



Code Compliance Research Report CCRR-0225

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DIVISION: 09 00 00 FINISHES
Section: 09 69 00 – Access Flooring

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REPORT SUBJECT:
TecCrete™ Access Flooring System

1.0 SCOPE OF EVALUATION

This research report addresses compliance with the following Codes:

- 2015 International Building Code (IBC)
- 2012 International Building Code (IBC)

Evaluated in accordance with ICC-ES AC308 – Acceptance Criteria for Access Floors revised March 2014

TecCrete™ Access Flooring System has been evaluated for the following properties:

- Structural Performance
- Fire Resistance

2.0 USES

TecCrete™ Access Flooring System provides a raised floor surface that enables the area below the raised floor to be utilized for the distribution of building utilities such as communication and data wiring, HVAC and other similar utilities.

The access floor systems recognized in this report are not for use in residential occupancies (IBC Groups R-1, R-2, R-3 and R-4).

3.0 DESCRIPTION

3.1 Panels: The *TecCrete™ Access Flooring System* panels consist of 24" x 24" galvanized steel panels filled with a polished lightweight high-strength concrete that can be left exposed or covered with other floor finishes. See Figures 1, 2 & 3 for panel types and details.

3.2 Pedestals: The floor support pedestals consist of a square steel base plate of various dimensions welded to square or round vertical pedestal posts. The heights of the pedestals range from 1-1/2" to 60". See Table 3 and Figures 4 - 13 for pedestal details. The pedestals may be either anchored mechanically or with approved adhesives to clean solid structural concrete surfaces.

3.3 Connections:

3.3.1 The *TecCrete* panel is fastened directly to the pedestal head for the *TecCrete* Cornerlock systems. See Figure 1 and 2. The connection is made via 1/4" – 20 TPI flat head Phillip-drive, carbon steel screw with a case hardness HRC 45. See Figure 12.

3.3.2 For the gravity-held *TecCrete* Non-CornerLock Panel system, the *TecCrete* panel rests directly on stringers without fastening. See Figure 3.

3.4 Stringers: The stringers can consist of either the Standard or Heavy Duty models. The Standard stringers consist of Grade 55 steel in thicknesses of 0.040" to 0.044" and lengths of 23 or 47 inches. The Heavy Duty stringers consist of 0.058" – 0.064" High Strength Low Alloy Improved Formability, HSLA-F Grade 50, galvanized G60 steel members. Both types of stringers include felt padding on the top surface of the stringer for noise reduction and proper seating of the floor panels.

3.5 Pedestal Adhesives: Pedestal adhesives are listed in Table 4. See Table 3 for allowable lateral loads.

4.0 PERFORMANCE CHARACTERISTICS

4.1 *TecCrete™ Access Flooring System* complies with the uniform and concentrated loads specified in IBC Table 1607.1 for access floor systems for office and computer use.

4.2 The *TecCrete™ Access Flooring System* utilizing the Bare Panel was tested and found to be non-combustible in accordance with 2012 and 2015 IBC, Section 703.5.1.

5.0 INSTALLATION

The *TecCrete™ Access Flooring System* must be installed in accordance with the manufacturer's

published installation instructions, the applicable Code and this Research Report. In the event of a conflict between the manufacturer's instructions and this report, this report governs.

5.1 The manufacturer's published installation instructions and this Research Report must be strictly adhered to, and a copy of the instructions must be available on the jobsite during installation.

5.2 The stringer layouts can use 24 inch or 48 inch stringers to provide a 24"x24" grid. See Figure 16.

5.3 The various types of supporting floor substrate material surfaces must be prepared per the manufacturer's installation instructions and the appropriate method of pedestal connection used.

5.4 The adhesion of the pedestal bases to sealed concrete surface is outside the scope of this report. Contact the manufacturer regarding the use of concrete sealants and their effect on the adhesives listed in this report.

5.5 Seismic design of lateral bracing for the access flooring system is beyond the scope of this report and must be designed by a Licensed Design Professional in the jurisdiction where the project is located to meet the specific lateral loads of each project.

6.0 SUPPORTING EVIDENCE

6.1 Reports of tests in accordance with AC300 – Acceptance Criteria for Access Floors revised March 2014.

6.2 The panels were tested per ASTM E 2322-03 Standard Test Method for Conducting Transverse and Concentrated Load Tests on Panels used in Floor and Roof Construction to determine the maximum deflection and permanent set of the access floor system under uniform loading.

6.3 The non-combustible fire test was in accordance with ASTM E 136-04 - Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C. ASTM E136-12 reviewed and deemed equivalent to ASTM E136-04.

6.4 Reports of testing on pedestal adhesives per AC05 Acceptance Criteria for Sandwich Panel Adhesives in accordance with AC300 Section 4.4.

6.5 Documentation of an Intertek approved quality control system for the manufacturing of products recognized in this report.

7.0 CONDITION OF USE

The *TecCrete™ Access Flooring System* described in this Research Report complies with, or is a suitable alternative to, what is specified in those Codes listed in Sections 1.0 of this report, subject to the following conditions:

7.1 Installation must comply with this Code Compliance Research Report, the manufacturer's published installation instructions and the applicable Code. In the event of a conflict between the manufacturer's instructions and this report, this report governs.

7.2 The raised access floor system may be mechanically attached to concrete and/or steel with approved anchors. Anchors must satisfy the design load requirements specified in Chapter 16 of the Building Code and must meet the following minimum requirements.

7.2.1 A minimum of four anchors must be used in the four pre-drilled holes in the pedestal base plate.

7.2.2 The anchors must be stainless steel, galvanized steel, or other approved material compatible with the pedestal base plate.

7.2.3 The anchors must have a minimum diameter of 3/8 inch.

7.3 Where required by the building official, engineering calculations and details shall be provided. The calculations shall verify that the anchorage complies with the Building Code for the type and condition of the supporting construction.

