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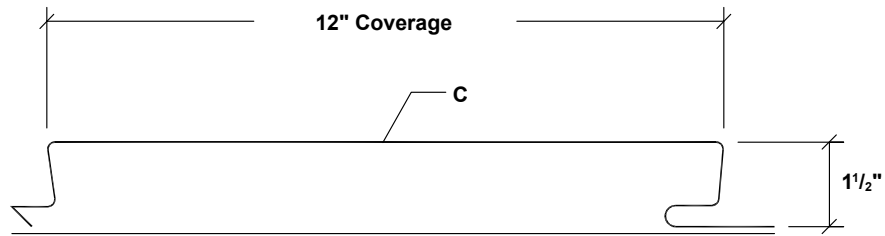
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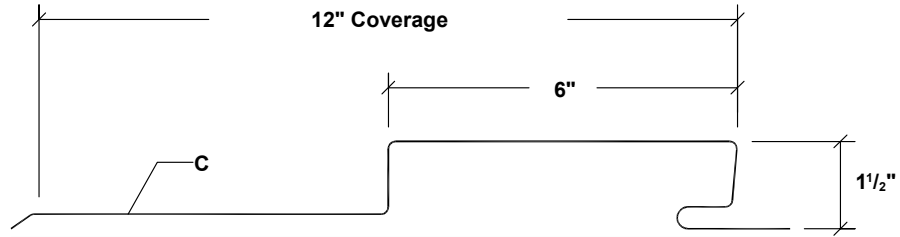
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FLUSH FACE / INTERIOR LINER SERIES TL-17 AND TL-17A PANEL OVERVIEW

TL-17 PANEL PROFILE



TL-17A PANEL PROFILE



SUBSTRATE

Flush Faced panel is designed to be utilized over open structural framing, but can easily be used with a solid substrate. The recommended substrate is $5/8$ " plywood with a 30 pound felt moisture barrier. To avoid panel distortion, use a properly aligned and uniform substructure.

COVERAGE

Flush Faced panels are available in a 12" width with $1\frac{1}{2}$ " heights.

LENGTH

Lengths under 5'-0" are available with some cutting restrictions. Please consult your Metal Sales branch for maximum panel lengths and recommendations (see PGI-2 and PGI-3 for locations).

AVAILABILITY

Panels are available in 24 through 16 gauge. Minimum quantities may apply.
 Custom capabilities include:
 -Perforated panels for wind screens and liner panels.
 -Depth of panel.

APPLICATION

Soffit, Fascia, Wall, Liner.

FASTENING SYSTEM

Direct Fastened (concealed).

FASTENERS

The fastener selection guide should be consulted for choosing proper fasteners for specific applications. Quantity and type of fastener must meet necessary loading and code requirements (see PGI-12-14).

MATERIALS

Steel grade 50, per ASTM A-792. Optional material: stainless steel, weathering steel, copper, and aluminum.

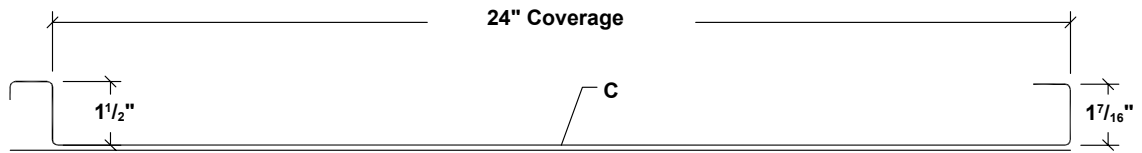
FINISH

- ▶ *Acrylic Coated Galvalume® (ACG) / ASTM A-792 - AZ55
- ▶ Prepainted Galvalume / ASTM A-792 - AZ50
- ▶ MS Colorfast45®
- ▶ **Fluorocarbon (PVDF)
- ▶ Multi-Pass Kynar
- ▶ Marbilique
- ▶ Plastisol
- ▶ Polyester

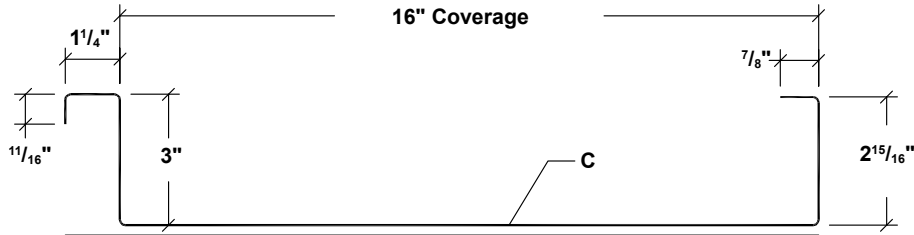
* Differential appearance of Acrylic Coated Galvalume roofing materials is not a cause for rejection.

** Meets both Kynar 500 and Hylar 5000 specifications.

TL-19A PANEL PROFILE



TL-21 PANEL PROFILE



SUBSTRATE

Liner panel is designed to be utilized over open structural framing, but can easily be used with a solid substrate. The recommended substrate is 5/8" plywood with a 30 pound felt moisture barrier. To avoid panel distortion, use a properly aligned and uniform substructure.

COVERAGE

Liner panels are available in a 16" (TL19A) or 24" (TL21) widths with 1 7/16" (TL19A) or 2 5/16" (TL21) heights.

LENGTH

Lengths under 5'-0" are available with some cutting restrictions. Please consult your Metal Sales branch for maximum panel lengths and recommendations (see PGI-2 and PGI-3 for locations).

AVAILABILITY

Panels are available in 24 through 16 gauge. Minimum quantities may apply.
 Custom capabilities include:
 -Perforated panels for wind screens and liner panels.
 -Depth of panel.

APPLICATION

Liner

FASTENING SYSTEM

Direct Fastened (exposed).

FASTENERS

The fastener selection guide should be consulted for choosing proper fasteners for specific applications. Quantity and type of fastener must meet necessary loading and code requirements (see PGI-12-14).

MATERIALS

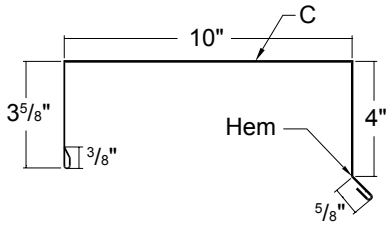
Steel grade 50, per ASTM A-792. Optional material: stainless steel, weathering steel, copper, and aluminum.

