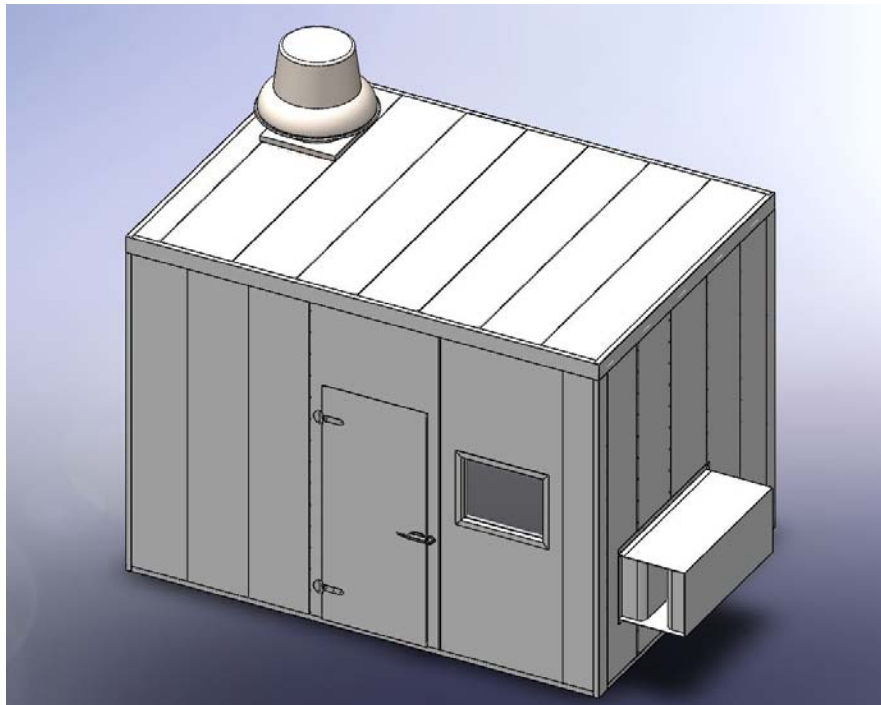


TYPICAL INSTALLATION PROCEDURES FOR **ACOUSTIC ENCLOSURES**



GENERAL INFORMATION

VG Engineering Noise Control Enclosures are custom configured to suit customer requirements. Enclosures can incorporate silences, isolated floors, access panels, removable wall sections, doors, windows, etc.

Following Installation Procedure refers to Modular Engineered System constructed of Standard Acoustic Panels. Those panels are joined together mainly using Tongue-Groove Connection and designed flashing. Refer to following Installation Procedures as a guidelines for proper installation of enclosure components. Standard enclosure components include tongue and groove panels, base channels, flashings, sealant (caulking) and fasteners. Applying proper sealant during installation (at all locations specified in instructions below) is very important to achieve designed acoustic performance.

Acoustic Performance Information

Tests are performed by independent testing for the scope of accreditation under NVLAP lab code 100402-0.

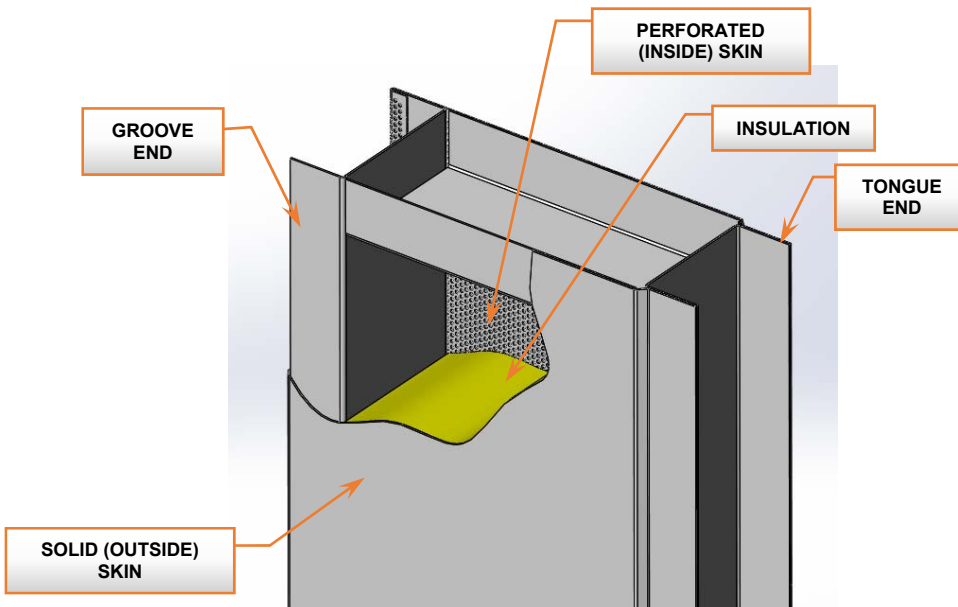
For **Sound Absorption Test**, the specimen is tested in accordance with the American Society for Testing and Materials designation ASTM C423-09a, "Standard Test Method for Sound Absorption Coefficient by the Reverberation Room Method".

For **Sound Transmission Loss Test**, the specimen is tested in accordance with the American Society for Testing and Materials designation ASTM E90-2009, "Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions", and classified in accordance with the American Society for Testing and Materials designation ASTM E413-2010, "Classification for Rating Sound Insulation" and in accordance with ASTM Standard E1332-2010a entitled, "Standard Classification for Determination of Outdoor-Indoor Transmission Class".

