/4 (83)	3-1/8 (79)	4 (102)	3-3/4 (95)	4-3/4 (121)							
Min. hole depth	h_o	In. (mm)	2-5/8 (67)	2-5/8 (67)	4 (102)	3-3/4 (95)	4-3/4 (121)	4-5/8 (117)	5-3/4 (146)							
Min. thickness of fixture ¹	t_{min}	In. (mm)	1/4 (6)	3/4 (19)	1/4 (6)	3/8 (9)	3/4 (19)	1/8 (3)	1-5/8 (41)							
Max. thickness of fixture	t_{max}	In. (mm)	2-1/4 (57)	4 (101)	2-3/4 (70)	5-5/8 (143)	4-3/4 (121)	4-5/8 (117)	3-5/8 (92)							
Installation torque	T_{inst}	ft-lb (Nm)	25 (34)		40 (54)		60 (81)		110 (149)							
Min. dia. of hole in fixture	d_h	In. (mm)	7/16 (11.1)		9/16 (14.3)		11/16 (17.5)		13/16 (20.6)							
Available anchor lengths	ℓ_{anch}	In. (mm)	3 (76)	3-3/4 (95)	5 (127)	3-3/4 (95)	4-1/2 (114)	5-1/2 (140)	7 (178)	4-3/4 (121)	6 (152)	8-1/2 (216)	10 (254)	5-1/2 (140)	8 (203)	10 (254)
Threaded length including dog point	ℓ_{thread}	In. (mm)	7/8 (22)	1-5/8 (41)	2-7/8 (73)	1-5/8 (41)	2-3/8 (60)	3-3/8 (86)	4-7/8 (125)	1-1/2 (38)	2-3/4 (70)	5-1/4 (133)	6-3/4 (171)	1-1/2 (38)	4 (102)	6 (152)
Unthreaded length	ℓ_{unthr}	In. (mm)	2-1/8 (54)		2-1/8 (54)		3-1/4 (83)		4 (102)							
Installation embedment	h_{nom}	In. (mm)	2-1/4 (57)		2-3/8 (60)		3-5/8 (92)		3-5/8 (92)		4-1/2 (114)		4-3/8 (111)		5-3/8 (137)	

¹ The minimum thickness of the fastened part is based on use of the anchor at minimum embedment and is controlled by the length of thread. If a thinner fastening thickness is required, increase the anchor embedment to suit.

Figure 1 — Kwik Bolt TZ installed

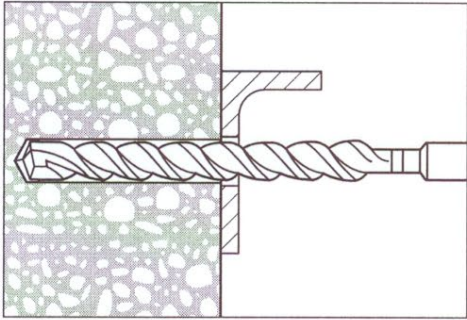


ANCHORING INSTALLATION SHEET

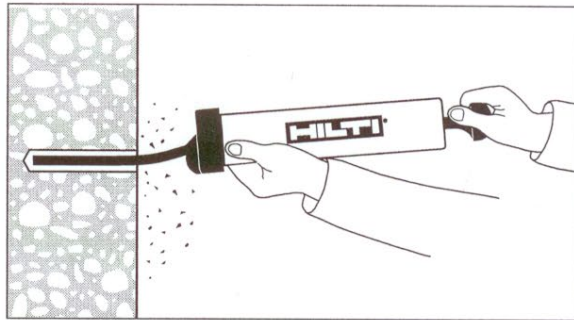


Kwik Bolt TZ Expansion Anchor 4.3.4

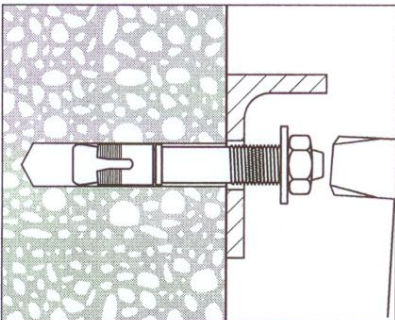
4.3.4.4 Kwik Bolt TZ Anchor Installation Instructions into normal-weight and lightweight concrete



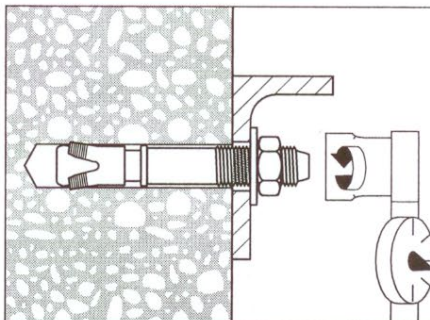
1. Hammer drill a hole to the same nominal diameter as the Kwik Bolt TZ. The hole depth must exceed the anchor embedment by at least 1/4 inch. The fixture may be used as a drilling template to ensure proper anchor location.



2. Clean hole.



3. Drive the Kwik Bolt TZ into the hole using a hammer. The anchor must be driven until at least 4 threads are below the surface of the fixture.



4. Tighten the nut to the recommended installation torque.



Tolar Manufacturing Company, Inc.

258 Mariah Circle, Corona, CA 92879 P: (951) 808 - 0081 | F: (951) 808 - 0041

DURABILITY WITH DISTINCTION

PACKING LIST

Report Missing Items to Tolar Mfg. Customer Service within 48 Hours of Receipt

Order Number	14591		
Customer Code	NVTA	720 JACKSON STREET	
Customer Name	NAPA VALLEY TRANSPOR	Napa	CA 94559

QTY Ordered	Part Number	Part Description	Color Verification:	By:
2.00	39704-01	17ALD3/8GLNOEL 17' SIERRA DOME ROOF AD SHELTER FEATURING: ALL ALUMINUM		

Components

Part Number	Description	QTY /Unit	QTY Total	Load	Counted	Checked	Customer Received By
					By	By	
29216-01	ROOF ASSEMBLY, 17ALDNOEL	1.00	2.00				
9094-00	ROOF BRONZE LEXAN PANEL 48 X 56 5/16	4.00	8.00				
1087-00	ROOF PRESSURE RIB, 55"	3.00	6.00				
4412-00	ROOF END BAND (FLANGED) 55"	2.00	4.00				
15870-00	POST, CANTILIVER, (1/2 BEAM OPTION)	1.00	2.00				
12624-00	DUAL POST WELD. W/ GLASS EXTRUSION	1.00	2.00				
4837-00	SUPPORT ANCHOR BRACKET ASSEMBLY, 12"	5.00	10.00				
20820-00	REAR GLASS RAIL ASSEMBLY WITH COVERS	1.00	2.00				
15664-00	GLASS CLIP ASSEMBLY (NEW DESIGN)	6.00	12.00				
1700-02	SHOE WELDMENT, ALUMINUM 7 X 7 X 18" W/ 5/8"	3.00	6.00				
2490-00	SHOE, 7" X 7" PLATE, 2 1/2 SCH 40 X 6 1/2" TALL	2.00	4.00				
2591-02	FLAT AD BOX ASSY. W/ 2 SIDE HINGE GLASS	1.00	2.00				