FINISH

- ▶ *Acrylic Coated Galvalume® (ACG) / ASTM A-792 - AZ55
- ▶ Prepainted Galvalume / ASTM A-792 - AZ50
- ▶ MS Colorfast45®
- ▶ **Fluorocarbon (PVDF)
- ▶ Multi-Pass Kynar
- ▶ Marbilique
- ▶ Plastisol
- ▶ Polyester

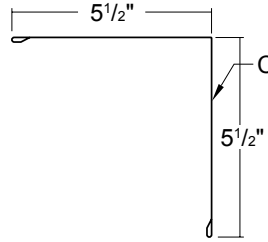
* Differential appearance of Acrylic Coated Galvalume roofing materials is not a cause for rejection.
 ** Meets both Kynar 500 and Hylar 5000 specifications.

COPING



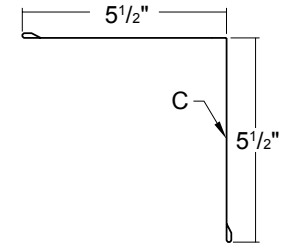
Length 10'-0"

OUTSIDE CORNER



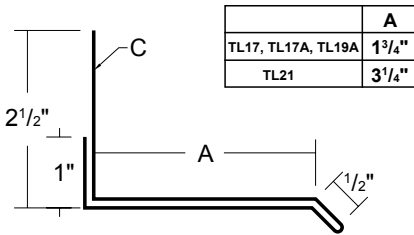
Length 10'-0"

INSIDE CORNER



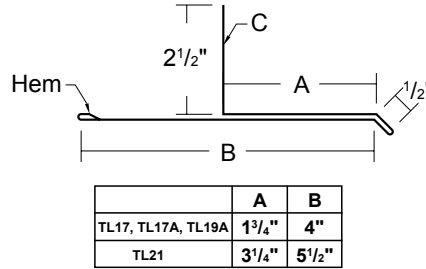
Length 10'-0"

CUSTOM SILL/HEAD



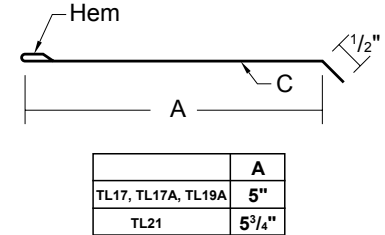
Length 10'-0"

CUSTOM SILL TO SOFFIT



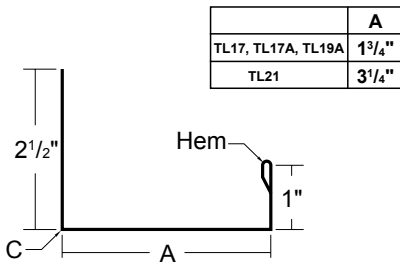
Length 10'-0"

CUSTOM SOFFIT CLEAT



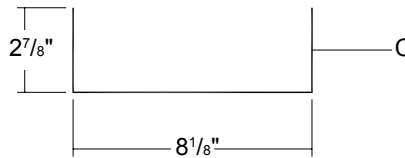
Length 10'-0" - *Specify Slope Angle

CUSTOM JAMB



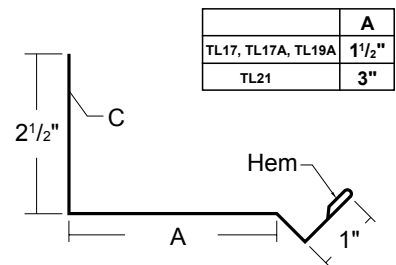
Length 10'-0"

HEAD/JAMB COVER



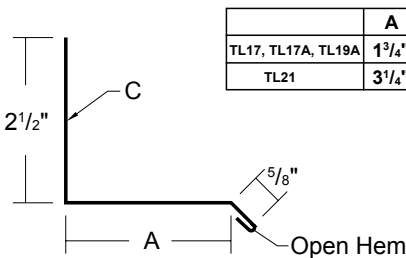
Length 10'-0"

CUSTOM HEAD CHANNEL



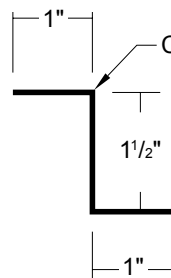
Length 10'-0"

CUSTOM BASE



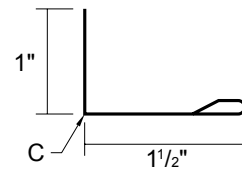
Length 10'-0"

CUSTOM Z-CLOSURE



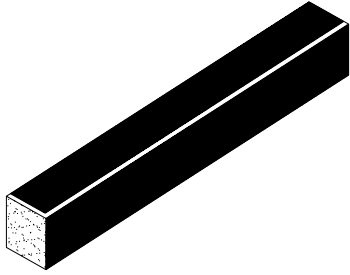
Length 10'-0"

SOFFIT PANEL MITER TRIM



Length 10'-0"

UNIVERSAL CLOSURE



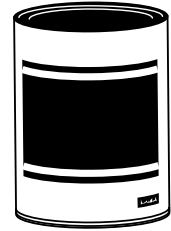
1" x 1 1/2" x 50' Polyethylene Foam
1" x 1 1/2" x 10' Polyethylene Foam

TAPE SEALANT

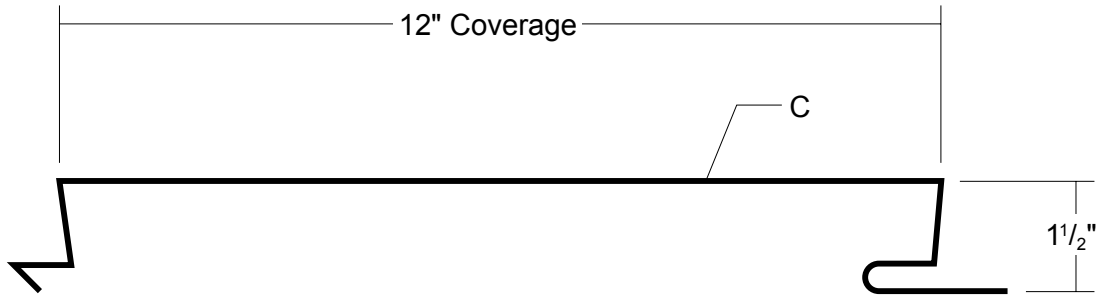


3/8" X 3/32" X 50'
Single Bead
Butyl - Gray

TOUCH-UP PAINT



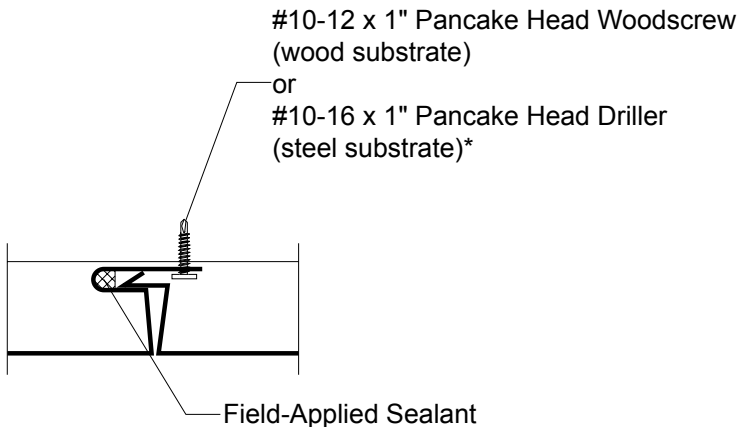
Available in pints
PVDF / MS Colorfast45



