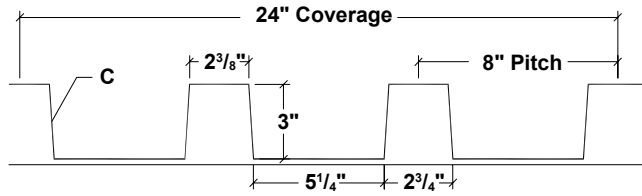
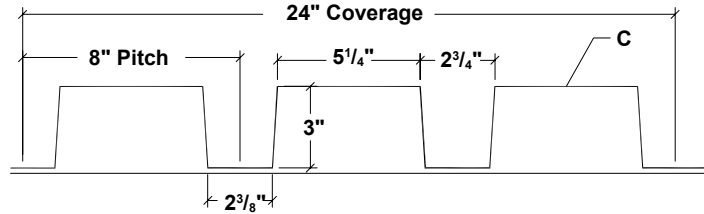


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**T13 ROOF PANEL PROFILE**



**T13 WALL PANEL PROFILE**



**SLOPE**

The minimum recommended slope for any T13 roof panel is 1:12. Metal Sales recommends that in all roof applications sealant be used on sidelaps.

**SUBSTRATE**

T13 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 24".

**LENGTH**

Lengths under 5'-0" are available with some cutting restrictions. The maximum panel length is 32'-0", except for 18 gauge panels which is 30'-0" max (see PGI-2 and PGI-3 for locations).

**AVAILABILITY**

Panels are available in 24 through 18 gauge. Minimum quantities may apply. Custom capabilities include:  
-Perforated panels for wind screens and liner panels.

**APPLICATION**

Commercial, Industrial and Architectural 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 through PG-14).

**MATERIALS**

24 and 22 gauge: Steel Grade 50, AZ50 or AZ55 per ASTM A 792  
20 and 18 gauge: Steel Grade 33, G90 per ASTM A 653  
Optional material: stainless steel, copper and aluminum

**FINISHES**

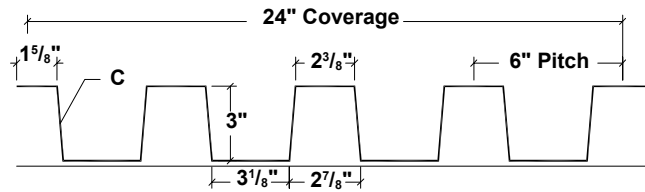
- ▶ \*Acrylic Coated Galvalume® (ACG): AZ55 per ASTM A 792
- ▶ Prepainted Galvalume®: AZ50 per ASTM A 792
- ▶ MS Colorfast45®
- ▶ \*\*PVDF
- ▶ Multi-Pass Kynar 500®
- ▶ Marbilique
- ▶ Plastisol
- ▶ Polyester

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

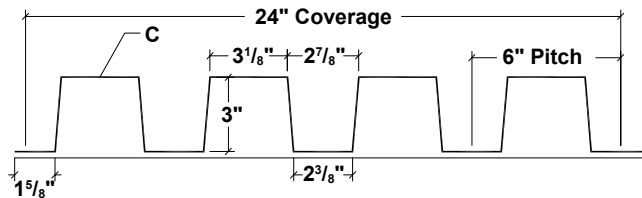
\*\* Meets both Kynar 500® and Hylar 5000® specifications.

# INDUSTRIAL RIB / DEEP RIB SERIES T13-A PANEL OVERVIEW

## T13-A ROOF PANEL PROFILE



## T13-A WALL PANEL PROFILE



### SLOPE

The minimum recommended slope for any T13-A roof panel is 1:12. Metal Sales recommends that in all roof applications sealant be used on sidelaps.

### SUBSTRATE

T13-A panel is designed to be utilized over open structural framing, but can easily be used with a solid substrate. The recommended substrate is  $\frac{5}{8}$ " 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 24".

### LENGTH

Lengths under 5'-0" are available with some cutting restrictions. The maximum panel length is 32'-0", except for 18 gauge panels which is 26'-0" max (see PGI-2 and PGI-3 for locations).

### AVAILABILITY

Panels are available in 24 through 18 gauge. Minimum quantities may apply.  
Custom capabilities include:  
-Perforated panels for wind screens and liner panels.

### APPLICATION

Commercial, Industrial and Architectural 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 through PG-14).

### MATERIALS

24 and 22 gauge: Steel Grade 50, AZ50 or AZ55 per ASTM A 792  
20 and 18 gauge: Steel Grade 33, G90 per ASTM A 653  
Optional material: stainless steel, copper and aluminum

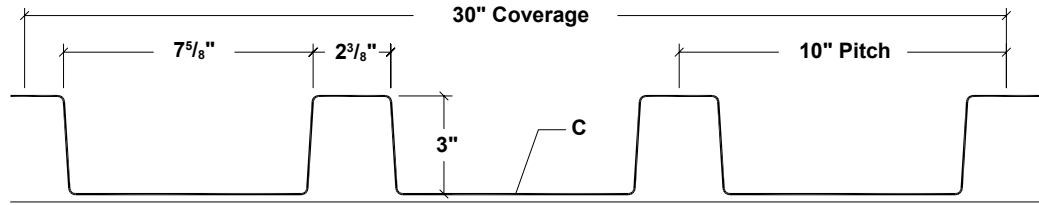
### FINISHES

- ▶ \*Acrylic Coated Galvalume® (ACG): AZ55 per ASTM A 792
- ▶ Prepainted Galvalume®: AZ50 per ASTM A 792
- ▶ MS Colorfast45®
- ▶ \*\*PVDF
- ▶ Multi-Pass Kynar 500®
- ▶ Marbilique
- ▶ Plastisol
- ▶ Polyester

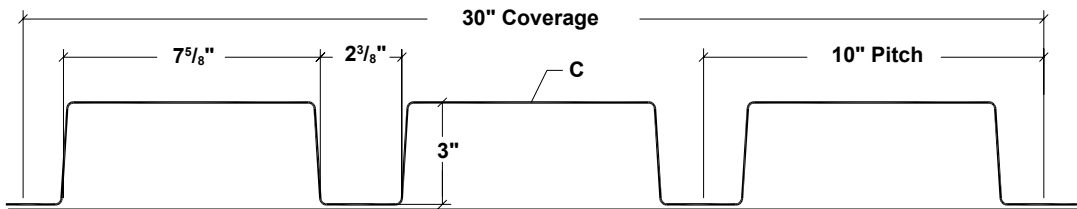
\* Differential appearance of Acrylic Coated Galvalume® roofing materials is not a cause for rejection.

\*\* Meets both Kynar 500® and Hylar 5000® specifications.

**T13-B ROOF PANEL PROFILE**



**T13-B WALL PANEL PROFILE**



**SLOPE**

The minimum recommended slope for any T13-B roof panel is 1:12. Metal Sales recommends that in all roof applications sealant be used on sidelaps.

**SUBSTRATE**

T13-B 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 30".

**LENGTH**

Lengths under 5'-0" are available with some cutting restrictions. The maximum panel length is 32'-0", except for 18 gauge panels which is 26'-0" max (see PGI-2 and PGI-3 for locations).

**AVAILABILITY**

Panels are available in 24 through 18 gauge. Minimum quantities may apply. Custom capabilities include:  
 -Perforated panels for wind screens and liner panels.

**APPLICATION**

Commercial, Industrial and Architectural 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 through PG-14).

**MATERIALS**

24 and 22 gauge: Steel Grade 50, AZ50 or AZ55 per ASTM A 792  
 20 and 18 gauge: Steel Grade 33, G90 per ASTM A 653  
 Optional material: stainless steel, copper and aluminum

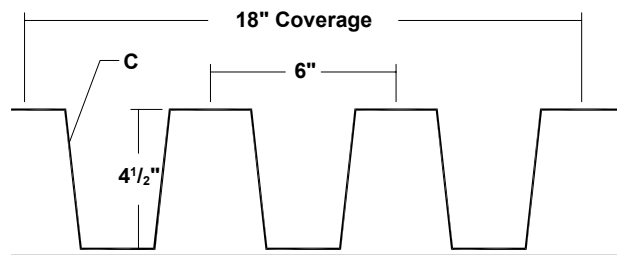
**FINISHES**

- ▶ \*Acrylic Coated Galvalume® (ACG): AZ55 per ASTM A 792
- ▶ Prepainted Galvalume®: AZ50 per ASTM A 792
- ▶ MS Colorfast45®
- ▶ \*\*PVDF
- ▶ Multi-Pass Kynar 500®
- ▶ Marbilique
- ▶ Plastisol
- ▶ Polyester

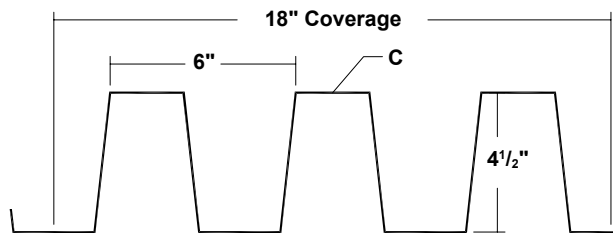
\* Differential appearance of Acrylic Coated Galvalume® roofing materials is not a cause for rejection.

\*\* Meets both Kynar 500® and Hylar 5000® specifications.

**TDR-6 ROOF PANEL PROFILE**



**TDR-6 WALL PANEL PROFILE**



**SLOPE**

The minimum recommended slope for any TDR-6 roof panel is 1:12. Metal Sales recommends that in all roof applications sealant be used on sidelaps.

**SUBSTRATE**

TDR-6 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 18".

**LENGTH**

Lengths under 5'-0" are available with some cutting restrictions. The maximum panel length is 30'-0", except for 18 gauge panels which is 28'-0" max (see PGI-2 and PGI-3 for locations).

**AVAILABILITY**

Panels are available in 24 through 18 gauge. Minimum quantities may apply. Custom capabilities include:  
-Perforated panels for wind screens and liner panels.

**APPLICATION**

Commercial, Industrial and Architectural 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 through PG-14).

**MATERIALS**

24 and 22 gauge: Steel Grade 50, AZ50 or AZ55 per ASTM A 792  
20 and 18 gauge: Steel Grade 33, G90 per ASTM A 653  
Optional material: stainless steel, copper and aluminum

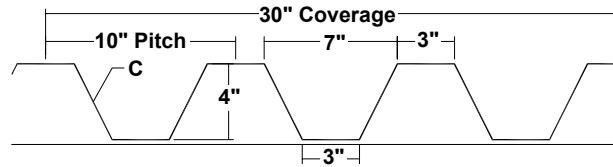
**FINISHES**

- ▶ \*Acrylic Coated Galvalume® (ACG): AZ55 per ASTM A 792
- ▶ Prepainted Galvalume®: AZ50 per ASTM A 792
- ▶ MS Colorfast45®
- ▶ \*\*PVDF
- ▶ Multi-Pass Kynar 500®
- ▶ Marbilique
- ▶ Plastisol
- ▶ Polyester

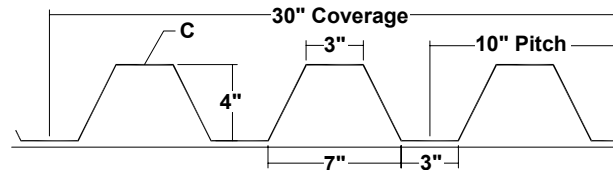
\* Differential appearance of Acrylic Coated Galvalume® roofing materials is not a cause for rejection.

\*\* Meets both Kynar 500® and Hylar 5000® specifications.

**T15 ROOFING PANEL PROFILE**



**T15 SIDING PANEL PROFILE**



**SLOPE**

The minimum recommended slope for any T15 roof panel is 1:12. Metal Sales recommends that in all roof applications sealant be used on sidelaps.

**SUBSTRATE**

T15 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 30".

**LENGTH**

Lengths under 5'-0" are available with some cutting restrictions. The maximum panel length is 32'-0", except for 18 gauge panels which is 26'-0" max (see PGI-2 and PGI-3 for locations).

**AVAILABILITY**

Panels are available in 24 through 18 gauge. Minimum quantities may apply. Custom capabilities include:  
-Perforated panels for wind screens and liner panels.

**APPLICATION**

Commercial, Industrial and Architectural 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 through PG-14).

**MATERIALS**

24 and 22 gauge: Steel Grade 50, AZ50 or AZ55 per ASTM A 792  
20 and 18 gauge: Steel Grade 33, G90 per ASTM A 653  
Optional material: stainless steel, copper and aluminum

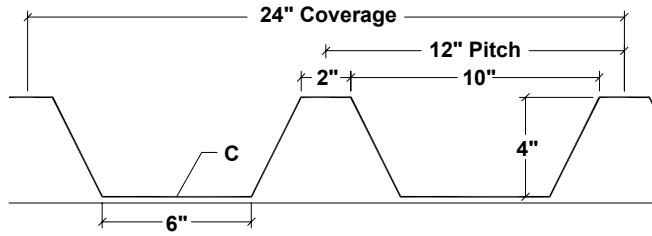
**FINISHES**

- ▶ \*Acrylic Coated Galvalume® (ACG): AZ55 per ASTM A 792
- ▶ Prepainted Galvalume®: AZ50 per ASTM A 792
- ▶ MS Colorfast45®
- ▶ \*\*PVDF
- ▶ Multi-Pass Kynar 500®
- ▶ Marbilique
- ▶ Plastisol
- ▶ Polyester

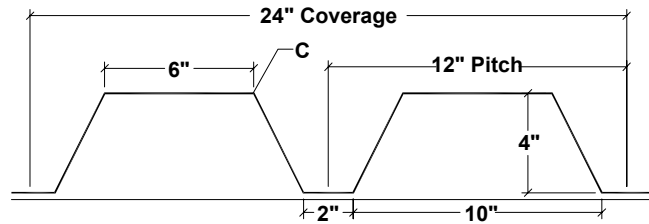
\* Differential appearance of Acrylic Coated Galvalume® roofing materials is not a cause for rejection.

\*\* Meets both Kynar 500® and Hylar 5000® specifications.

**T25 ROOFING PANEL PROFILE**



**T25 SIDING PANEL PROFILE**



**SLOPE**

The minimum recommended slope for any T25 roof panel is 1:12. Metal Sales recommends that in all roof applications sealant be used on sidelaps.

**SUBSTRATE**

T25 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 24".

**LENGTH**

Lengths under 5'-0" are available with some cutting restrictions. The maximum panel length is 32'-0" (see PGI-2 and PGI-3 for locations).

**AVAILABILITY**

Panels are available in 24 through 18 gauge. Minimum quantities may apply. Custom capabilities include:  
-Perforated panels for wind screens and liner panels.

**APPLICATION**

Commercial, Industrial and Architectural 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 through PG-14).

**MATERIALS**

24 and 22 gauge: Steel Grade 50, AZ50 or AZ55 per ASTM A 792  
20 and 18 gauge: Steel Grade 33, G90 per ASTM A 653  
Optional material: stainless steel, copper and aluminum

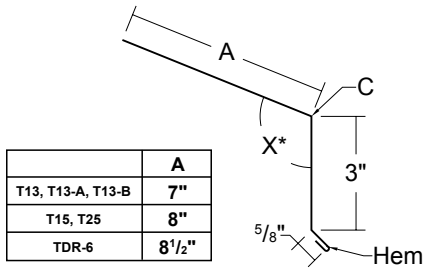
**FINISHES**

- ▶ \*Acrylic Coated Galvalume® (ACG): AZ55 per ASTM A 792
- ▶ Prepainted Galvalume®: AZ50 per ASTM A 792
- ▶ MS Colorfast45®
- ▶ \*\*PVDF
- ▶ Multi-Pass Kynar 500®
- ▶ Marbilique
- ▶ Plastisol
- ▶ Polyester

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

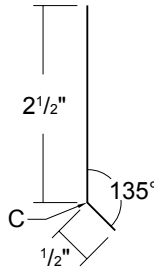
\*\* Meets both Kynar 500® and Hylar 5000® specifications.