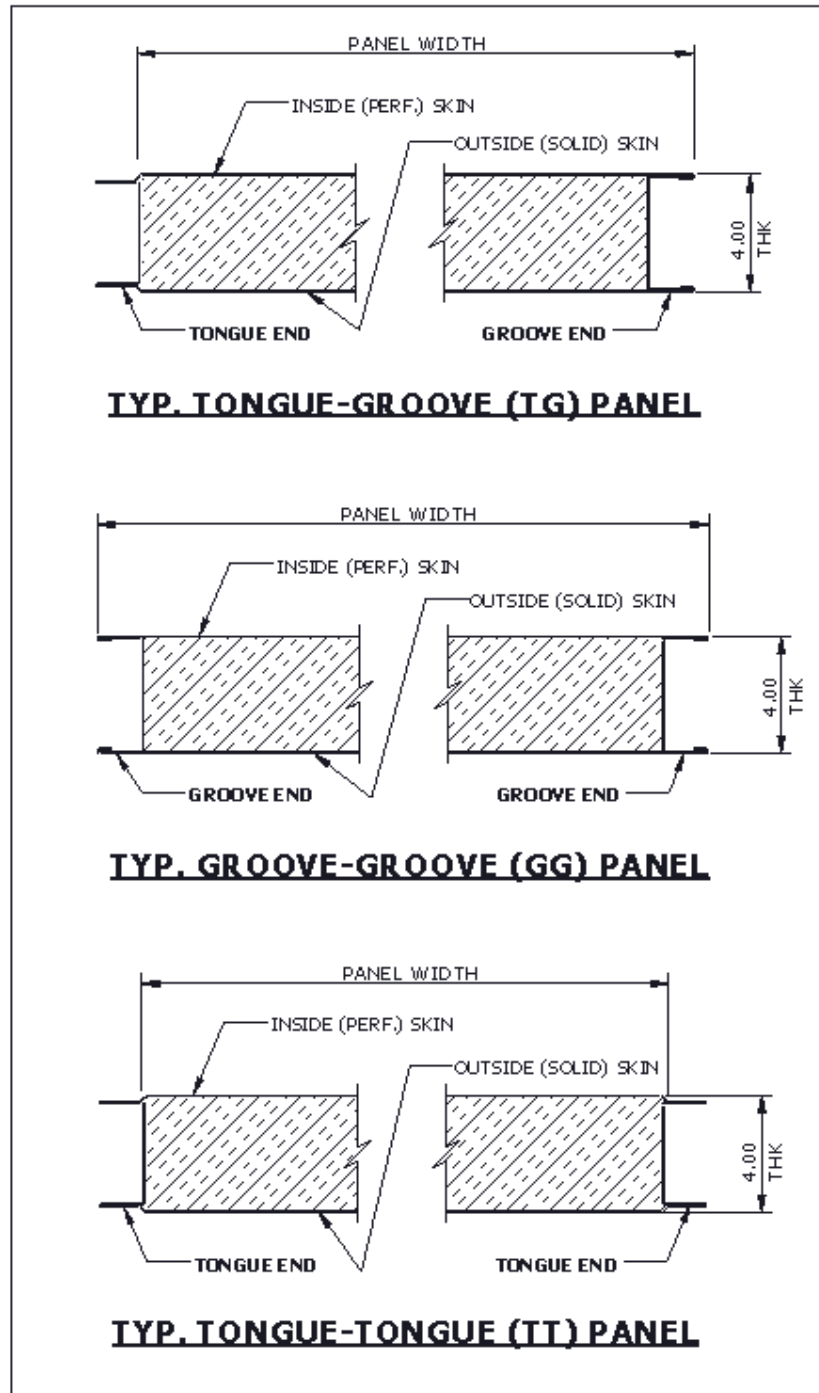
Standard Acoustic Panels

TYPICAL STANDARD PANEL SIZES AND CONSTRUCTION

PANEL TYPES	'TG' (Tongue-Groove) <i>** see <u>Panel Types</u> for dimensions</i> 'GG' (Groove-Groove) 'TT' (Tongue-Tongue)
PANEL THICKNESS	Standard – 4" Optional – 2" to 6"
PANEL LENGTH	Standard Length is 120", but can go up to 144"
PANEL MAT'L GAGES	Outside Skin – 18 ga OR 16 ga SOLID; Inside Skin – 22 ga PERFORATED (23% OPEN AREA)
MATERIAL	Galvanized Steel G90, Satin Finish Galvanized Steel, Stainless Steel 304 or 316, Aluminum Optional – POWDER COATING
INSULATION	FIBERGLASS, MINERAL WOOL



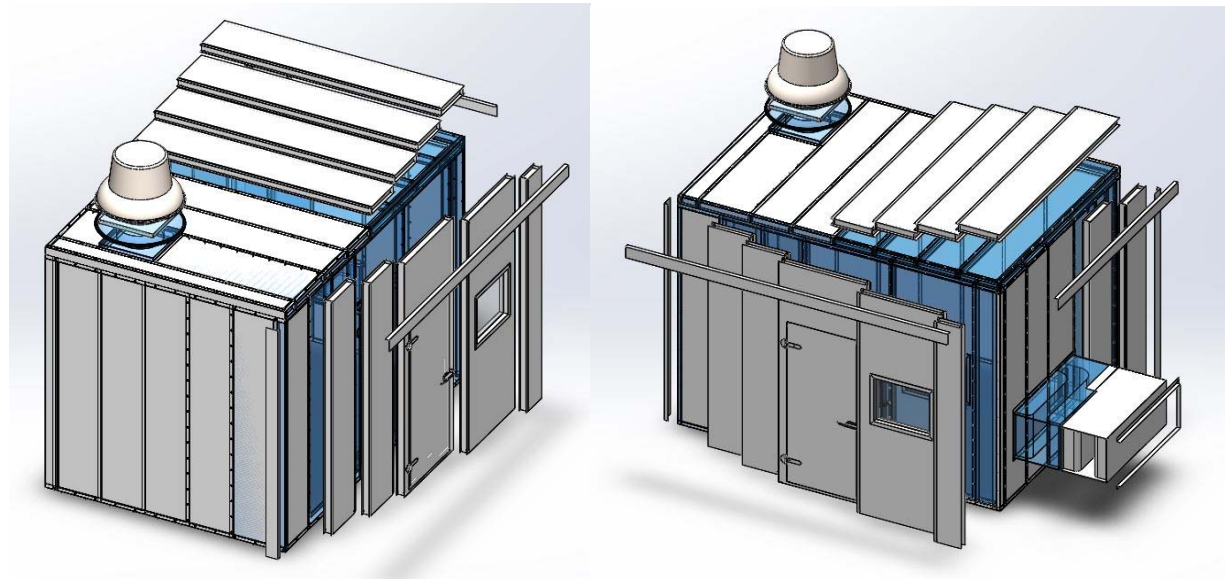
TYP 'TG' PANEL



Panel Types

INSTALLATION GUIDELINES

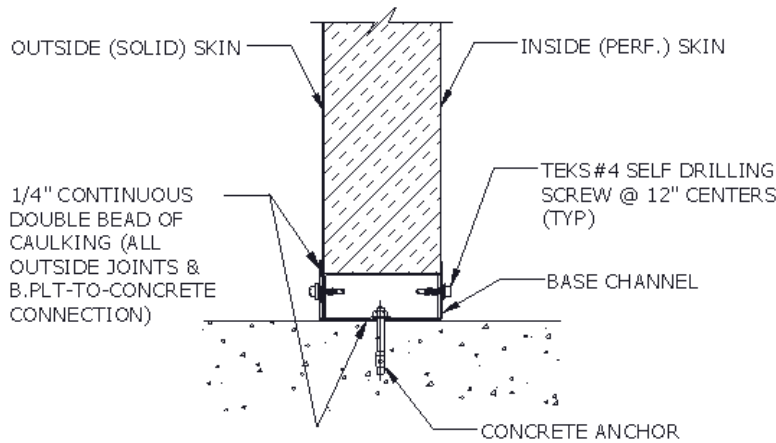
The following instructions are guidelines for typical installation of Acoustic Enclosures. Always check Installation Drawings of Enclosure Layout for any specific requirements.