7.4 The access floor must be supported directly on a concrete floor of fire-resistive construction.

7.5 All designs and calculations shall be prepared by a licensed design professional according to the requirements in the jurisdiction where the project is located.

7.6 The raised floor system is not evaluated for equipment anchored to the access floor system.

7.7 Floor finishes shall comply with IBC Section 804.

7.8 The *TecCrete™ Access Flooring System* is manufactured in Grand Rapids, MI by Haworth Inc. in accordance with the manufacturer's approved quality control system with inspections by Intertek-ATI.

8.0 IDENTIFICATION

The *TecCrete™ Access Flooring System* described in this Research Report is identified by a marking bearing the report holder's name Haworth Inc., the Intertek Mark, and the Code Compliance Research Report number (CCRR-0225) and the following statement: "See CCRR-0225 at <https://whdirectory.intertek.com> for uses and performance levels."



9.0 CODE COMPLIANCE RESEARCH REPORT USE

9.1 Approval of building products and/or materials can only be granted by a building official having legal authority in the specific jurisdiction where approval is sought.

9.2 Code Compliance Research Reports shall not be used in any manner that implies an endorsement of the product by Intertek.

9.3 Reference to the Intertek website address: whdirectory.intertek.com is recommended to ascertain the current version and status of this report.

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Table 1 – TecCrete Access Floor System Code Classification

Model	Panel Thickness (inches)	Stringers	Code Occupancy Classification
1250	1-1/8	None (See Fig. 1)	IBC - ALL USE GROUP
1500	1-1/8	Standard (See Fig. 2 & 3)	
1500SL	1-1/2	None (See Fig. 1)	
2000	1-1/2	Standard (See Fig. 2 & 3)	
2500	1-1/2	HD (See Fig. 2 & 3)	

Table 2 – Properties Evaluated

PROPERTY	IBC SECTION
Structural Loading	Table 1607.1
Fire Resistance	703.5.1

Table 3 – Pedestal Types and Allowable Lateral Loads

Model	Max Pedestal Height (inches)	Pedestal Mechanical Anchors	Allow Lateral Load @ Max Height (Mechanical Attachment) (in-lbs) (SF=3)	Allow Lateral Load @ Max Height (Envirotec 105 Adhesive) (in-lbs) (SF=5)	Allow Lateral Load @ Max Height (Seal Bond 95 Adhesive) (in-lbs) (SF=5)
Ultra-Low	1.5	(4) 3/8 – 16 Bolts w/ 1" OD washer	418	207	160
Low	4.7	(4) 3/8 – 16 Bolts w/ 1" OD washer	440	248	315
0	27	(4) 3/8 – 16 Bolts w/ 1" OD washer	396	328	262
1	60	(4) 3/8 – 16 Bolts w/ 1" OD washer	975	583	566
3	60	(4) 3/8 – 16 Bolts w/ 1" OD washer	1434	593	853
4	60	(4) 3/8 – 16 Bolts w/ 1.5" OD washer	2314	1272	1345
5	60	(4) 3/8 – 16 Bolts w/ 1.5" OD washer	2236	1597	1294

Table 4 – Adhesives

NAME	Standard	Adhesive Type
Envirotec 105	AC05	Type I, Class1
Seal Bond 95	AC05	Type I, Class1