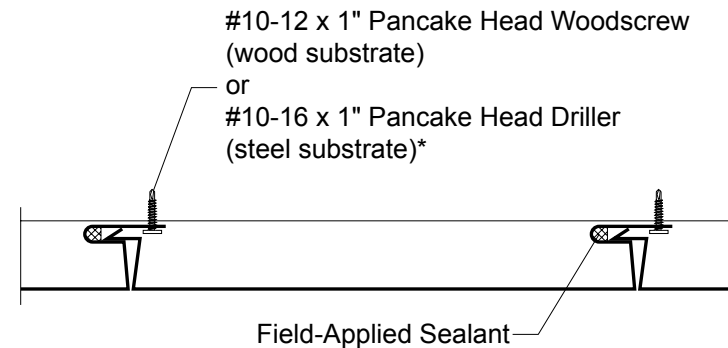
SECTION PROPERTIES								ALLOWABLE UNIFORM LOADS PSF (3 or More Equal Spans)											
Ga.	Width (in.)	Yield KSI	Weight PSF	Top in Compression		Bottom in Compression		Inward Load				Outward Load							
				Ixx In ⁴ /ft	Sxx In ³ /ft	Ixx In ⁴ /ft	Sxx In ³ /ft	2'	3'	4'	5'	6'	8'	2'	3'	4'	5'	6'	8'
24	12"	50	1.34	0.0495	0.0562	0.0746	0.0597	302	145	84	54	38	22	288	137	79	51	36	20
22	12"	50	1.77	0.0724	0.0860	0.1025	0.0821	409	197	115	75	52	30	29	29	29	29	0	0
20	12"	33	2.10	0.0986	0.1268	0.1294	0.1043	335	163	95	62	44	25	29	29	29	29	0	0
18	12"	33	2.76	0.1480	0.1805	0.1790	0.1446	453	224	131	86	60	134	29	29	29	29	0	0

- Theoretical section properties have been calculated per AISI 2001 "Specification for the Design of Cold-formed Steel Structural Members." Ixx and Sxx are effective section properties for deflection and bending.
- Allowable load is calculated in accordance with AISI 2001 specifications considering bending, shear, combined bending and shear, deflection, and panel testing. Allowable load considers the worst case of 3 and 4 equal span conditions. Allowable load does not address web crippling or fasteners/support connection or panel disengagement. Panel weight is not considered.
- Deflection is limited to L/180.
- Allowable loads do not include a 1/3 stress increase.

ATTACHMENT DETAIL



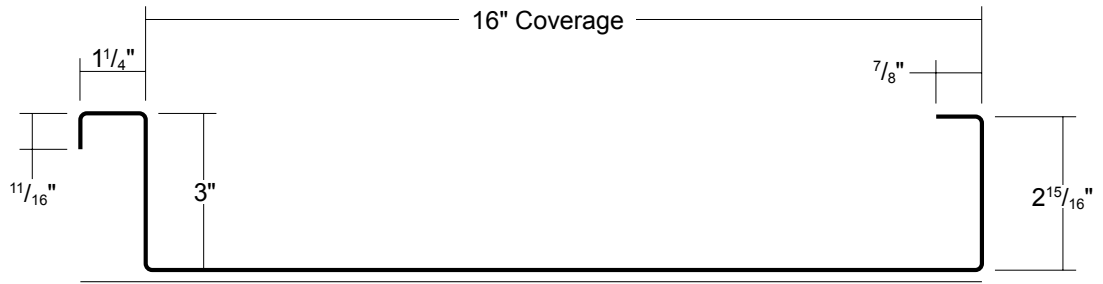
FASTENING PATTERNS



*Pre-drilling into thicker steel may be required.

GENERAL INFORMATION

- **Substructure**
TL-17 panels are designed to be utilized over open structural framing or a solid substrate.
- **Coverage**
TL-17 panels are available in a 1 1/2" depth with a 12" width coverage.
- **Length**
Minimum factory cut length is 5'-0".
Maximum available panel length is 22'-0".
- **Fasteners**
The fastener selection guide should be consulted for choosing the proper fastener for specific applications. Quantity and type of fastener must meet necessary loading and code requirements.
NOTE: All panels are subject to surface distortion due to improperly applied fasteners. Overdriven fasteners will cause stress and induce oil canning across the face of the panel at or near the point of attachment.
- **Availability**
Finishes: Kynar 500 (PVDF) standard; optional: multi-pass Kynar 500, Marblique, Plastisol, and Polyester
Gauges: 24ga, 22ga, 20ga, and 18ga

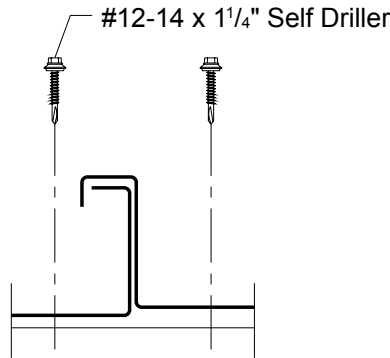


NOTE: Either side of panel can be painted, please specify

SECTION PROPERTIES								ALLOWABLE UNIFORM LIVE LOADS PSF (3 or More Equal Spans)											
Ga.	Width (in.)	Yield KSI	Weight PSF	Top in Compression		Bottom in Compression		Inward (Gravity / Deflection) Load						Outward Uplift (Stress) Load					
				Ixx In ⁴ /ft	Sxx In ³ /ft	Ixx In ⁴ /ft	Sxx In ³ /ft	4'	5'	6'	7'	8'	9'	4'	5'	6'	7'	8'	9'
24	16"	50	1.38	0.3158	0.1244	0.1883	0.1100	130	89	64	49	38	30	141	97	71	54	42	34
22	16"	50	1.82	0.4838	0.1972	0.2708	0.1667	219	145	103	77	59	47	250	168	120	89	69	55
20	16"	33	2.22	0.7050	0.3005	0.3720	0.2447	223	145	102	76	58	46	266	175	124	92	71	59
18	16"	33	2.93	0.9488	0.4070	0.5438	0.3431	312	204	143	106	81	65	363	238	168	125	96	76