1. Refer to BOM on Installation Drawing for a complete list of material supplied. All Parts are Tagged as per BOM 'Part No' identification.
2. All Base Channels and Flashings are supplied in 10 ft lengths (unless specified otherwise in BOM) and are to be field cut to size.
3. Locate and mark enclosure floor layout. Make sure that **FLOOR IS LEVEL**, since it may influence Enclosure Panel Fit and Squareness.

4. **INSTALL BASE CHANNELS**

- Prior to anchoring Base Channels to the Floor apply (2) ¼" continuous beads of caulking under Base Channel (see **TYP. PANEL-TO-FLOOR CONNECTION** detail).
- All channels to be cut to size on site and all corner connections mitered.
- Anchor Bolts (Designed and Supplied BY OTHERS) to be located as shown on **TYP. PANEL-TO-FLOOR CONNECTION** detail.



TYP. PANEL-TO-FLOOR CONNECTION

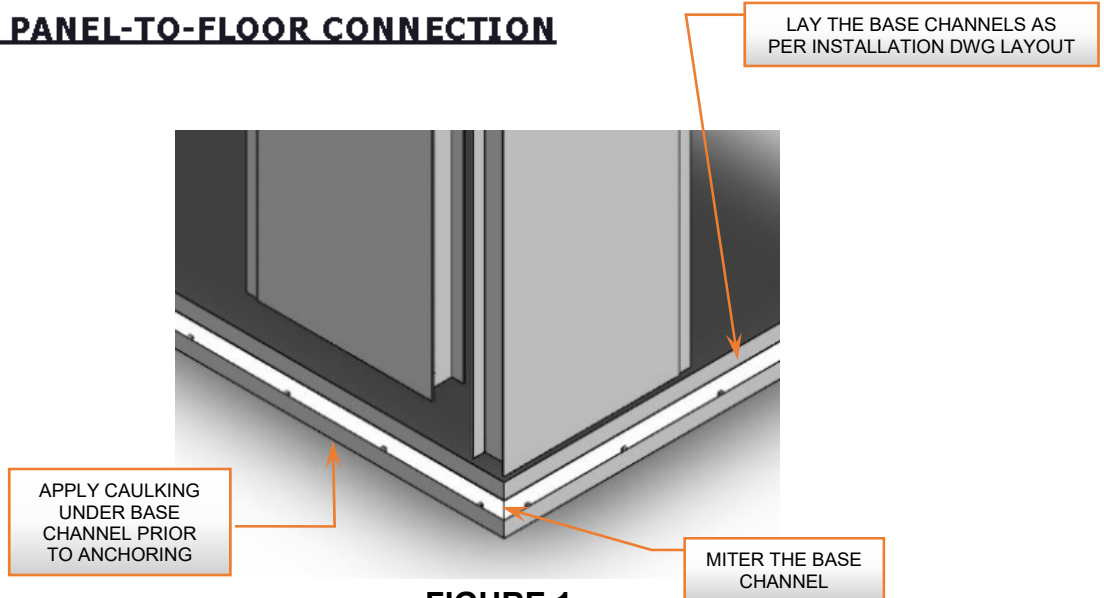


FIGURE 1

5. INSTALL WALL PANELS

- Typically start installation from corner.
- Prior to sliding panel into Base Channel apply caulking on channel leg adjacent to outside face of panel (see **TYP. PANEL-TO-FLOOR CONNECTION** detail and **FIGURE 2**).
- Repeat for panel that forms corner with initial panel.

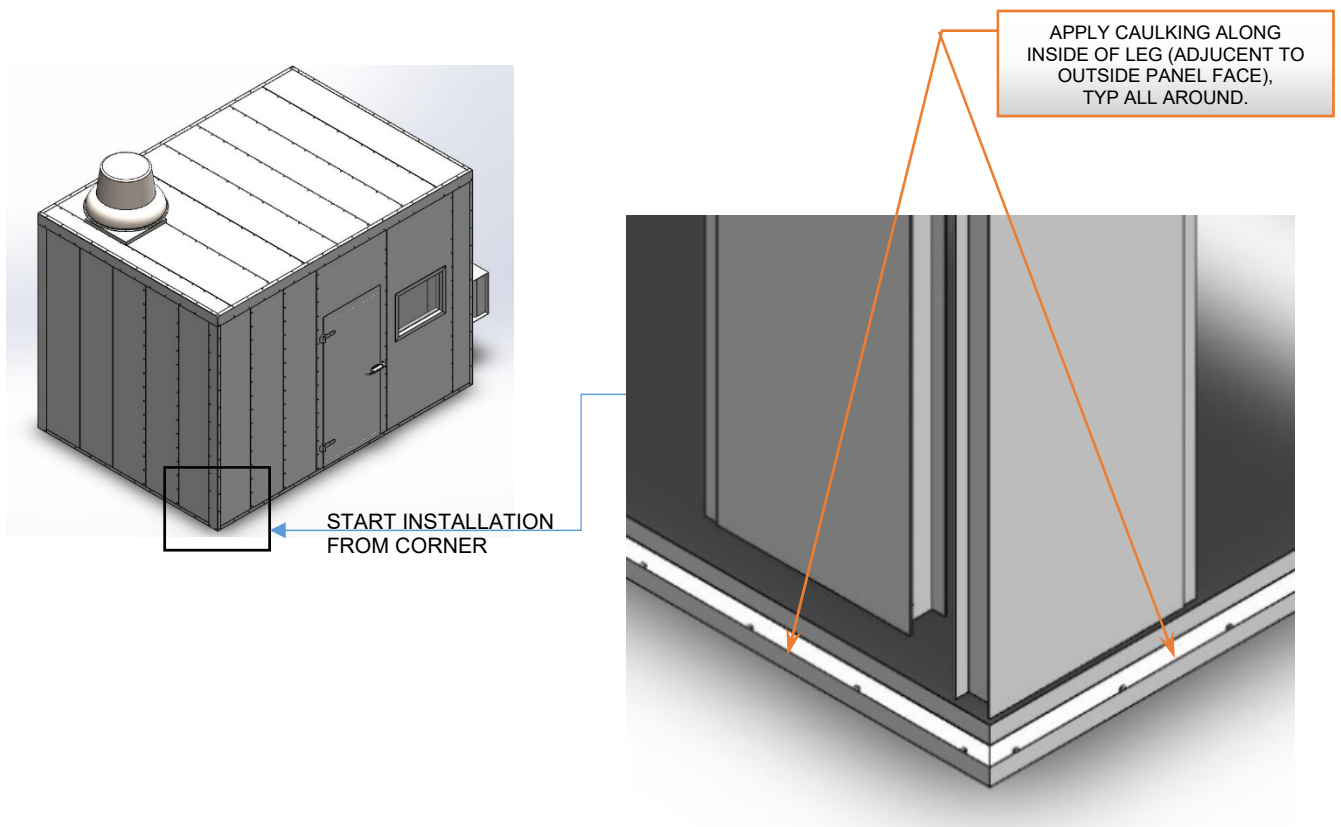
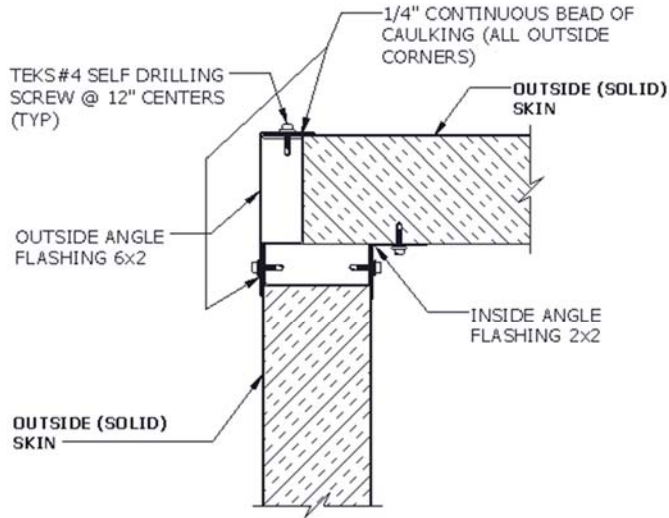