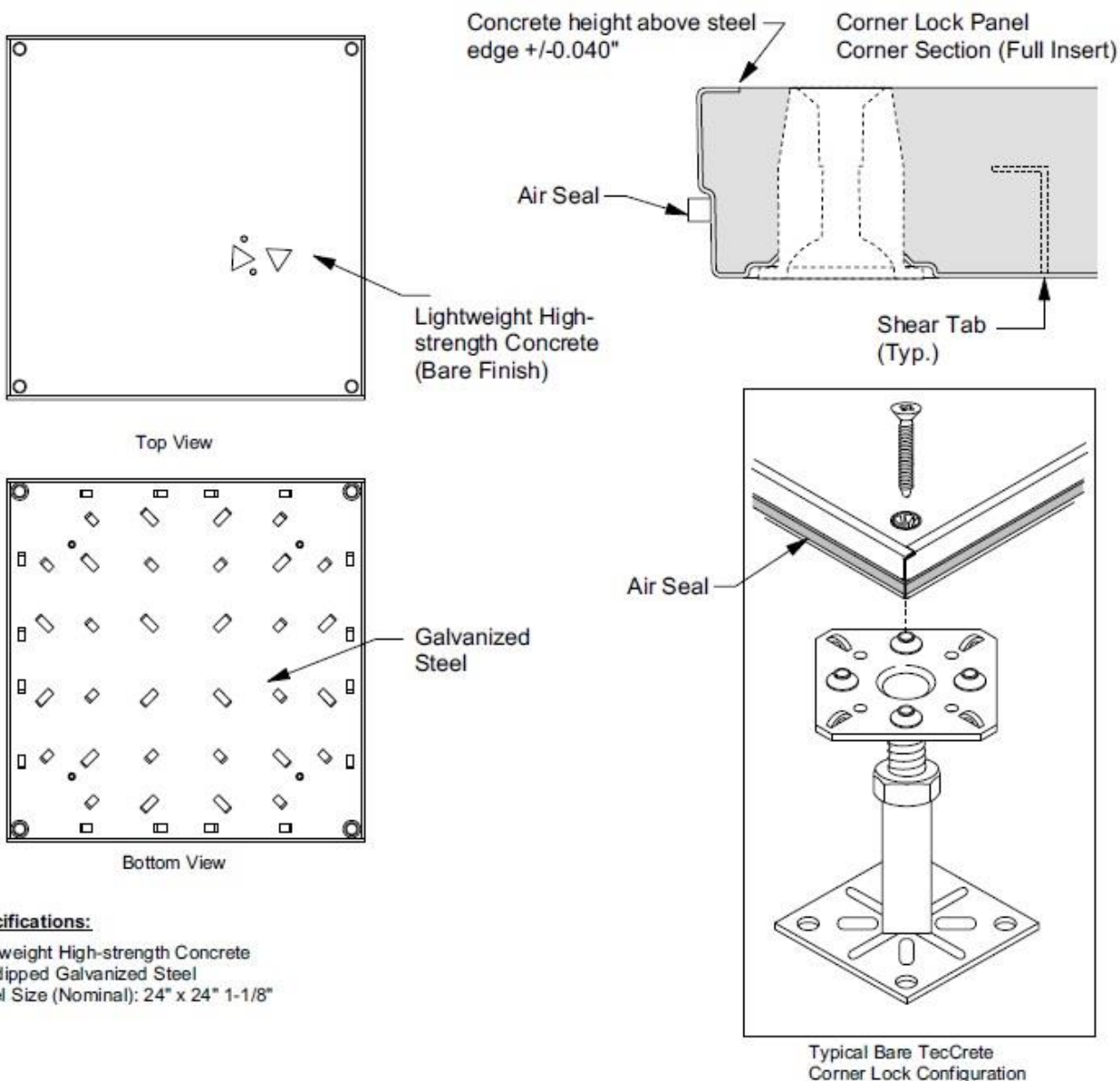
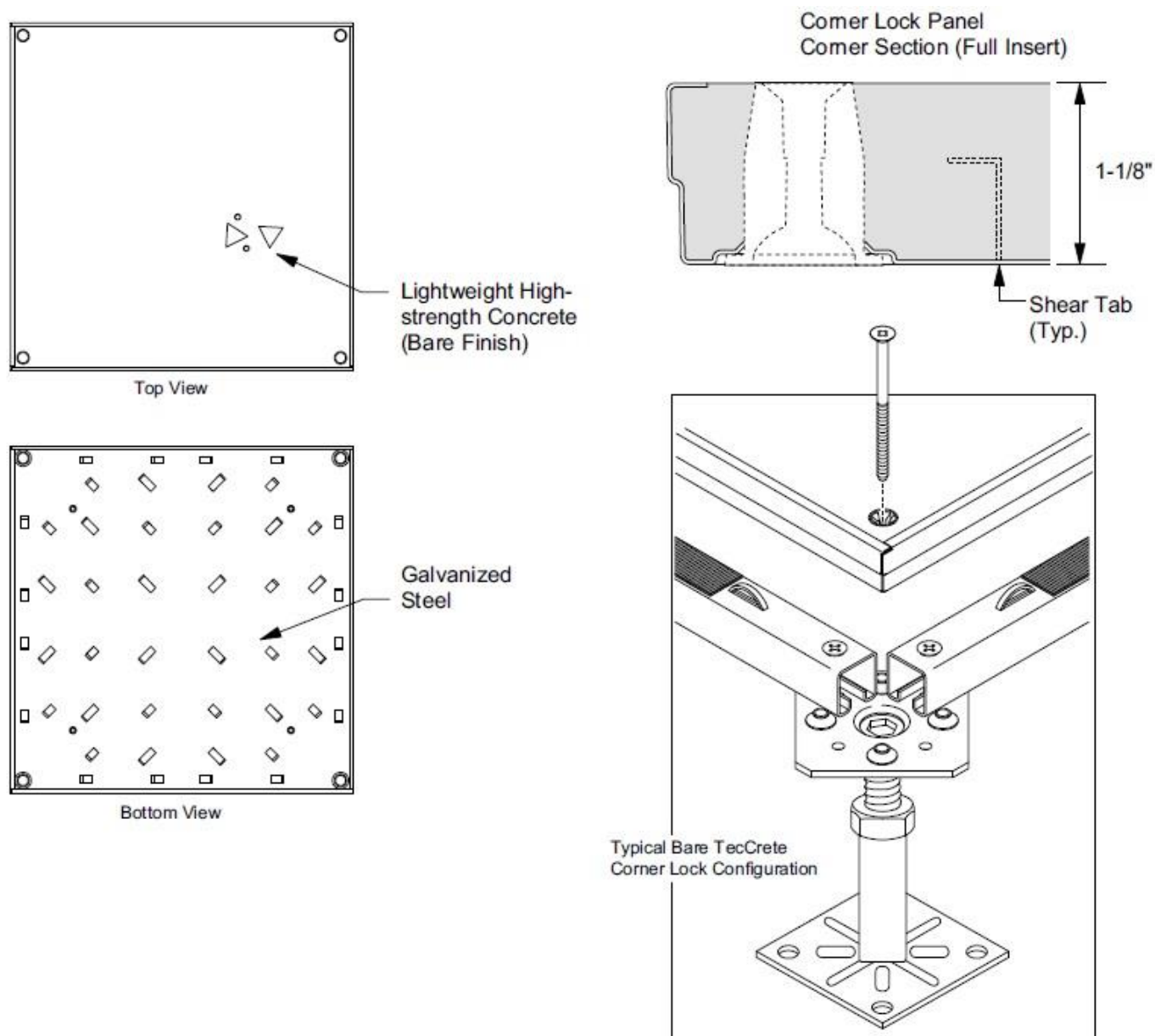