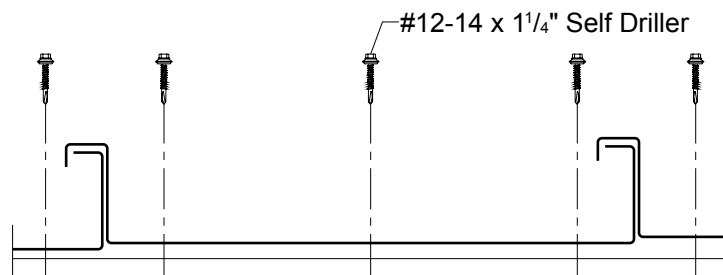
1. Section properties and allowable loads are calculated per AISI 2001, including 2004 Supplement.
2. Ixx and Sxx are effective section properties for deflection and bending.
3. Allowable loads/spans are calculated considering bending, shear, combined bending and shear and deflection.
4. Allowable load/span calculations do not include consideration for web crippling, fastener / connection limitations or uplift testing.
5. Allowable loads/spans do not include a 1/3 stress increase.

ATTACHMENT DETAIL



FASTENING PATTERN

Ends and Field of Panel



GENERAL INFORMATION

► **Substructure**

TL-21 Panels are designed to be utilized over open structural framing or a solid substrate.

► **Coverage**

TL-21 Panels are available in a 3" depth with a 16" width coverage.

► **Length**

Minimum factory cut length is 5'-0".
Maximum available panel length is 32'-0".

► **Fasteners**

The fastener selection guide should be consulted for choosing the proper fastener for specific applications. Quantity and type of fastener must meet necessary loading and code requirements.

NOTE: All panels are subject to surface distortion due to improperly applied fasteners. Overdriven fasteners will cause stress and induce oil canning across the face of the panel at or near the point of attachment.


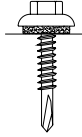
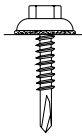
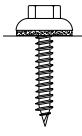
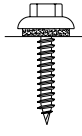
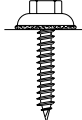
► **Availability**

Finishes: Kynar 500 (PVDF) standard; optional: multi-pass Kynar, Marblique, Plastisol, Polyester, and MS Colorfast45® (SMP)
Gauges: 24ga, 22ga, 20ga, and 18ga

FASTENER INSTALLATION TECHNIQUE

Recommended Tool Type - Use depth locating nose or adjustable clutch on screw gun to prevent overdrilling and strip out. **Do not use impact tools or runners.**

Seating the washer - Apply sufficient torque to seat the washer - do not overdrive the fastener.

	CORRECT Sealing material slightly visible at edge of metal washer. Assembly is watertight.	TOO LOOSE Sealing material is not visible; not enough compression to seal properly.	TOO TIGHT Metal washer deformed; sealing material pressed beyond washer edge.
SELF DRILLER			
WOODSCREW			

To prevent wobbling - Make sure fastener head is completely engaged in the socket. If the head does not go all the way in the socket - tap the magnet deeper into the socket to allow full head engagement. Metal chips will build up from drilling and should be removed from time to time.

Protect drill point - Push only hard enough on the screw gun to engage clutch. This prevents excess friction and burn out of the drill point. Correct pressure will allow screw to drill and tap without binding.

Drilling through sheet and insulation - Ease up on pressure when drilling through insulation to avoid striking the purlin or girt with the point - apply more pressure after drill point contacts purlin or girt.

Drilling through purlin overlaps - Drilling through lapped purlins requires extra care. Excessive voids between purlins sometimes damages drill points and two self-drillers might be necessary to complete the operation. It is sometimes advantageous to predrill.

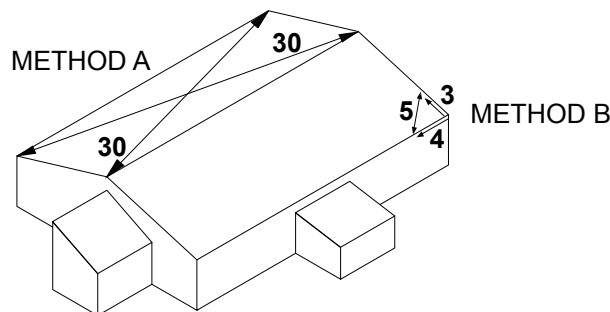
CONDITION OF SUBSTRUCTURE

Whether over solid substrate or open structural framing, panel distortion may occur if not applied over properly aligned and uniform substructure.

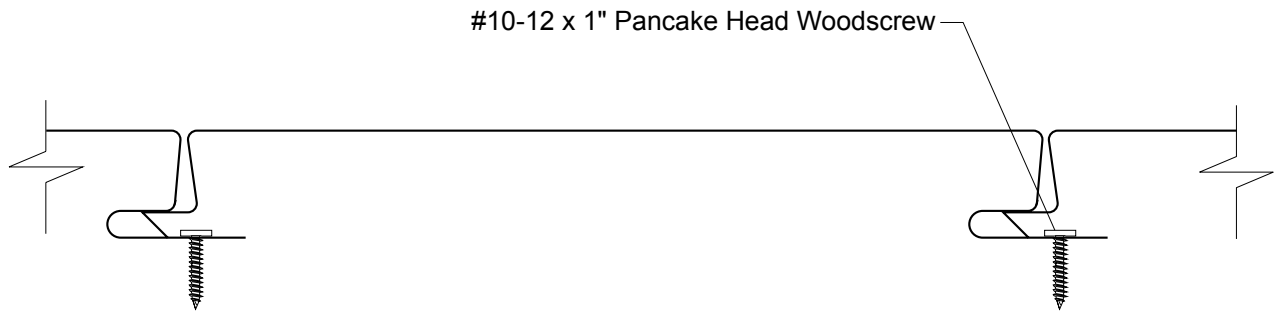
The installer should check the roof deck for squareness before installing Flush Face / Interior Liner panels. Several methods can be used to verify squareness of the structure for proper installation of the panels.

METHOD "A" - One method for checking the roof for squareness is to measure diagonally across one slope of the roof from similar points at the ridge and eave and obtain the same dimension.