FIGURE 2

- After corner panels are in place, install outside flashing (apply caulking and install flashing as shown on **TYP 90° PANEL CONNECTION** detail and **FIGURE 3**).



TYP. 90° PANEL CONNECTION

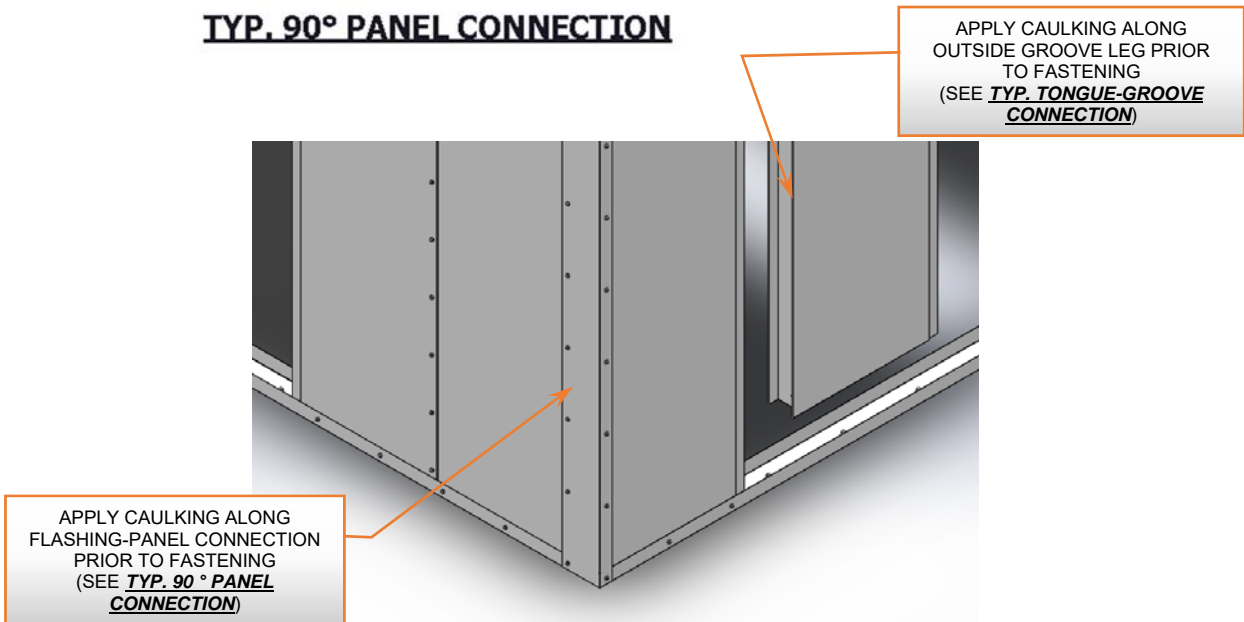
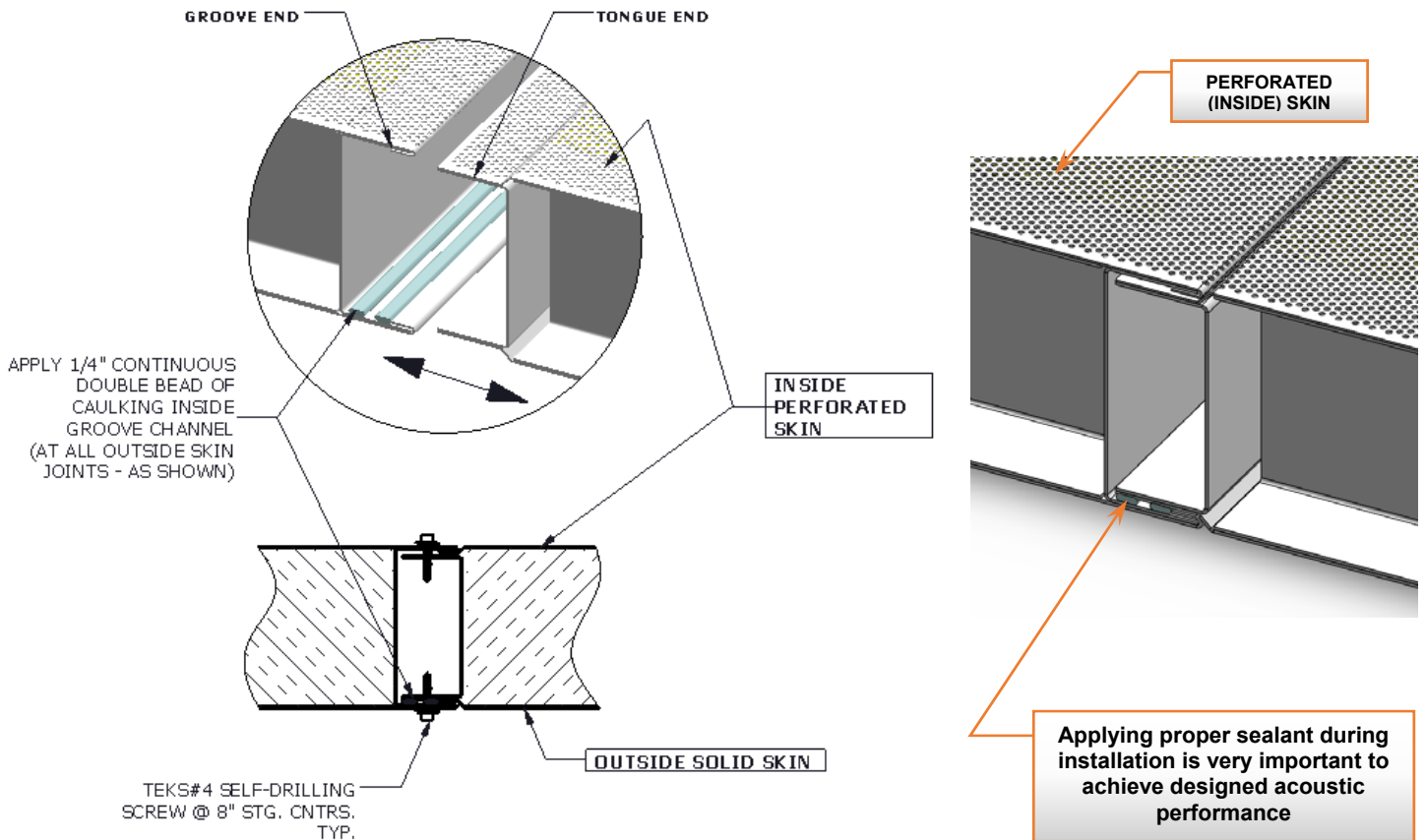