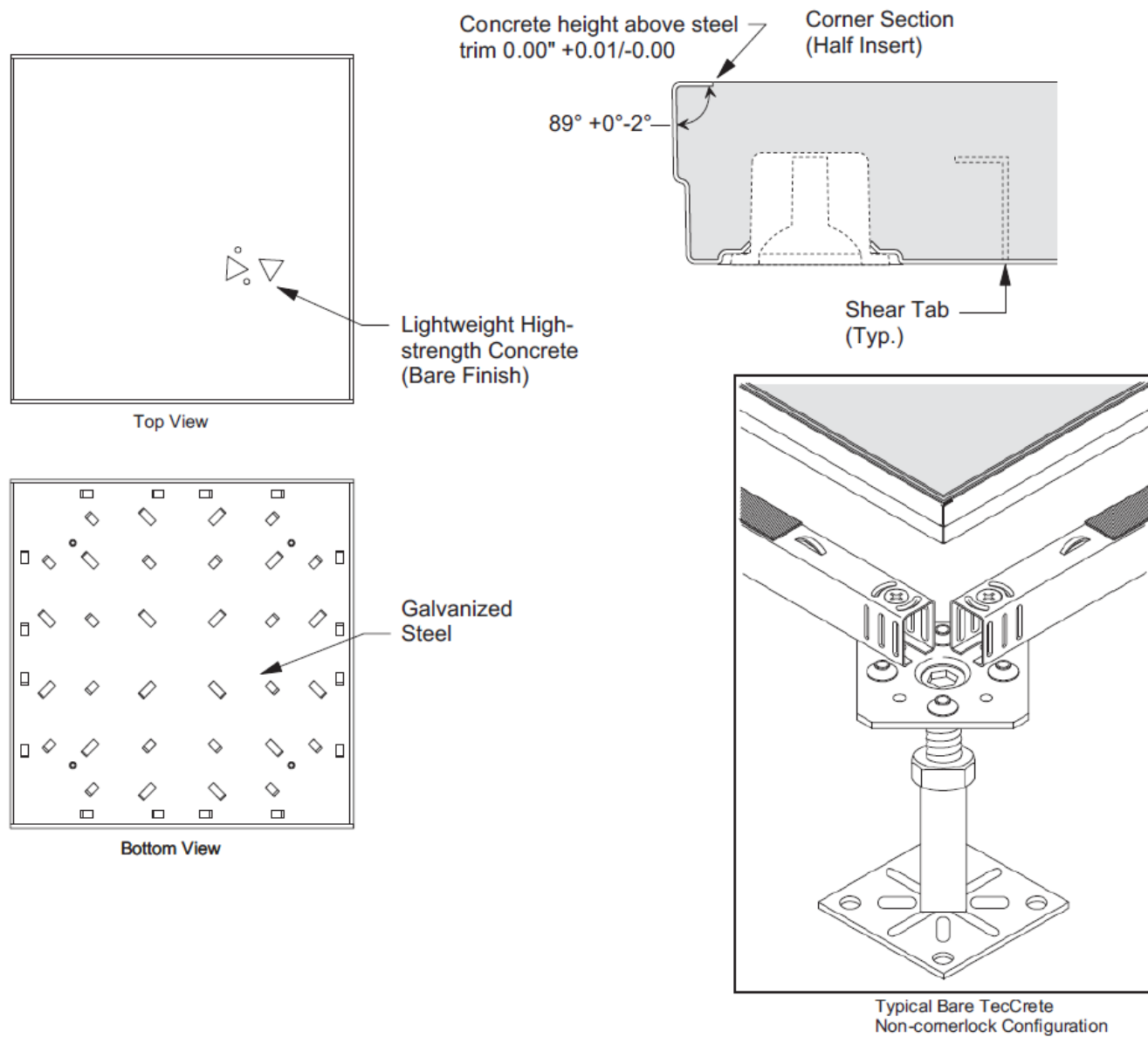