Hardware

Part Number	Description	QTY /Unit	QTY Total	Load	Counted	Checked	Customer	Ship
					By	By	Received by	Direct
6011513	GLASS, CLEAR, TP, 3/8" X 19" X 77"	1.00	2.00					<input type="checkbox"/>
6011743	GLASS, CLEAR, TP, 3/8" X 46" X 79"	3.00	6.00					<input type="checkbox"/>
45051-00	CUSTOM GLASS, CLEAR TP. 3/8" X 46" X 79"	1.00	2.00					<input type="checkbox"/>
8645150	TEK SCREW, #14 X 1-1/2", SELF TAP, FLANGE HD W/	25.00	50.00					<input type="checkbox"/>

COMMENTS:

U.N.O. TOUCH UP PAINT REQUIREMENT IS _____ PAINT IS LOCATED IN THE HARDWARE BOX

Report Missing Items to Tolar Mfg. Customer Service within 48 Hours of Receipt

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customerservice@tolarmfg.com

8086115	BOLT, 3/8"-16 X 1", STAINLESS STL.	26.00	52.00					<input type="checkbox"/>
8685100	FLAT WASHER, 3/8", STAINLESS STL.	26.00	52.00					<input type="checkbox"/>
8705068	LOCK WASHER, 3/8", STAINLESS STL.	26.00	52.00					<input type="checkbox"/>
8537055	DRIVE SCREW, #14 X 3/4"	5.00	10.00					<input type="checkbox"/>
8087425	BOLT, 1/2"-13 X 4", STAINLESS STL.	5.00	10.00					<input type="checkbox"/>
8176075	HEXNUT, 1/2"-13, STN. STL. TOP LOCKING	5.00	10.00					<input type="checkbox"/>
8037450	ANCHOR HILTI KWIK BOLT KBTZ2, 1/2" X 4-1/2" STN.	20.00	40.00					<input type="checkbox"/>
1106040	BIT, TORX T-27, TAMPER-PRUF	1.00	2.00					<input type="checkbox"/>
1029100	SLEEVE BEARING, NYLON, FOR 1/4" SHAFT; 1/4"	4.00	8.00					<input type="checkbox"/>

QTY Ordered Part Number Part Description
 2.00 12104-121 8PERFBNCH3VB
 8' PERF BENCH, NO BACK, 3 BARS

Color Verification: _____
By: _____

----- Components -----

<u>Part Number</u>	<u>Description</u>	<u>QTY /Unit</u>	<u>QTY Total</u>	<u>Load</u>	<u>Counted</u> <u>By</u>	<u>Checked</u> <u>By</u>	<u>Customer Received By</u>
12104	8' PERF BENCH, NO BACK, 3 VAGRANT BARS,	1.00	2.00				

----- Hardware -----

<u>Part Number</u>	<u>Description</u>	<u>QTY /Unit</u>	<u>QTY Total</u>	<u>Load</u>	<u>Counted</u> <u>By</u>	<u>Checked</u> <u>By</u>	<u>Customer Received by</u>	<u>Ship Direct</u>
8057375	ANCHOR, SUP-R-STUD 1/2" X 3-3/4	4.00	8.00					<input type="checkbox"/>

QTY Ordered Part Number Part Description
 2.00 10076-02 MAP CASE, 24-1/2" X 36-1/2" FOR 24" X 36" POSTER SIZE (HAS
 NOTCHING IN BACK PANEL FOR REAR PERF. MOUNTING)

Color Verification: _____
By: _____

----- Components -----

<u>Part Number</u>	<u>Description</u>	<u>QTY /Unit</u>	<u>QTY Total</u>	<u>Load</u>	<u>Counted</u> <u>By</u>	<u>Checked</u> <u>By</u>	<u>Customer Received By</u>
10076-02A	MAP CASE ASSEMBLY, 24-1/2" X 36-1/2" FOR 24 X 36	1.00	2.00				

----- Hardware -----

<u>Part Number</u>	<u>Description</u>	<u>QTY /Unit</u>	<u>QTY Total</u>	<u>Load</u>	<u>Counted</u> <u>By</u>	<u>Checked</u> <u>By</u>	<u>Customer Received by</u>	<u>Ship Direct</u>
8684053	FLAT WASHER, 1/4", STN. STL.	4.00	8.00					<input type="checkbox"/>
8163044	HEXNUT, 1/4"-20, STN. STL. NYLOCK	4.00	8.00					<input type="checkbox"/>
8393250	MACHINE SCREW, 1/4"-20 X 2-1/4", BUTTON HD,	4.00	8.00					<input type="checkbox"/>
1106030	BIT, TORX T-25, TAMPER-PRUF	1.00	2.00					<input type="checkbox"/>

COMMENTS:

U.N.O. TOUCH UP PAINT REQUIREMENT IS _____ PAINT IS LOCATED IN THE HARDWARE BOX

Report Missing Items to Tolar Mfg. Customer Service within 48 Hours of Receipt

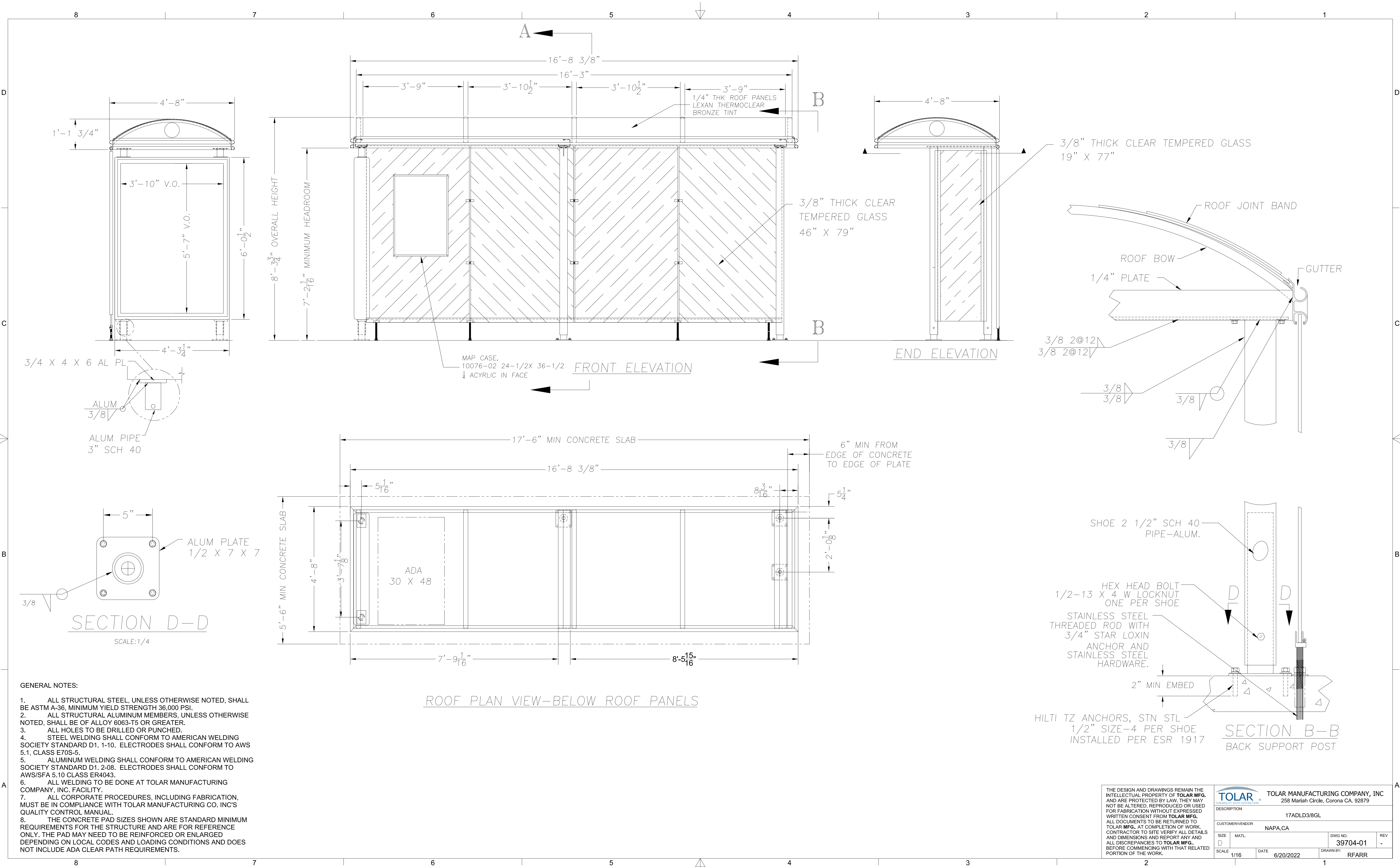
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 customerservice@tolarmfg.com

COMMENTS:

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customerservice@tolarmfg.com



- GENERAL NOTES:**
- ALL STRUCTURAL STEEL, UNLESS OTHERWISE NOTED, SHALL BE ASTM A-36, MINIMUM YIELD STRENGTH 36,000 PSI.
 - ALL STRUCTURAL ALUMINUM MEMBERS, UNLESS OTHERWISE NOTED, SHALL BE OF ALLOY 6063-T5 OR GREATER.
 - ALL HOLES TO BE DRILLED OR PUNCHED.
 - STEEL WELDING SHALL CONFORM TO AMERICAN WELDING SOCIETY STANDARD D1, 1-10. ELECTRODES SHALL CONFORM TO AWS 5.1, CLASS E70S-5.
 - ALUMINUM WELDING SHALL CONFORM TO AMERICAN WELDING SOCIETY STANDARD D1, 2-08. ELECTRODES SHALL CONFORM TO AWS/SFA 5.10 CLASS ER4043.
 - ALL WELDING TO BE DONE AT TOLAR MANUFACTURING COMPANY, INC. FACILITY.
 - ALL CORPORATE PROCEDURES, INCLUDING FABRICATION, MUST BE IN COMPLIANCE WITH TOLAR MANUFACTURING CO. INC'S QUALITY CONTROL MANUAL.
 - THE CONCRETE PAD SIZES SHOWN ARE STANDARD MINIMUM REQUIREMENTS FOR THE STRUCTURE AND ARE FOR REFERENCE ONLY. THE PAD MAY NEED TO BE REINFORCED OR ENLARGED DEPENDING ON LOCAL CODES AND LOADING CONDITIONS AND DOES NOT INCLUDE ADA CLEAR PATH REQUIREMENTS.

THE DESIGN AND DRAWINGS REMAIN THE INTELLECTUAL PROPERTY OF TOLAR MFG. AND ARE PROTECTED BY LAW. THEY MAY NOT BE ALTERED, REPRODUCED OR USED FOR FABRICATION WITHOUT EXPRESSED WRITTEN CONSENT FROM TOLAR MFG.			
ALL DOCUMENTS TO BE RETURNED TO TOLAR MFG. AT COMPLETION OF WORK. CONTRACTOR TO SITE VERIFY ALL DETAILS AND DIMENSIONS AND REPORT ANY AND ALL DISCREPANCIES TO TOLAR MFG. BEFORE COMMENCING WITH THAT RELATED PORTION OF THE WORK.			
TOLAR MANUFACTURING COMPANY, INC 258 Mariah Circle, Corona CA. 92879		17ADLD3/8GL	
CUSTOMER/VENDOR NAPA, CA		DWG NO. 39704-01	REV -
SCALE 1/16	DATE 6/20/2022	DRAWN BY: RFARR	

ROOF PANEL INSTALLATION

There is a film on both sides of the Lexan panel. Examine the panel and note which surface is to be faced externally. Remove film from both sides of Lexan panel. Install edge into groove as shown in Figure 1. Press the panel over the top and into groove on opposite side. There should be a 1/2" gap between panels. Press down firmly so the panel contacts the roof bow at its top.

BEFORE REMOVING PROTECTIVE FILMS
FROM LEXAN PANEL DETERMINE WHICH
SURFACE IS TO BE EXPOSED TO THE OUTSIDE

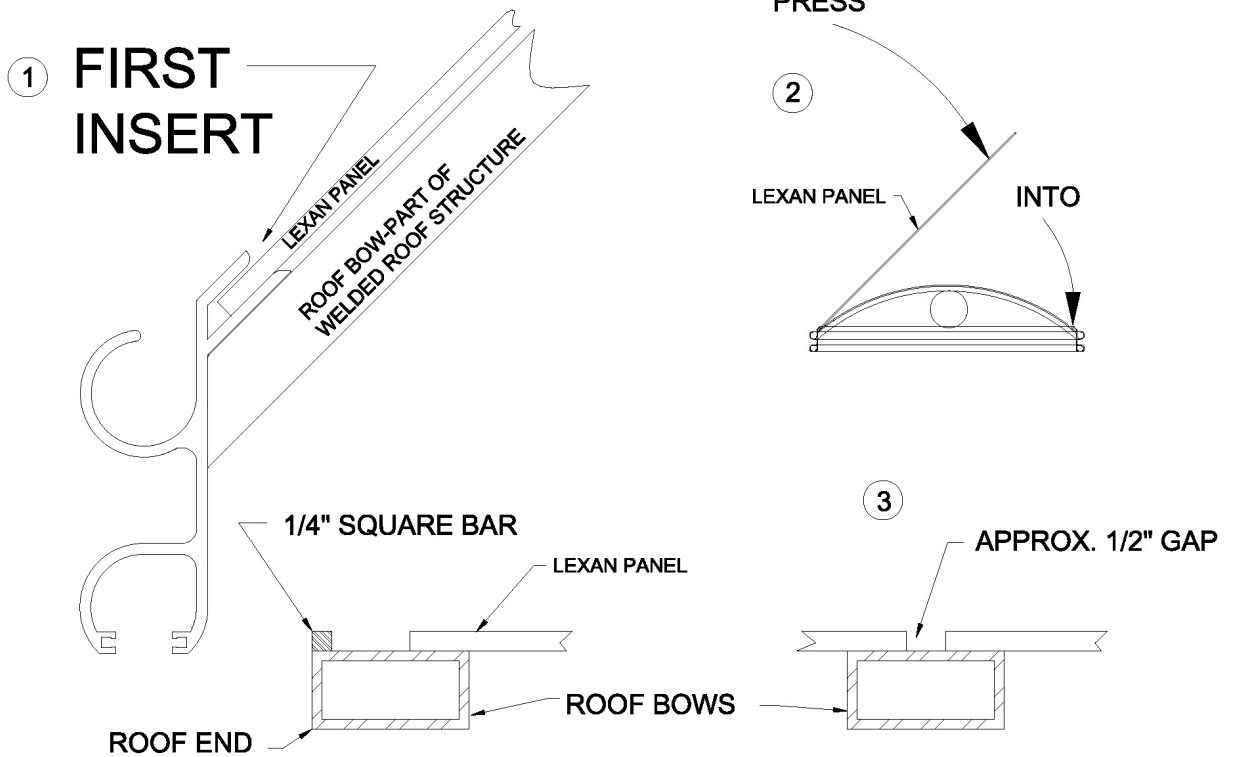


Figure 1

ROOF PANEL INSTALLATION

Place the pressure bands with the two rubber bulb seals over the center joints. There can be a short gap at either end. Use the TEKS screws #14 x 1 1/2" (5 per bow) to secure the pressure rib to the roof bow. The TEKS screw is self-drilling and tapping. A 3/8" nut driver with suitable power tool should be used. Ref. figure 2

PROCEDURE:

- a. Install center screw first-be sure band is centered.
- b. Install next screws down.
- c. Press band down and install bottom screws.