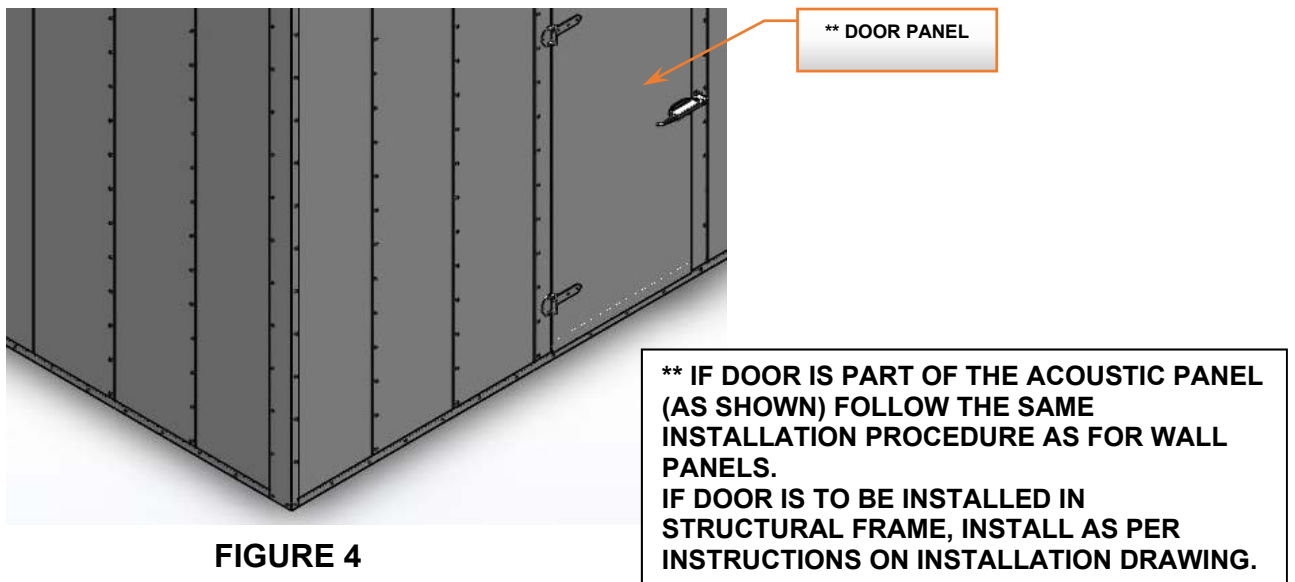
FIGURE 3

- Proceed installation of wall panels extending from corner panels. **Caulking must be applied** on ALL Tongue-Groove Panel Connections, prior to securing with TEKS screws (see **TYP. TONGUE-GROOVE PANEL CONNECTION** detail).



TYP. TONGUE-GROOVE PANEL CONNECTION

- After each panel is connected to adjacent panel, secure the base channel to each wall panel as shown on **TYP. PANEL-TO-FLOOR CONNECTION** detail.
- For installation of doors see **FIGURE 4**.



6. **INSTALL ROOF PANELS**

- Lay roof panels as per piece-marked installation drawings. Follow typical Tongue-Groove Installation Sequence, as marked on the layout. CAULKING MUST BE APPLIED on all Tongue-Groove panel connections, prior to securing with TEKS screws (see **TYP. TONGUE-GROOVE PANEL CONNECTION** detail and **FIGURE 5**).
- After each panel is connected to adjacent panel, secure outside flashing as shown on **FIGURE 5 & 6**. CAULKING MUST BE APPLIED on all Outside Flashings (see **TYP 90° PANEL CONNECTION** for details). All Flashings are supplied in standard 10 FT lengths and are to be field cut as required.

