Metal Sales™

Installation Guide
POST FRAME

metalsales.us.com

The application and detail drawings in this manual are strictly for illustration purposes and may not be applicable to all building designs or product installations. All projects should conform to applicable building codes for that particular area. It is recommended to follow all building regulations and standard industry practices.

Metal Sales Manufacturing Corporation is not responsible for the performance of the roof system if it is not installed in accordance with the suggested instructions referenced in this installation manual or in the product overview. (See Product Manual or Product Technical Literature). If there is a conflict between this manual and the actual erection drawings, the erection drawings are to take precedence.

Prior to ordering and installing materials, all dimensions should be verified by field measurements.

Metal Sales reserves the right to modify, without notice, any details, recommendations or suggestions. Any questions you may have regarding proper installation of the roofing system should be directed to your Metal Sales representative, see pages 2 and 3.

Consult Metal Sales for any additional information not outlined in this manual.

This manual is designed to be utilized as a guide when installing Post Frame and Residential roofing systems.
It is the responsibility of the erector to ensure the safe installation of this product system.

SAFETY

STUDY APPLICABLE OSHA AND OTHER SAFETY REQUIREMENTS BEFORE FOLLOWING THESE INSTRUCTIONS.

The installation of metal wall systems is a dangerous procedure and should be supervised by trained knowledgeable erectors. USE EXTREME CARE WHILE INSTALLING WALL PANELS. It is not possible for Metal Sales to be aware of all the possible job site situations that could cause an unsafe condition to exist. The erector of the wall system is responsible for reading these instructions and determining the safest way to install the wall system.

These instructions are provided only as a guide to show a knowledgeable, trained erector the correct relationship of parts to one another. If following any of the installation steps would endanger a worker, the erector should stop work and decide upon a corrective action.

Provide required safety railing, netting, or safety lines for crew members working on the roof.

Do not use the roof panel as a walking platform. The roof panels will not withstand the weight of a person standing at the edge of the panel.

Do not stand on the roof panel until the panels have been attached. Fall protection for workers installing wall panels must be provided.

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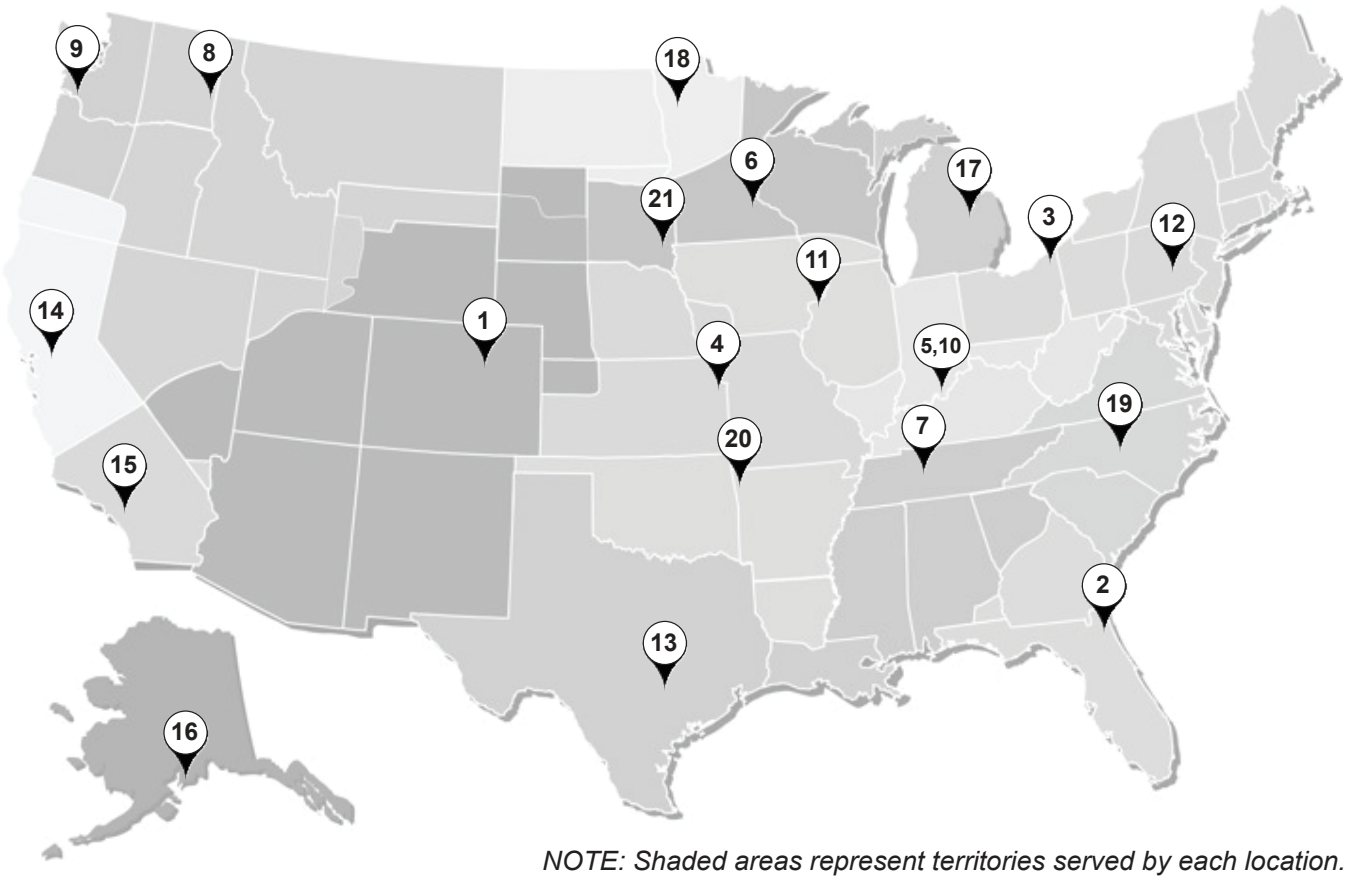