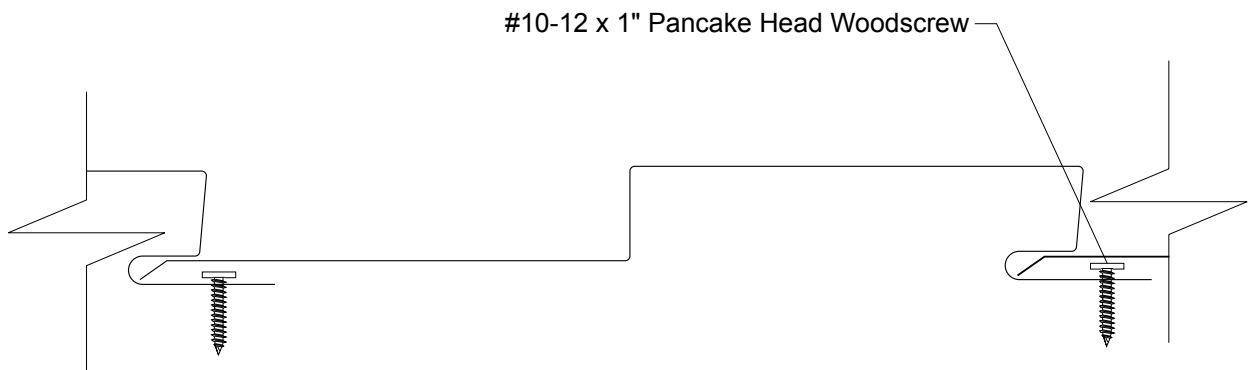
METHOD "B" - The 3-4-5 triangle system may also be used. To use this system measure a point from the corner along the edge of the roof at a module of three (3). Measure a point from the same corner along another edge at a module of four (4). Then by measuring diagonally between the two points established, the dimension should be exactly a module of five (5) to have a square corner. Multiple uses of this system may be required to determine building squareness. If the endwall cannot be made square, the roof system cannot be installed as shown in these instructions.