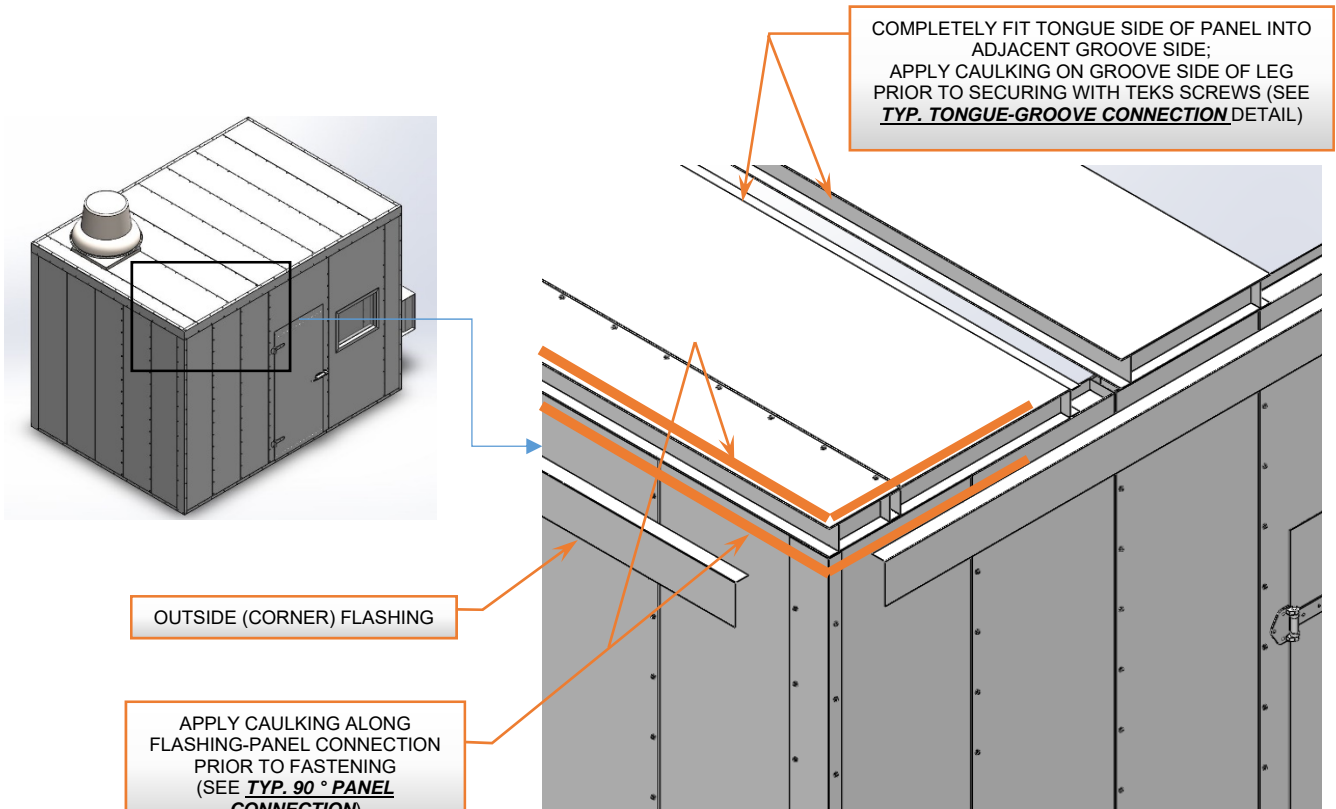


FIGURE 5

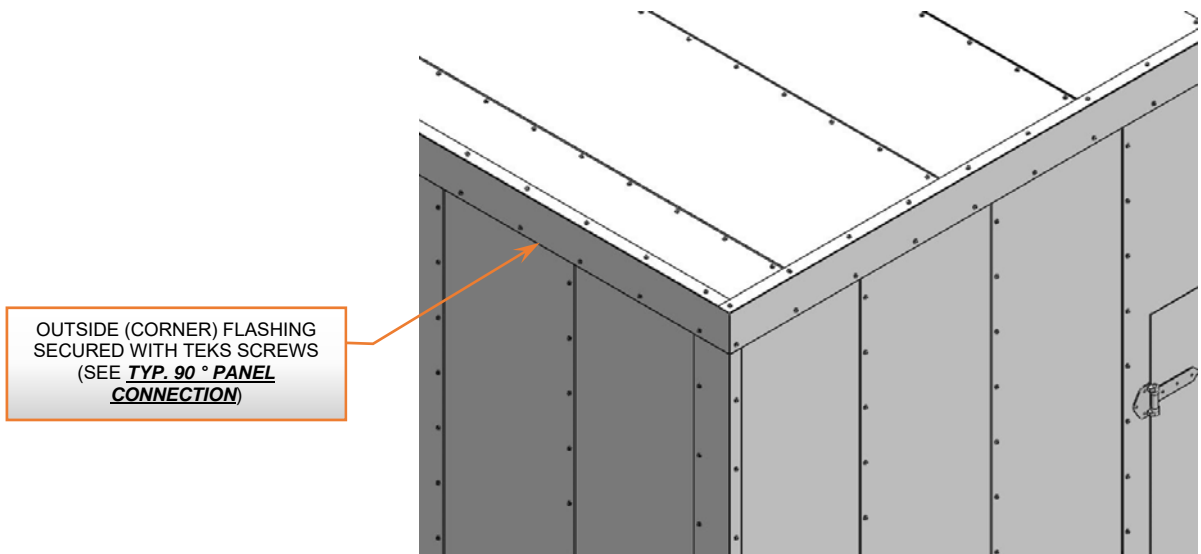
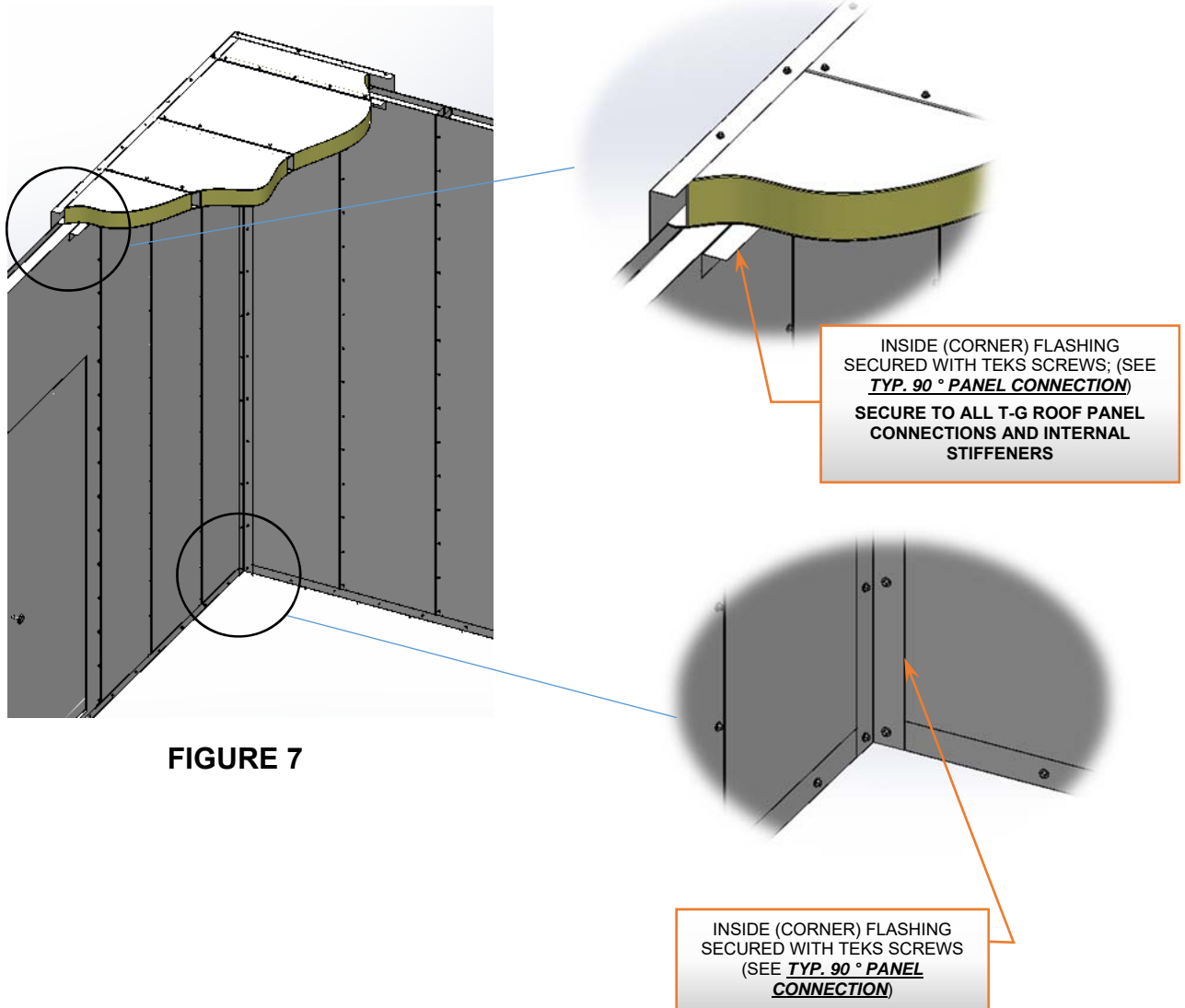