NOTE: Shaded areas represent territories served by each location.

POST FRAME BRANCH LOCATIONS

1. DENVER
7990 East I-25 Frontage Road
Longmont, CO 80504
303.702.5440
800.289.7663
800.289.1617 Fax

2. JACKSONVILLE
7110 Stuart Avenue
Jacksonville, FL 32254
904.783.3660
800.394.4419
904.783.9175 Fax
800.413.3292 Fax

3. JEFFERSON
352 East Erie Street
Jefferson, OH 44047
440.576.9070
800.321.5833
440.576.9242 Fax
800.233.5719 Fax

4. INDEPENDENCE
1306 South Powell Road
Independence, MO 64057
816.796.0900
800.747.0012
816.796.0906 Fax

5. SELLERSBURG
7800 Highway 60
Sellersburg, IN 47172
812.246.1866
800.999.7777
812.246.0893 Fax
800.477.9318 Fax

6. ROGERS
22651 Industrial Boulevard
Rogers, MN 55374
763.428.8080
800.328.9316
763.428.8525 Fax
800.938.9119 Fax

7. NASHVILLE
4314 Hurricane Creek Boulevard
Antioch, TN 37013
615.641.7100
800.251.8508
615.641.7118 Fax
800.419.4372 Fax

8. SPOKANE
2727 East Trent Avenue
Spokane, WA 99202
509.536.6000
800.572.6565
509.534.4427 Fax

9. KELSO
2680 Coweeman Park Drive
Kelso, WA 98626
253.872.5750
800.431.3470
253.872.2008 Fax

10. NEW ALBANY
999 Park Place
New Albany, IN 47150
812.944.2733
812.944.1418 Fax

11. ROCK ISLAND
8111 West 29th Street
Rock Island, IL 61201
309.787.1200
800.747.1206
309.787.1833 Fax

12. DEER LAKE
29 Pinedale Industrial Road
Orwigsburg, PA 17961
570.366.2020
800.544.2577
570.366.1648 Fax
800.544.2574 Fax