FIGURE 1 - CornerLock Installation. No Stringers
Models 1250 and 1500SL
 (Shown with optional air seal between panels. *Not evaluated for Air Plenum use*)



**FIGURE 2 – CornerLock Installation with HD stringers
Model 1500, 2000 or 2500**



**FIGURE 3 – Non-CornerLock Installation with Standard stringers
Models 1500, 2000 or 2500**

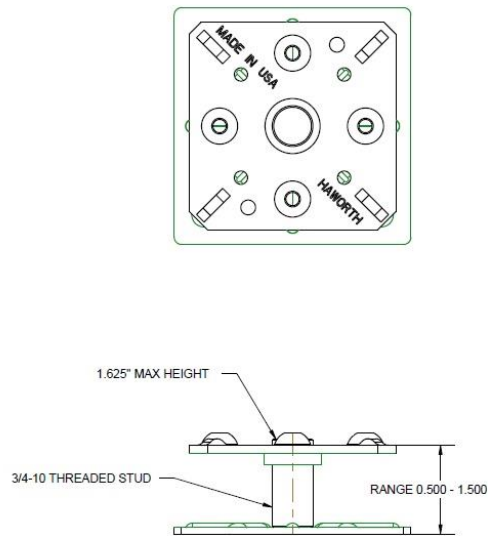


FIGURE 4 – Ultra-Low Pedestal

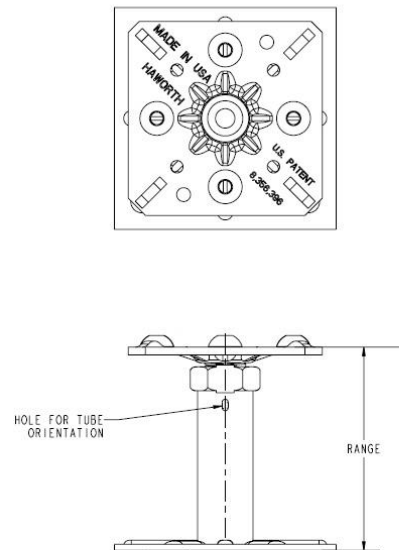


FIGURE 5 – Low Pedestal

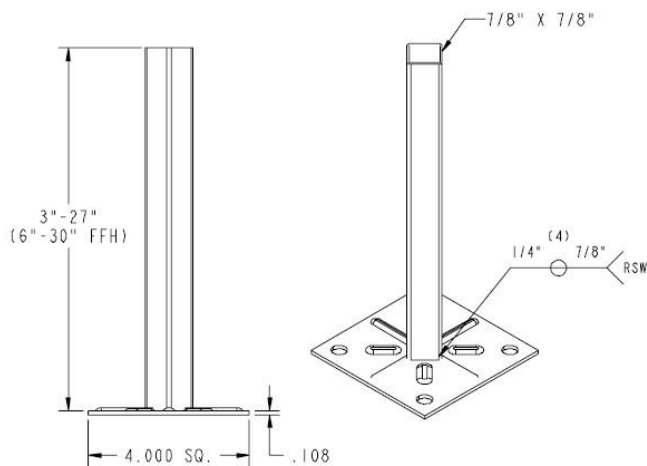


FIGURE 6 – Type 0 Pedestal

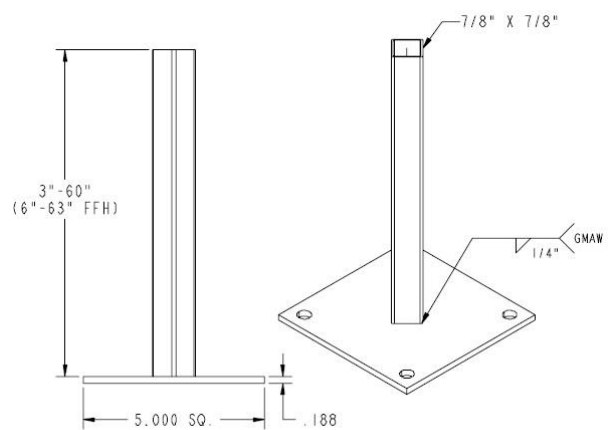


FIGURE 7 – Type 1 Pedestal

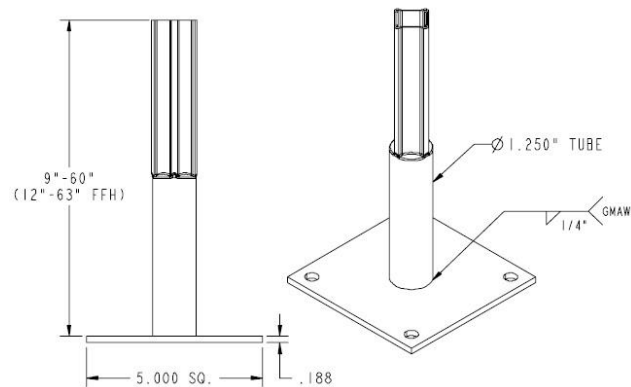


FIGURE 8 – Type 3 Pedestal

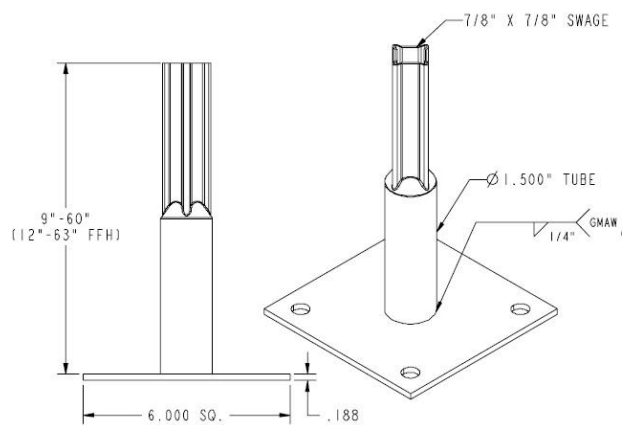


FIGURE 9 – Type 4 Pedestal

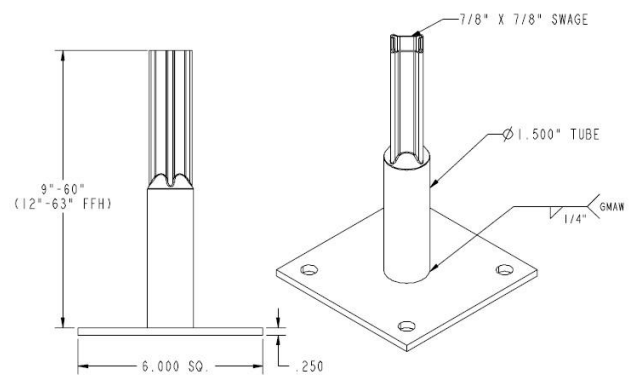


FIGURE 10 – Type 5 Pedestal

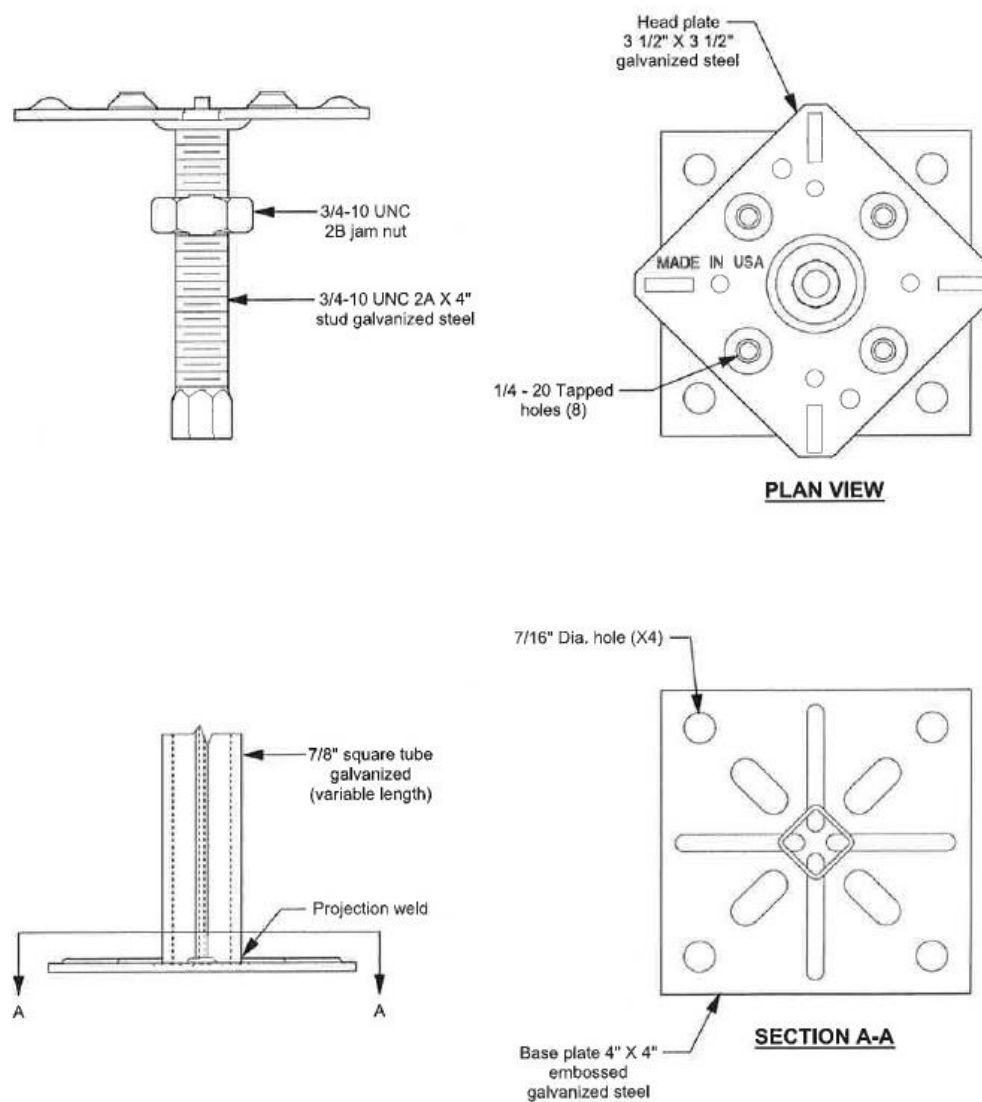


FIGURE 11 – Head Plate, Adjustable Connection Stud, Pedestal and Base Plate

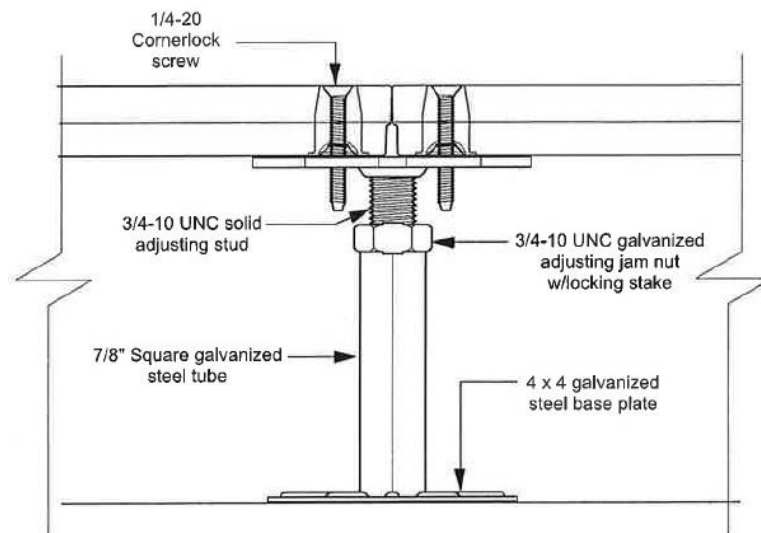


FIGURE 12 – Typical Pedestal / Panel Cross-Section without stringers

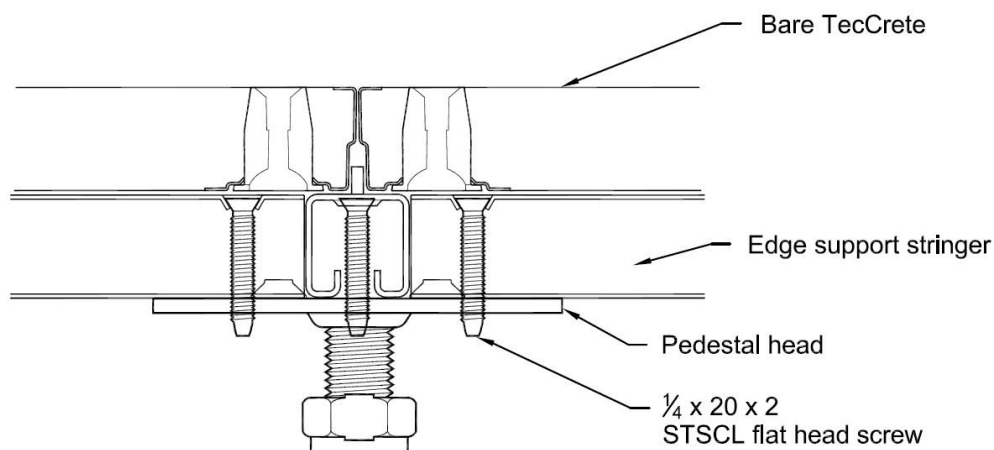


FIGURE 13 – Pedestal with Stringer and Connections

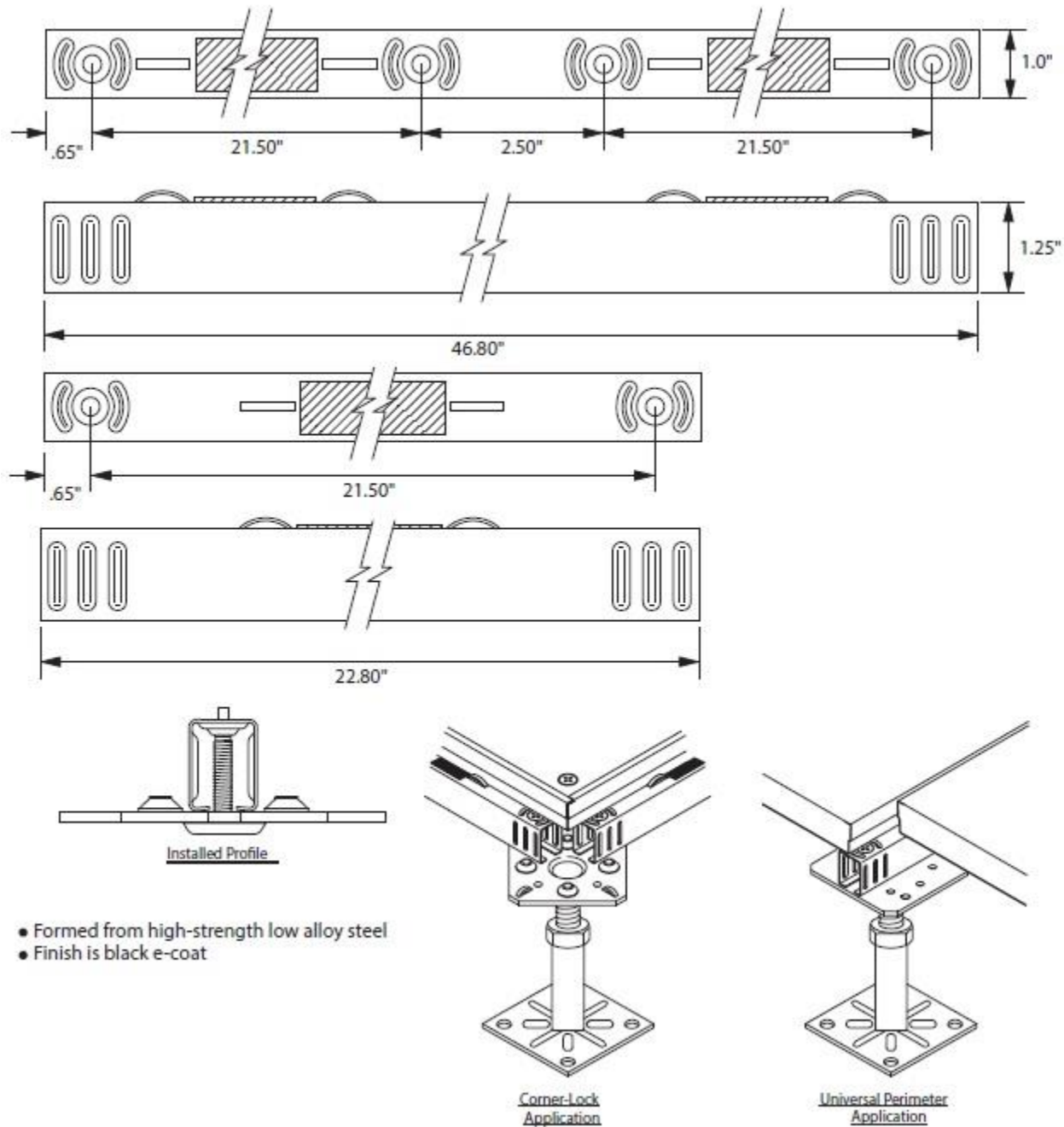


FIGURE 14 – Standard Stringer Profile and Dimensions

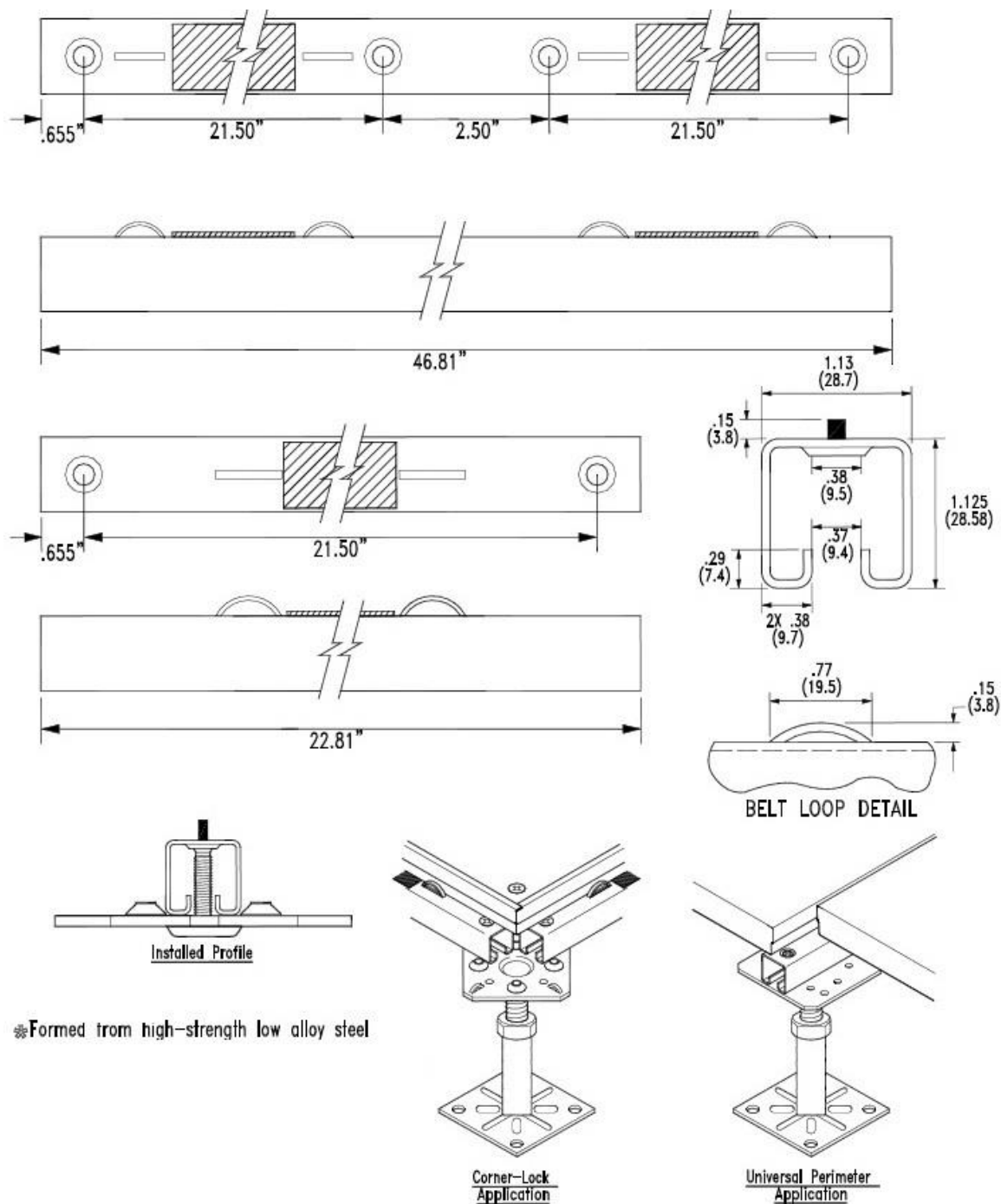


FIGURE 15 – Heavy Duty Stringer Profile and Dimensions

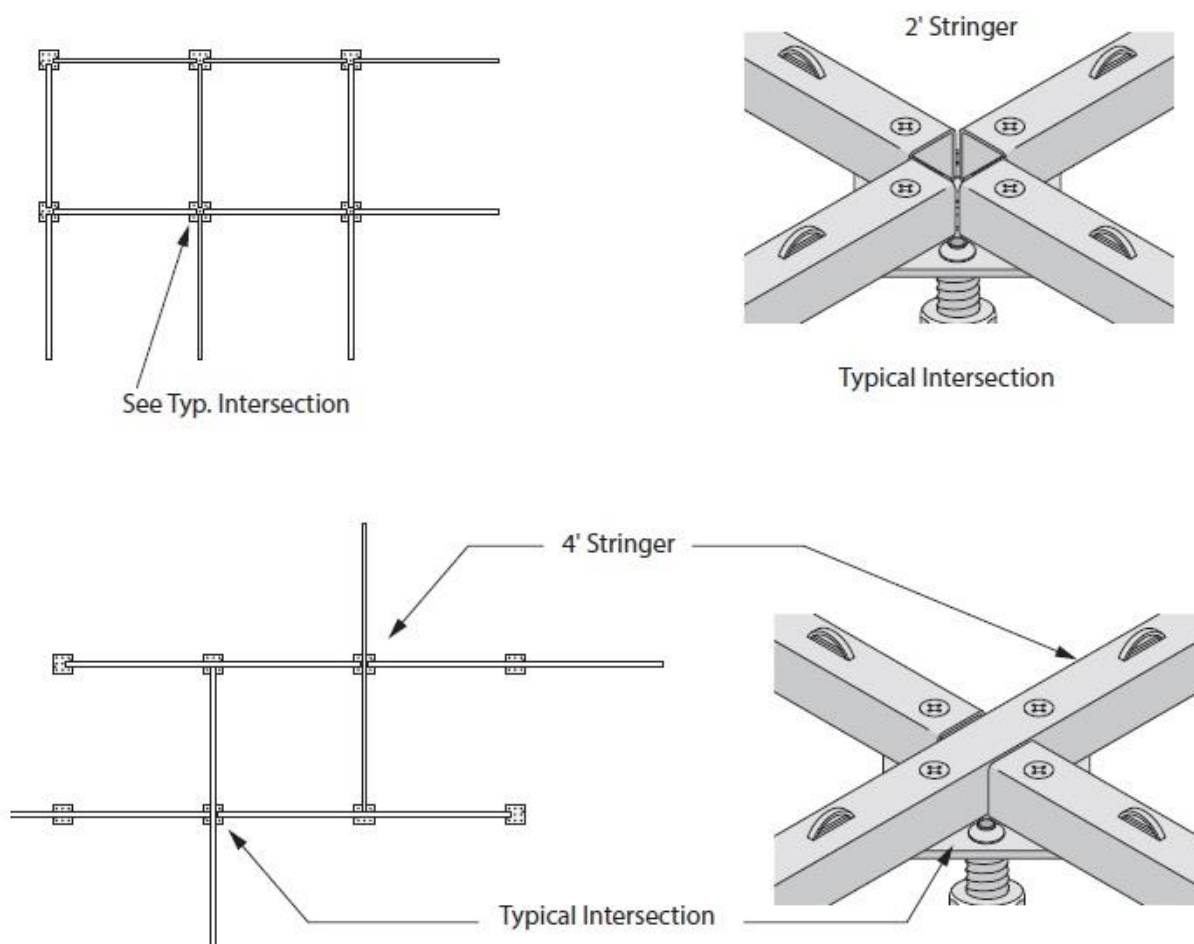


FIGURE 16 – 2' and 4' Stringer Layout Configurations