**CUSTOM EAVE**



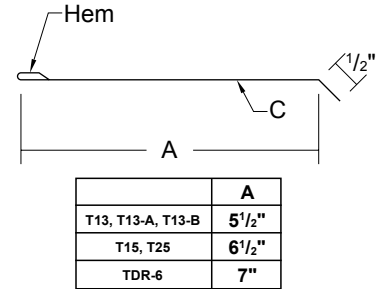
Length 10'-2" - \*Specify Slope Angle

**CLEAT**



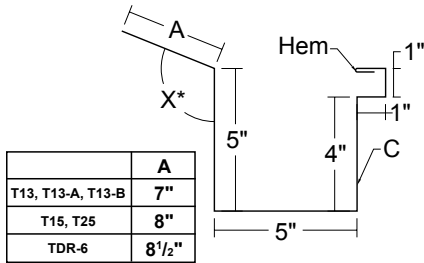
Length 10'-0"

**CUSTOM SOFFIT CLEAT**



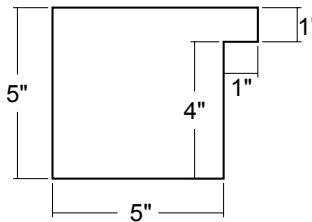
Length 10'-0"

**CUSTOM BOX GUTTER**

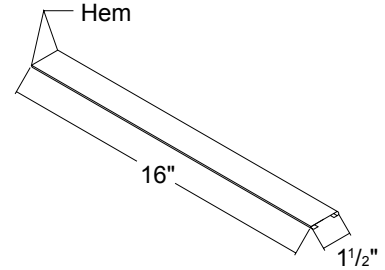


Length 10'-2" - \*Specify Slope Angle

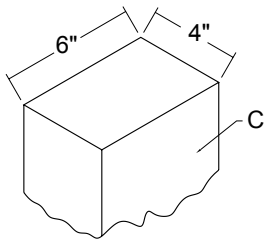
**BOX GUTTER END (RIGHT AND LEFT)**



**UNIVERSAL GUTTER/ DOWNSPOUT BRACKET**

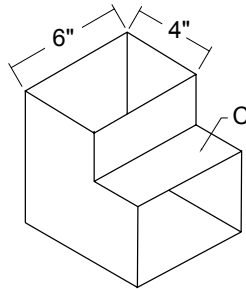


**DOWNSPOUT 6" x 4"**



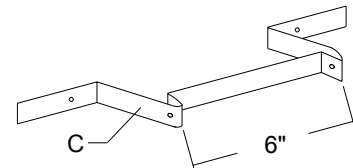
Length 10'-0"  
(4" x 3 1/2" is also available)

**95° ELBOW 6" x 4"**



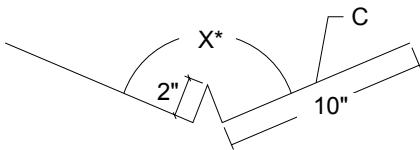
(4" x 3 1/2" is also available)  
(45° is also available)

**DOWNSPOUT BRACKET**



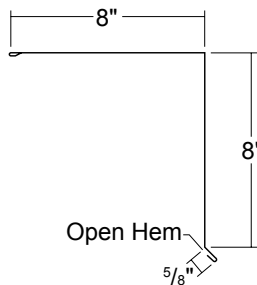
(4" is also available)

**VALLEY**



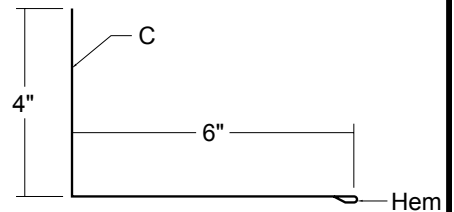
Length 10'-0" - \*Specify Slope Angle

**CUSTOM RAKE**



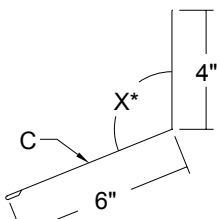
Length 10'-2"

**RAKEWALL**



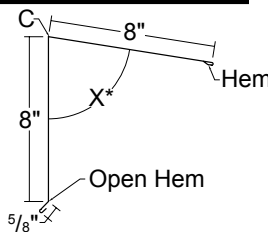
Length 10'-2"

**PITCH BREAK**



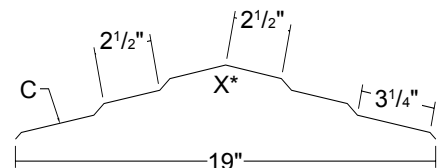
Length 10'-2" - \*Specify Slope Angle

**CUSTOM PEAK**



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

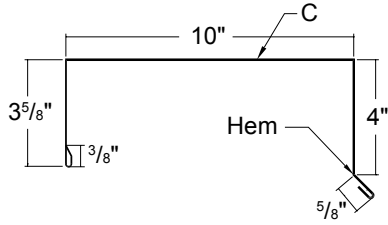
**UNIVERSAL RIDGE COVER**



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

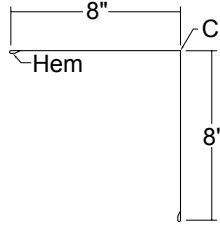


**COPING**



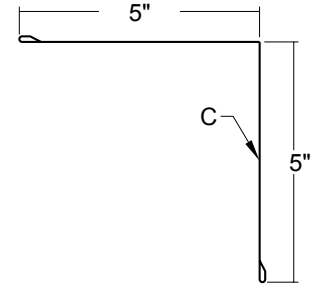
Length 10'-0"

**CUSTOM OUTSIDE CORNER**



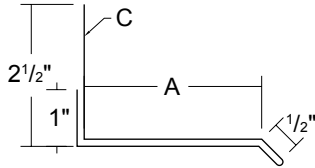
Length 10'-0"

**INSIDE CORNER**



Length 10'-0"

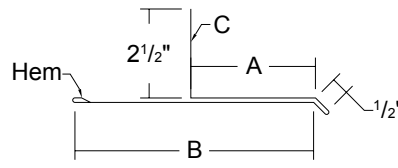
**CUSTOM SILL/HEAD**



	A
T13, T13-A, T13-B	3 1/4"
T15, T25	4 1/4"
TDR-6	4 3/4"

Length 10'-0"

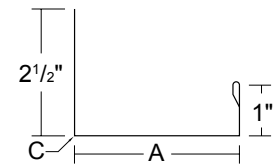
**CUSTOM SILL TO SOFFIT**



	A	B
T13, T13-A, T13-B	3 1/4"	5 1/2"
T15, T25	4 1/4"	6 1/2"
TDR-6	4 3/4"	7"

Length 10'-0"

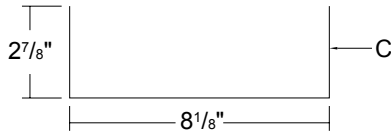
**CUSTOM JAMB**



	A
T13, T13-A, T13-B	3 1/4"
T15, T25	4 1/4"
TDR-6	4 3/4"

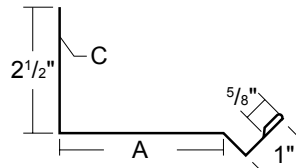
Length 10'-0"

**HEAD/JAMB COVER**



Length 10'-0"

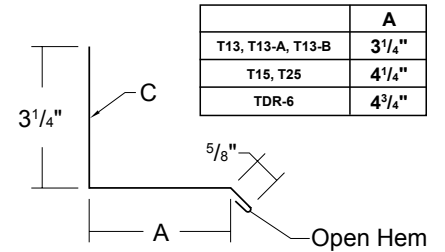
**CUSTOM HEAD CHANNEL**



	A
T13, T13-A, T13-B	3"
T15, T25	4"
TDR-6	4 1/2"

Length 10'-0"

**CUSTOM BASE**

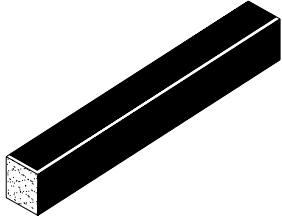


	A
T13, T13-A, T13-B	3 1/4"
T15, T25	4 1/4"
TDR-6	4 3/4"

Length 10'-0"

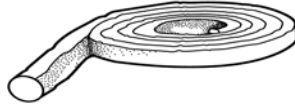
C- Indicates color side of flashing.

**UNIVERSAL CLOSURE**



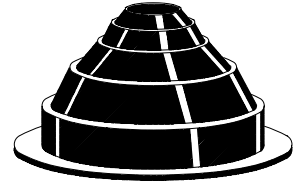
1" x 1 1/2" x 50' Polyethylene Foam  
1" x 1 1/2" x 10' Polyethylene Foam

**TAPE SEALANT**



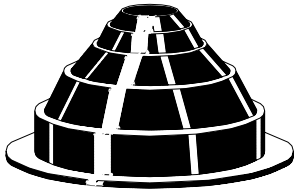
3/8" X 3/32" X 50'  
Single Bead Tape Sealant  
Butyl - Gray

**RUBBER ROOF JACK**



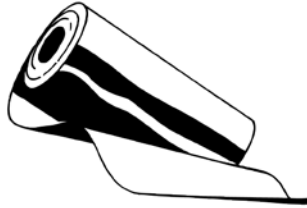
Mini (1/4" to 1 1/8" O.D. Pipe)  
#2 (1 3/4" to 3" O.D. Pipe)  
#4 (3" to 6" O.D. Pipe)  
#6 (6" to 9" O.D. Pipe)  
#8 (7" to 13" O.D. Pipe)

**RETRO ROOF JACK**



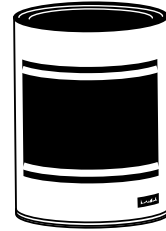
#801<sub>RETRO</sub> (3/4" to 2 3/4" O.D. Pipe)  
#802<sub>RETRO</sub> (2" to 7 1/4" O.D. Pipe)  
#803<sub>RETRO</sub> (3 1/4" to 10" O.D. Pipe)

**RUBBER ROOF FLASH KIT**



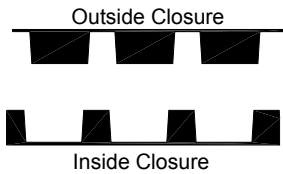
12" x 50'-0" Flash Kit  
18" x 50'-0" Flash Kit

**TOUCH-UP PAINT**

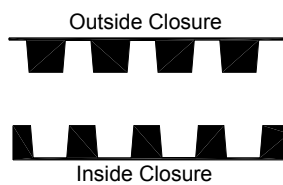


Available in 2 oz Bottles  
PVDF / MS Colorfast45®

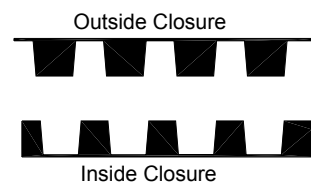
**T13 CLOSURES**



**T13-A CLOSURES**



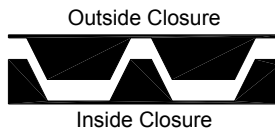
**T13-B CLOSURE**



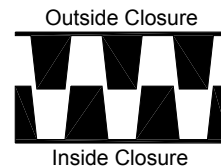
**T15 CLOSURES**



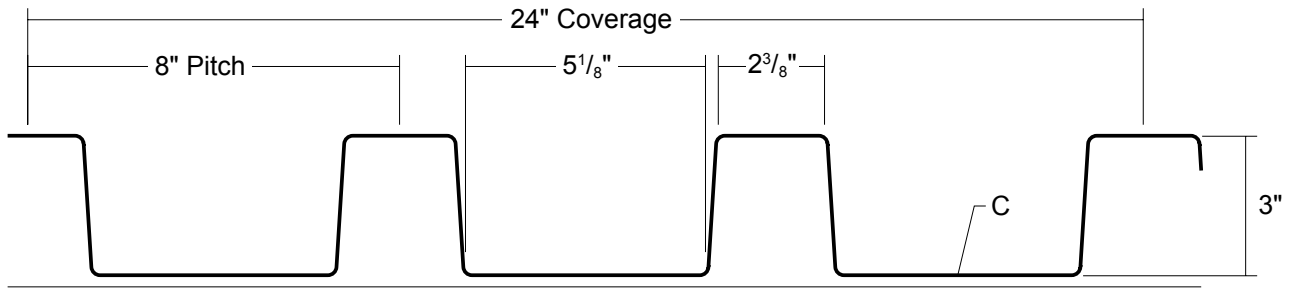
**T25 CLOSURES**



**TDR-6 CLOSURES**



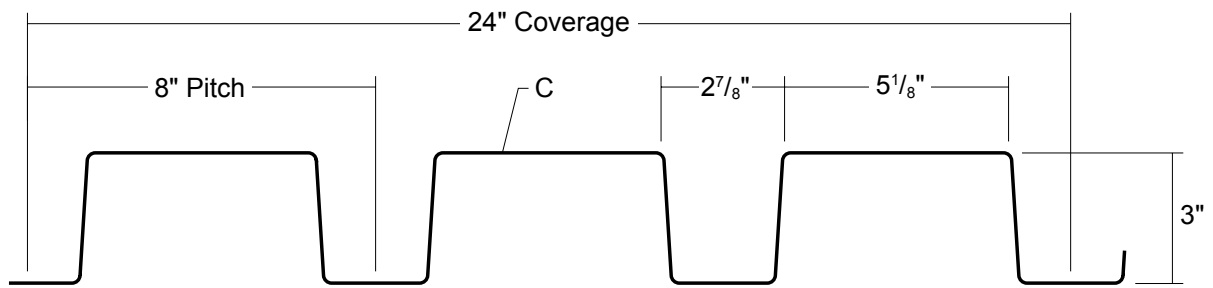
**ROOF PANEL PROFILE**



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 Load					
				Ixx in <sup>4</sup> /ft	Sxx in <sup>3</sup> /ft	Ixx in <sup>4</sup> /ft	Sxx in <sup>3</sup> /ft	5'	6'	7'	8'	10'	12'	5'	6'	7'	8'	10'	12'
24	24	50	1.58	0.5008	0.2470	0.4140	0.2306	188	135	102	79	52	36	198	143	108	84	55	39
22	24	50	2.08	0.7459	0.3936	0.5972	0.3512	307	217	162	125	81	56	339	241	180	139	90	63
20	24	33	2.54	1.0079	0.5568	0.8118	0.5043	300	210	156	120	77	54	328	231	171	132	85	59
18	24	33	3.34	1.3998	0.7942	1.1524	0.7506	443	312	231	178	114	80	467	329	244	188	121	84

- Theoretical section properties have been calculated per AISI 2012 "Specifications 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 2012 specifications considering bending, shear, combined bending and shear and deflection. Allowable load considers the 3 or more equal span condition. Allowable load does not address web crippling, fasteners/support connection or load testing. Panel weight is not considered.
- Deflection consideration is limited by a maximum deflection ratio of L/180 of span.
- Allowable loads do not include a 1/3 stress increase in uplift.

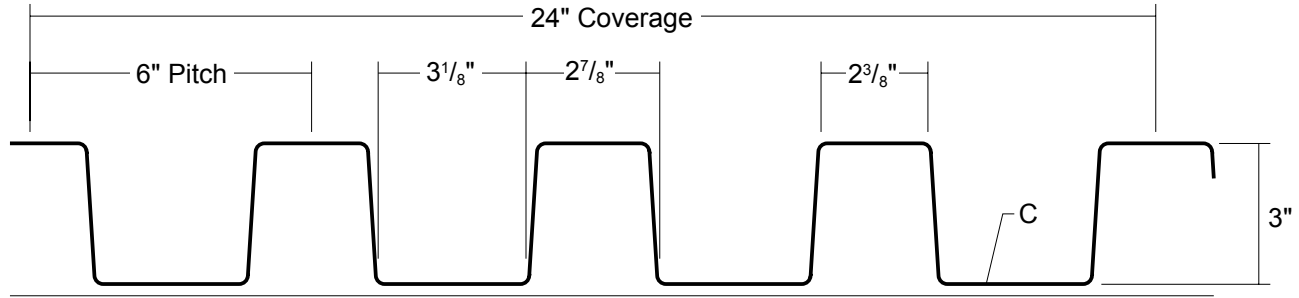
**WALL PANEL PROFILE**



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 <sup>4</sup> /ft	Sxx in <sup>3</sup> /ft	Ixx in <sup>4</sup> /ft	Sxx in <sup>3</sup> /ft	5'	6'	7'	8'	10'	12'	5'	6'	7'	8'	10'	12'
24	24	50	1.58	0.4140	0.2306	0.5008	0.2470	198	143	108	84	55	39	188	135	102	79	52	36
22	24	50	2.08	0.5972	0.3512	0.7459	0.3936	339	241	180	139	90	63	307	217	162	125	81	56
20	24	33	2.54	0.8118	0.5043	1.0079	0.5568	328	231	171	132	85	59	300	210	156	120	77	54
18	24	33	3.34	1.1524	0.7506	1.3998	0.7942	467	329	244	188	121	84	443	312	231	178	114	80

- Theoretical section properties have been calculated per AISI 2012 "Specifications 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 2012 specifications considering bending, shear, combined bending and shear and deflection. Allowable load considers the 3 or more equal span condition. Allowable load does not address web crippling, fasteners/support connection or load testing. Panel weight is not considered.
- Deflection consideration is limited by a maximum deflection ratio of L/180 of span.
- Allowable loads do not include a 1/3 stress increase in uplift.

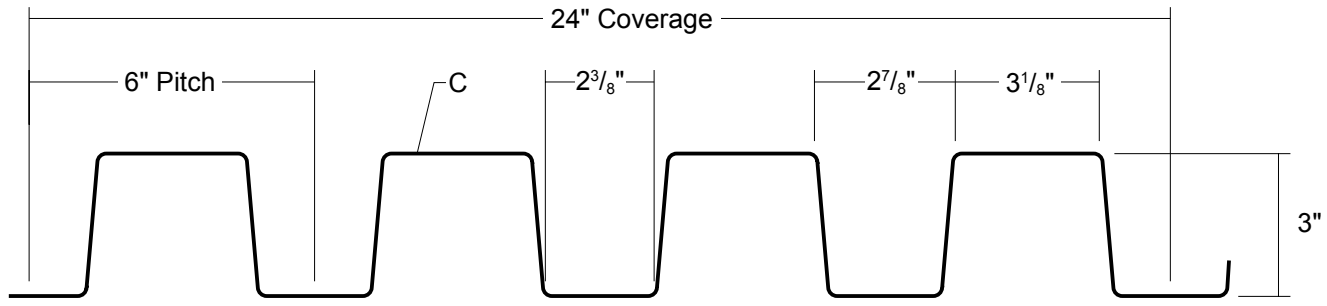
**ROOF PANEL PROFILE**



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 Load					
				Ixx in <sup>4</sup> /ft	Sxx in <sup>3</sup> /ft	Ixx in <sup>4</sup> /ft	Sxx in <sup>3</sup> /ft	5'	6'	7'	8'	10'	12'	5'	6'	7'	8'	10'	12'
24	24	50	1.78	0.5785	0.3264	0.5389	0.3037	248	179	134	105	68	48	261	189	143	112	73	51
22	24	50	2.33	0.8225	0.4869	0.7700	0.4558	400	283	210	162	105	73	423	300	223	173	112	78
20	24	33	2.85	1.0945	0.6781	1.0340	0.6426	383	269	199	153	98	68	403	283	209	161	104	72
18	24	33	3.75	1.5137	0.9673	1.4482	0.9355	555	390	289	222	143	99	573	403	298	229	148	103

- Theoretical section properties have been calculated per AISI 2012 "Specifications 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 2012 specifications considering bending, shear, combined bending and shear and deflection. Allowable load considers the 3 or more equal span condition. Allowable load does not address web crippling, fasteners/support connection or load testing. Panel weight is not considered.
- Deflection consideration is limited by a maximum deflection ratio of L/180 of span.
- Allowable loads do not include a 1/3 stress increase in uplift.

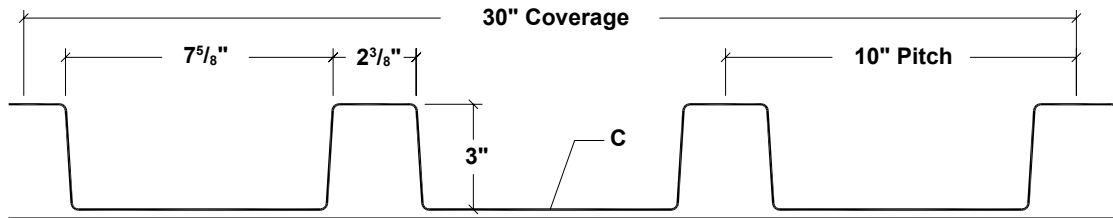
**WALL PANEL PROFILE**



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 <sup>4</sup> /ft	Sxx in <sup>3</sup> /ft	Ixx in <sup>4</sup> /ft	Sxx in <sup>3</sup> /ft	5'	6'	7'	8'	10'	12'	5'	6'	7'	8'	10'	12'
24	24	50	1.78	0.5389	0.3037	0.5785	0.3264	261	189	143	112	73	51	248	179	134	105	68	48
22	24	50	2.33	0.7700	0.4558	0.8225	0.4869	423	300	223	173	112	78	400	283	210	162	105	73
20	24	33	2.85	1.0340	0.6426	1.0945	0.6781	403	283	209	161	104	72	383	269	199	153	98	68
18	24	33	3.75	1.4482	0.9355	1.5137	0.9673	573	403	298	229	148	103	555	390	289	222	143	99

- Theoretical section properties have been calculated per AISI 2012 "Specifications 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 2012 specifications considering bending, shear, combined bending and shear and deflection. Allowable load considers the 3 or more equal span condition. Allowable load does not address web crippling, fasteners/support connection or load testing. Panel weight is not considered.
- Deflection consideration is limited by a maximum deflection ratio of L/180 of span.
- Allowable loads do not include a 1/3 stress increase in uplift.

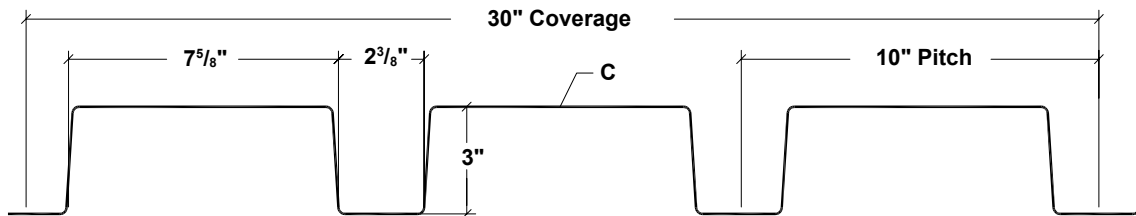
**ROOF PANEL PROFILE**



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 Load						Outward Load					
				Ixx in <sup>4</sup> /ft	Sxx in <sup>3</sup> /ft	Ixx in <sup>4</sup> /ft	Sxx in <sup>3</sup> /ft	5'	6'	7'	8'	10'	12'	5'	6'	7'	8'	10'	12'
24	30	50	1.45	0.4324	0.1961	0.3327	0.1857	151	109	82	64	42	29	157	114	86	67	44	31
22	30	50	1.90	0.6457	0.3092	0.4803	0.2831	247	175	130	101	65	45	267	190	141	109	71	49
20	30	33	2.32	0.9094	0.4627	0.6558	0.4095	243	171	126	97	63	44	272	192	142	109	70	49
18	30	33	3.06	1.2667	0.6598	0.9353	0.6146	362	255	189	145	94	65	386	273	202	156	100	70

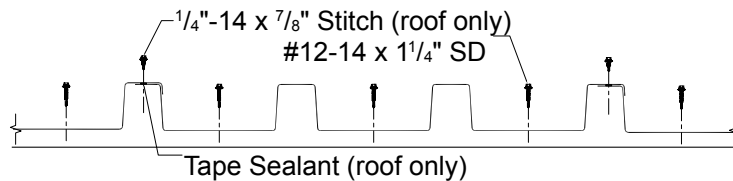
- Theoretical section properties have been calculated per AISI 2012 "Specifications for the Design of Cold-formed Steel Structural Members." Ixx and Sxx are effective section properties for deflection and bending.
- Allowable load is calculated in accordance with AISI 2012 specifications considering bending, shear, combined bending and shear and deflection. Allowable load considers the 3 or more equal span condition. Allowable load does not address web crippling, fasteners/support connection or load testing. Panel weight is not considered.
- Deflection consideration is limited by a maximum deflection ratio of L/180 of span.
- Allowable loads do not include a 1/3 stress increase in uplift.

**WALL PANEL PROFILE**

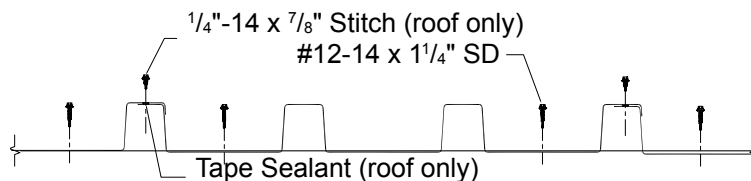


**FASTENING PATTERNS**

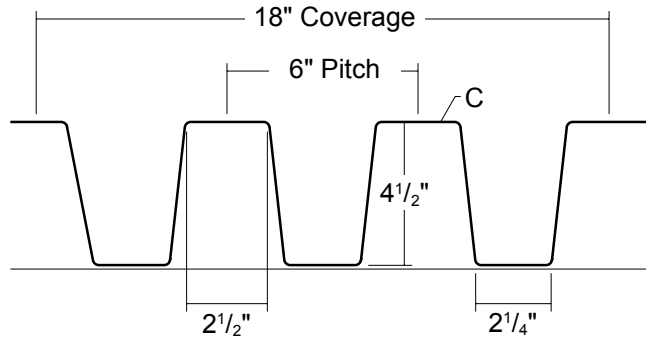
**Roof Fastening Pattern (Ends)**



**Roof Fastening Pattern (Field)**



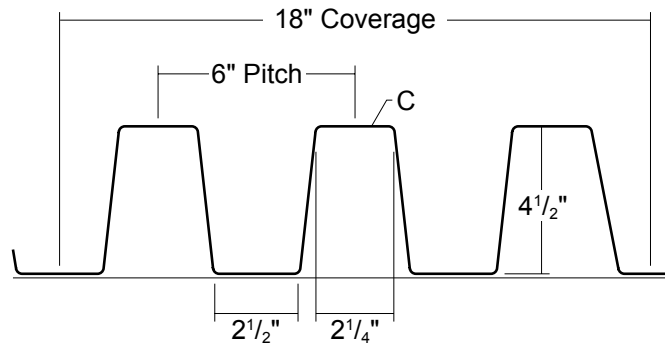
**ROOF PANEL PROFILE**



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 Load					
				Ixx in <sup>4</sup> /ft	Sxx in <sup>3</sup> /ft	Ixx in <sup>4</sup> /ft	Sxx in <sup>3</sup> /ft	6'	7'	8'	10'	12'	14'	6'	7'	8'	10'	12'	14'
24	18	50	2.20	1.3409	0.5100	1.3139	0.4552	195	155	126	88	64	49	204	164	134	95	70	53
22	18	50	2.89	2.0092	0.8362	1.9716	0.7372	371	288	230	155	111	83	399	313	251	171	123	93
20	18	33	3.53	2.7073	1.1949	2.7904	1.1373	445	334	260	169	119	88	463	349	271	177	125	92
18	18	33	4.65	3.7457	1.6221	3.8464	1.6062	600	487	376	243	170	125	600	491	379	245	171	126

1. Theoretical section properties have been calculated per AISI 2012 "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 2012 specifications considering bending, shear, combined bending and shear and deflection. Allowable load considers the 3 or more equal span condition. Allowable load does not address web crippling, fasteners/support connection or load testing. 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.

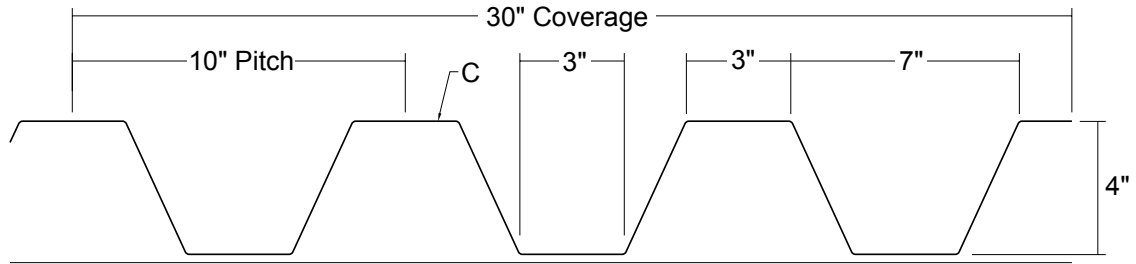
**WALL PANEL PROFILE**



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 <sup>4</sup> /ft	Sxx in <sup>3</sup> /ft	Ixx in <sup>4</sup> /ft	Sxx in <sup>3</sup> /ft	6'	7'	8'	10'	12'	14'	6'	7'	8'	10'	12'	14'
24	18	50	2.20	1.3139	0.4552	1.3409	0.5100	204	164	134	95	70	53	195	155	126	88	64	49
22	18	50	2.89	1.9716	0.7372	2.0092	0.8362	399	313	251	171	123	93	371	288	230	155	111	83
20	18	33	3.53	2.7904	1.1373	2.7073	1.1949	463	349	271	177	125	92	445	334	260	169	119	88
18	18	33	4.65	3.8464	1.6062	3.7457	1.6221	600	491	379	245	171	126	600	487	376	243	170	125

1. Theoretical section properties have been calculated per AISI 2012 "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 2012 specifications considering bending, shear, combined bending and shear and deflection. Allowable load considers the 3 or more equal span condition. Allowable load does not address web crippling, fasteners/support connection or load testing. 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.

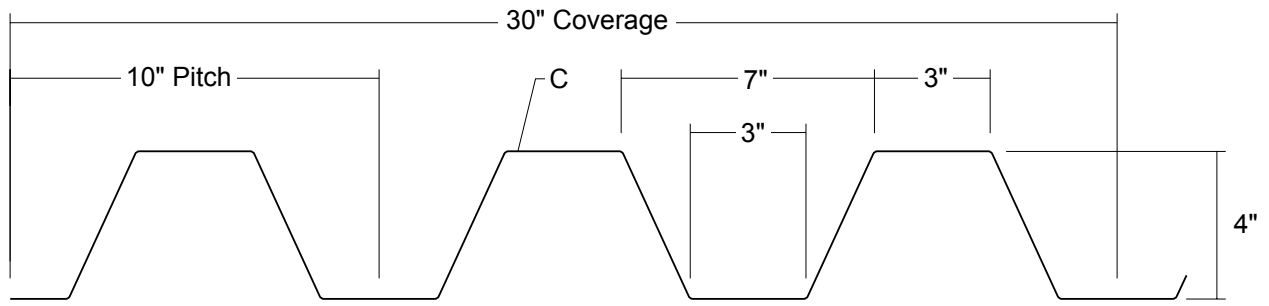
**ROOF PANEL PROFILE**



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 Load					
				Ixx in <sup>4</sup> /ft	Sxx in <sup>3</sup> /ft	Ixx in <sup>4</sup> /ft	Sxx in <sup>3</sup> /ft	6'	7'	8'	10'	12'	14'	6'	7'	8'	10'	12'	14'
24	30	50	1.42	0.6535	0.2635	0.6339	0.2344	103	82	66	46	33	25	109	87	71	50	37	28
22	30	50	1.87	0.9859	0.4324	0.9640	0.3835	196	152	121	81	58	43	211	185	132	89	64	48
20	30	33	2.29	1.3828	0.6586	1.4270	0.6318	246	185	144	94	66	49	254	192	149	98	69	51
18	30	33	3.02	1.9144	0.9357	1.9934	0.9067	368	274	212	137	90	71	379	282	218	141	99	73

- Theoretical section properties have been calculated per AISI 2012 "Specifications 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 2012 specifications considering bending, shear, combined bending and shear and deflection. Allowable load considers the 3 or more equal span condition. Allowable load does not address web crippling, fasteners/support connection or load testing. Panel weight is not considered.
- Deflection consideration is limited by a maximum deflection ratio of L/180 of span.
- Allowable loads do not include a 1/3 stress increase in uplift.

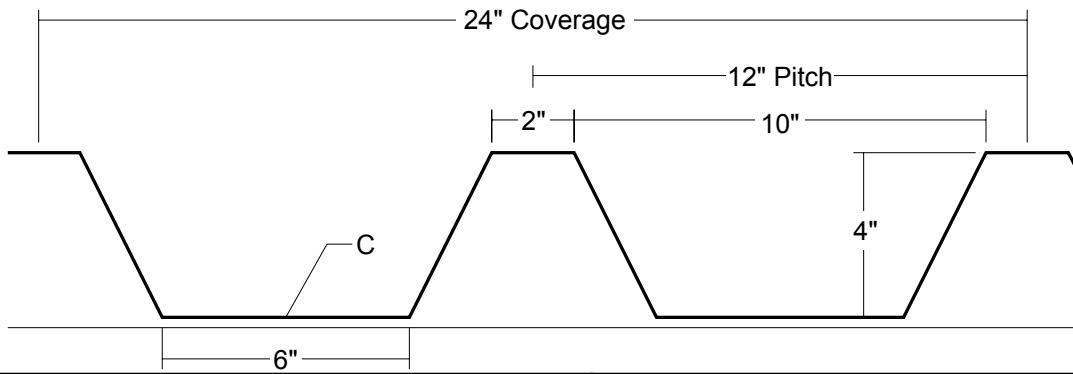
**WALL PANEL PROFILE**



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 <sup>4</sup> /ft	Sxx in <sup>3</sup> /ft	Ixx in <sup>4</sup> /ft	Sxx in <sup>3</sup> /ft	6'	7'	8'	10'	12'	14'	6'	7'	8'	10'	12'	14'
24	30	50	1.42	0.6339	0.2344	0.6535	0.2635	109	87	71	50	37	28	103	82	66	46	33	25
22	30	50	1.87	0.9640	0.3835	0.9859	0.4324	211	185	132	89	64	48	196	152	121	81	58	43
20	30	33	2.29	1.4270	0.6318	1.3828	0.6586	254	192	149	98	69	51	246	185	144	94	66	49
18	30	33	3.02	1.9934	0.9067	1.9144	0.9357	379	282	218	141	99	73	368	274	212	137	96	71

- Theoretical section properties have been calculated per AISI 2012 "Specifications 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 2012 specifications considering bending, shear, combined bending and shear and deflection. Allowable load considers the 3 or more equal span condition. Allowable load does not address web crippling, fasteners/support connection or load testing. Panel weight is not considered.
- Deflection consideration is limited by a maximum deflection ratio of L/180 of span.
- Allowable loads do not include a 1/3 stress increase in uplift.

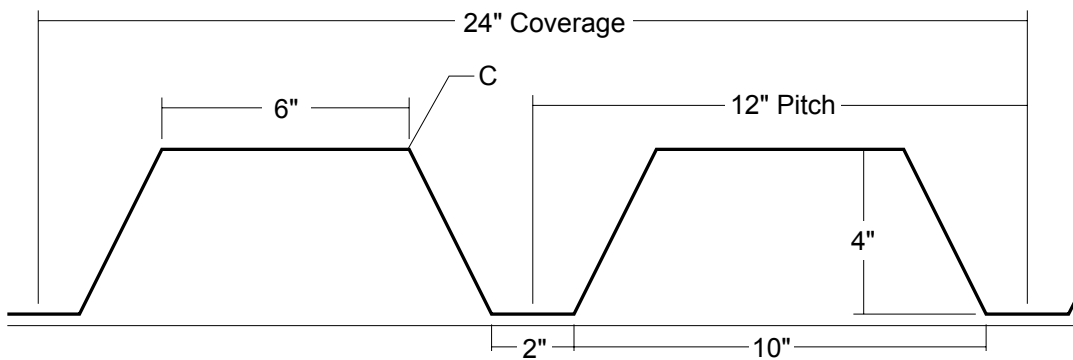
**ROOF PANEL PROFILE**



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 Load					
				Ixx in <sup>4</sup> /ft	Sxx in <sup>3</sup> /ft	Ixx in <sup>4</sup> /ft	Sxx in <sup>3</sup> /ft	6'	7'	8'	10'	12'	14'	6'	7'	8'	10'	12'	14'
24	24	50	1.36	0.6464	0.2242	0.5118	0.1991	87	69	56	39	28	21	92	74	60	42	31	24
22	24	50	1.79	0.9752	0.3590	0.7824	0.3308	168	130	104	70	50	37	176	137	110	74	53	40
20	24	33	2.19	1.4678	0.6027	1.1359	0.5301	206	155	121	79	55	41	229	173	135	89	62	46
18	24	33	2.89	2.0153	0.8419	1.6080	0.7792	316	235	186	118	82	61	338	253	195	127	89	65

- Theoretical section properties have been calculated per AISI 2012 "Specifications 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 2012 specifications considering bending, shear, combined bending and shear and deflection. Allowable load considers the 3 or more equal span condition. Allowable load does not address web crippling, fasteners/support connection or load testing. Panel weight is not considered.
- Deflection consideration is limited by a maximum deflection ratio of L/180 of span.
- 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 <sup>4</sup> /ft	Sxx in <sup>3</sup> /ft	Ixx in <sup>4</sup> /ft	Sxx in <sup>3</sup> /ft	6'	7'	8'	10'	12'	14'	6'	7'	8'	10'	12'	14'
24	24	50	1.36	0.5118	0.1991	0.6464	0.2242	92	74	60	42	31	24	87	69	56	39	28	21
22	24	50	1.79	0.7824	0.3308	0.9752	0.3590	176	137	110	74	53	40	168	130	104	70	50	37
20	24	33	2.19	1.1359	0.5301	1.4678	0.6027	229	173	135	89	62	46	206	155	121	79	55	41
18	24	33	2.89	1.6080	0.7792	2.0153	0.8419	338	253	195	127	89	65	316	235	182	118	82	61


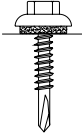
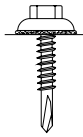
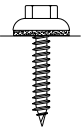
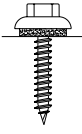
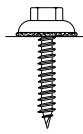
- Theoretical section properties have been calculated per AISI 2012 "Specifications for the Design of Cold-formed Steel Structural Members." Ixx and Sxx are effective section properties for deflection and bending.
- Allowable load is calculated in accordance with AISI 2012 specifications considering bending, shear, combined bending and shear and deflection. Allowable load considers the 3 or more equal span condition. Allowable load does not address web crippling, fasteners/support connection or load testing. Panel weight is not considered.
- Deflection consideration is limited by a maximum deflection ratio of L/180 of span.
- Allowable loads do not include a 1/3 stress increase in uplift.



**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.

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

**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.

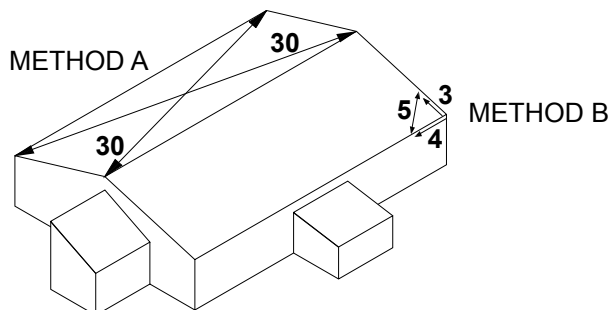
**CONDITION OF SUBSTRUCTURE**

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

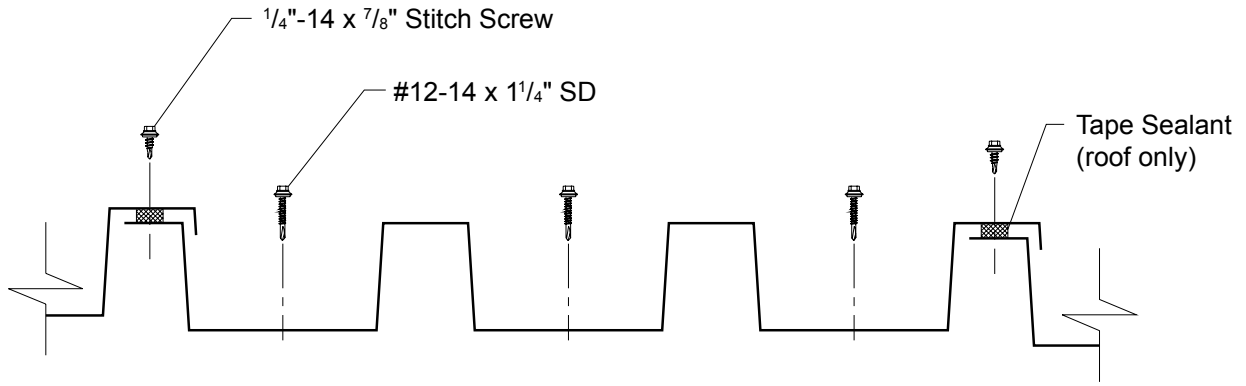
The installer should check the roof deck for squareness before installing Industrial Rib / Deep Rib panels. Several methods can be used to verify squareness of the structure for proper installation of the panels.

**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.

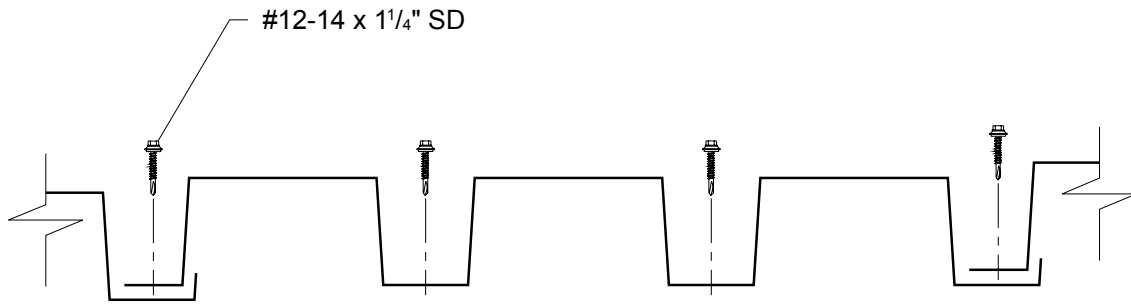
**METHOD "B"** - The 3-4-5 triangle system may also be used. To use this system measure a point from the corner along the edge of the roof at a module of three (3). Measure a point from the same corner along another edge at a module of four (4). Then by measuring diagonally between the two points established,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



**T13 FASTENING PATTERNS**

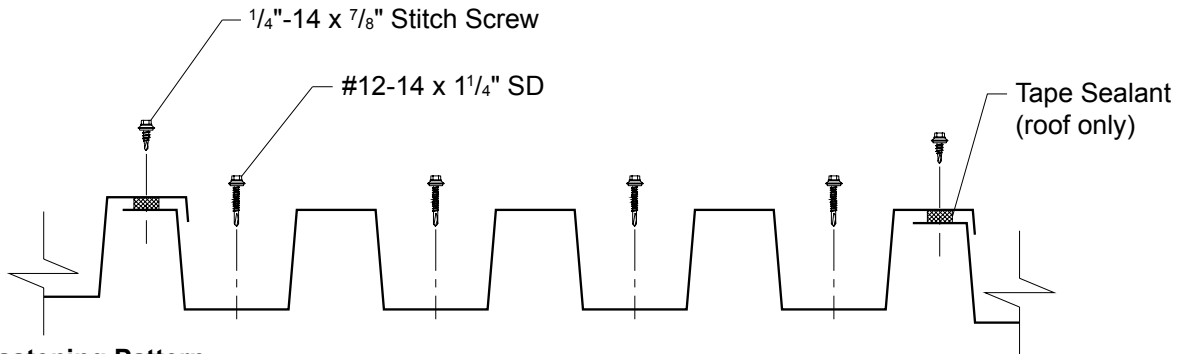


**Roof Panel Fastening Pattern**

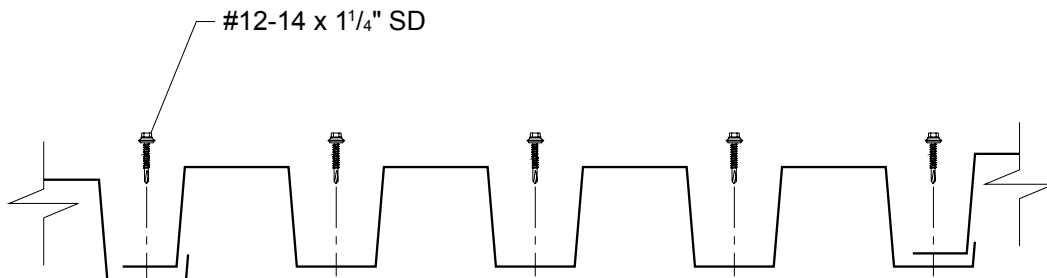


**Wall Panel Fastening Pattern**

**T13-A FASTENING PATTERNS**

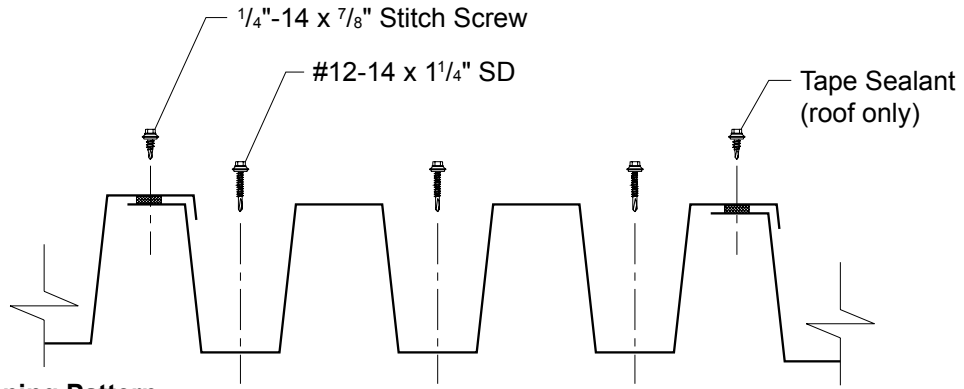


**Roof Panel Fastening Pattern**

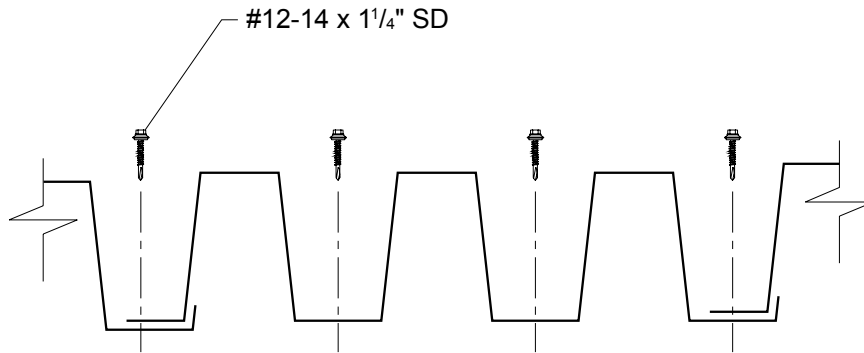


**Wall Panel Fastening Pattern**

TDR-6 FASTENING PATTERNS

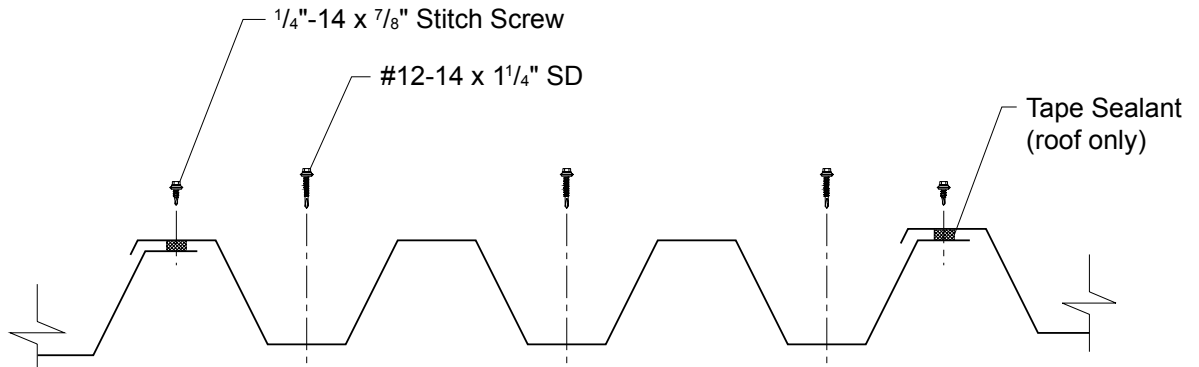


Roof Panel Fastening Pattern

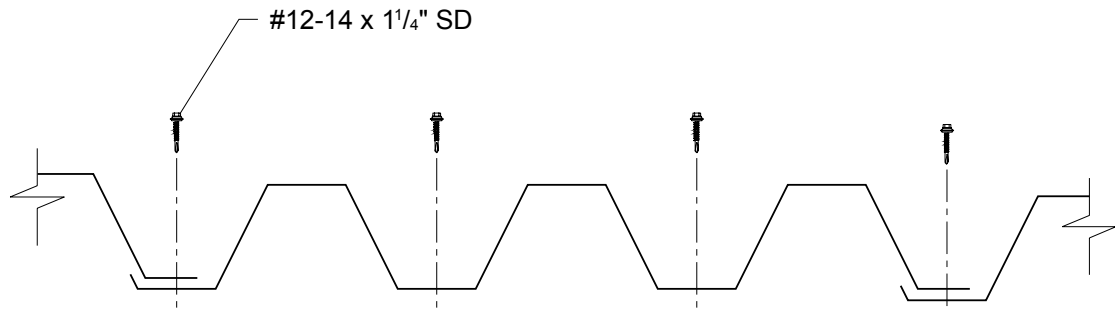


Wall Panel Fastening Pattern

T15 FASTENING PATTERNS

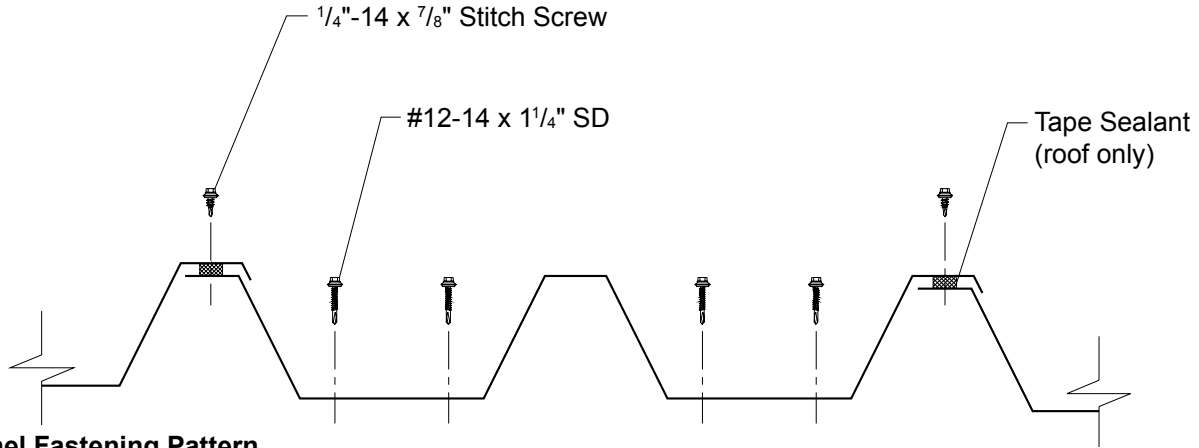


Roof Panel Fastening Pattern

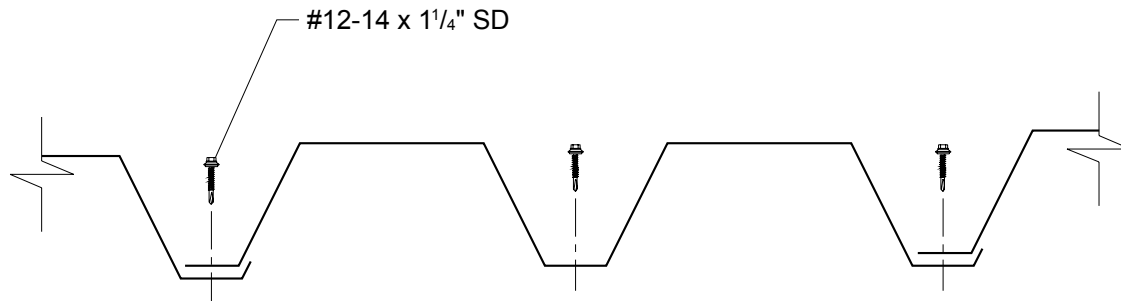


Wall Panel Fastening Pattern

T25 FASTENING PATTERNS

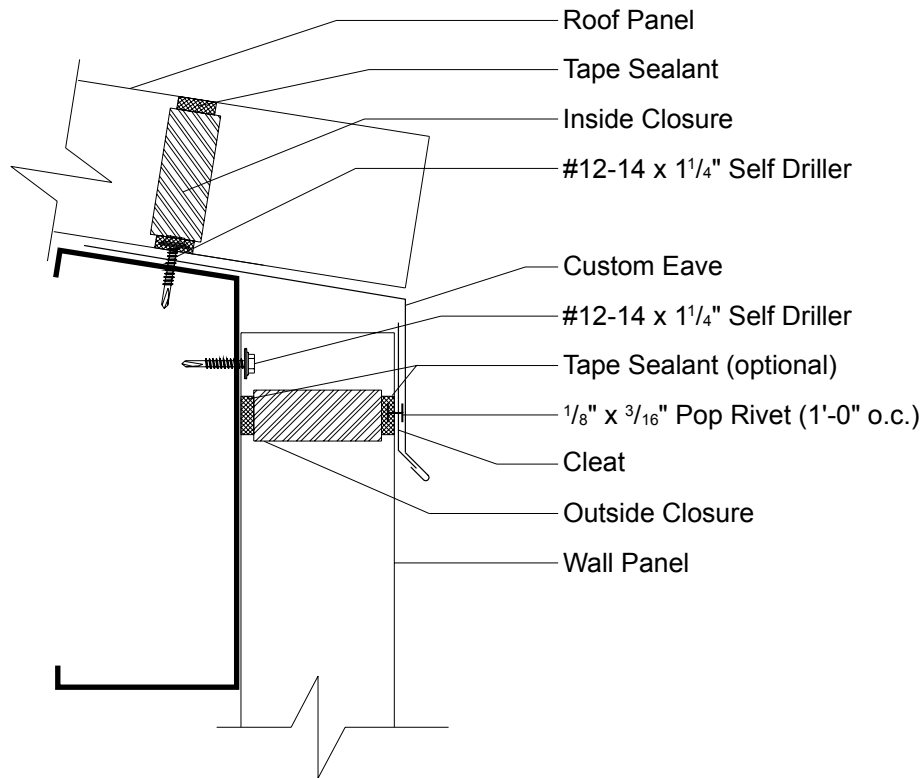


**Roof Panel Fastening Pattern**

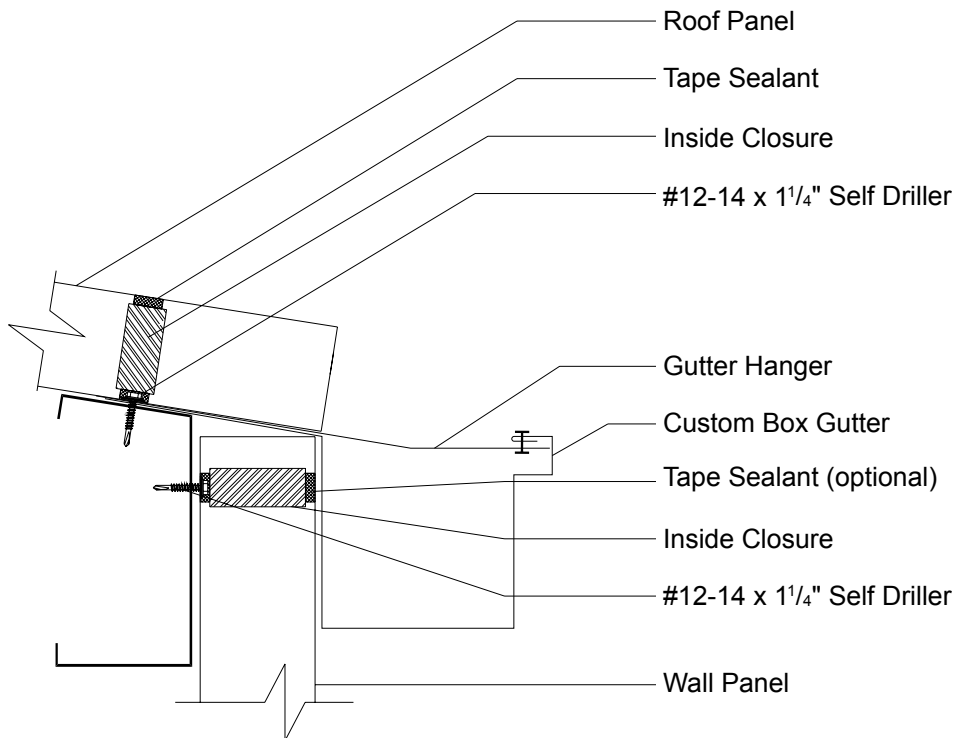


**Wall Panel Fastening Pattern**

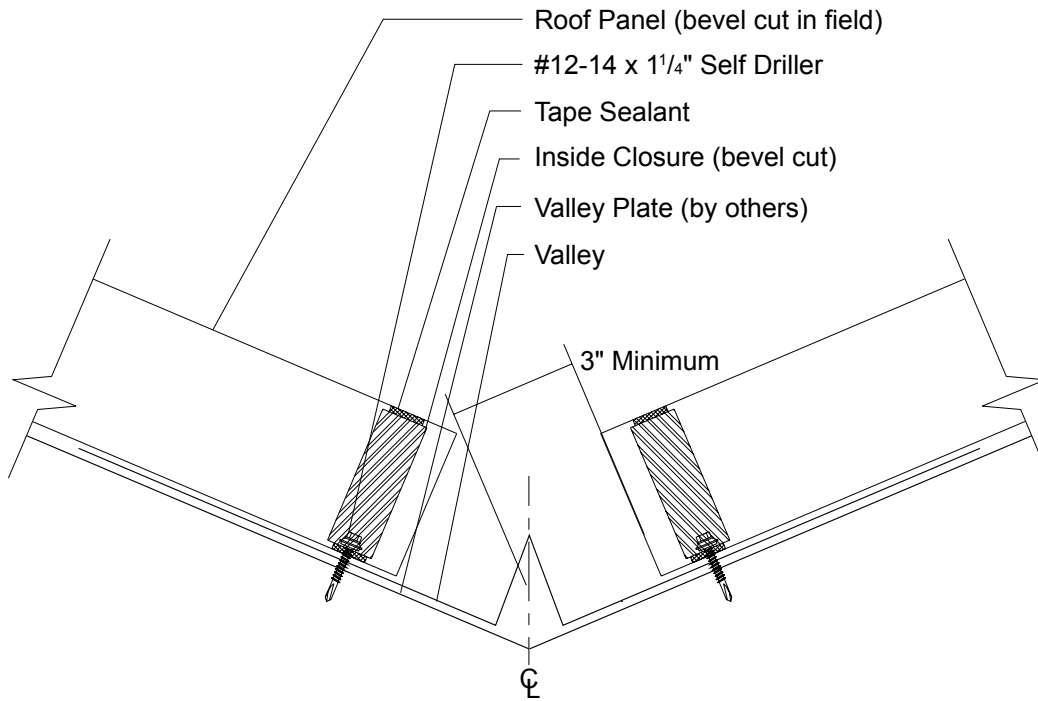
**INDUSTRIAL RIB / DEEP RIB SERIES EAVE DETAIL**



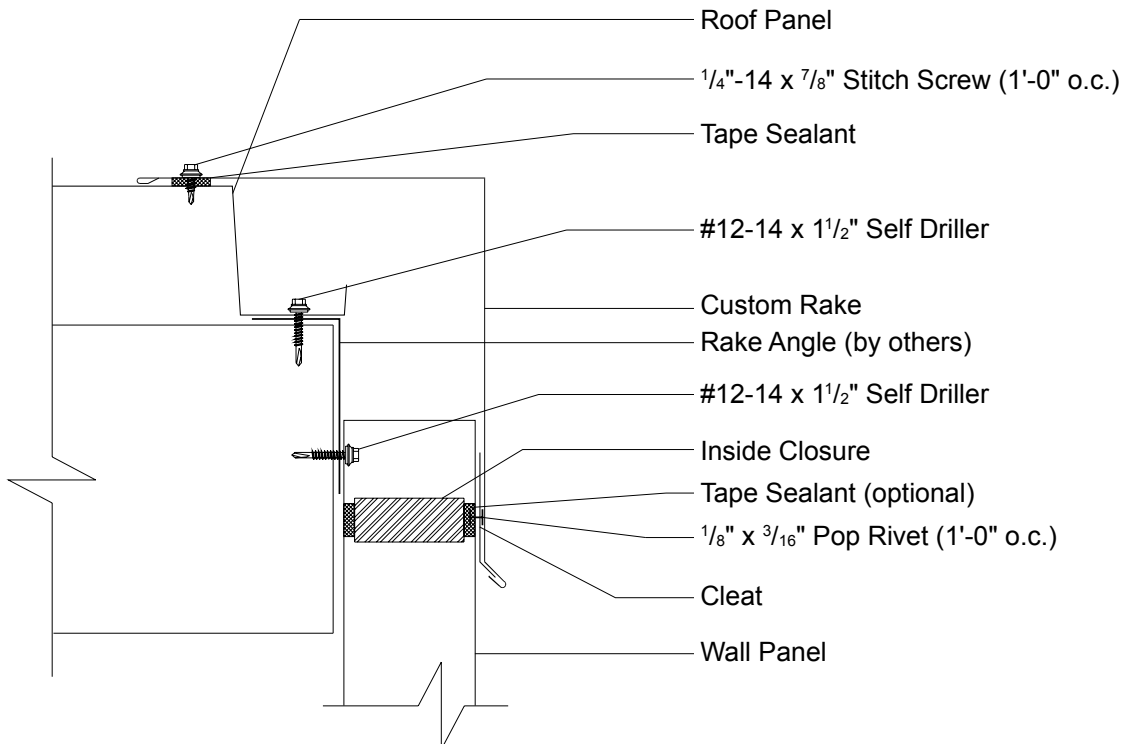
**INDUSTRIAL RIB / DEEP RIB SERIES BOX GUTTER DETAIL**



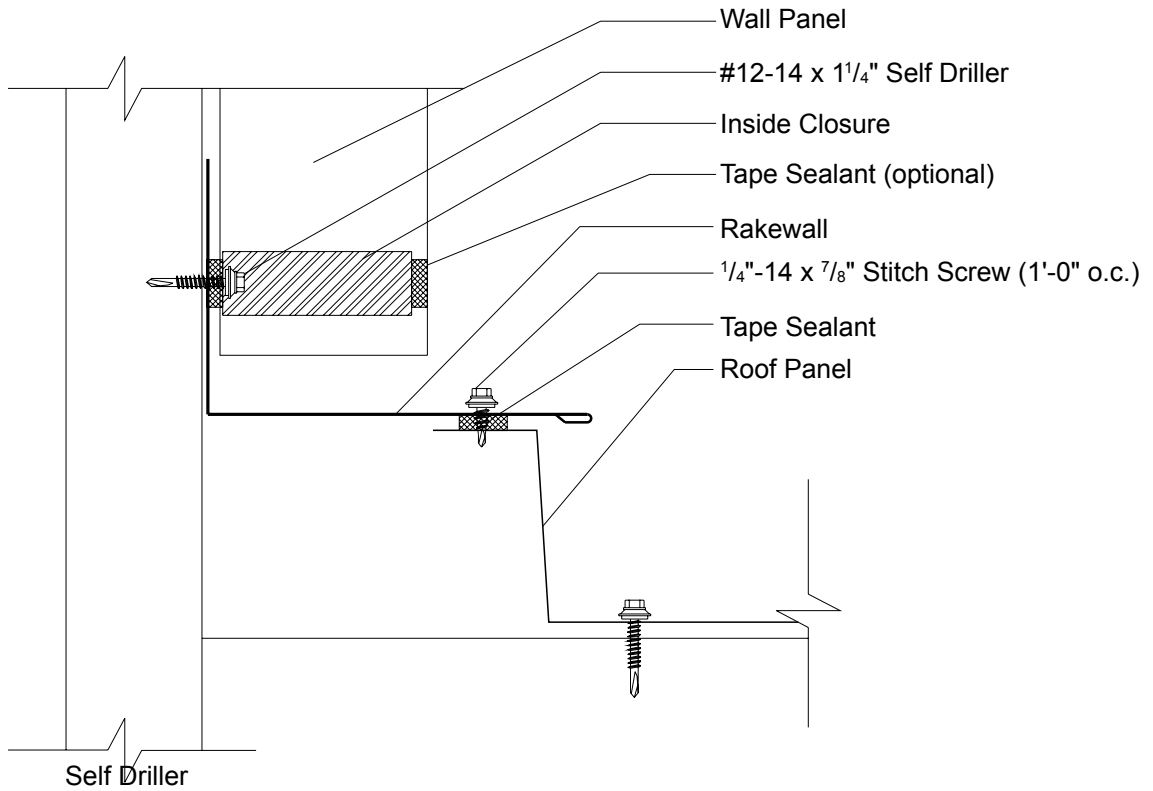
**INDUSTRIAL RIB / DEEP RIB SERIES VALLEY DETAIL**



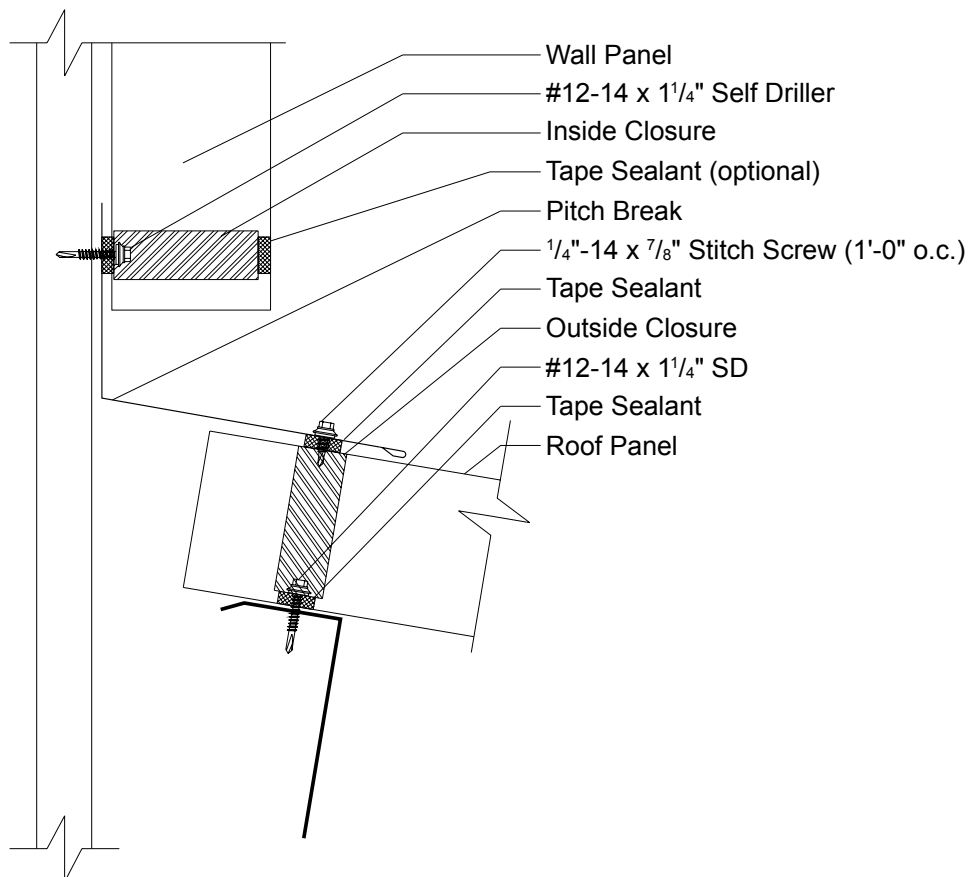
**INDUSTRIAL RIB / DEEP RIB SERIES RAKE DETAIL**



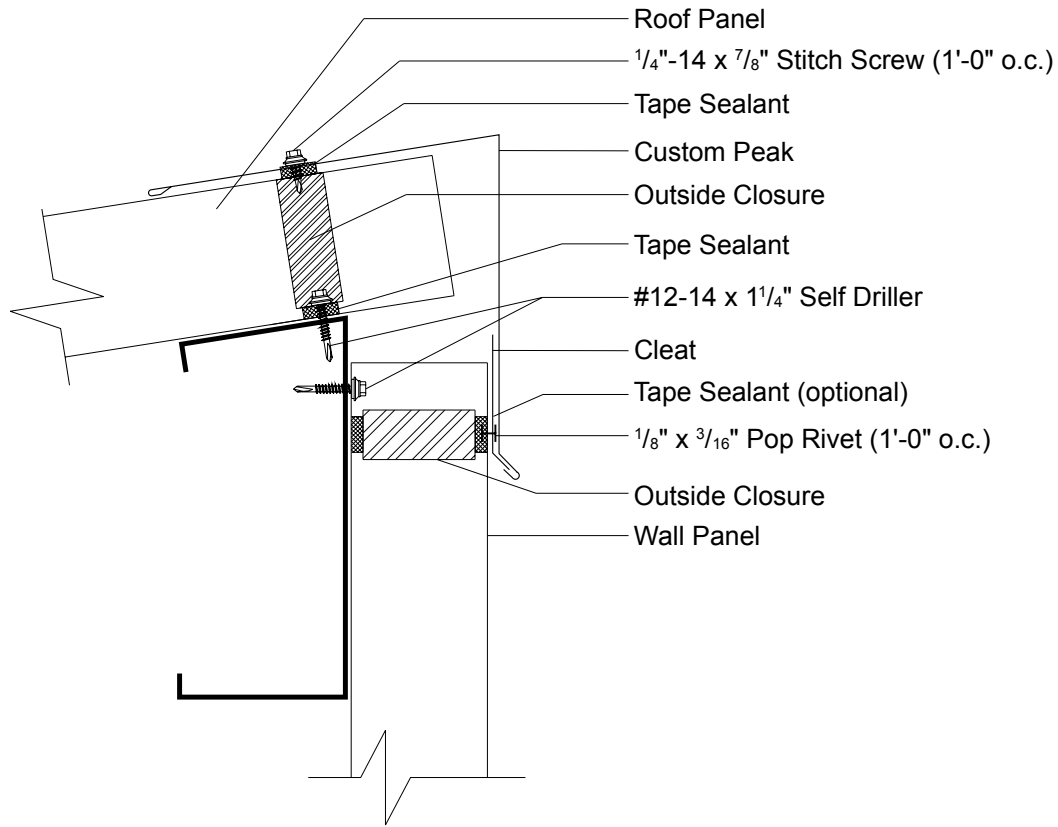
**INDUSTRIAL RIB / DEEP RIB SERIES RAKEWALL DETAIL**



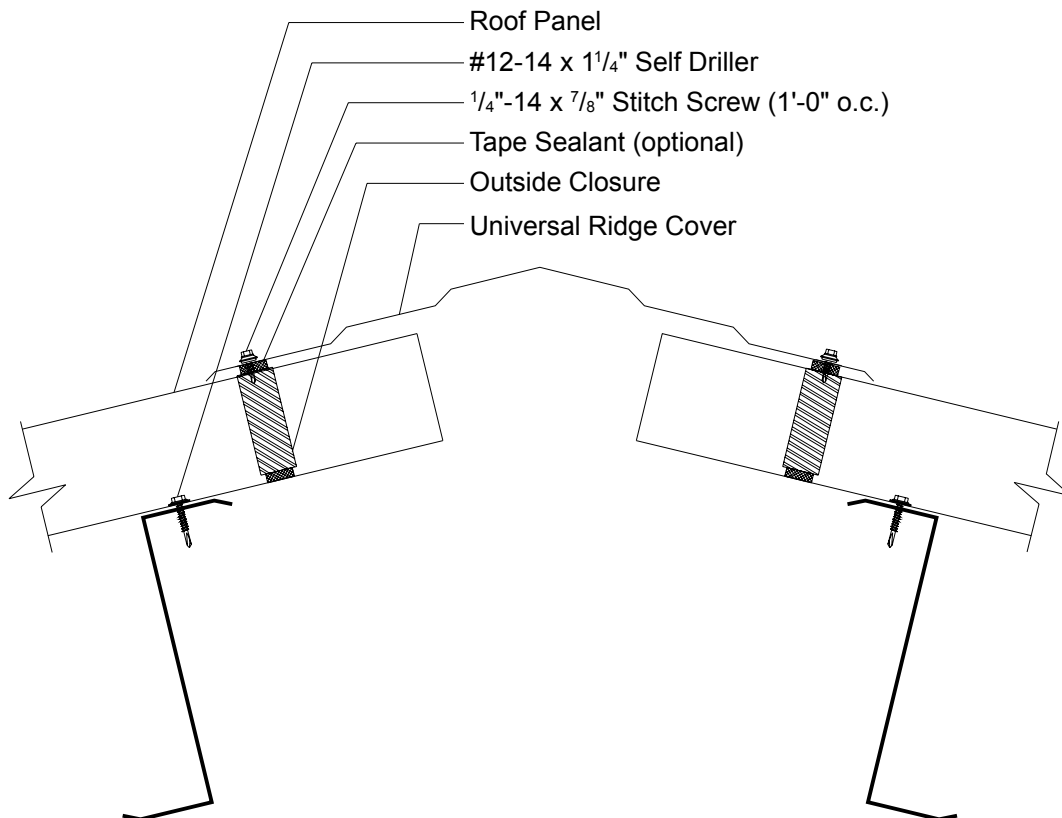
**INDUSTRIAL RIB / DEEP RIB SERIES ENDWALL DETAIL**



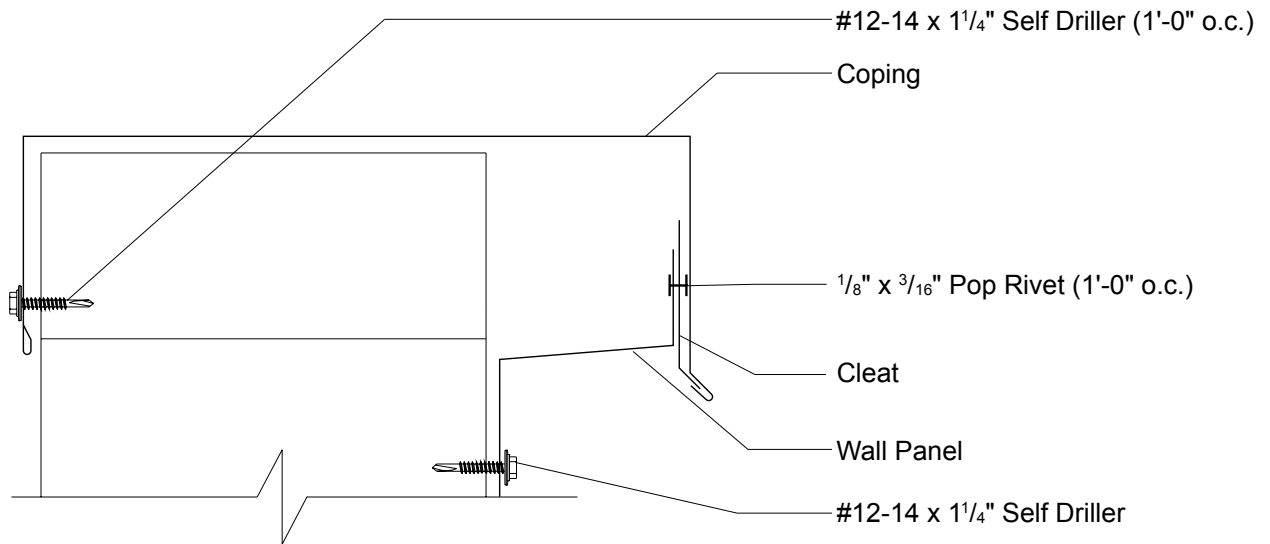
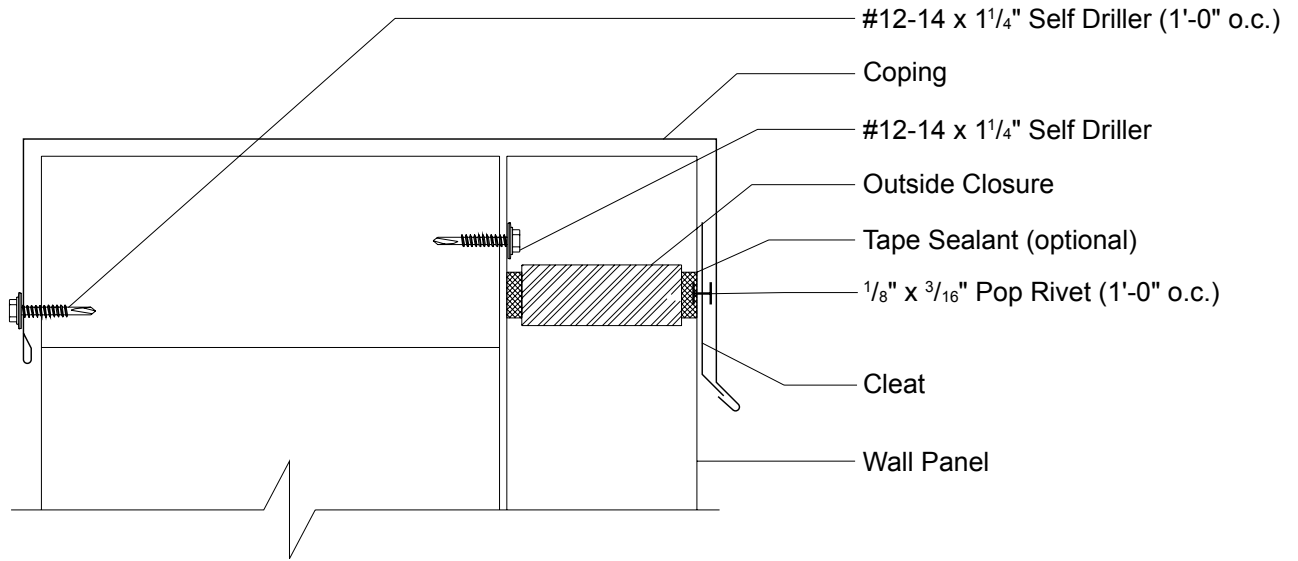
**INDUSTRIAL RIB / DEEP RIB SERIES PEAK DETAIL**

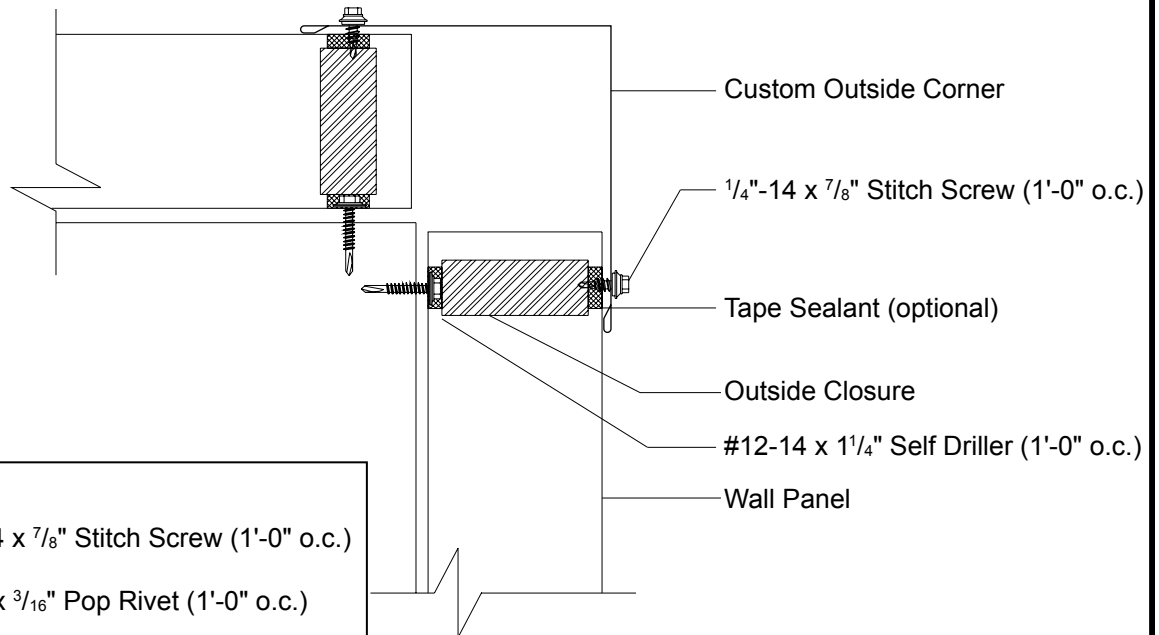
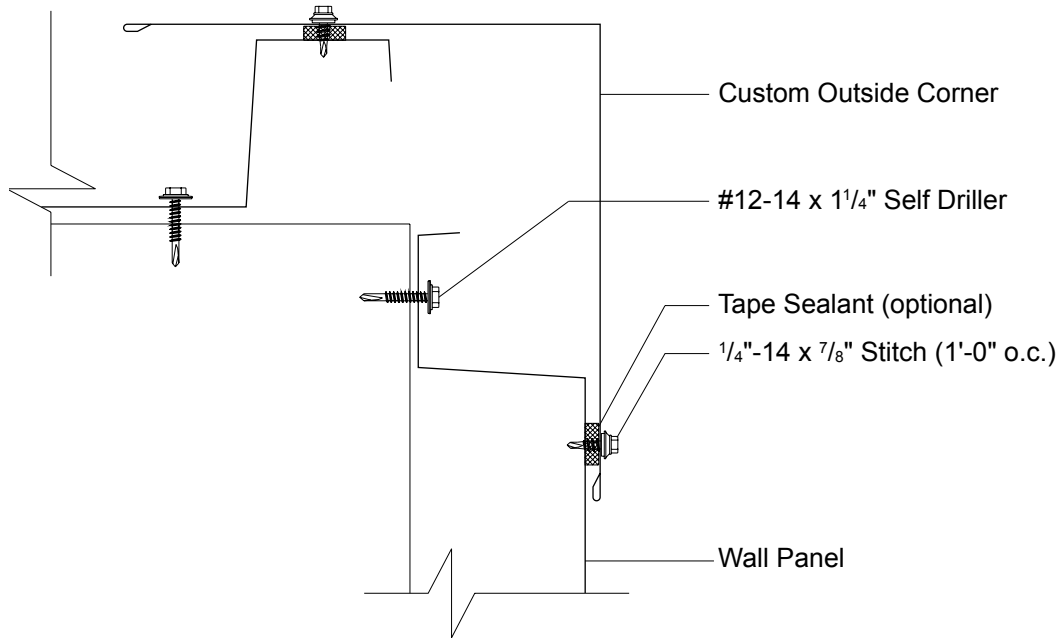


**INDUSTRIAL RIB / DEEP RIB SERIES UNIVERSAL RIDGE DETAIL**

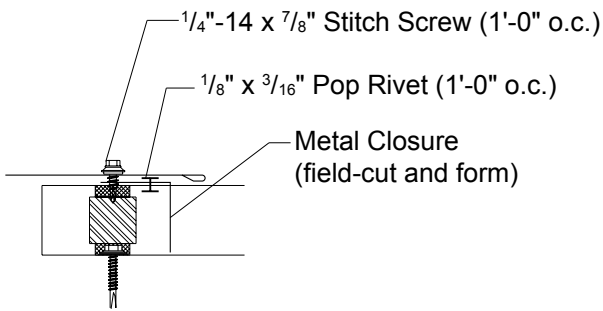


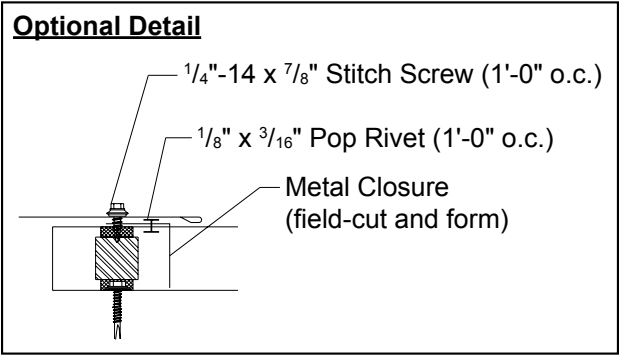
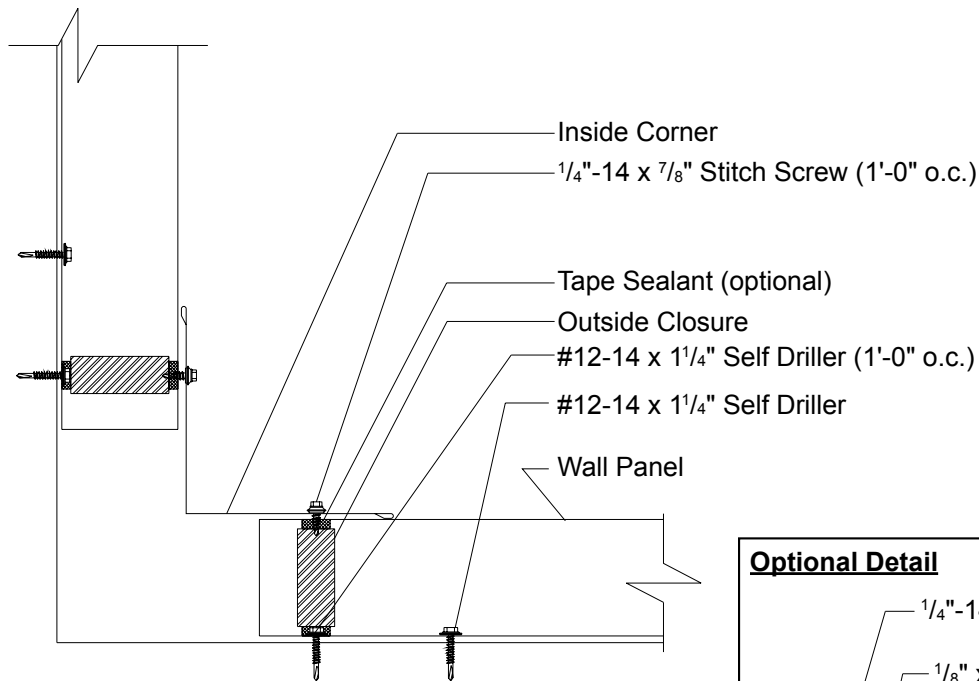
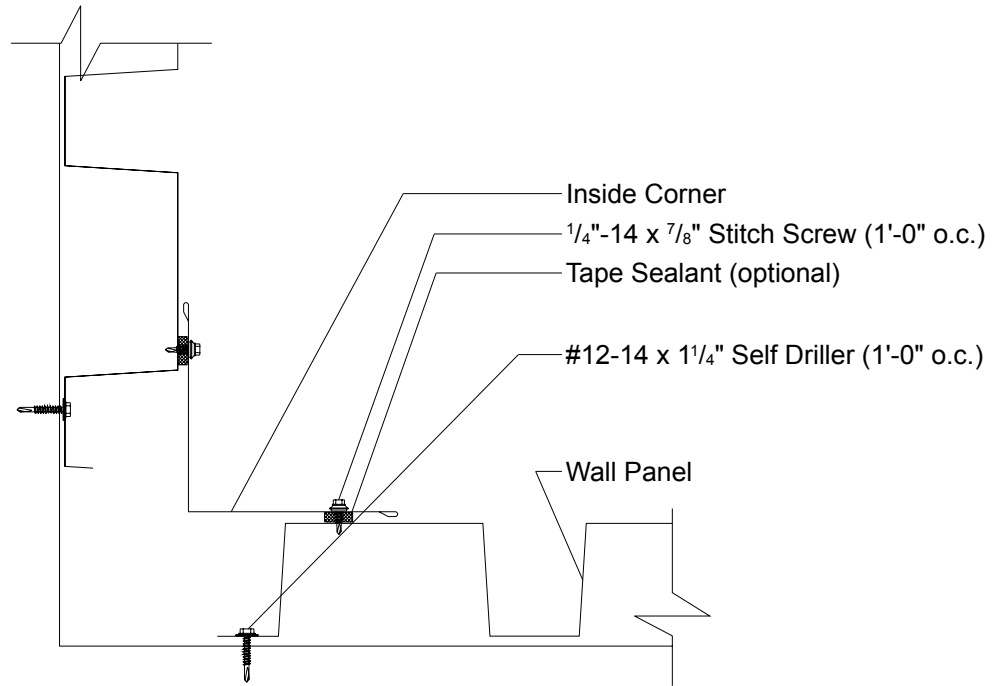


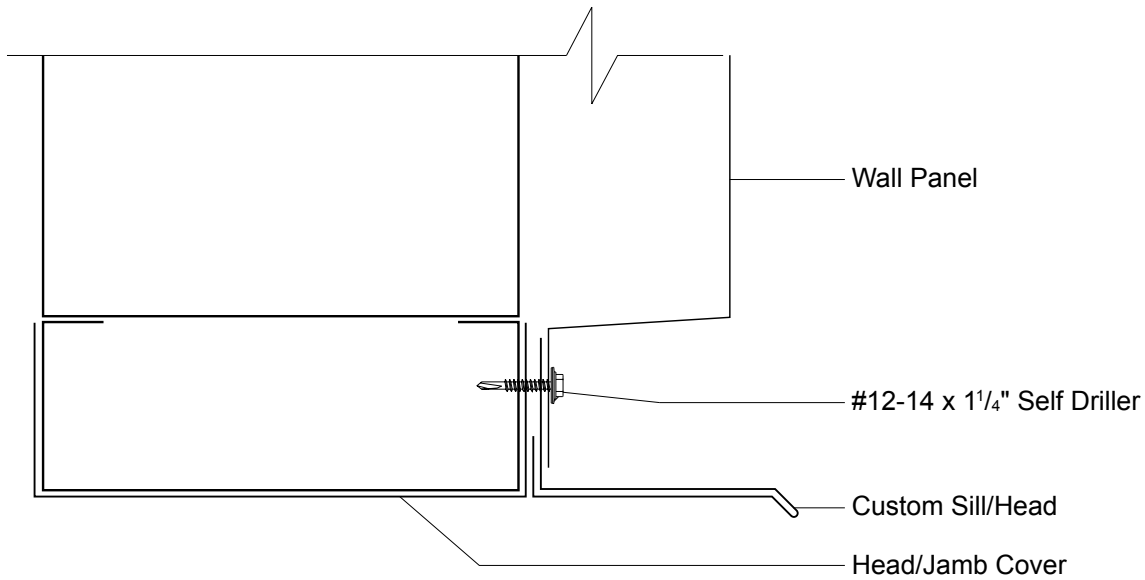
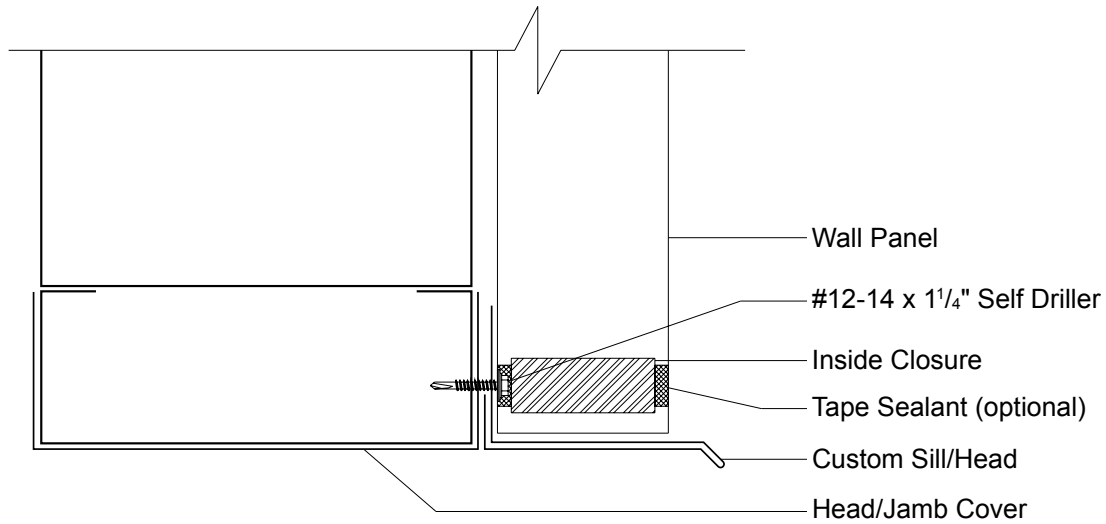


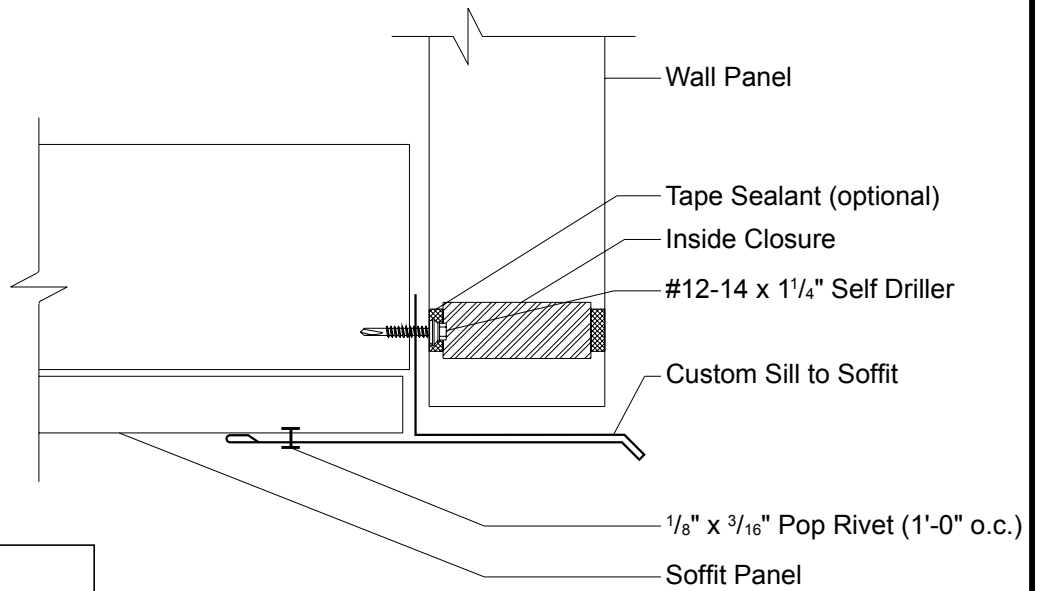


**Optional Detail**

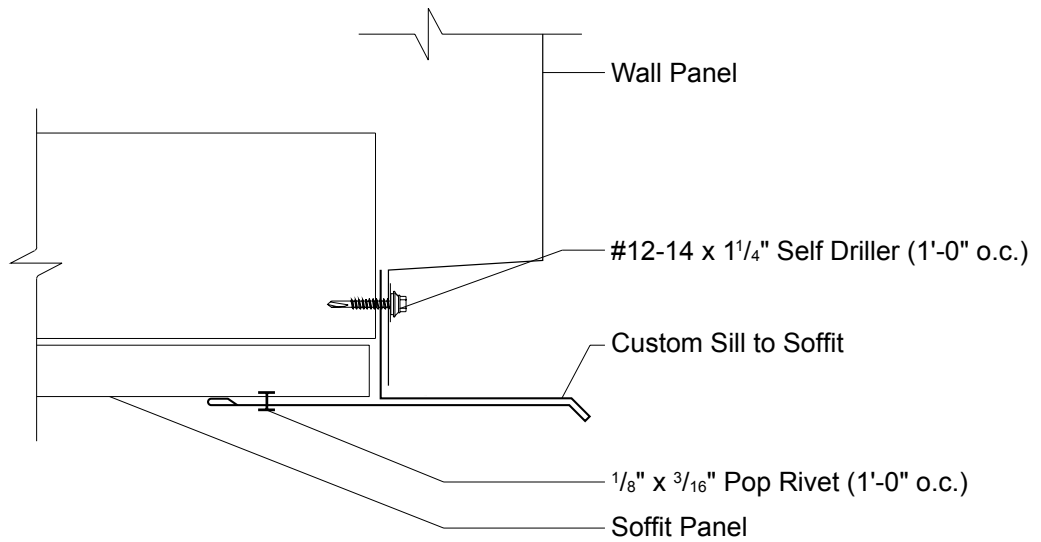
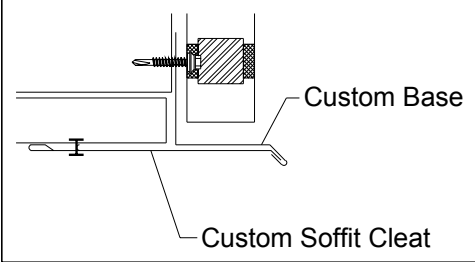




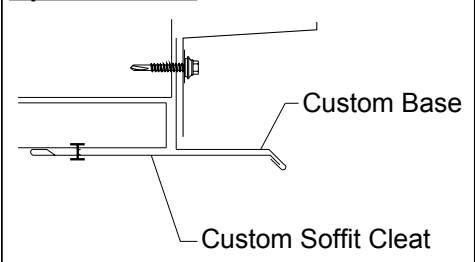


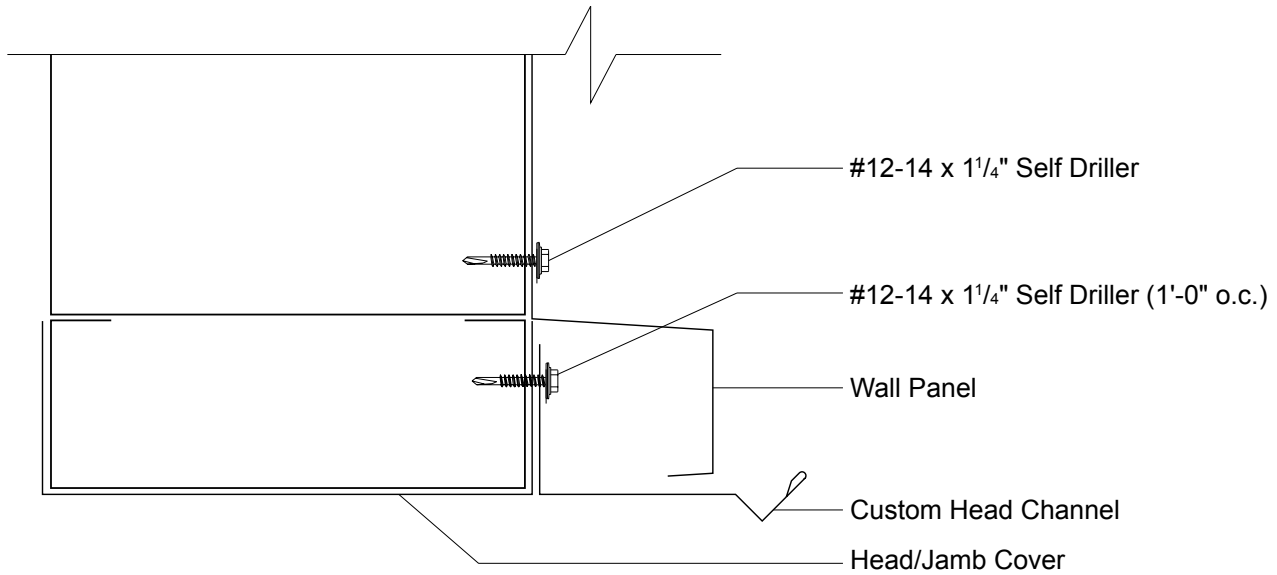
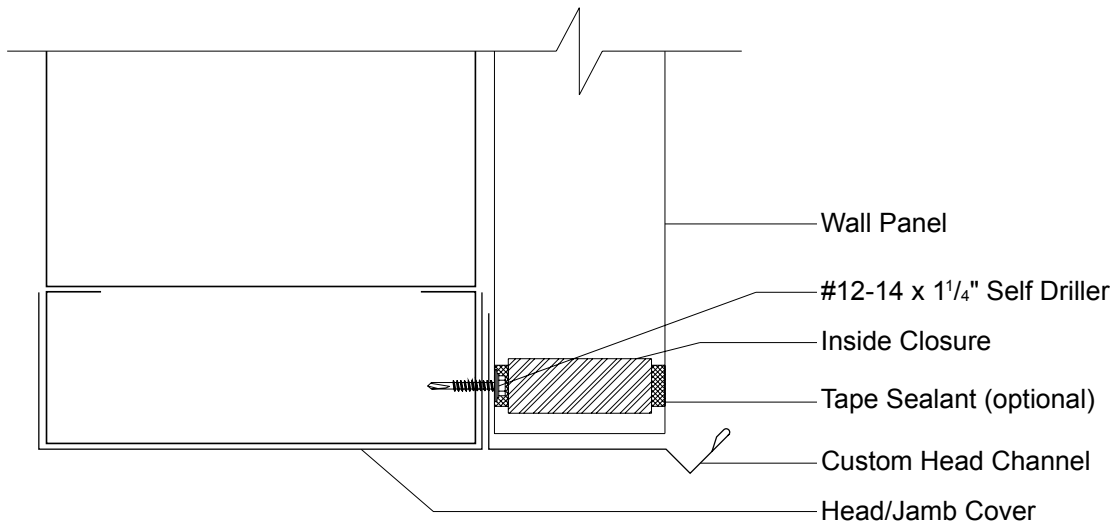


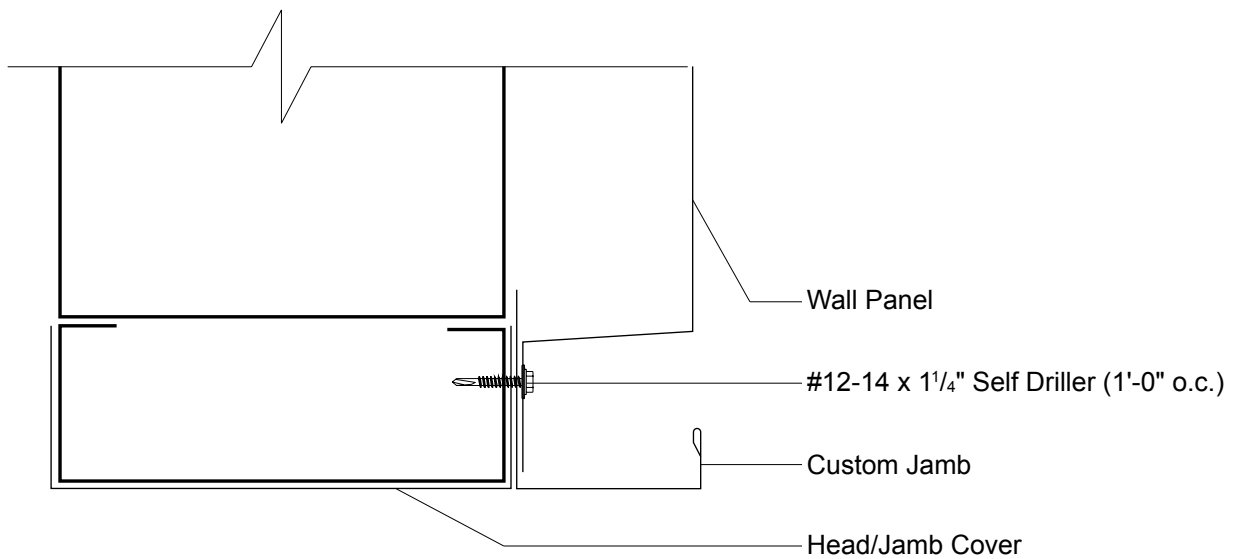
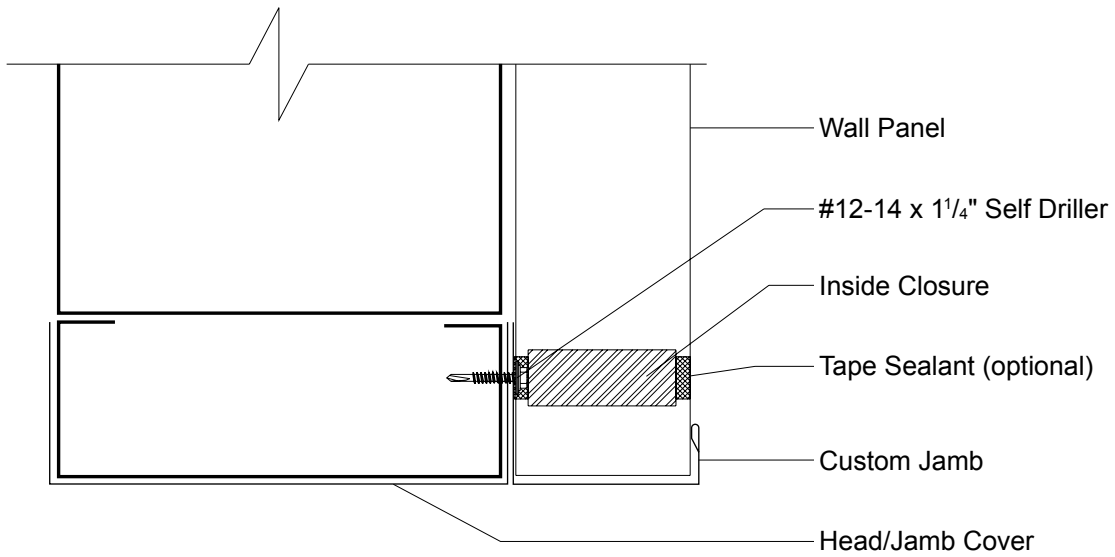
**Optional Detail**



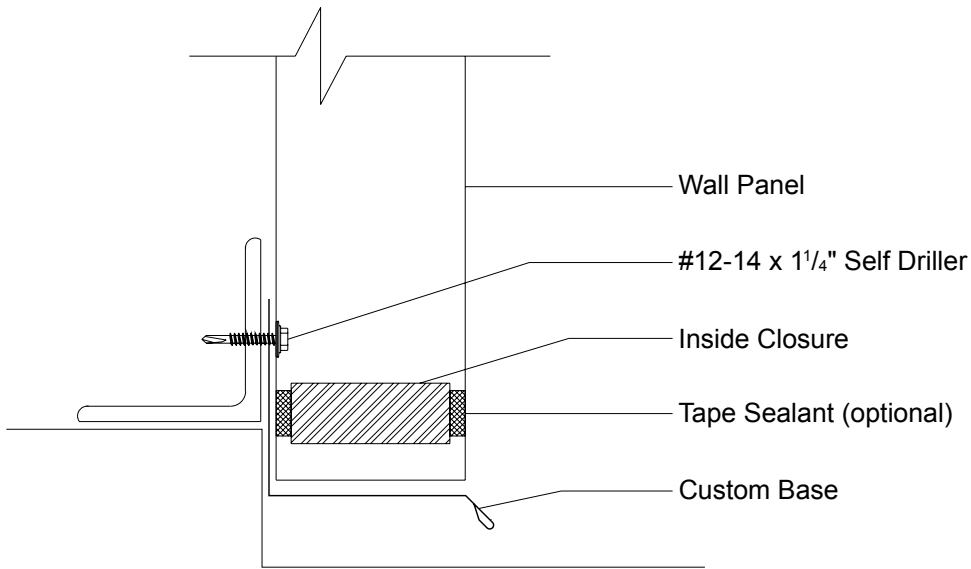
**Optional Detail**







**INDUSTRIAL RIB / DEEP RIB SERIES**    **BASE DETAIL (VERTICAL)**



**INDUSTRIAL RIB / DEEP RIB SERIES**    **BASE DETAIL (HORIZONTAL)**