FIGURE 6

7. INSTALL INSIDE FLASHING

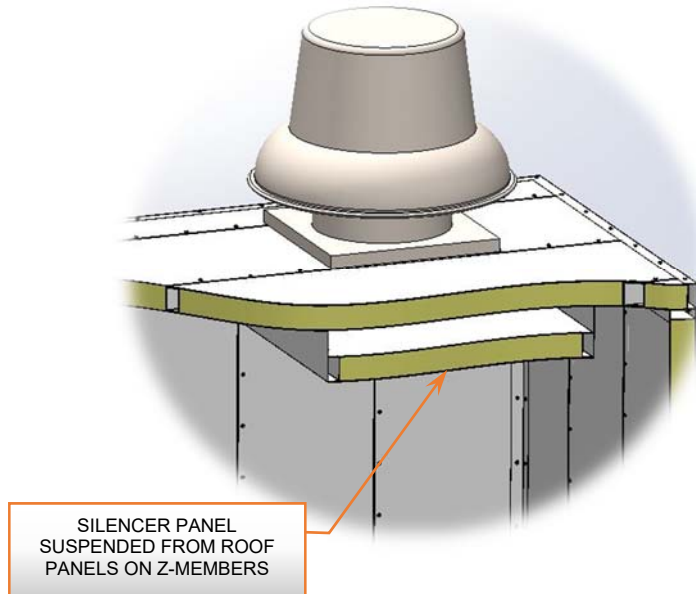
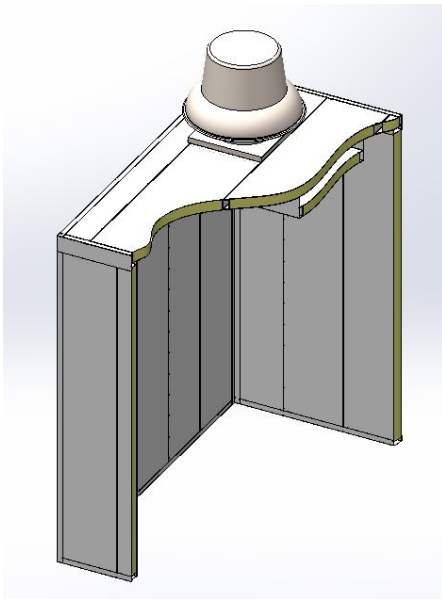
- After all Outside Flashings have been installed, install Inside Flashing at all wall-to-wall and wall-to-roof corners (see **FIGURE 7**). **Inside Flashing must be secured at all Tongue-Groove panel connections and Internal Panel Stiffeners.**



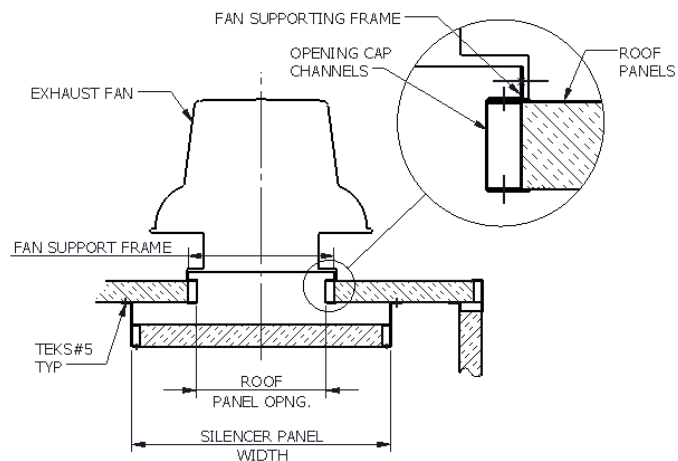
8. INSTALL SILENCERS, EXHAUST FANS (IF APPLICABLE)

- Shown below are typical examples of Exhaust Fan and Silencer installation (*refer to installation drawings if special requirements needed*).