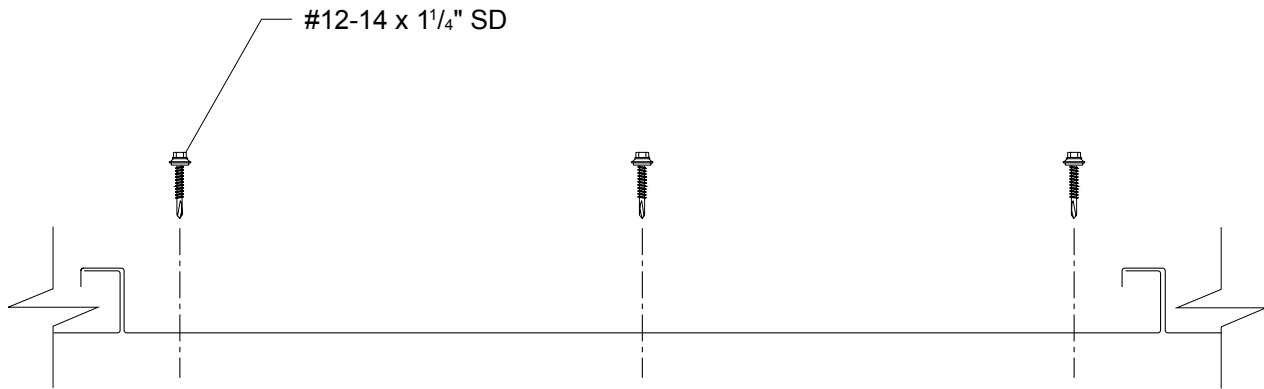
TL-17 FASTENING PATTERNS



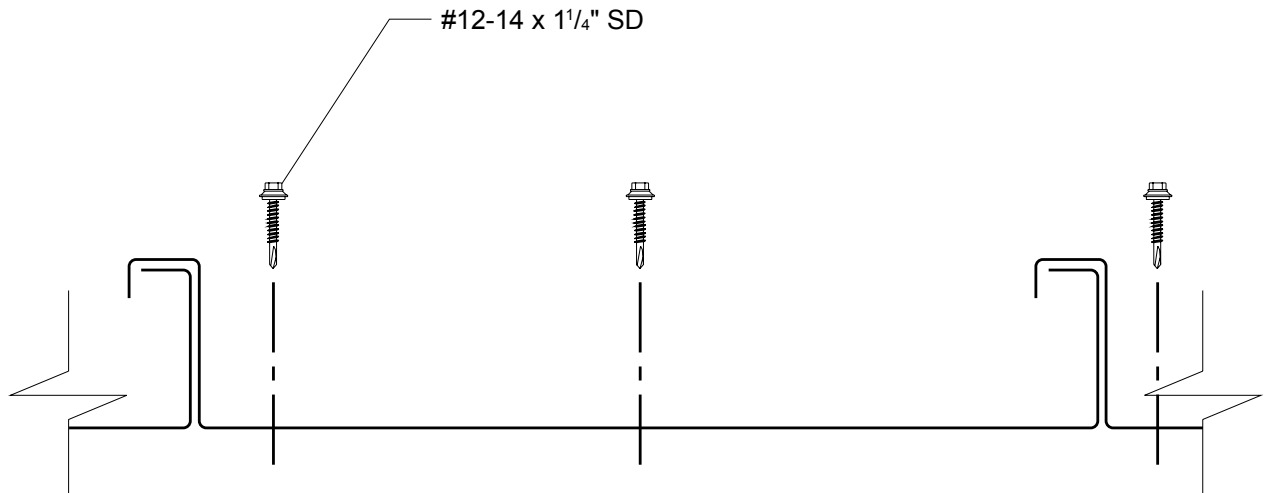
TL-17A FASTENING PATTERNS



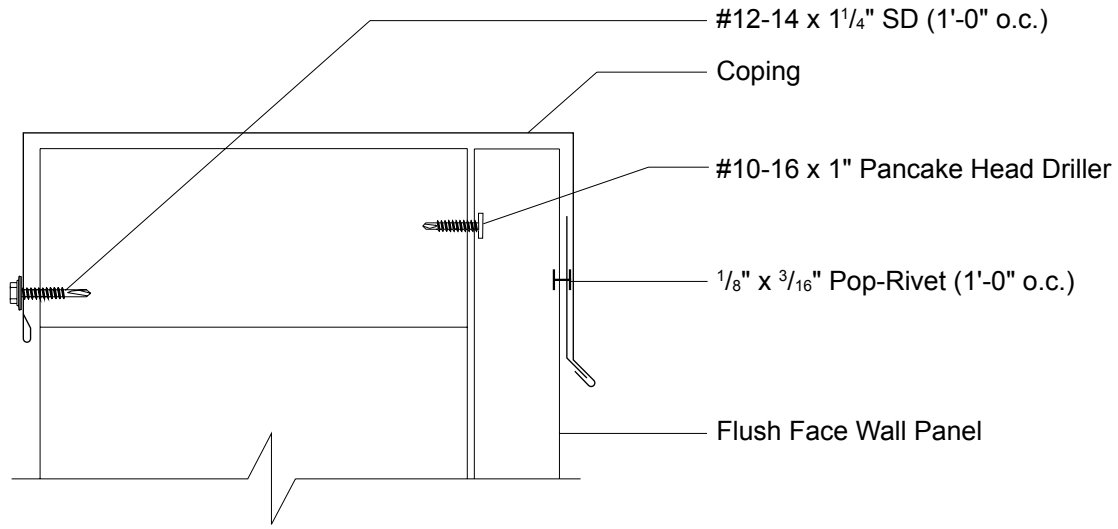
TL-19A FASTENING PATTERNS



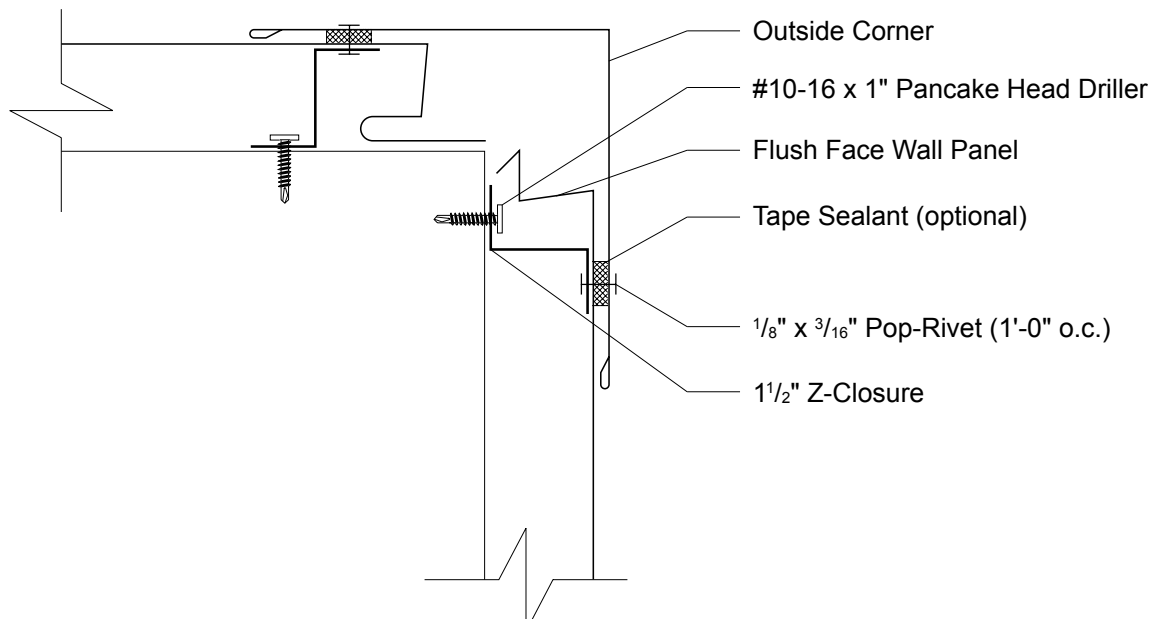
TL-21 FASTENING PATTERNS

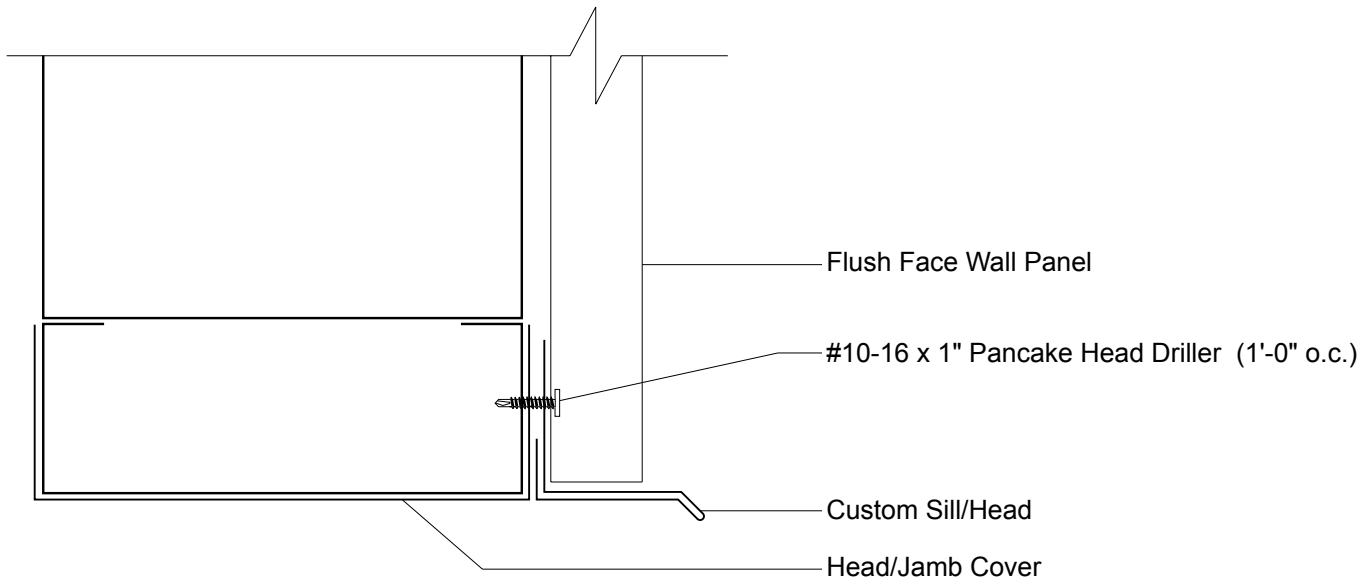
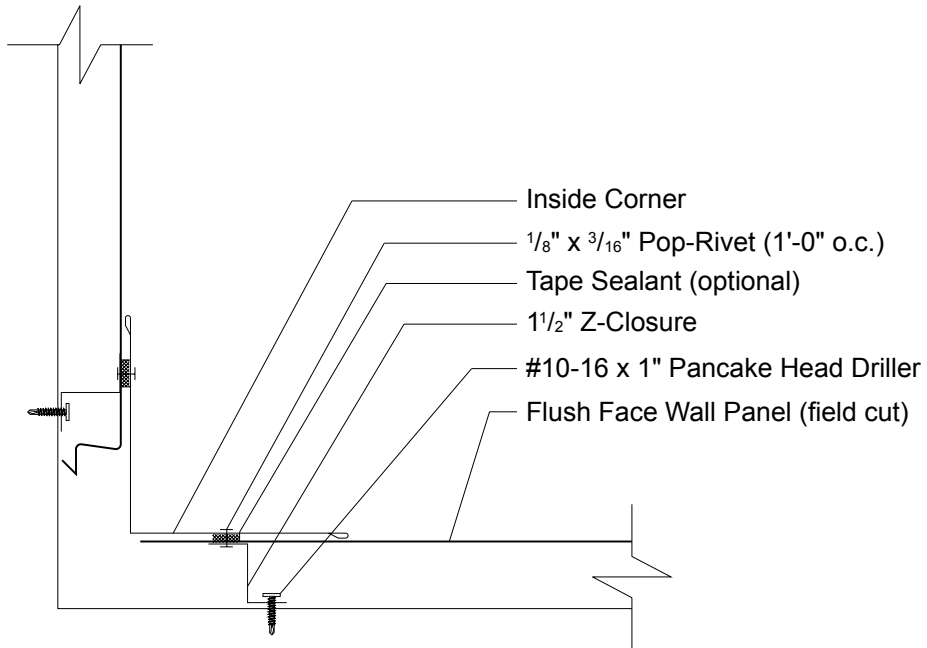


FLUSH FACE / INTERIOR LINER SERIES COPING DETAIL

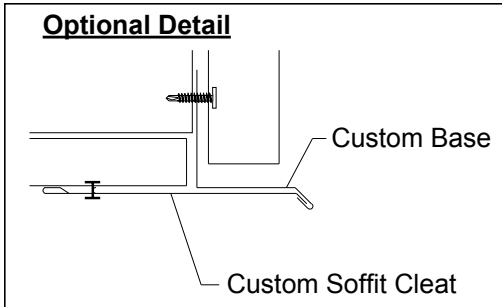
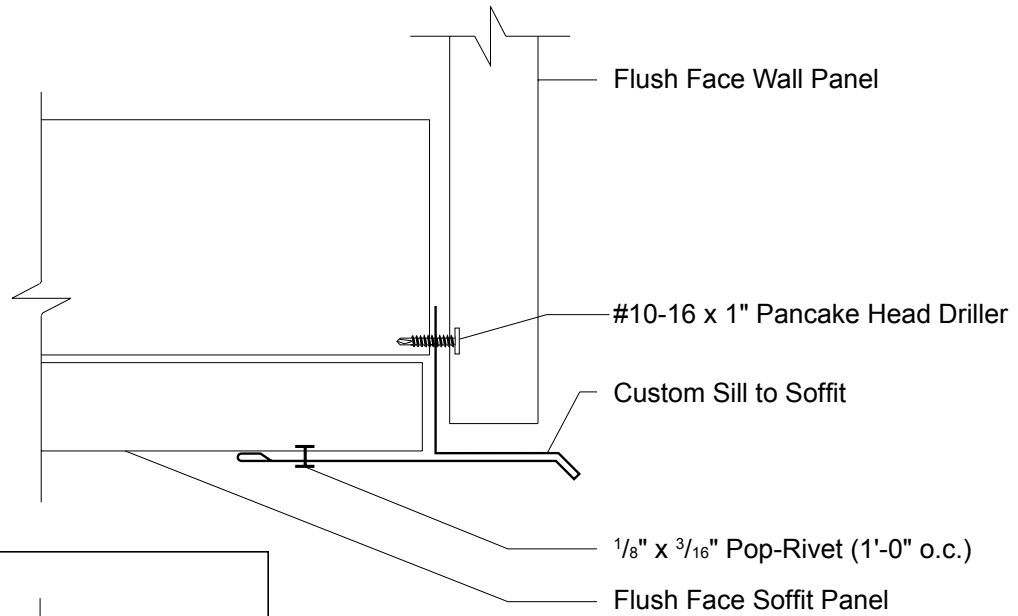


FLUSH FACE / INTERIOR LINER SERIES OUTSIDE CORNER DETAIL

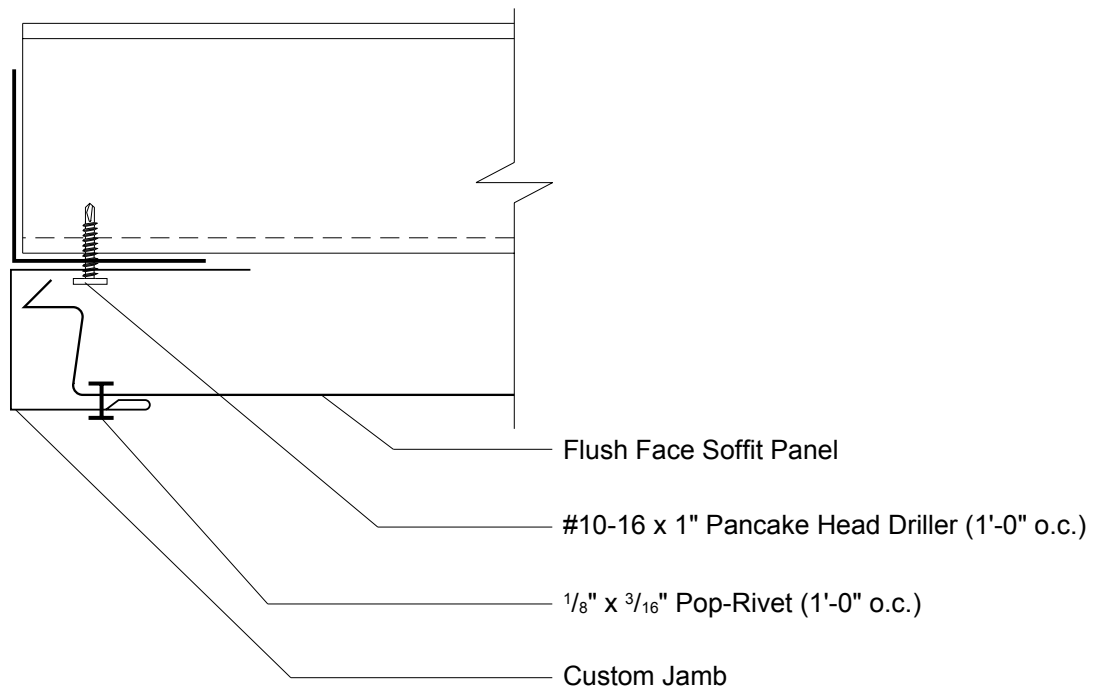


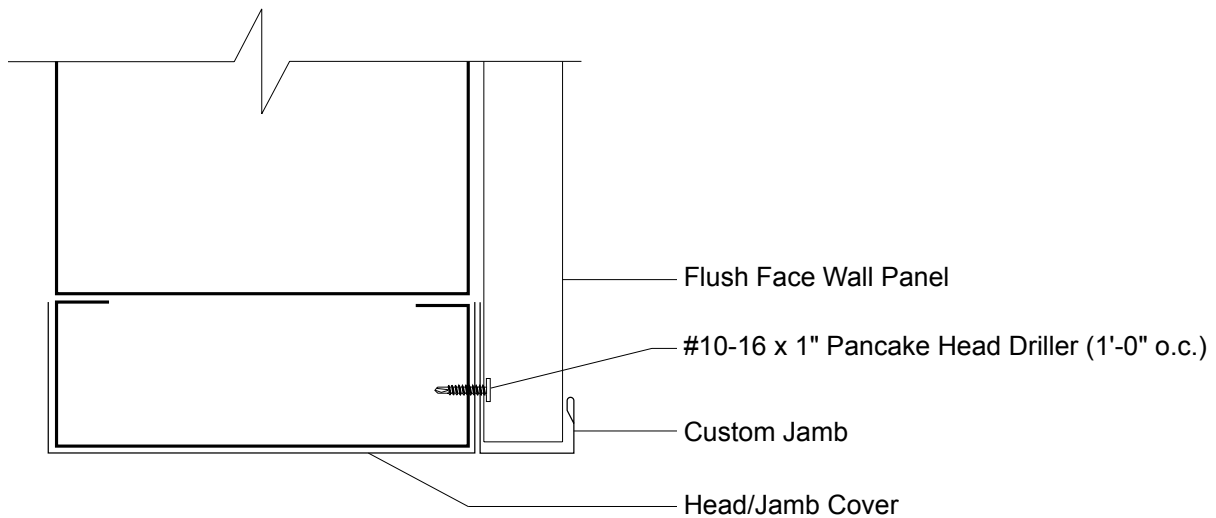
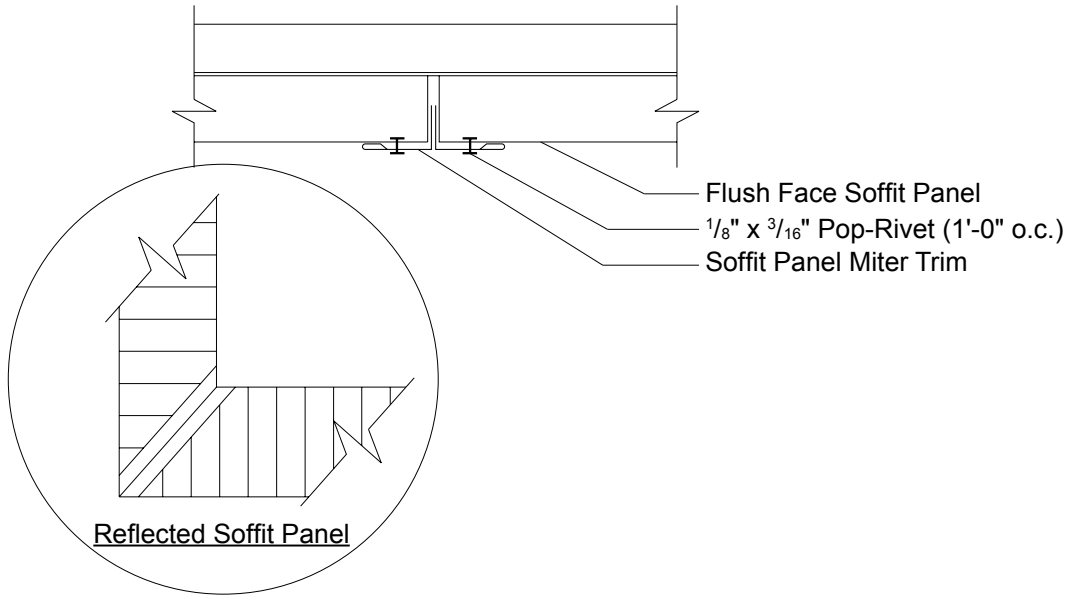


FLUSH FACE / INTERIOR LINER SERIES SILL TO SOFFIT DETAIL

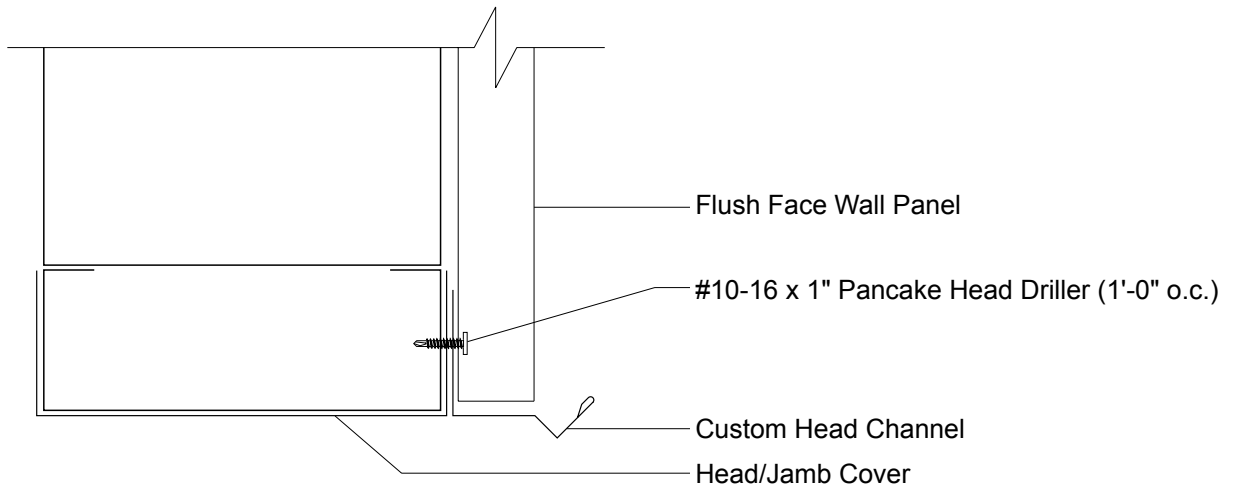


FLUSH FACE / INTERIOR LINER SERIES SOFFIT JAMB DETAIL





FLUSH FACE / INTERIOR LINER SERIES HEAD DETAIL



FLUSH FACE / INTERIOR LINER SERIES BASE DETAIL