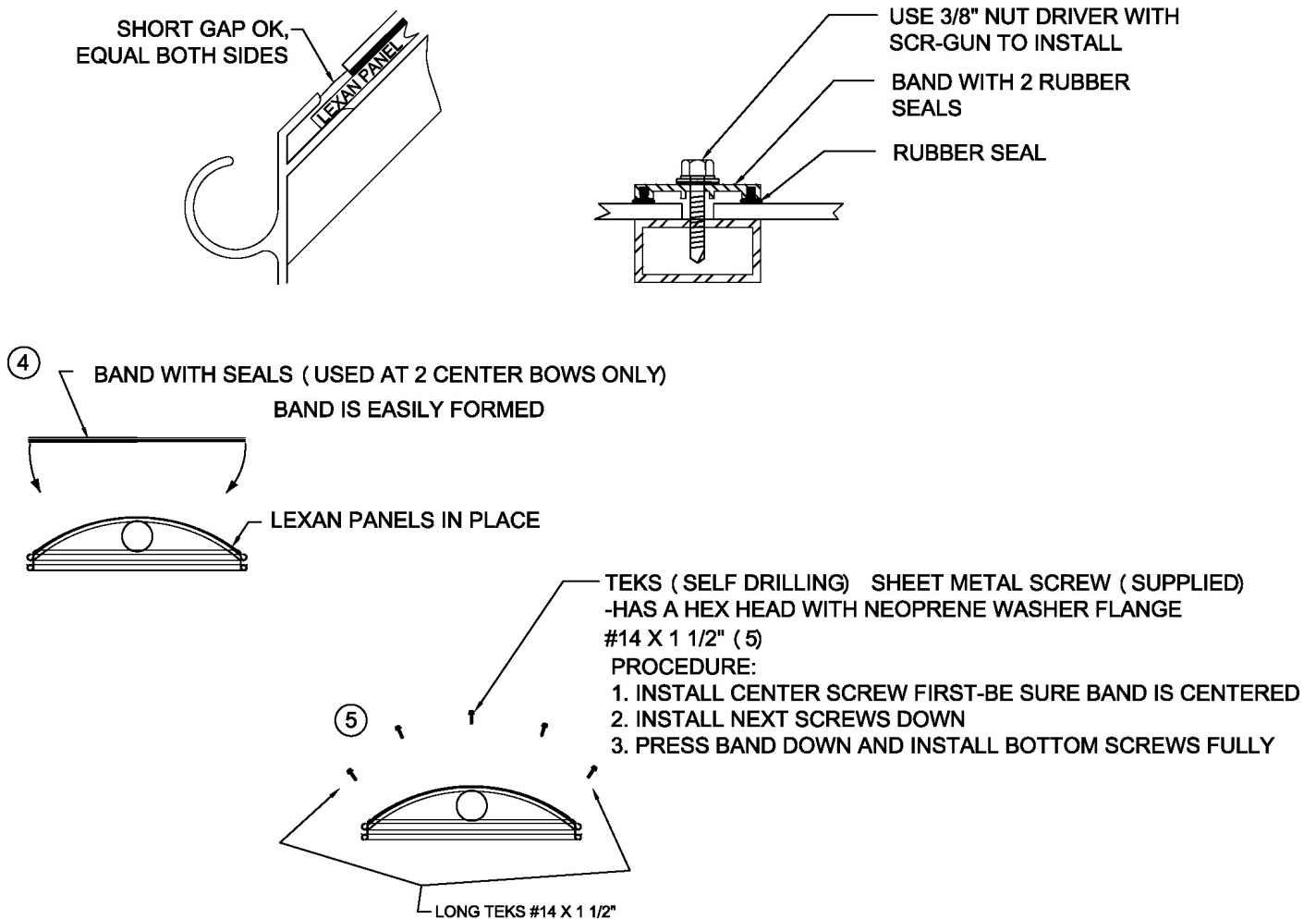


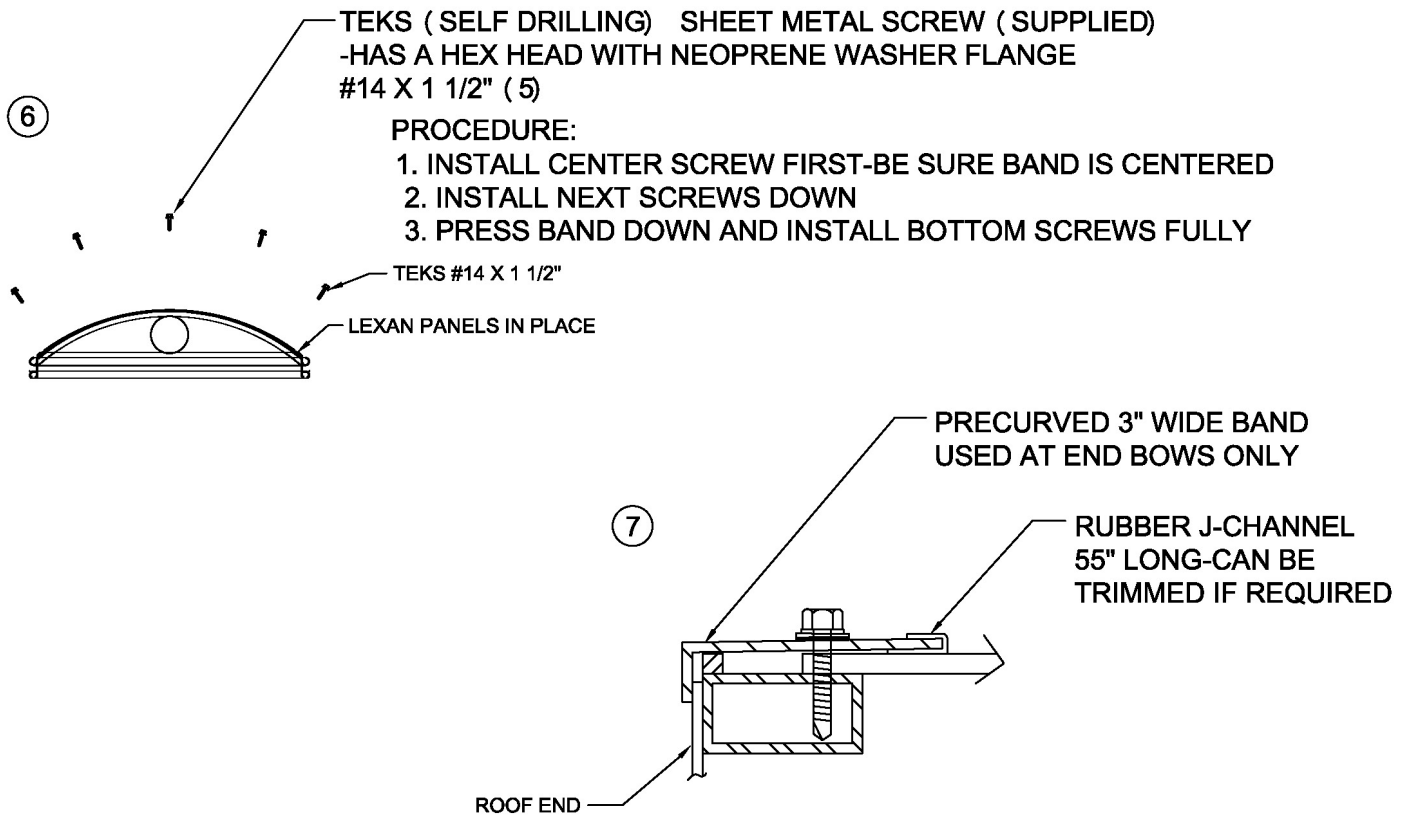
Figure 2

ROOF PANEL INSTALLATION

Slip the 55" long rubber J-channel over one edge of the curved 3" wide band. This band is used at each end of the roof. The edge of the band without the J-channel will be aligned to the outer edge of the last bow and on top of the 1/4" square bead. Use 5 TEKS screws per band. Ref. figure 3

PROCEDURE:

- a. Install center screw first-be sure band is centered.
- b. Install next screws down.
- c. Press band down and install bottom screws.



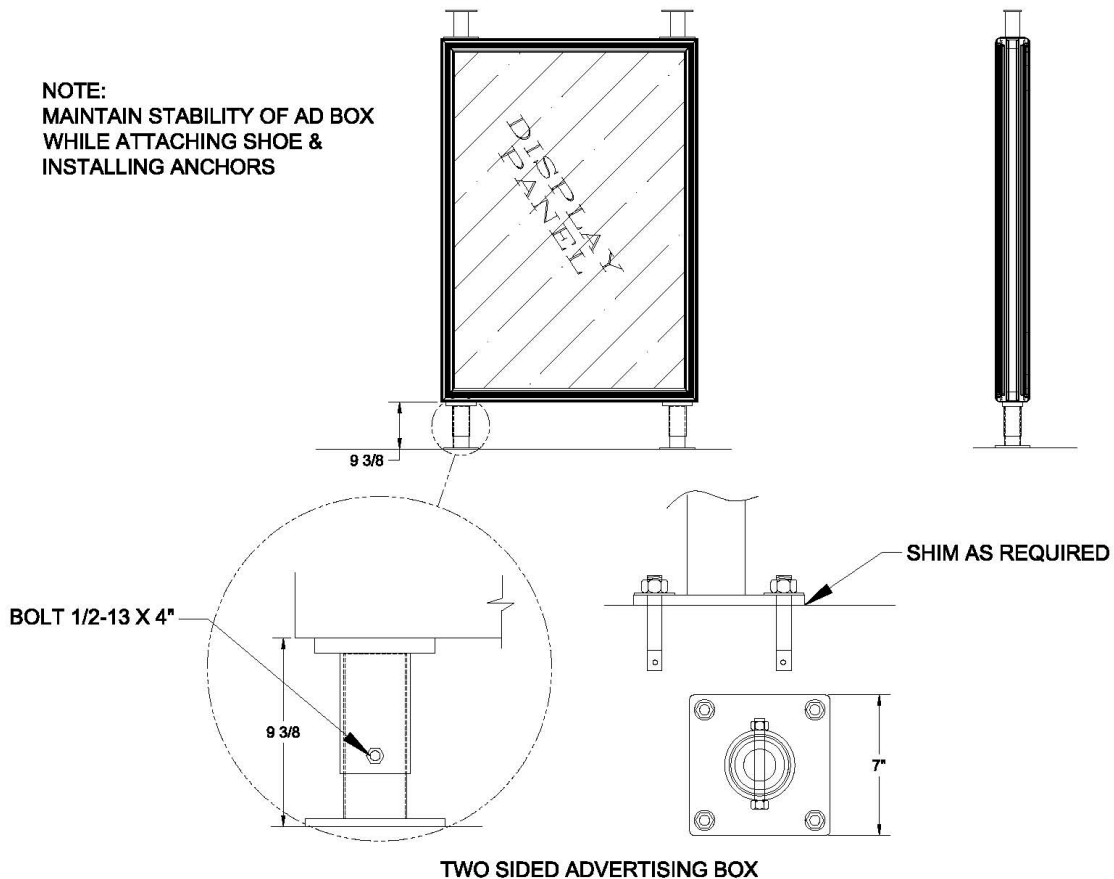
INSTALL BANDS AT ROOF ENDS

Figure 3

AD-BOX INSTALLATION

1. Using the elevation drawing as a guide, place the ad box at the desired location. Ad box door hinges are toward the back of the shelter. Insert the ad box shoes into the round pipe extending from the bottom of the ad box. The ad box shoes can slide up or down for height adjustment. If the shelter is installed on a sloped grade, then adjust the shoes accordingly.
2. Support and level the ad box at the desired height. The two ad box shoes have $9\frac{3}{8}$ " diameter holes. Using these holes as a guide, drill $\frac{1}{2}$ " diameter holes through the shoes. Install the $\frac{1}{2}$ "-13 x 4" hex head bolt and $\frac{1}{2}$ "-13 locking hex nut at each shoe.
3. Mark the concrete using the holes in the two shoes to locate the eight anchors. Move the ad box to allow drilling of the concrete. Refer to anchoring the spec sheet for anchoring instructions.

IMPORTANT: Place a shim under a corner of the shoe if the ground is not level. Also place a shim under a corner of the shoe if the roof has been leveled and the shoe is not flat to sidewalk. Do not torque down the anchors so that the ad box is distorted.



ROOF INSTALLATION

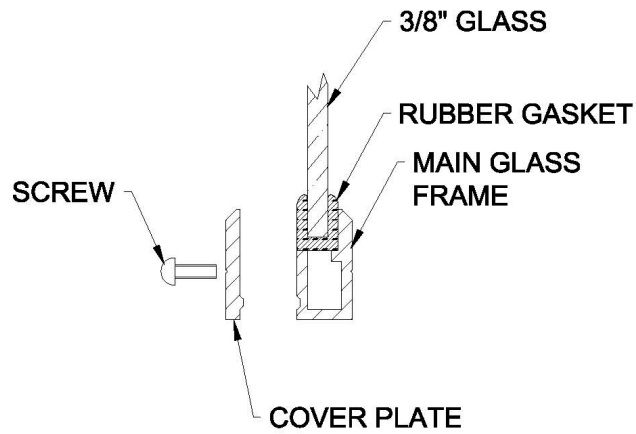
Note: There is exposed wire on the roof, 2 ft. from the center roof bow and 10 ft. from the rear left corner. Use the solar installation instruction provided with these instructions.

1. Slide the two 18" long shoes into the support posts of the dual post assembly.
2. Raise the roof (weight-175-250 pounds) and position the dual post assembly and the ad box under the roof crossbeams.
3. Insert the exposed wire from the rear left corner of the roof and drop into the rear ad box top post.
4. Insert and tighten eight 3/8"-16" x 1" hex head bolts, 3/8" lock washers, and 3/8" flat washers at the top of each dual post assembly.
5. Level the roof by placing a carpenter's level on the roof's gutter. The roof height can be increased if desired. Drill an Ø1/2" hole completely through the shoe. Install and tighten the 1/2"-13 x 4" hex head bolt at each post. Use the 1/2"-13 self-locking hex nut to secure the shoe to the post. It may be beneficial to use the #14 x 3/4" drive screw to level the roof preliminarily. Drill an Ø.221 (#2) whole through the shoe stub tube then hammer in the drive screw completely through the shoe pipe. It is not necessary to use this drive screw, some installers prefer it.
6. Plumb the support posts and measure between the posts at each end. The measurement between the posts should be 20-5/8" I.D. Force the posts in or out at the bottom to maintain this measurement. With a Ø1/2" masonry drill, make four holes in the concrete using each support leg shoe as a hole locator. Place the 1/2" size Hilti anchors into the holes. Secure each shoe with the anchors. Refer to the anchor spec. sheet for the anchor installation.

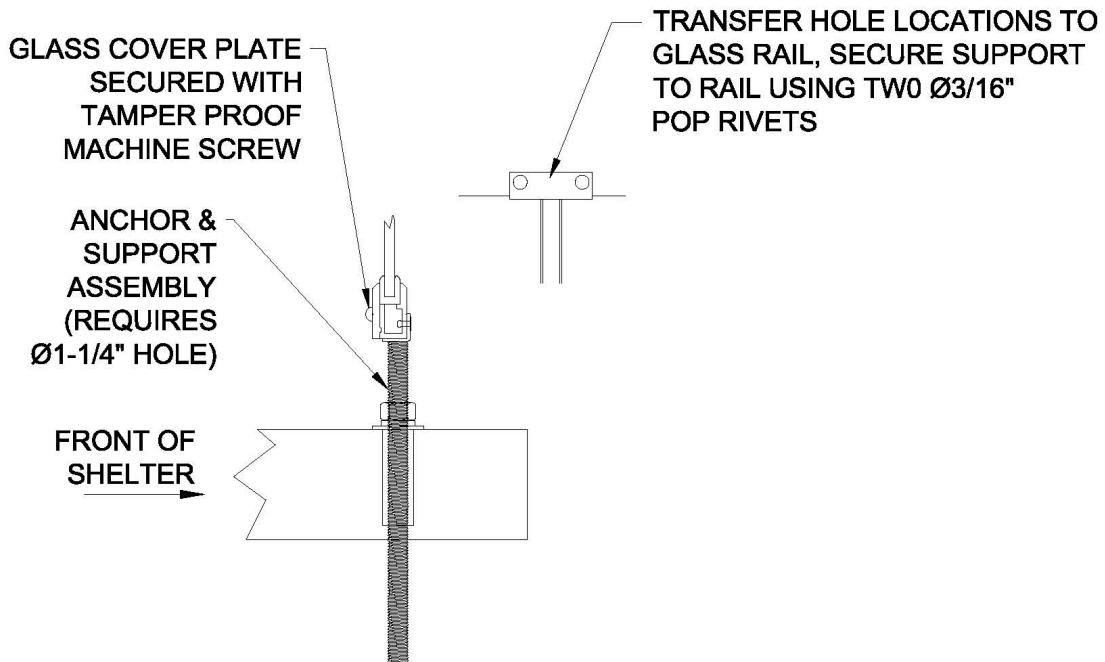
REAR GLASS INSTALLATION

1. Drop a plumb line from the rear glass insertion groove of the roof perimeter. Mark the concrete near both ends of the roof and snap a chalk line on the concrete under the back of the shelter. The rear glass support/anchor assemblies will be inserted on this line. Mark the chalk line at the intervals shown on the floor plan drawing on page 5. These marks will be the proper spacing for the support/anchor assemblies.
2. Drill three Ø 1-1/4 holes into the concrete on the marks with a masonry drill. These holes will need to be at least 6" deep and may penetrate into the grade below the concrete for the anchor threaded rod clearance.
3. **Place the bottom glass support/anchor assembly into the hole. The total height of the glass is 79". To adjust the height, rotate the threaded rod inside the anchor. Tighten the 3/4-10 hex nut to expand and secure the anchor.**
4. **Place the glass rail on the glass rail support assemblies and secure the glass rail with two pop rivets for each rail support. Verify the rail is centered and is offset three inches from each rail support assembly.**
5. **Slide the glass up into glass insertion groove of roof and onto the glass rail, verify that the rubber U-channel is installed on the glass. Secure the glass with the cover plate and fasten with the tamper proof screws. Verify the glass is level and secured tightly. Use the images on page 13 as a guide for installing the rear glass.**

REAR GLASS INSTALLATION



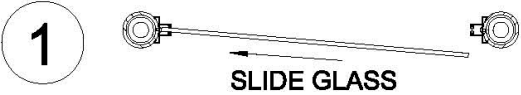
TYPICAL GLASS & RAIL INSTALLATION



REAR GLASS SUPPORT INSTALLATION

END WALL GLASS INSTALLATION

TO INSTALL THE 3/8" 19X77" GLASS PANEL



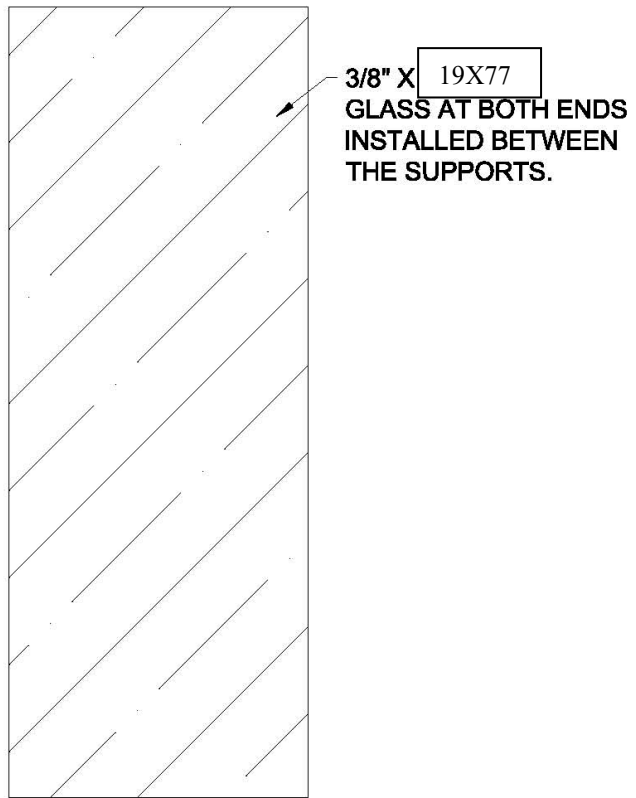
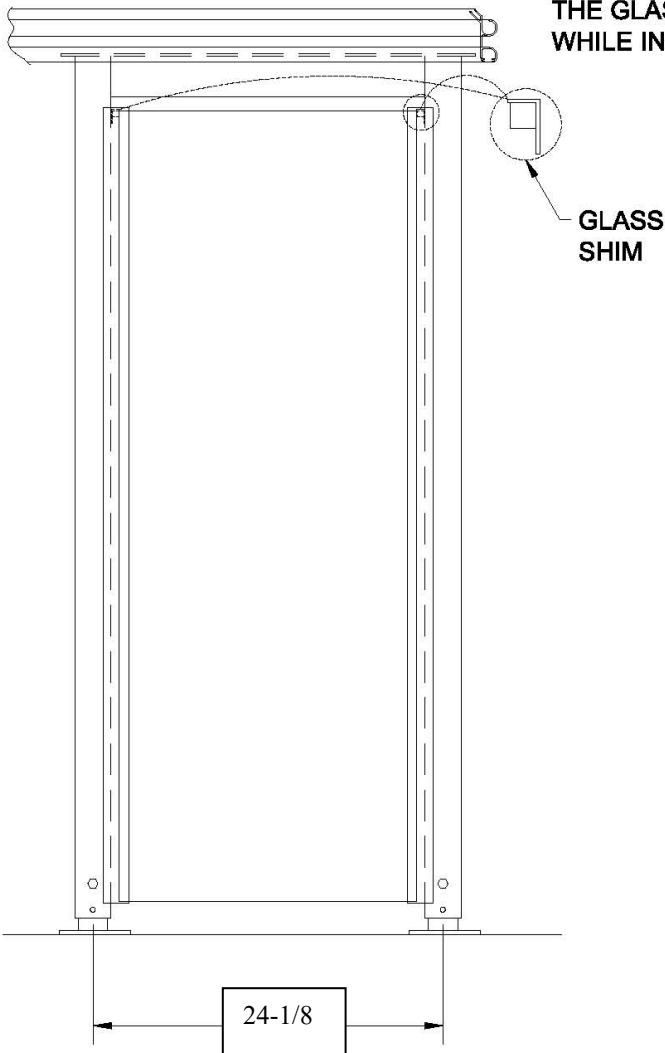
1. SLIDE THE EDGE OF THE GLASS PANEL COMPLETELY INTO THE VERTICAL EXTRUSION THAT HAS THE RUBBER STOP BLOCKS INSTALLED ON THE POSTS. THE USE OF SOAPY WATER MAY BE USED TO EASE THE GLASS PANEL INTO THE RUBBER GASKETS OF THE VERTICAL EXTRUSIONS. WHEN SLIDING THE GLASS PANEL IN, VERIFY THAT IT HITS THE RUBBER STOP.



2. THEN SLIDE THE GLASS PANEL INTO THE VERTICAL EXTRUSION ON THE ADJACENT POST.



3. THEN INSTALL THE GLASS SHIM TO EACH SIDE OF THE GLASS PANEL. THIS IS USED TO PREVENT THE GLASS PANEL FROM SHIFTING TO ONE SIDE WHILE INSTALLED.



SUP-R-STUD ANCHOR FOR BENCH INSTALLATION

Mechanical Anchoring Systems

Sup-R-Stud®



Sup-R-Stud®

Available Materials

- Carbon steel, zinc plated
- Carbon steel, mechanically galvanized
- Grade 5, yellow di-chromated
- 303/304 stainless steel
- 316 stainless steel

Features/Advantages

- Required hole diameter equals anchor diameter
- Excellent for setting immediately
- Can be loaded immediately
- Can be set in a bottomless hole
- Simple installation
- Nut and washer supplied in package
- ROHS compliant except for Grade 5

Concerns

- Do not use in brick or block
- Not advised for use where vibratory loads are high
- Oversize holes are detrimental and will reduce load performance

Approvals/Listings

- G.S.A. Spec FF-S-325C, Group II, Type 4, Class 1
- UL listed 3/8"-1" (except 7/8")
- FM 3/8", 1/2", 3/4"
- Contact customer service for approvals / listings for state D.O.T.'s



Made in USA



NOTE: The load values below are for all lengths of a given diameter capable of reaching the specified embedment.

Ultimate Tensile & Shear Loads in Lbs.				
Diameter- Threads	Embedment	P.S.I.		
		2000	4000	Shear
1/4" - 20	1 1/8"	1,173	1,015	1,472
	2 1/4"	2,573	2,711	
3/8" - 16	1 5/8"	2,289	2,367	3,151
	3 3/8"	3,556	5,203	
1/2" - 13	2 1/4"	4,120	5,068	6,828
	4 1/2"	4,608	5,772	
5/8" - 11	2 3/4"	5,486	5,556	9,659
	5 5/8"	6,957	9,294	
3/4" - 10	3 3/8"	9,267	11,975	15,126
	6 3/4"	13,278	16,201	
7/8" - 9	4"	9,746	13,902	21,574
	8"	14,378	20,288	
1" - 8	4 1/2"	10,226	15,829	28,023
	9"	15,479	24,375	
1 1/4" - 7	6 1/2"	14,720	23,090	33,000

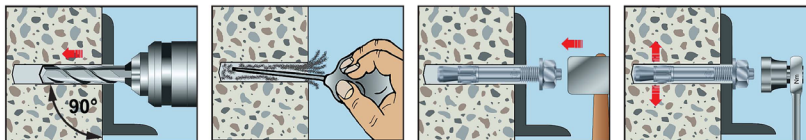
Anchor Spacing / Edge Distance

Anchor Diameter	Min. Anchor Spacing *	Min. Edge Distance *
1/4"	2 1/2"	1 1/4"
3/8"	3 3/4"	1 7/8"
1/2"	5"	2 1/2"
5/8"	6 1/4"	3 1/8"
3/4"	7 1/2"	3 3/8"
7/8"	8 3/4"	4 3/8"
1"	10"	5"
1 1/4"	12 1/2"	6 1/4"

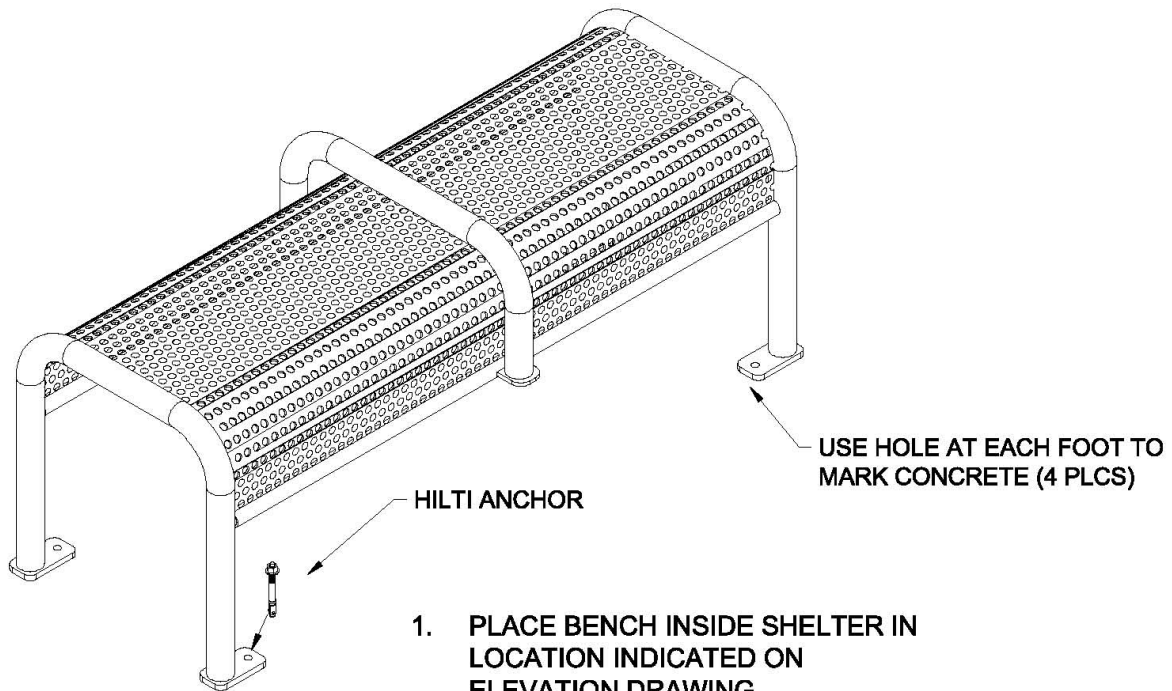
* To obtain 100% load as published

Installation

- 1 Drill hole 1/2" to 1" deeper than anchor embedment.
- 2 Clean hole of debris.
- 3 With nut threaded past the end of stud, hammer into position.
- 4 Tighten finger tight plus an additional 3-5 turns with wrench.
- 5 If anchor spins in hole, force anchor up using screwdriver until clip binds into concrete.



BENCH INSTALLATION



1. PLACE BENCH INSIDE SHELTER IN LOCATION INDICATED ON ELEVATION DRAWING.
2. MARK THE CONCRETE AT EACH OF THE MOUNTING REFER TO ANCHORING SPEC SHEET FOR ANCHORING INSTRUCTIONS.

MAP CASE INSTALLATION

Align the map case mounting holes with the holes in the glass panel. Mount the map case using the sleeve bearing and insert into each hole. Use four tamper proof screws to secure. See the image on page 16 and use as a guide to install the map case.