EXHAUST FAN

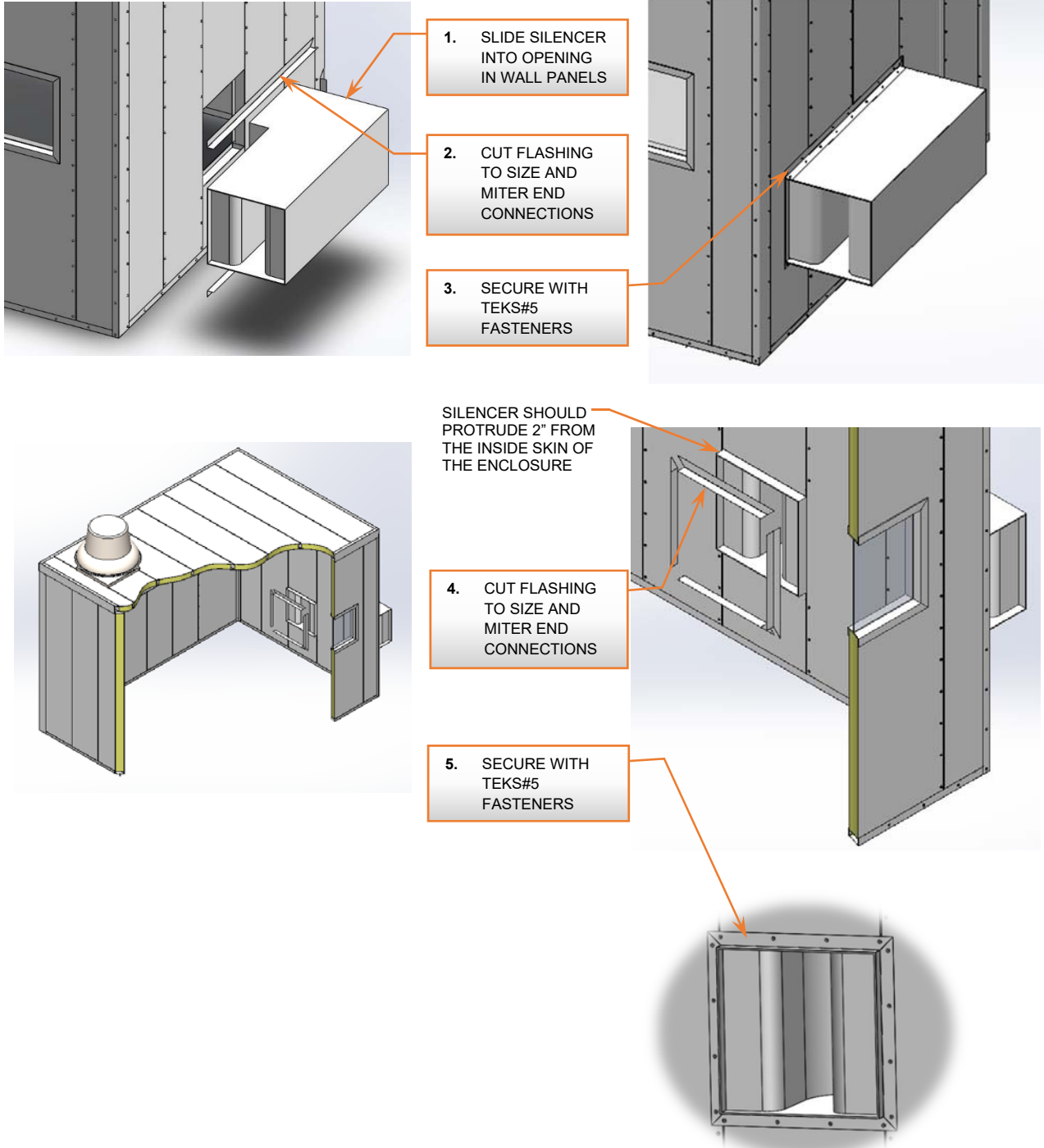


SILENCER PANEL
 SUSPENDED FROM ROOF
 PANELS ON Z-MEMBERS



EXHAUST FAN INSTALLATION DETAIL

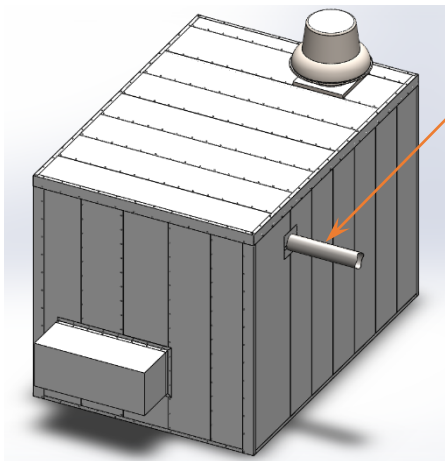
SILENCER



9. **INSTALL / SEAL ANY OPENINGS IN PANELS**

- Panels can be supplied with prefabricated openings for any enclosure penetrations (ex. pipes, etc), if exact size and location of penetration is provided.
- Panels can also be field modified (openings cut in panels) to suit enclosure penetrations (VGE approval required for any field modifications).

Below are examples of pipe penetration through enclosure wall.



PIPE PENETRATION

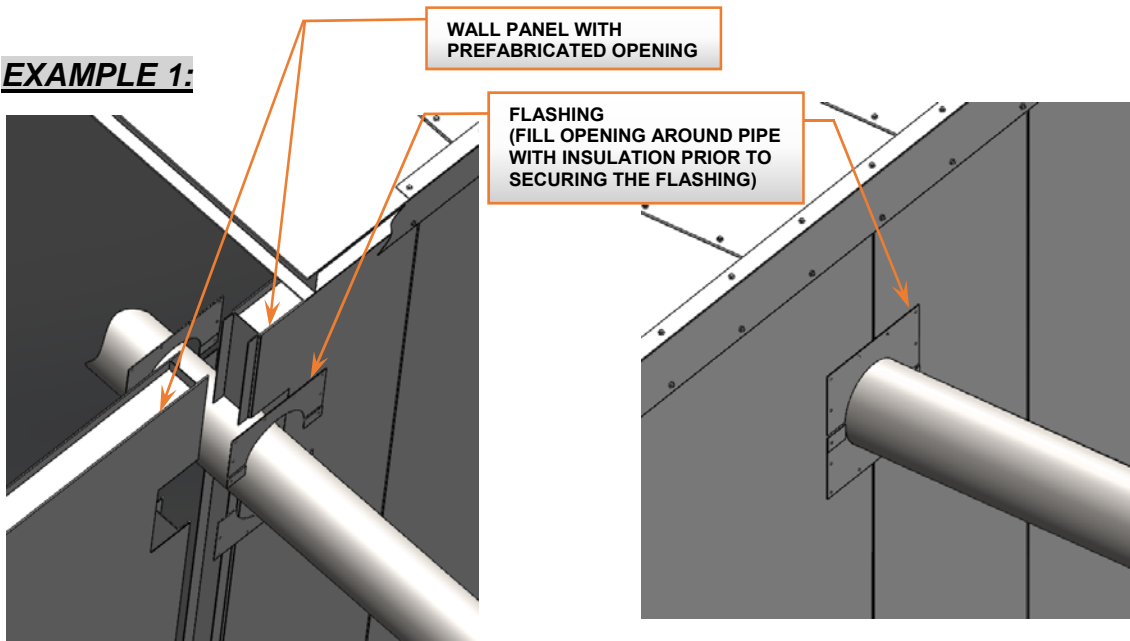
EXAMPLE 1

– PANELS SUPPLIED WITH OPENINGS (FACTORY MODIFIED)

EXAMPLE 2

– PANEL OPENINGS MODIFIED ON SITE

EXAMPLE 1:



EXAMPLE 2:

