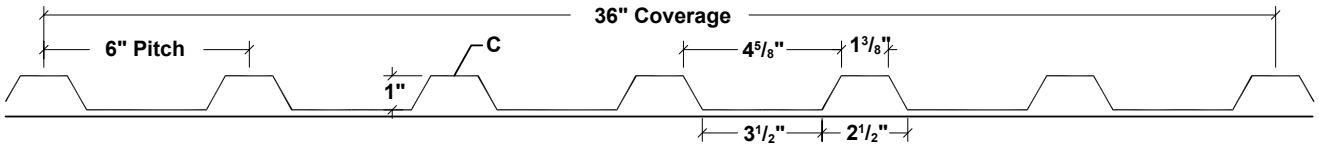
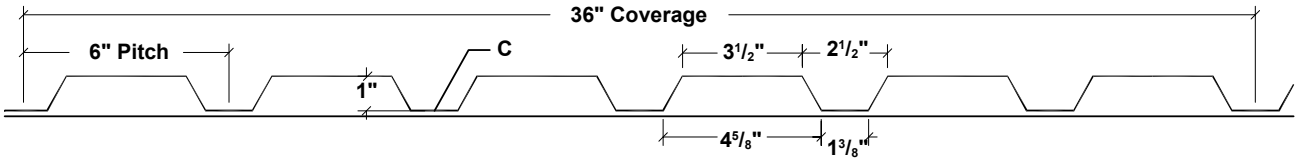
Exposed Fastened Panel Series — Table of Contents

T3 PANEL OVERVIEW

T3 ROOF PANEL PROFILE



T3 WALL PANEL PROFILE



SLOPE

The minimum recommended slope for any T3 panel is 1:12. Metal Sales recommends that in all roof applications, sealant be used on sidelaps.

SUBSTRATE

T3 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

Each panel has a coverage of 36".

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:
-Crimp curving on numerous panel profiles.
-Curving may be convex, concave, or "S" curves.
-Perforated panels for wind screens and liner panels.

APPLICATION

Commercial, Industrial panels.

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, 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.

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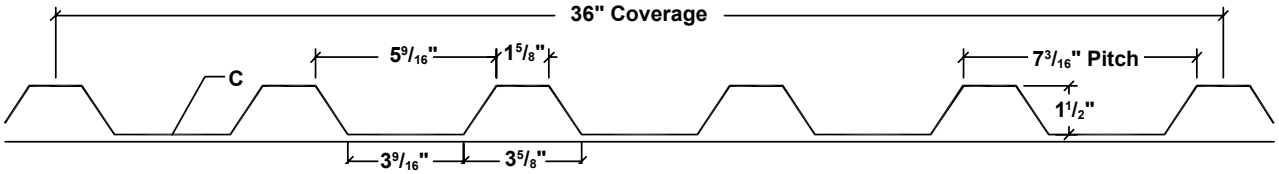
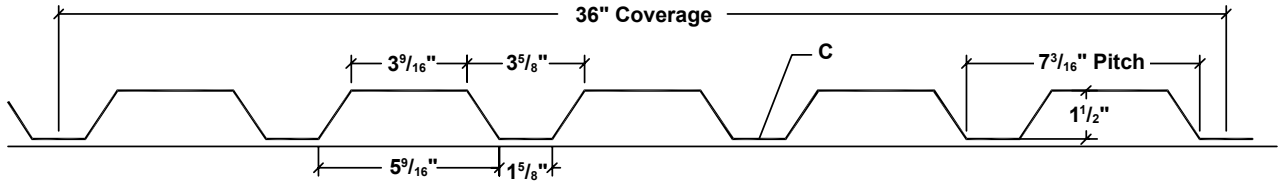
T6-A ROOF PANEL PROFILE



T6-A WALL PANEL PROFILE



SLOPE

The minimum recommended slope for any T6-A panel is 1:12. Metal Sales recommends that in all roof applications, sealant be used on sidelaps.

SUBSTRATE

T6-A 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

Each panel has a coverage of 36".

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:
-Crimp curving on numerous panel profiles.
-Curving may be convex, concave, or "S" curves.
-Perforated panels for wind screens and liner panels.

APPLICATION

Commercial, Industrial panels.

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, copper, and aluminum.

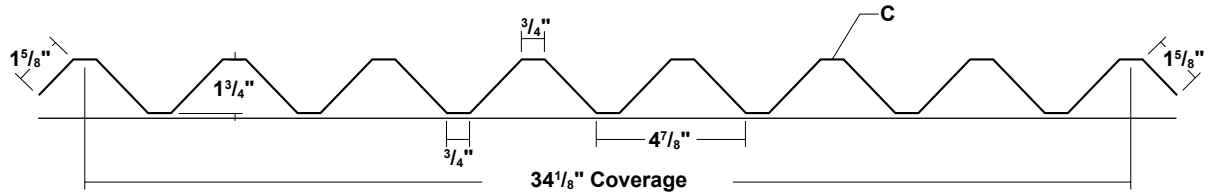
FINISH

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

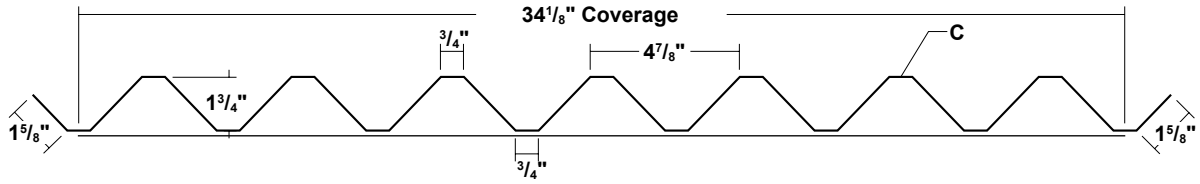
* Differential appearance of Acrylic Coated Galvalume roofing materials is not a cause for rejection.
** Meets both Kynar 500 and Hylar 5000 specifications.

T11-A PANEL OVERVIEW

T11-A ROOF PANEL PROFILE



T11-A WALL PANEL PROFILE



SLOPE

The minimum recommended slope for any T11A panel is 1:12. Metal Sales recommends that in all roof applications, sealant be used on sidelaps.

SUBSTRATE

T11A 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

Each panel has a coverage of 34 1/8"

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:
-Crimp curving on numerous panel profiles.
-Curving may be convex, concave, or "S" curves.
-Perforated panels for wind screens and liner panels.

APPLICATION

Commercial, Industrial panels.

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, corten, 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.

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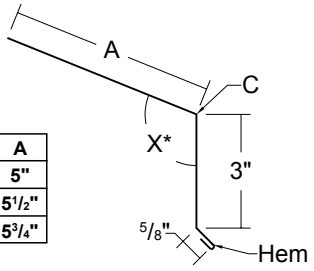
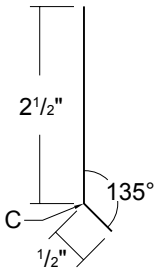
CUSTOM EAVE



	A
T3	5"
T6A	5 1/2"
T11A	5 3/4"

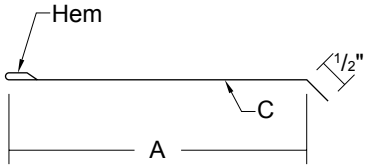
*Length 10'-2" - *Specify Slope Angle*

CLEAT



Length 10'-2"

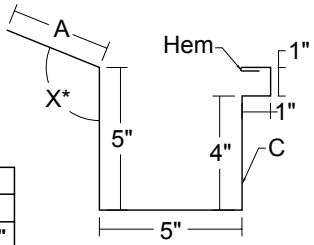
CUSTOM SOFFIT CLEAT



	A
T3	3 1/2"
T6A	4"
T11A	4 1/4"

Length 10'-2"

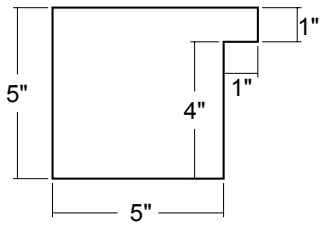
CUSTOM BOX GUTTER



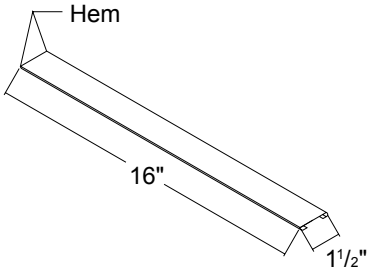
	A
T3	5"
T6A	5 1/2"
T11A	5 3/4"

*Length 10'-2" - *Specify Slope Angle*

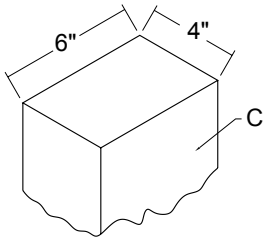
BOX GUTTER END (RIGHT AND LEFT)



UNIVERSAL GUTTER/ DOWNSPOUT BRACKET

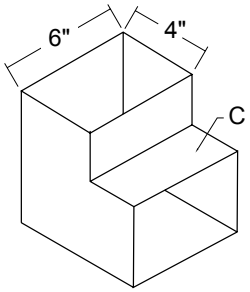


DOWNSPOUT 6" x 4"



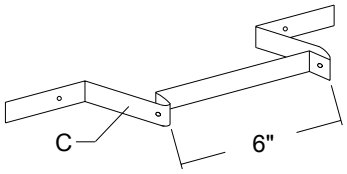
Length 10'-0" - (Also available 4" x 3 1/2")

95⁰ ELBOW 6" x 4"



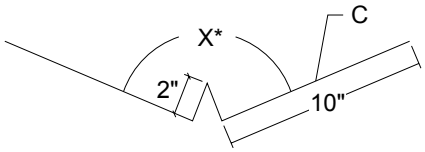
(Also available 4" x 3 1/2")

DOWNSPOUT BRACKET



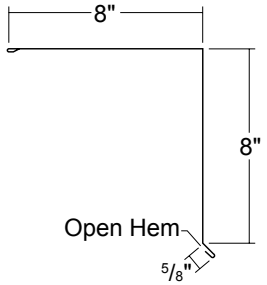
(Also available 4")

VALLEY



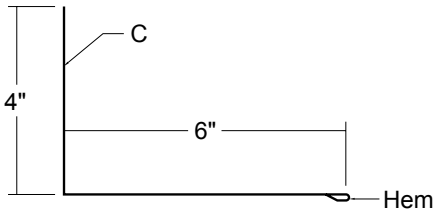
*Length 10'-0" - *Specify Slope Angle*

CUSTOM RAKE



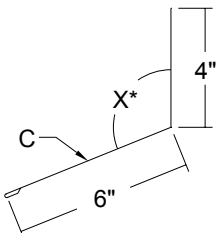
Length 10'-2"

RAKEWALL



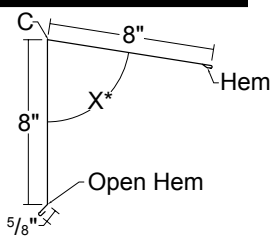
Length 10'-2"

PITCH BREAK



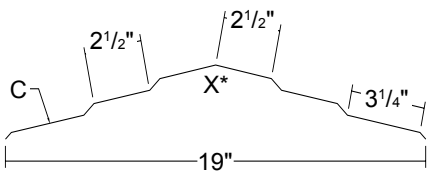
*Length 10'-2" - *Specify Slope Angle*

CUSTOM PEAK



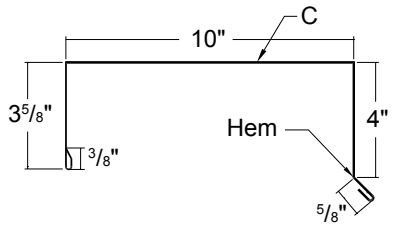
*Length 10'-0" - *Specify Slope Angle*

UNIVERSAL RIDGE COVER



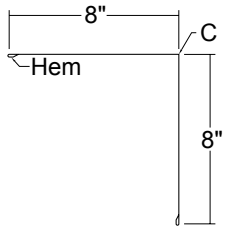
*Length 10'-0" - *Specify Slope Angle*

COPING



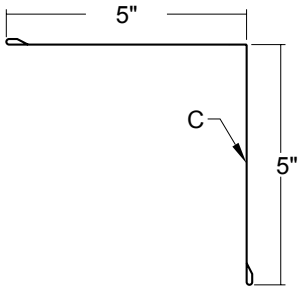
Length 10'-0"

CUSTOM OUTSIDE CORNER



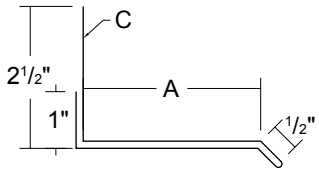
Length 10'-0"

INSIDE CORNER



Length 10'-0"

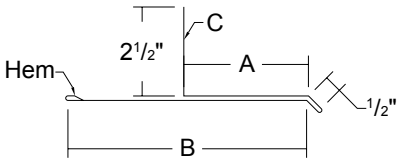
CUSTOM SILL/HEAD



	A
T3	1 1/4"
T6A	1 3/4"
T11A	2"

Length 10'-0"

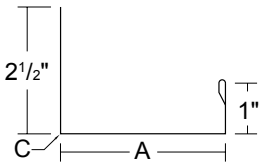
CUSTOM SILL TO SOFFIT



	A	B
T3	1 1/4"	3 1/2"
T6A	1 3/4"	4"
T11A	2"	4 1/4"

Length 10'-0"

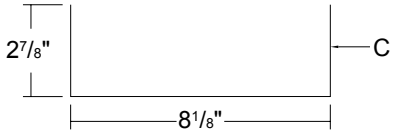
CUSTOM JAMB



	A
T3	1 1/4"
T6A	1 3/4"
T11A	2"

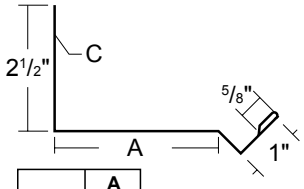
Length 10'-0"

HEAD/JAMB COVER



Length 10'-0"

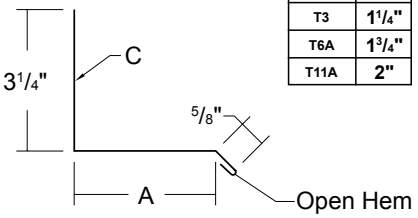
CUSTOM HEAD CHANNEL



	A
T3	1"
T6A	1 1/2"
T11A	1 3/4"

Length 10'-0"

CUSTOM BASE

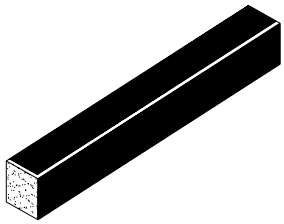


	A
T3	1 1/4"
T6A	1 3/4"
T11A	2"

Length 10'-0"

C- Indicates color side of flashing.

UNIVERSAL CLOSURE

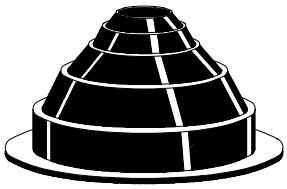


1" x 1 1/2" x 50' Polyethylene Foam
1" x 1 1/2" x 10' Polyethylene Foam

TAPE SEALANT

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

RUBBER ROOF JACK

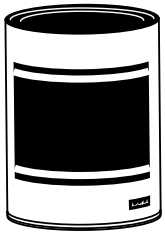


MINI (1/4" to 1 1/8" O.D. Pipe)
#2 (1 3/4" to 3" O.D. Pipe)
#4 (3" to 6" O.D. Pipe)
#6 (6" to 9" O.D. Pipe)
#8 (7" to 13" O.D. Pipe)

RUBBER ROOF FLASH KIT

12" x 50'-0" Flash Kit
18" x 50'-0" Flash Kit

TOUCH-UP PAINT



Available in pints
PVDF / MS Colorfast45

T3 CLOSURE

Polyethylene Foam

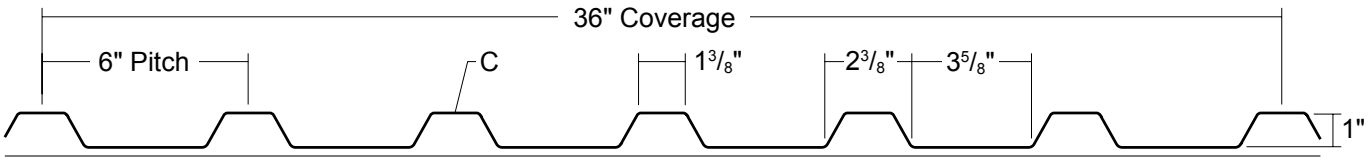
T6-A CLOSURE

Polyethylene Foam

T11-A CLOSURE

Polyethylene Foam

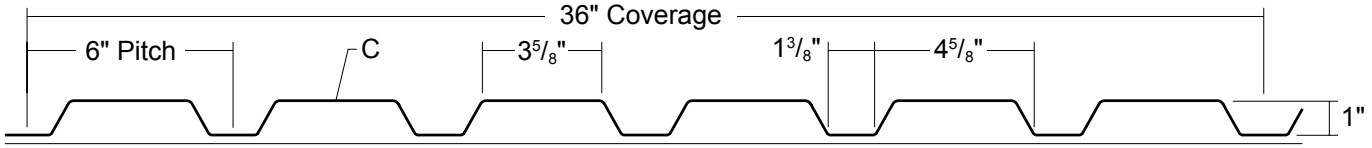
ROOF PANEL PROFILE



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 / Uplift Load					
				Ixx In^4/ft	Sxx In^3/ft	Ixx In^4/ft	Sxx In^3/ft	4'	5'	6'	7'	8'	10'	4'	5'	6'	7'	8'	10'
24	36"	50	1.13	0.0507	0.0756	0.0377	0.0680	98	63	44	29	19	10	108	70	46	29	19	10
22	36"	50	1.49	0.0700	0.1089	0.0533	0.1034	148	95	59	37	25	13	155	100	59	37	25	13
20	36"	33	1.77	0.0900	0.1417	0.0733	0.1347	127	82	57	42	29	15	133	86	60	43	29	15
18	36"	33	2.33	0.1167	0.1843	0.1067	0.1797	169	109	76	56	38	19	173	112	78	56	38	19

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

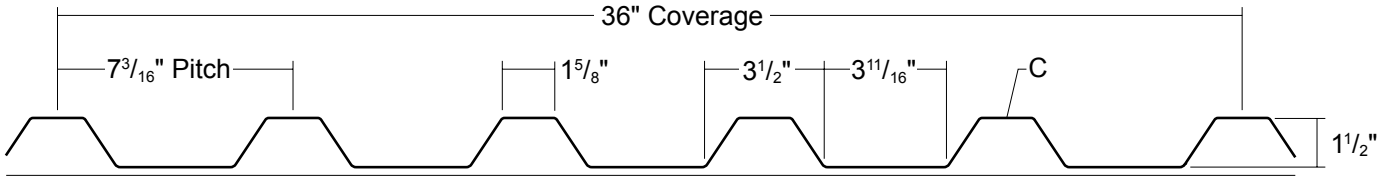
WALL PANEL PROFILE



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	4'	5'	6'	7'	8'	10'	4'	5'	6'	7'	8'	10'
24	36"	50	1.13	0.0370	0.0682	0.0483	0.0710	102	66	43	27	18	9	98	63	43	27	18	9
22	36"	50	1.49	0.0533	0.1035	0.0700	0.1039	148	96	59	37	25	13	148	95	59	37	25	13
20	36"	33	1.76	0.0733	0.1308	0.0867	0.1323	124	80	56	41	29	15	123	79	55	41	29	15
18	36"	33	2.32	0.1067	0.1743	0.1133	0.1733	163	105	73	54	38	19	164	106	74	54	38	19

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

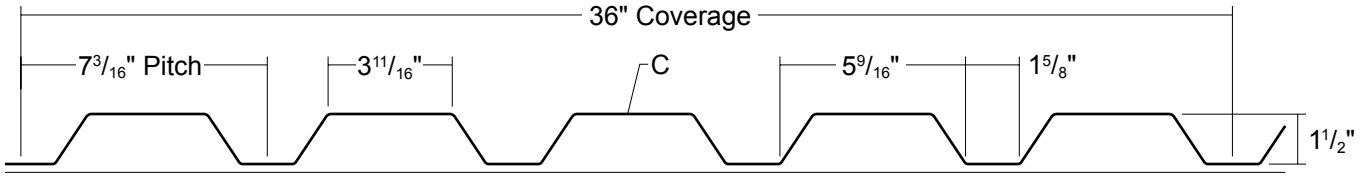
ROOF PANEL PROFILE



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 / Uplift Load					
				Ixx In^4/ft	Sxx In^3/ft	Ixx In^4/ft	Sxx In^3/ft	5'	6'	7'	8'	10'	12'	5'	6'	7'	8'	10'	12'
24	36"	50	1.21	0.1140	0.1203	0.0870	0.1019	93	65	48	37	23	13	110	77	57	43	23	13
22	36"	50	1.61	0.1633	0.1751	0.1267	0.1534	141	99	73	56	30	17	160	112	83	58	30	17
20	36"	33	1.90	0.2067	0.2340	0.1667	0.2159	130	91	67	52	33	20	141	98	73	56	35	20
18	36"	33	2.51	0.2767	0.3107	0.2400	0.2967	179	125	92	71	45	26	187	131	96	74	46	26

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

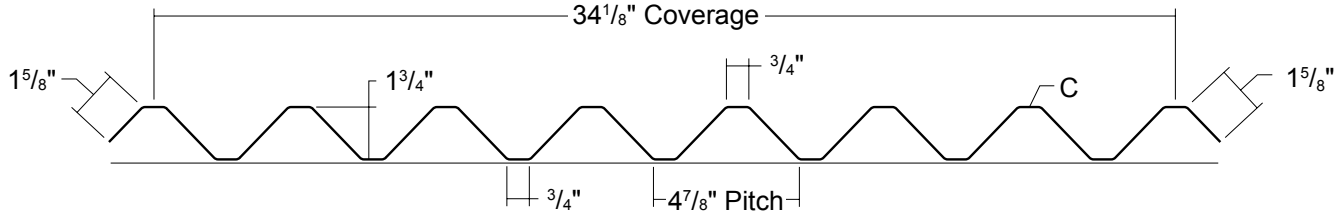
WALL PANEL PROFILE



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	5'	6'	7'	8'	10'	12'	5'	6'	7'	8'	10'	12'
24	36"	50	1.18	0.0857	0.1014	0.1077	0.1103	101	70	52	40	22	13	93	65	48	37	22	13
22	36"	50	1.56	0.1233	0.1519	0.1533	0.1606	148	103	76	57	29	17	140	98	72	55	29	17
20	36"	33	1.85	0.1633	0.2138	0.1967	0.2151	130	91	67	51	33	20	129	90	67	51	33	20
18	36"	33	2.43	0.2367	0.2887	0.2633	0.2887	174	122	90	69	44	26	174	122	90	69	44	26

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

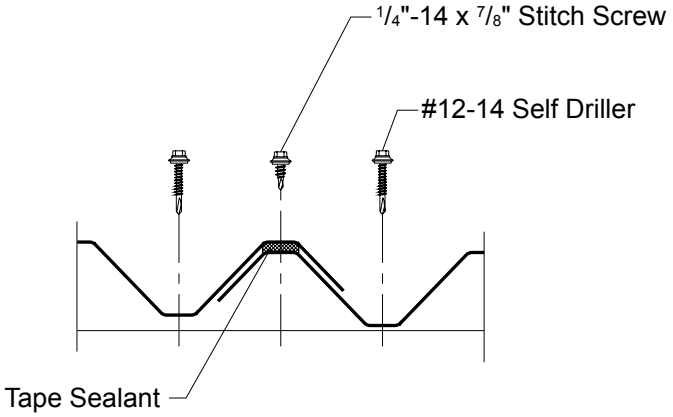
T11-A SECTION PROPERTIES AND LOAD TABLES



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 / Uplift Load					
				Ixx In^4/ft	Sxx In^3/ft	Ixx In^4/ft	Sxx In^3/ft	5'	6'	7'	8'	10'	12'	5'	6'	7'	8'	10'	12'
24	34.125"	50	1.18	0.1067	0.1207	0.0713	0.0829	76	53	39	30	19	12	93	65	48	37	21	12
22	34.125"	50	1.56	0.1533	0.1519	0.1033	0.1259	116	81	60	46	28	16	139	97	72	55	28	16
20	34.125"	33	1.85	0.1967	0.2029	0.1367	0.1792	108	75	56	43	27	19	121	85	63	48	31	19
18	34.125"	33	2.43	0.2633	0.2697	0.2033	0.2483	149	104	77	59	38	25	161	113	84	64	41	25

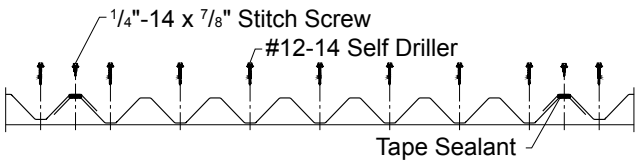
1. Theoretical section properties have been calculated per AISI 2001 "Specification for the Design of Cold-formed Steel Structural Members." Ixx and Sxx are effective section properties for deflection and bending.
2. Allowable load is calculated in accordance with AISI 2001 specifications considering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

ATTACHMENT DETAIL

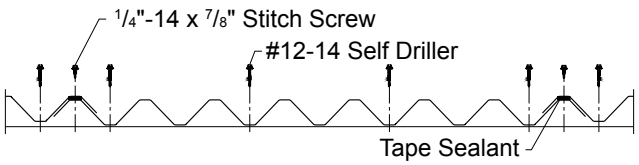


FASTENING PATTERN

Ends of Panel



Field of Panel



GENERAL INFORMATION

▶ Substructure
T11-A Panels are designed to be utilized over open structural framing or a solid substrate.

▶ Coverage
T11-A Panels are available in a 1 3/4" depth with a coverage width of 34 1/8".

▶ Length
Minimum factory cut length is 5'-0".
Maximum panel length is 30'-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: 24 ga, 22 ga, 20 ga, and 18 ga

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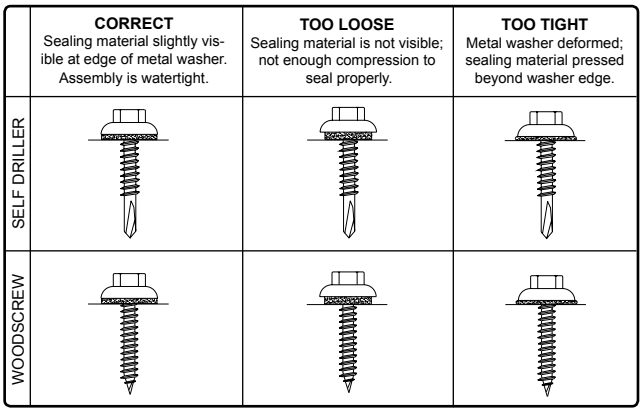
FASTENER INSTALLATION TECHNIQUE

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.



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.

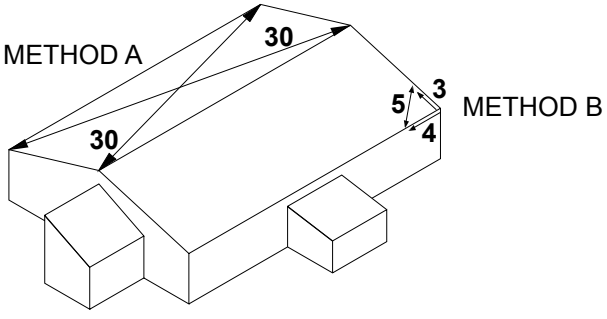
CONDITION OF SUBSTRUCTURE

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

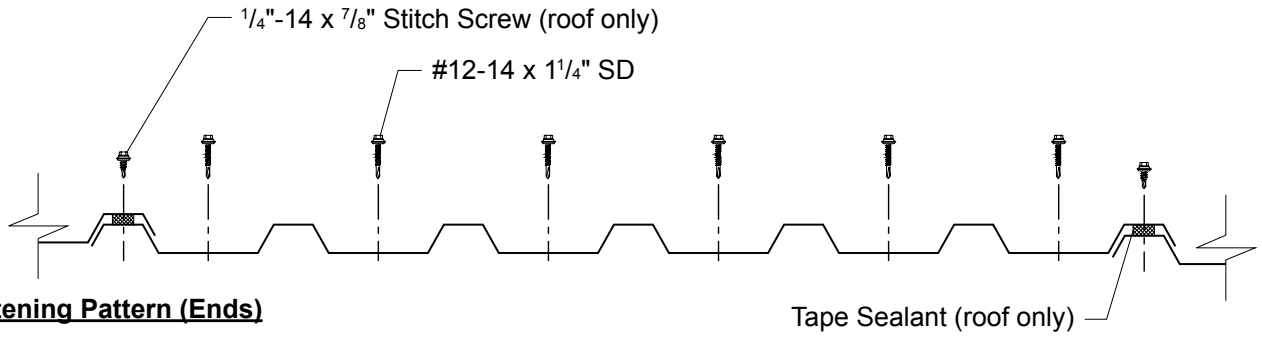
The installer should check the roof deck for squareness before installing Exposed Fastened panels. Several methods can be used to verify squareness of the structure for proper installation of the panels.

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.

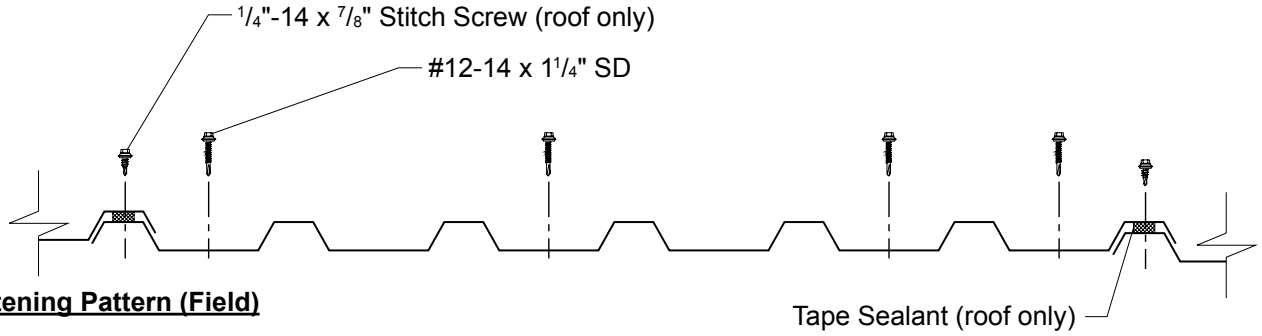
METHOD "B" - The 3-4-5 triangle system may also be used. To use this system measure a point from the corner along the edge of the roof at a module of three (3). Measure a point from the same corner along another edge at a module of four (4). Then by measuring diagonally between the two points established, 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.



T3 Fastening Patterns

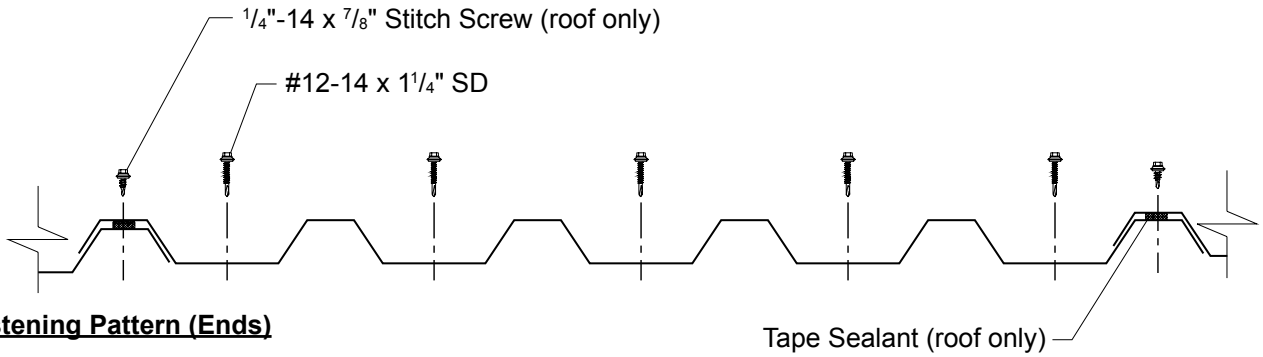


Fastening Pattern (Ends)

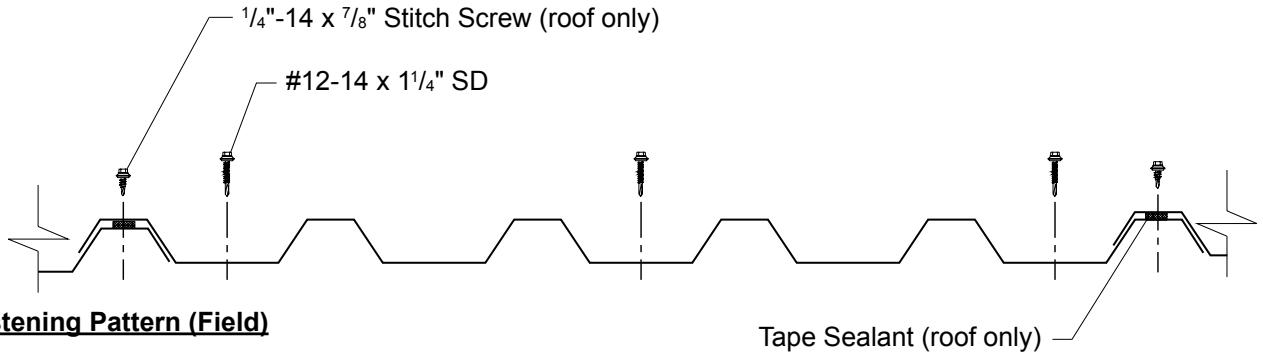


Fastening Pattern (Field)

T6-A Fastening Patterns

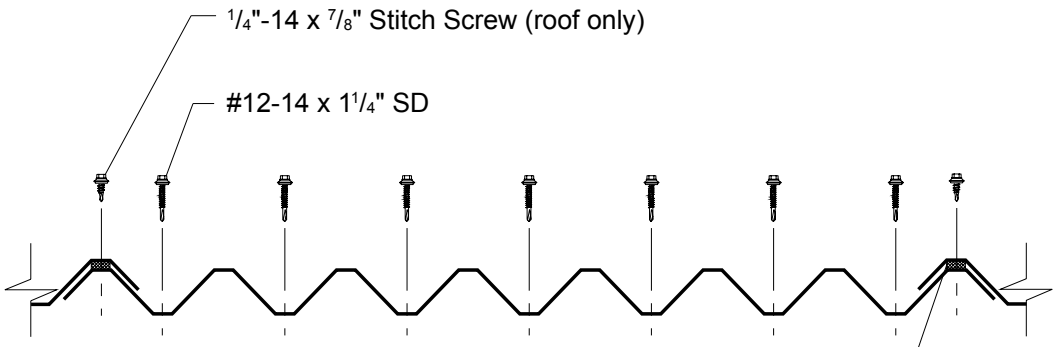


Fastening Pattern (Ends)

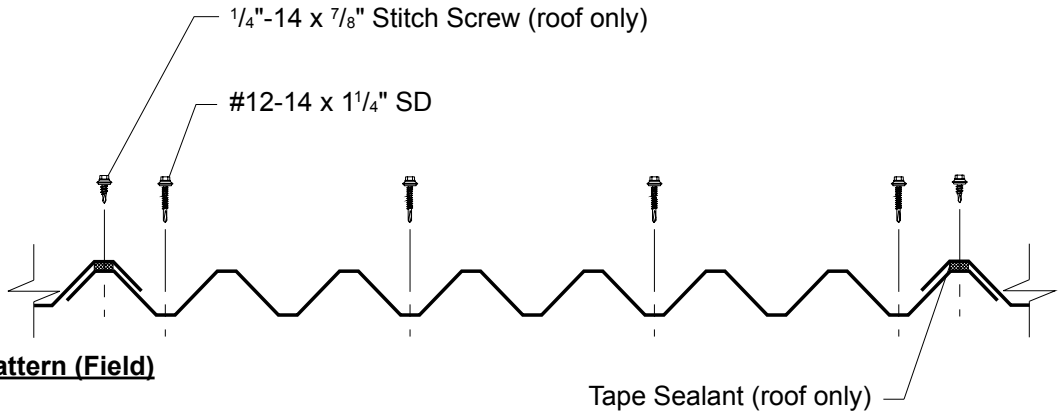


Fastening Pattern (Field)

T11-A Roof Fastening Patterns

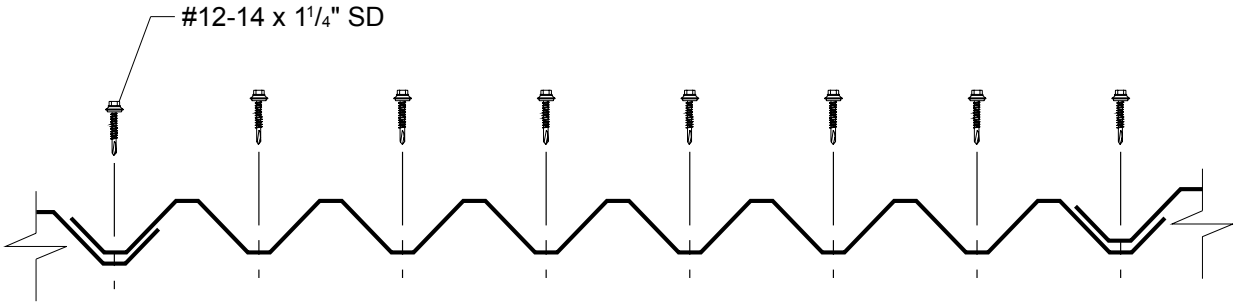


Fastening Pattern (Ends)

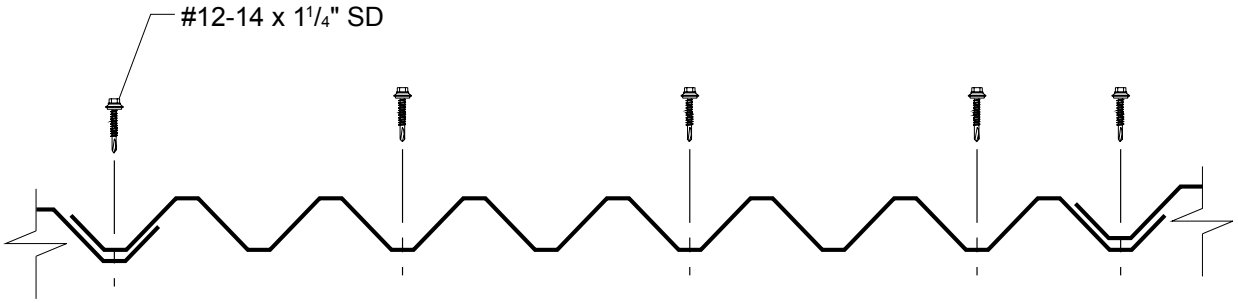


Fastening Pattern (Field)

T11-A Wall Fastening Patterns

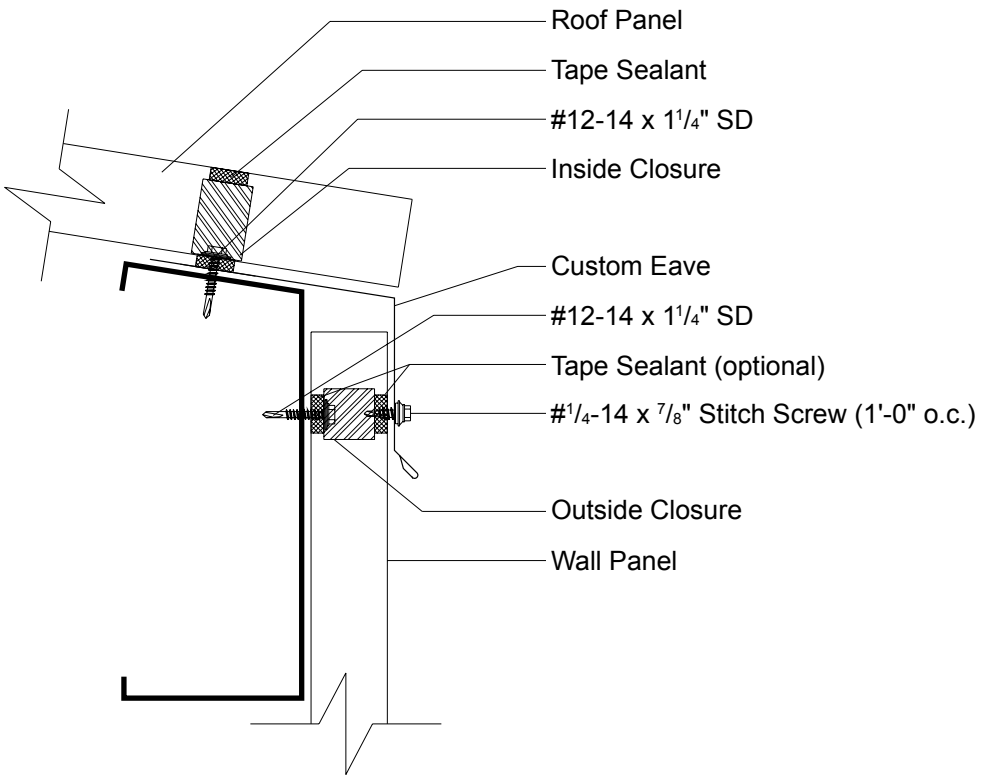


Fastening Pattern (Ends)

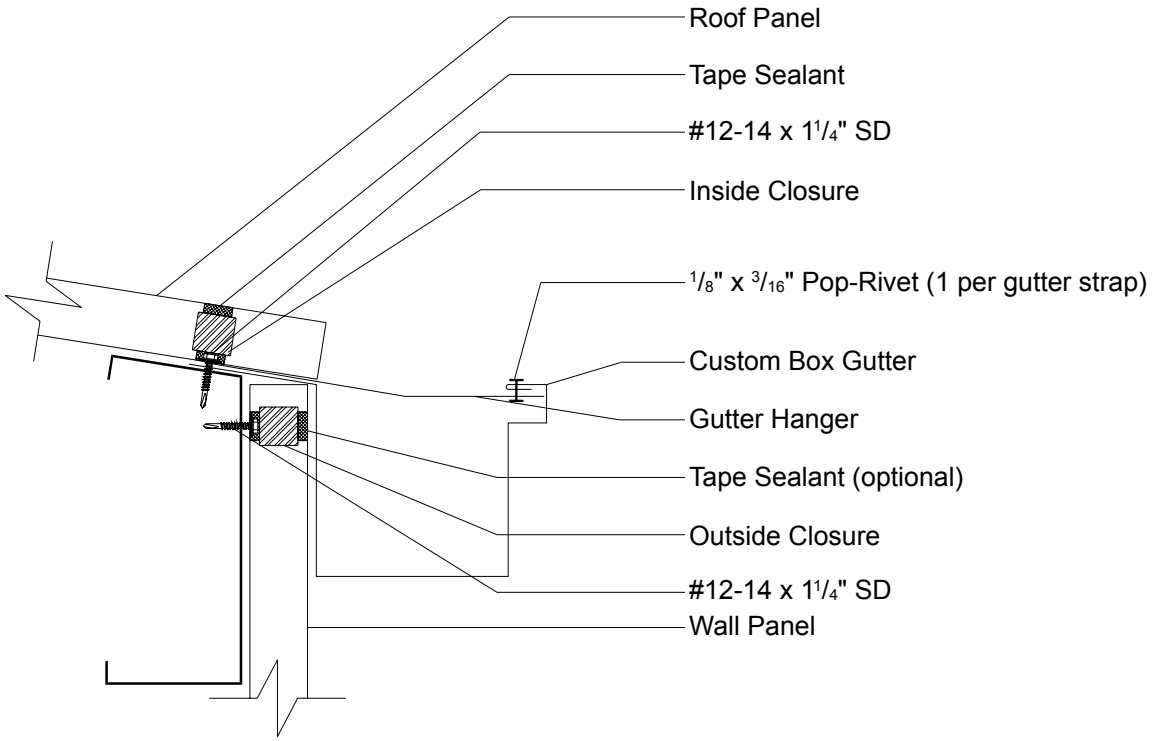


Fastening Pattern (Field)

Exposed Fastened Panel Series — Eave Detail



Exposed Fastened Panel Series — Box Gutter Detail



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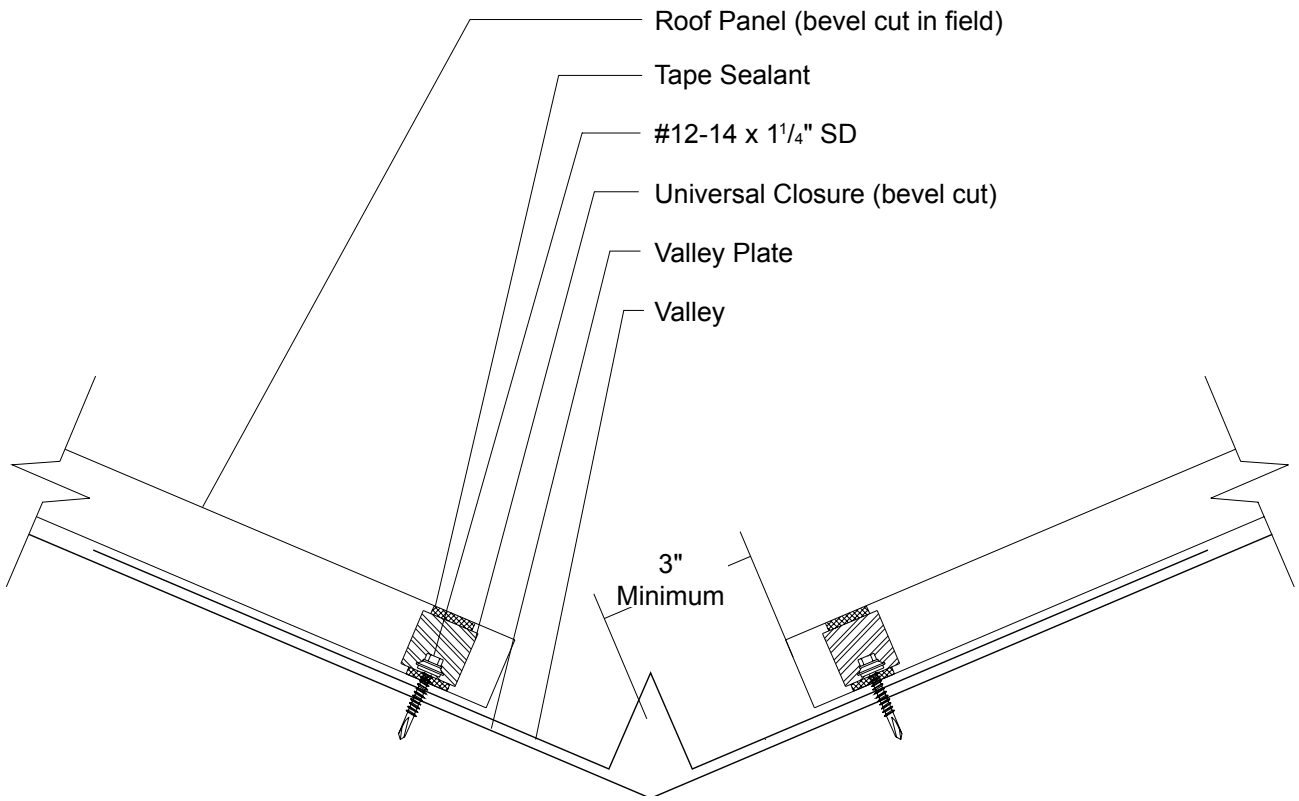
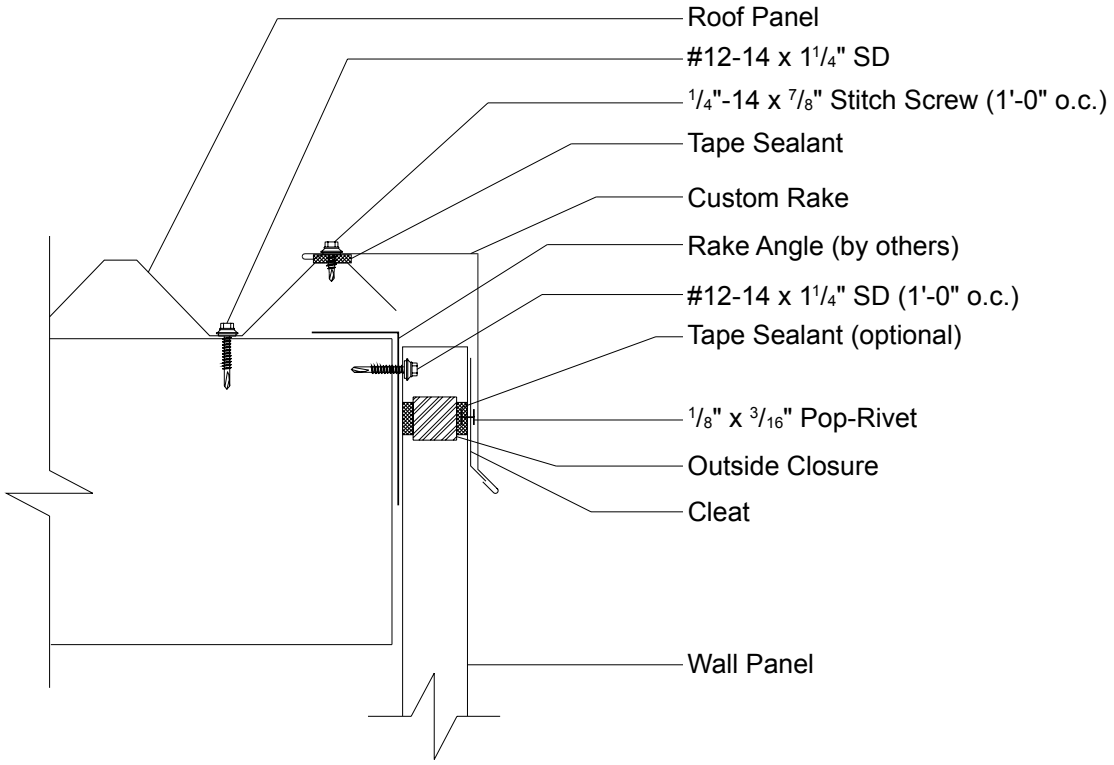
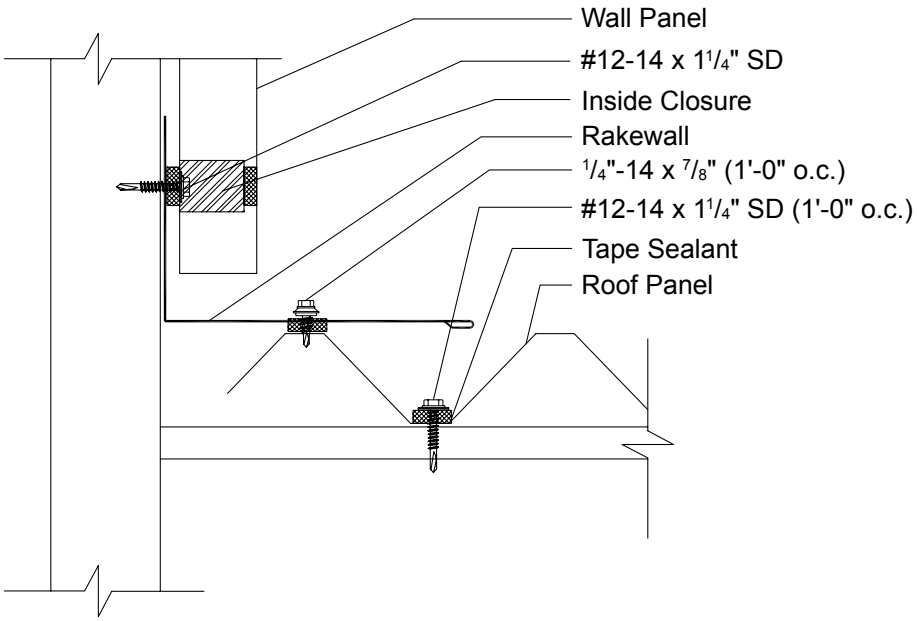
Exposed Fastened Panel Series — Valley Detail



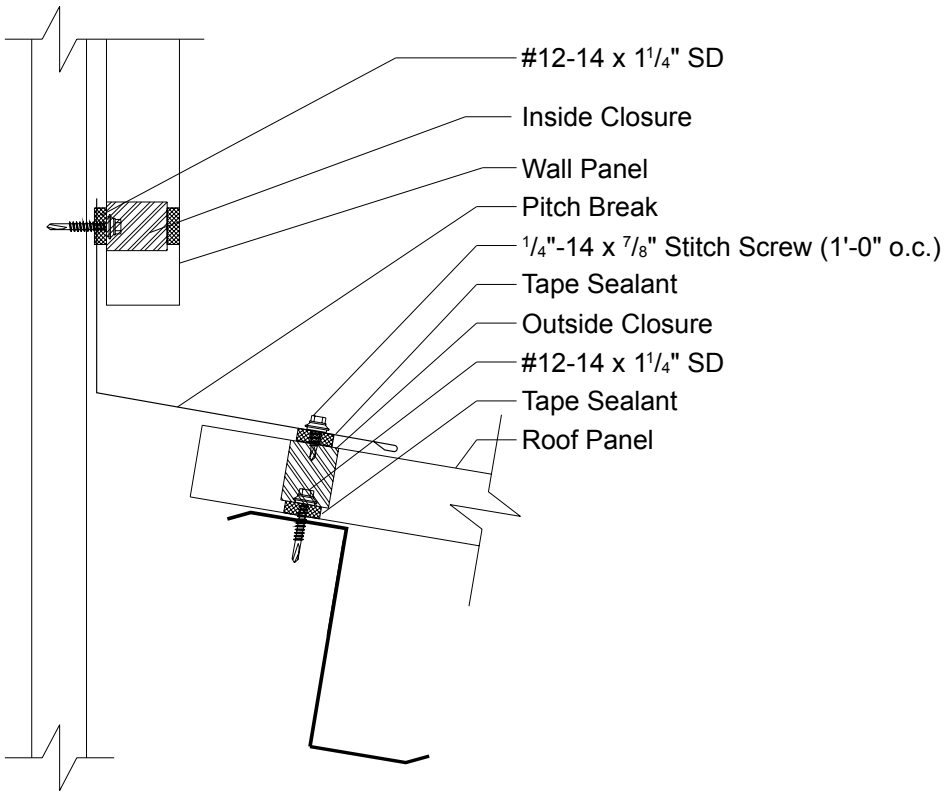
Exposed Fastened Panel Series — Rake Detail



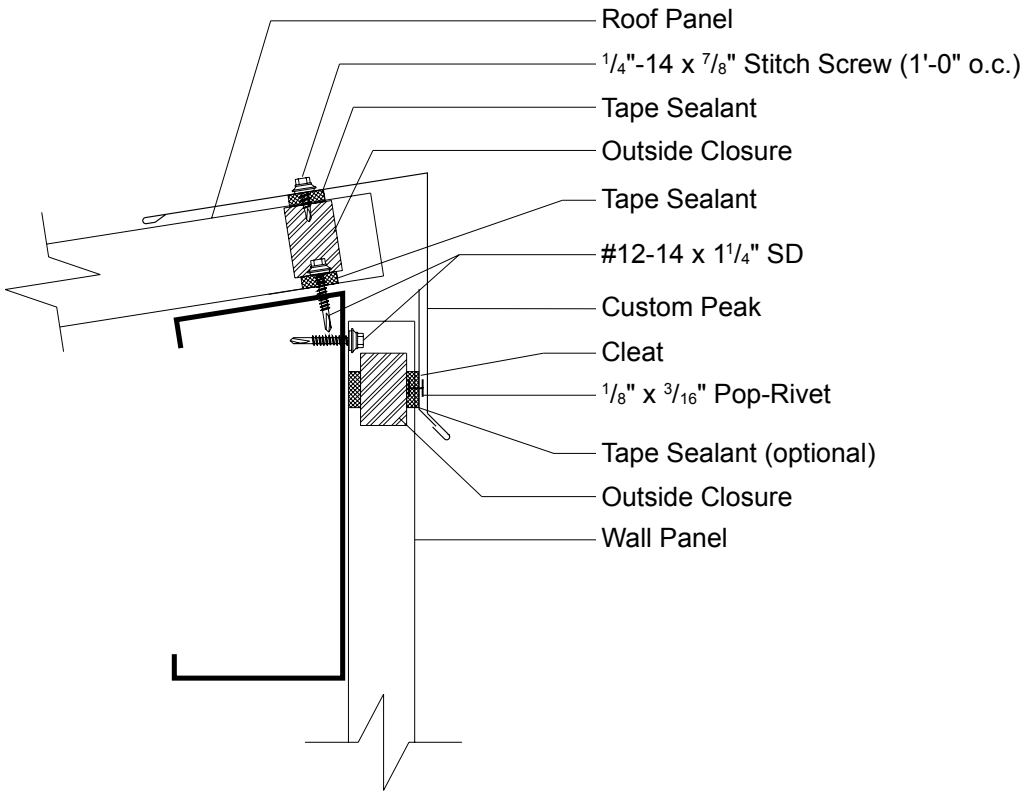
Exposed Fastened Panel Series — Rakewall Detail



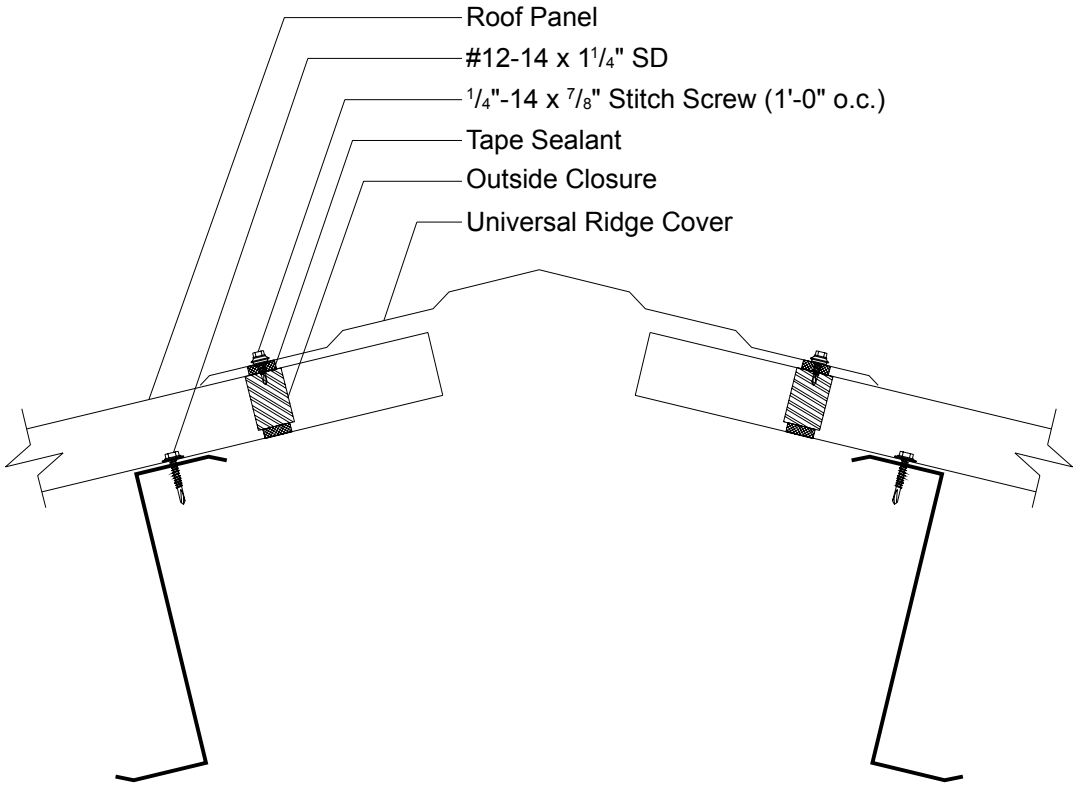
Exposed Fastened Panel Series — Endwall Detail



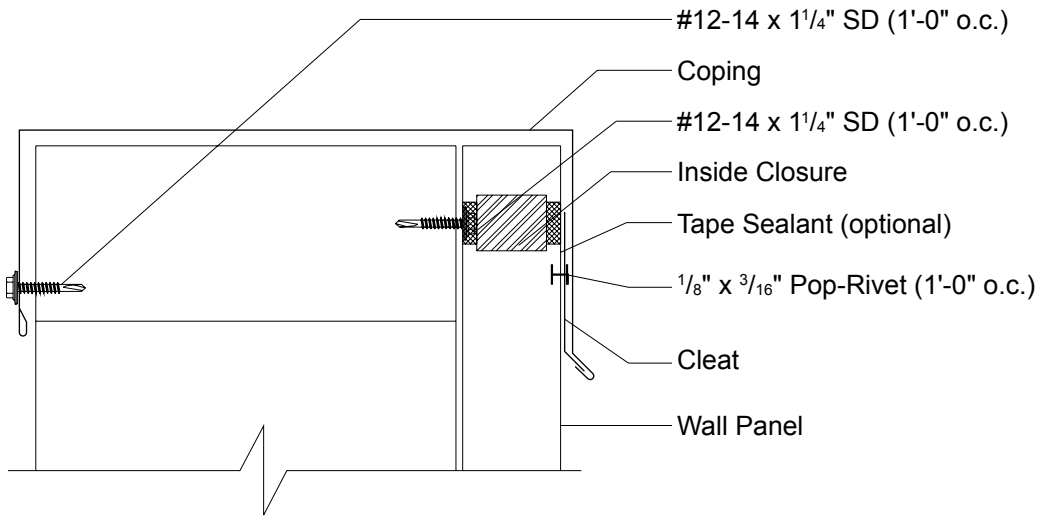
Exposed Fastened Panel Series — Peak Detail



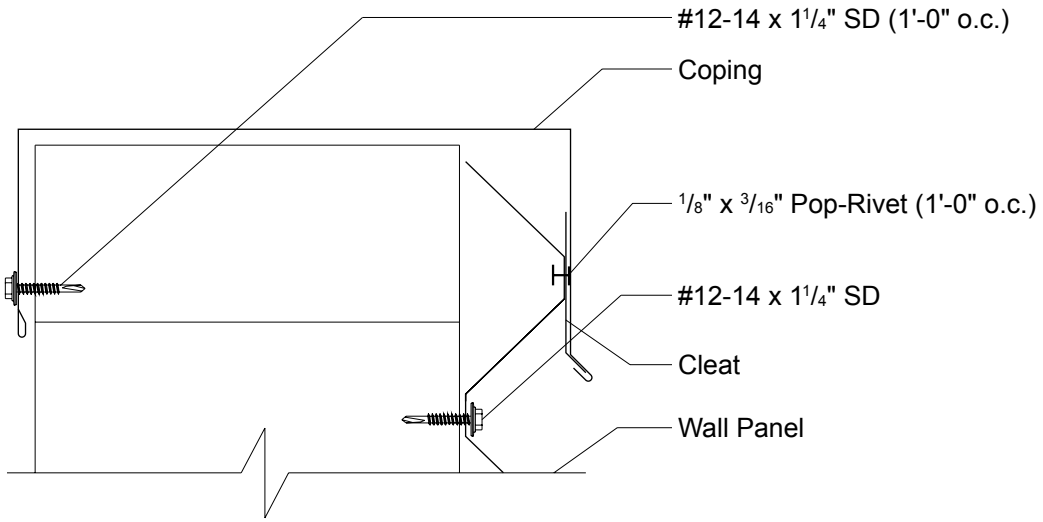
Exposed Fastened Panel Series — Universal Ridge Detail



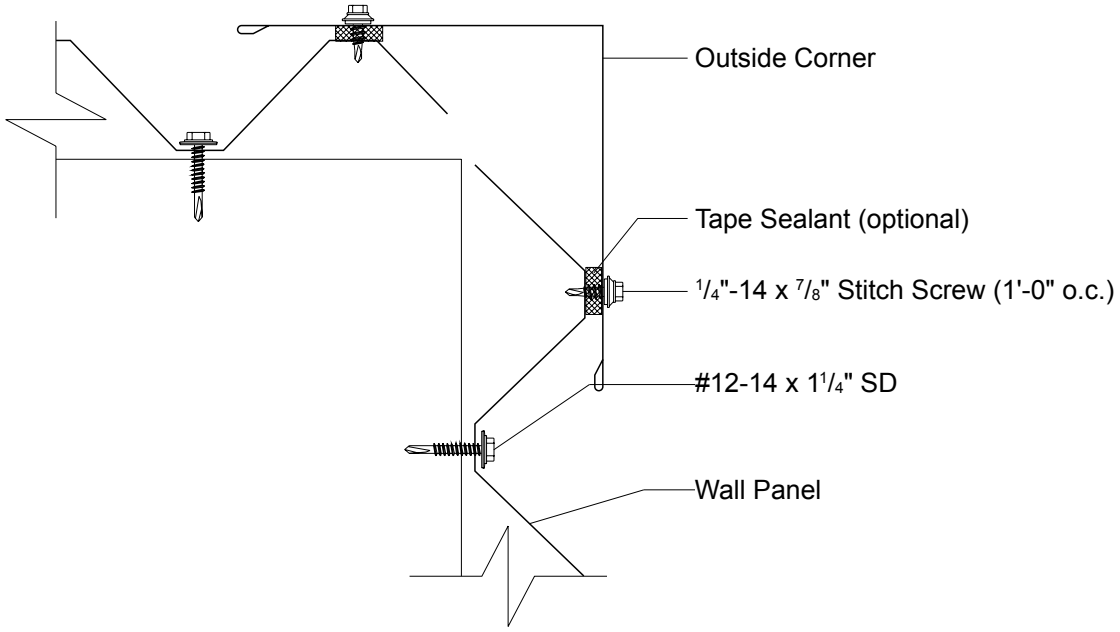
Exposed Fastened Panel Series — Coping Detail (Vertical)



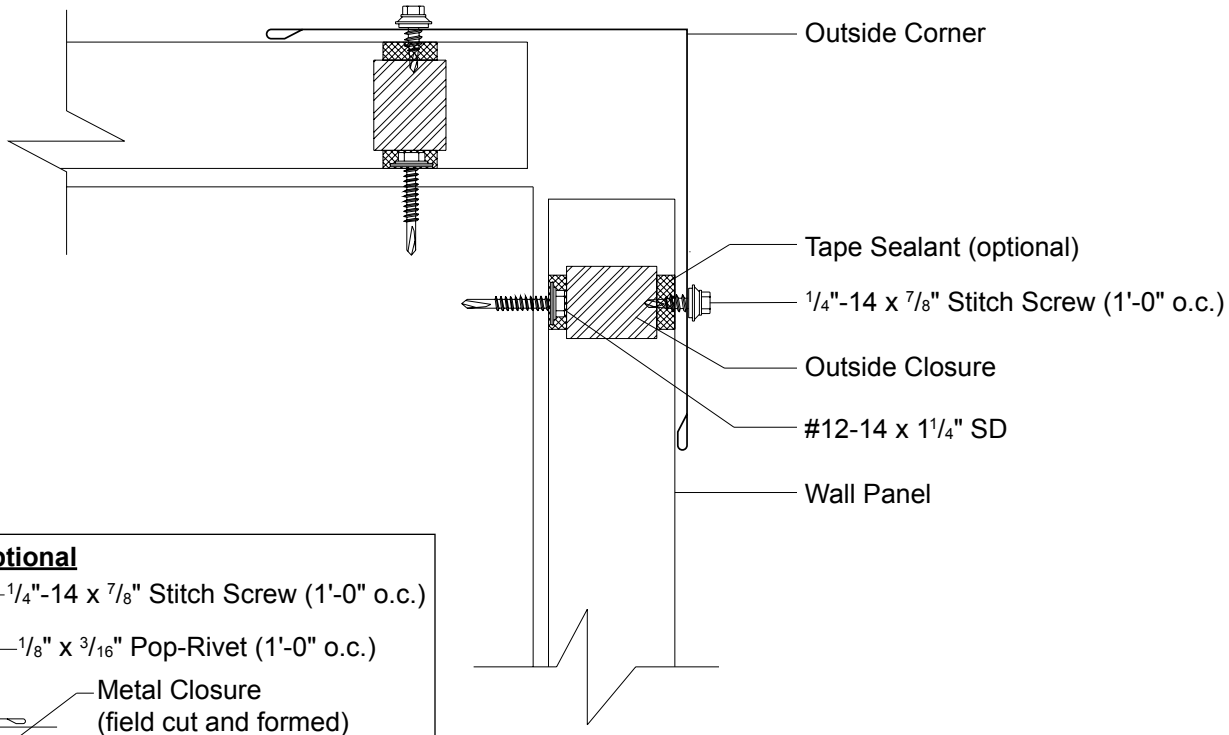
Exposed Fastened Panel Series — Coping Detail (Horizontal)



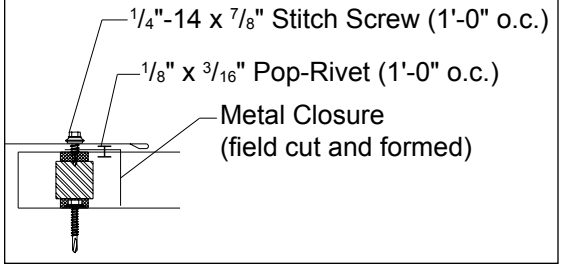
Exposed Fastened Panel Series — Outside Corner Detail (Vertical)



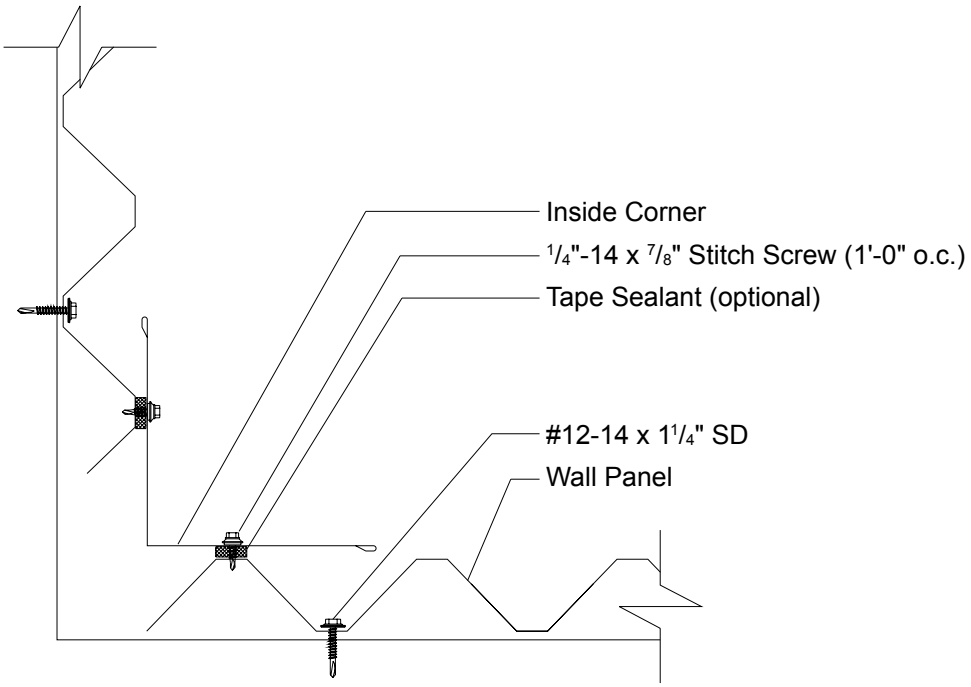
Exposed Fastened Panel Series — Outside Corner Detail (Horizontal)



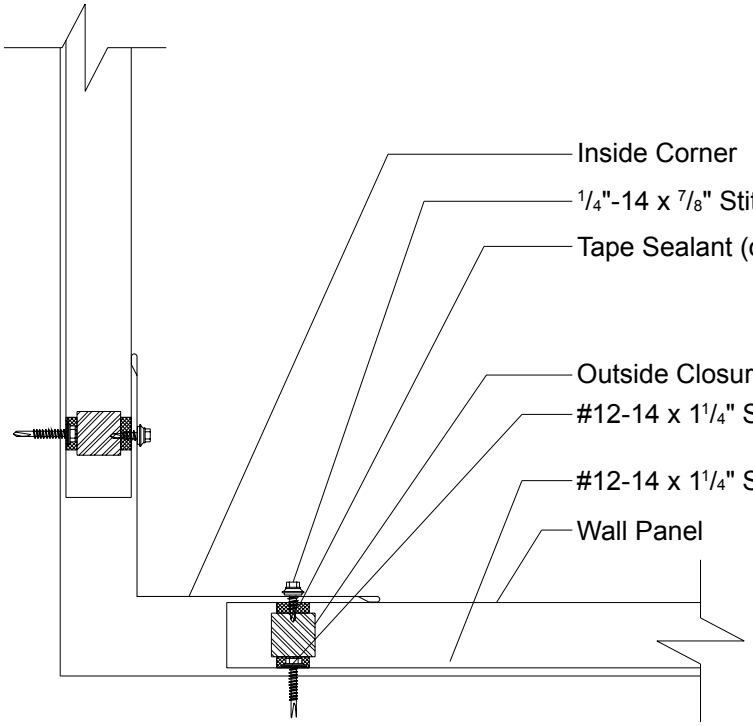
Detail Optional



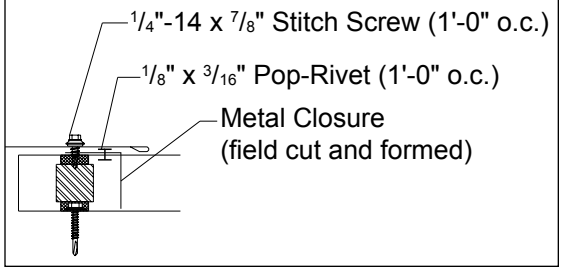
Exposed Fastened Panel Series — Inside Corner Detail (Vertical)



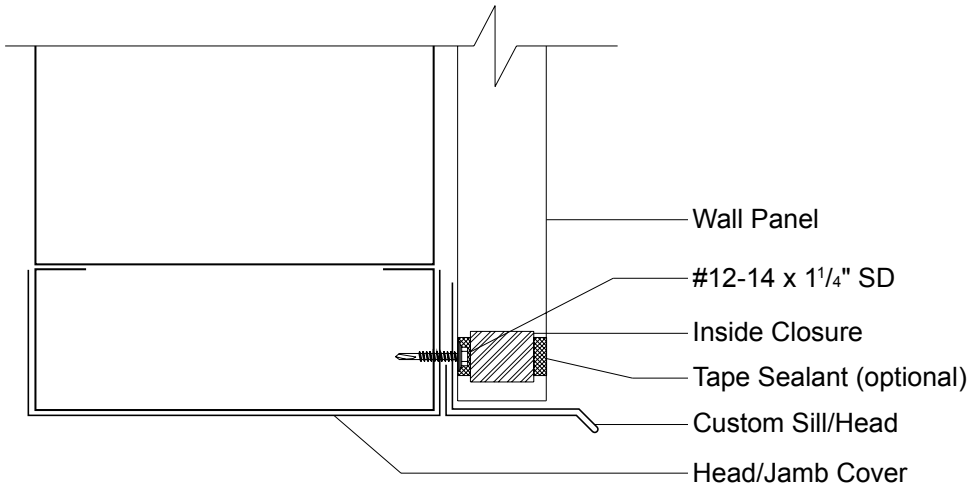
Exposed Fastened Panel Series — Inside Corner Detail (Horizontal)



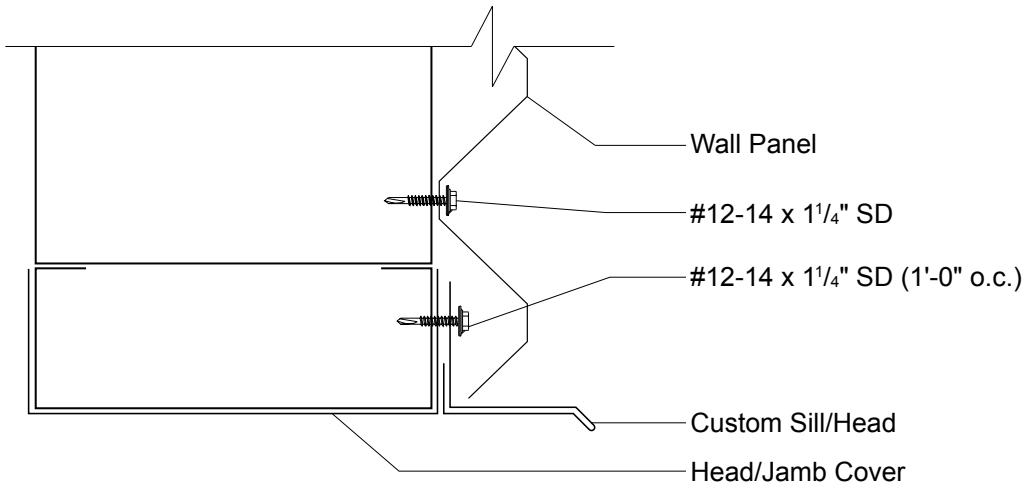
Detail Optional



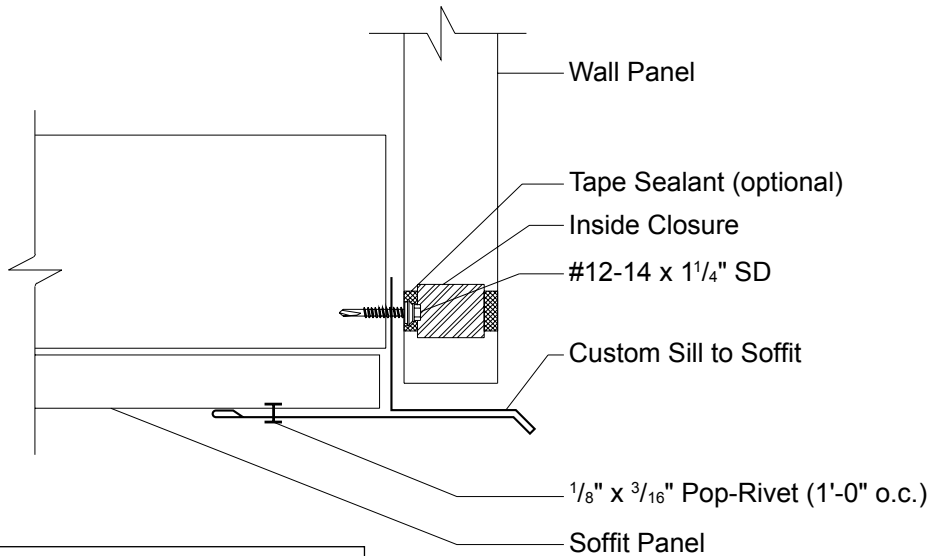
Exposed Fastened Panel Series — Sill/Head Detail (Vertical)



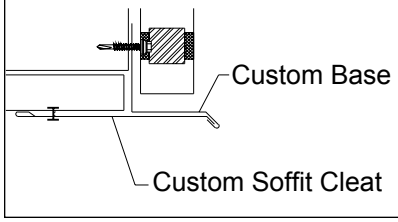
Exposed Fastened Panel Series — Sill/Head Detail (Horizontal)



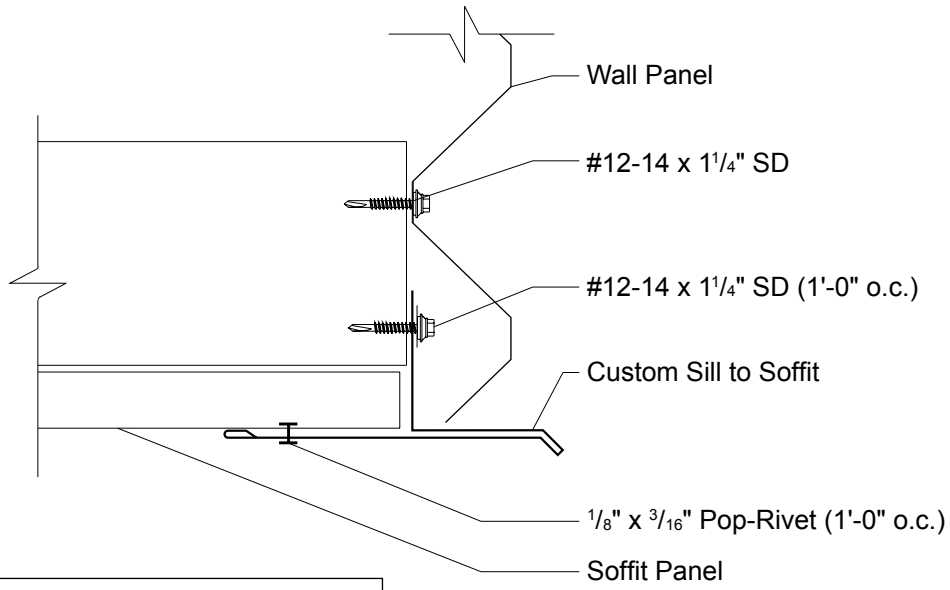
Exposed Fastened Panel Series — Sill to Soffit Detail (Vertical) (and option)



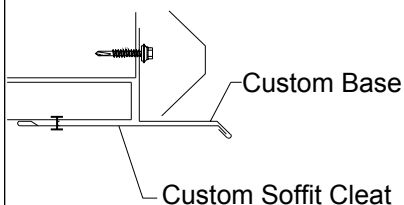
Detail Optional



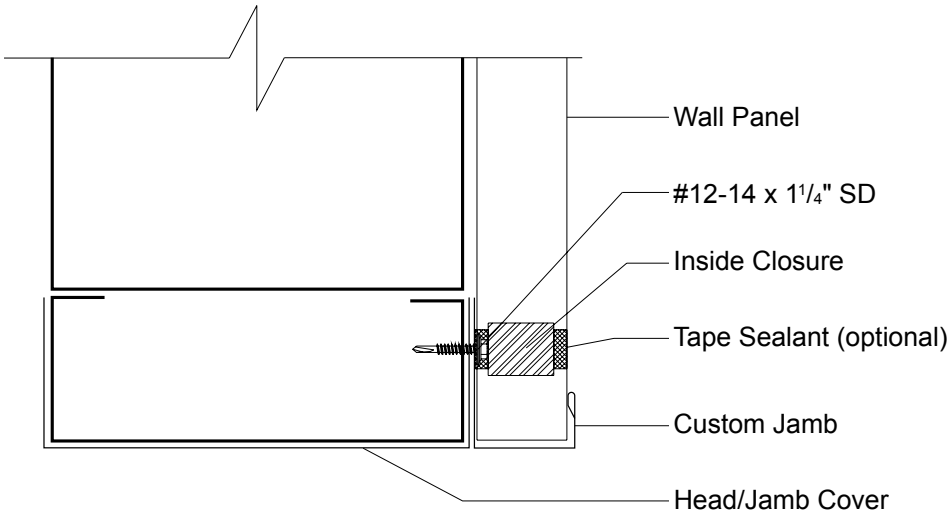
Exposed Fastened Panel Series — Sill to Soffit Detail (Horizontal) (and option)



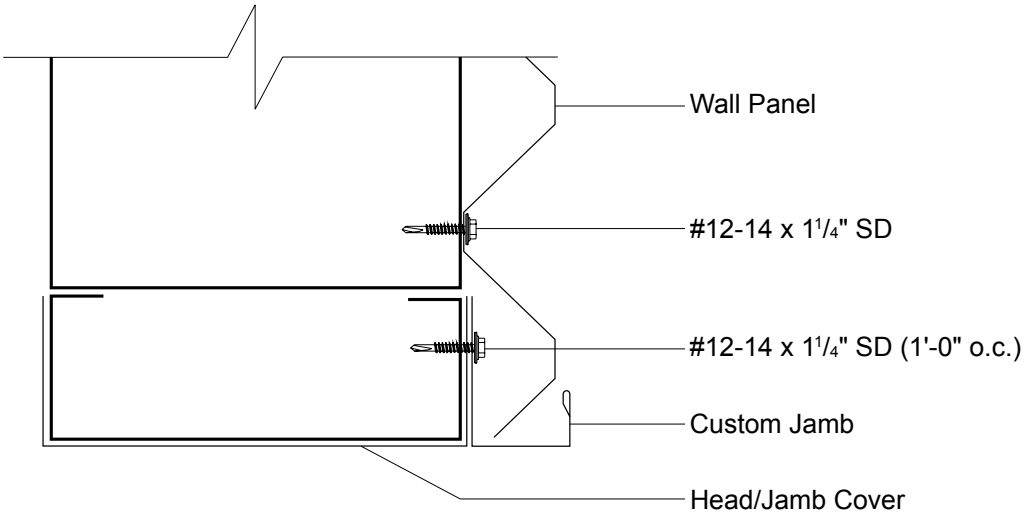
Detail Optional



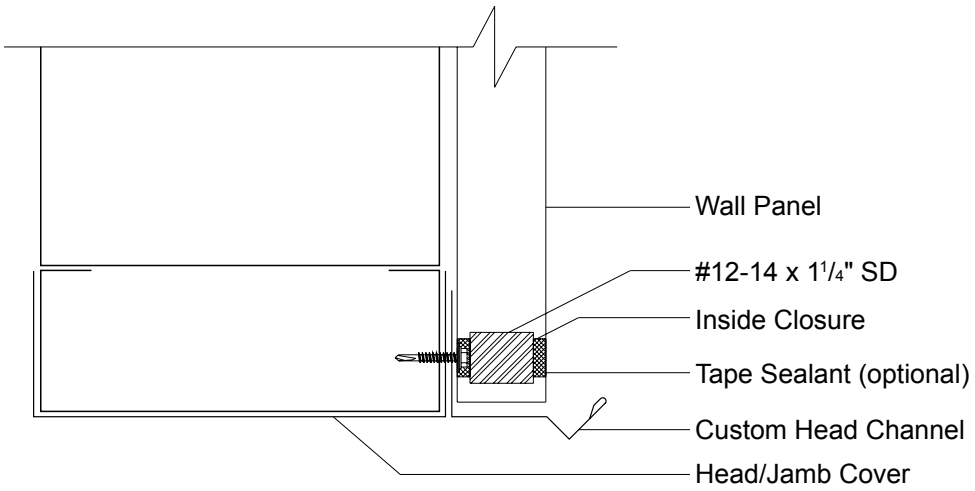
Exposed Fastened Panel Series — Jamb Detail (Horizontal)



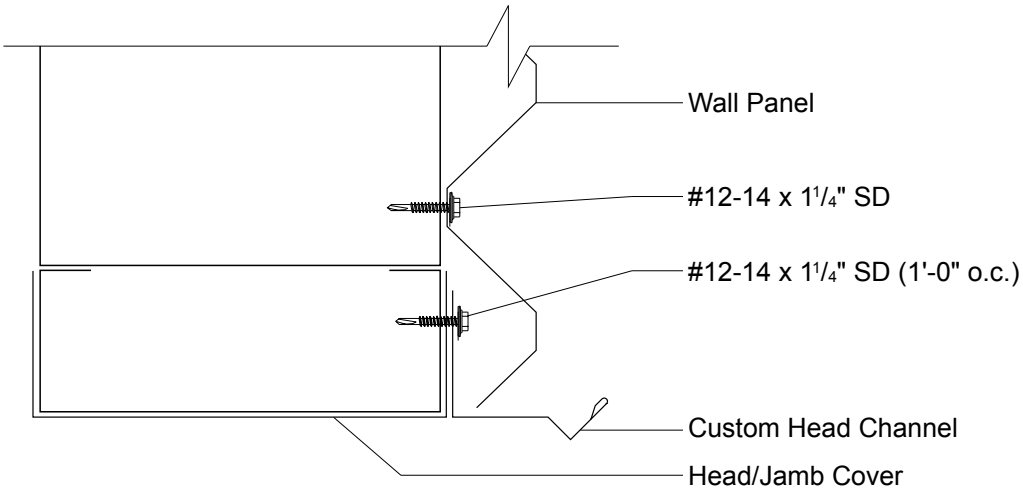
Exposed Fastened Panel Series — Jamb Detail (Vertical)



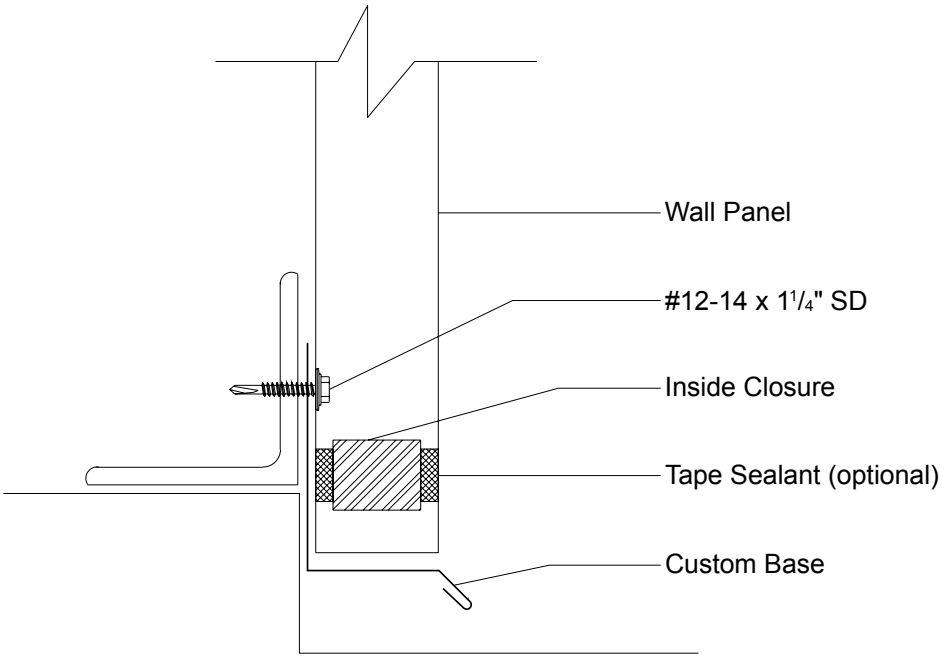
Exposed Fastened Panel Series — Head Channel Detail (Vertical)



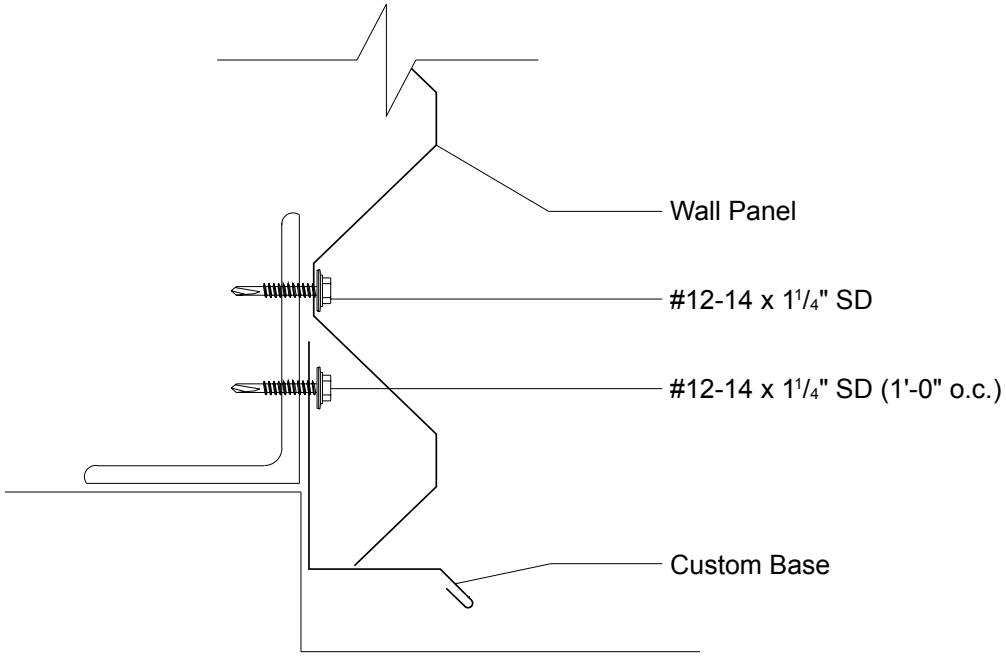
Exposed Fastened Panel Series — Head Channel Detail (Horizontal)



Exposed Fastened Panel Series — Base Detail (Vertical)



Exposed Fastened Panel Series — Base Detail (Horizontal)



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