13. TEMPLE
3838 North General Bruce Drive
Temple, TX 76501
254.791.6650
800.543.4415
254.791.6655 Fax
800.543.4473 Fax

14. WOODLAND
1326 Paddock Place
Woodland, CA 95776
530.668.5690
800.759.6019
530.668.0901 Fax

15. FONTANA
14213 Whittram Avenue
Fontana, CA 92335
909.829.8618
800.782.7953
909.829.9083 Fax

16. ANCHORAGE
4637 Old Seward Highway
Anchorage, AK 99503
907.646.7663
866.640.7663
907.646.7664 Fax

17. BAY CITY
5209 Mackinaw Road
Bay City, MI 48706
989.686.5879
888.777.7640
989.686.5870 Fax
888.777.0112 Fax

18. DETROIT LAKES
1435 Egret Avenue
Detroit Lakes, MN 56501
218.847.2988
888.594.1394
218.847.4835 Fax
888.594.1454 Fax

19. MOCKSVILLE
188 Quality Drive
Mocksville, NC 27028
336.751.6381
800.228.6119
336.751.6301 Fax
800.228.7916 Fax

20. FORT SMITH
7510 Ball Road
Fort Smith, AR 72908
479.646.1176
877.452.3915
479.646.5204 Fax

21. SIOUX FALLS
2700 West 3rd Street, Suite 4
Sioux Falls, SD 57104
605.335.2745
888.299.0024

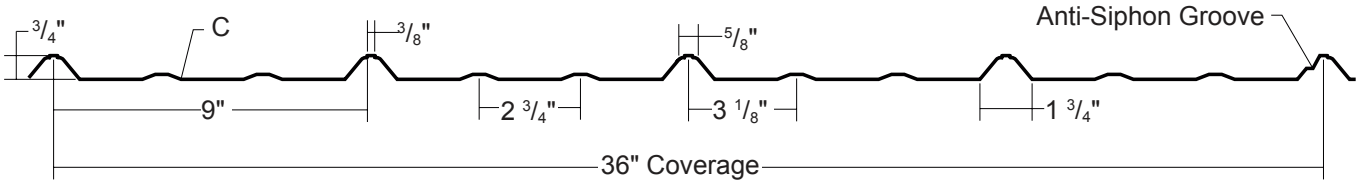
CORPORATE OFFICE

7800 Highway 60
Sellersburg, IN 47172
800.406.7387
800.944.6884 Fax

TECHNICAL SUPPORT

TECH SERVICES DEPT.
7800 Highway 60
Sellersburg, IN 47172
502.855.4300
800.406.7387
800.944.6884 Fax

POST FRAME TABLE OF CONTENTS



PANEL OVERVIEW

- **Finishes**: MS Colorfast45®, ColorFit40™, MS Crinkle Finish and Acrylic Coated Galvalume®
- **Corrosion Protection**: AZ55 per ASTM A 792 for unpainted Galvalume®
  AZ50 per ASTM A 792 for painted Galvalume®
  AZ35 per ASTM A 792 for painted Galvalume® (ColorFit40™ only)
  G60, G90 or G100 per ASTM A 653 for Galvanized
- **Gauges**: 29 ga and 26 ga standard; 24 ga optional
- **Panel Length**: Minimum: 5'-0"; Maximum: 45'-0" recommended
- **Profile**: 36" panel coverage, 3/4" rib height
- **Info**: Exposed fastened panel, low profile, bell-top trapezoidal rib on 9" centers
- **Minimum roof slope**: 3:12

TESTING AND APPROVALS

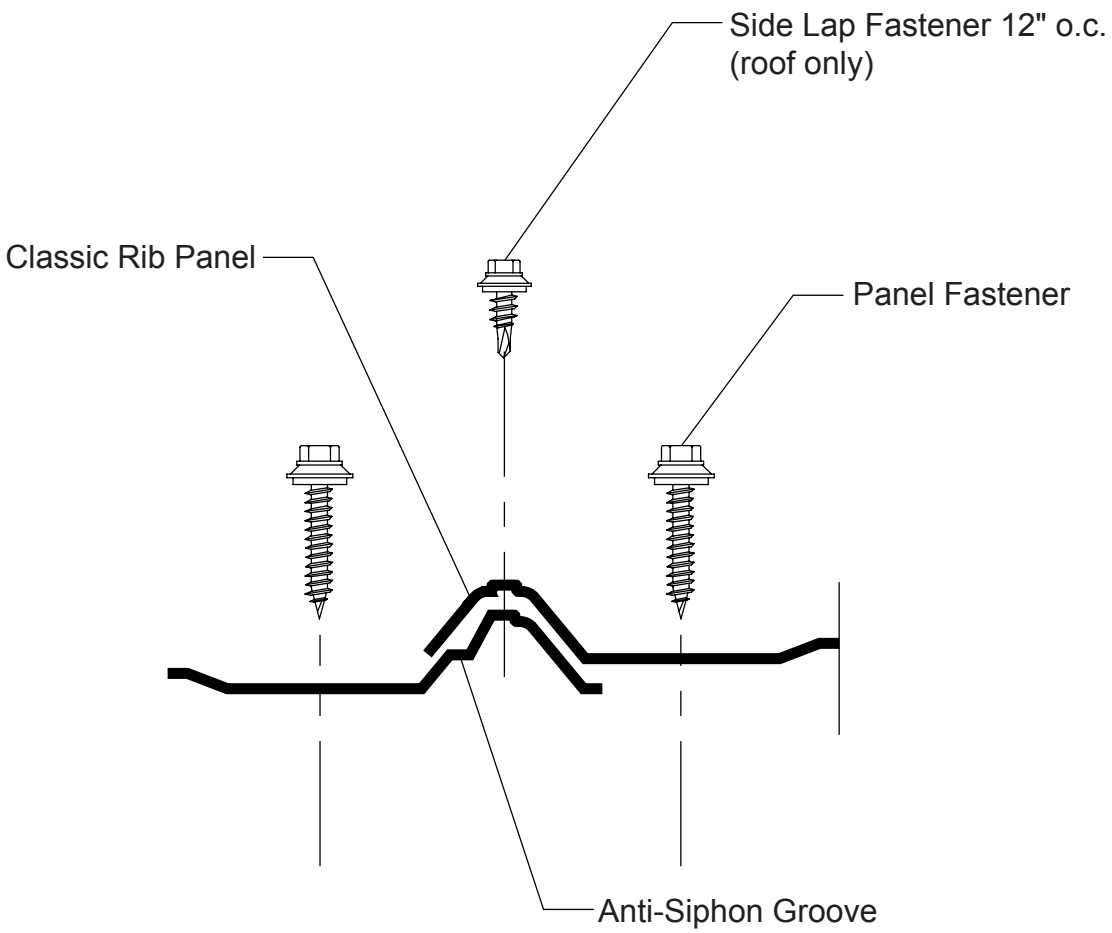
- UL 2218 Impact Resistance - Class 4
- UL 790 Fire Resistance Rating - Class A, per building code
- UL 263 Fire Resistance Rating - per assembly
- UL 580 Uplift Resistance - Class 90 Constructions: #560, 584
- ASTM E 331, Water Penetration, with Strip Mastic in sidelap
- ASTM E 455, Diaphragm Capacity
- Texas Windstorm - Evaluations RC-161 and RC-391
- 2023 FBC Approvals - FL9482.2, FL9482.3, 10999.3, FL 10999.4, FL14645.6, FL14645.7, FL14645.8, FL14645.9 and FL 46539.1
- Miami-Dade County, Florida NOA 21-0629.10 expires 8/24/2026
- ICC Evaluation Report - ESR-2385

SECTION PROPERTIES

SECTION PROPERTIES								ALLOWABLE UNIFORM LOADS, psf For various fastener spacings											
Ga	Width in	Yield ksi	Weight psf	Top in Compression		Bottom in Compression		Inward Load						Outward Load					
				Ixx in⁴/ft	Sxx in³/ft	Ixx in⁴/ft	Sxx in³/ft	1.5'	2'	2.5'	3'	3.5'	4'	1.5'	2'	2.5'	3'	3.5'	4'
29	36	80	0.63	0.0097	0.0162	0.0060	0.0140	171	97	62	43	32	24	197	112	72	50	37	25
26	36	80	0.80	0.0123	0.0207	0.0080	0.0181	221	125	81	56	41	32	251	143	92	64	47	32
24	36	50	1.05	0.0163	0.0268	0.0117	0.0241	245	139	90	62	46	35	271	154	99	69	51	39

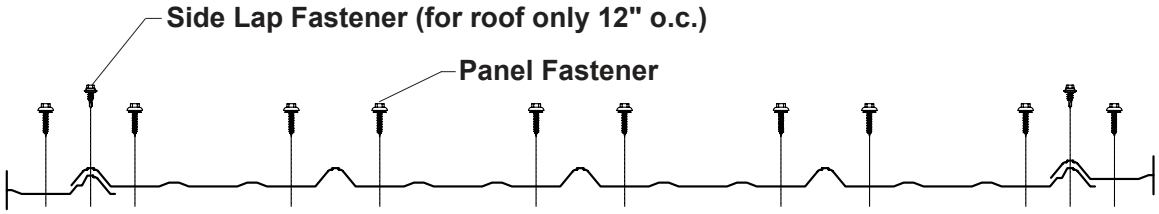
1. Theoretical section properties have been calculated per AISI 2016 'North American Specification for the Design of Cold-Formed Steel Structural Members'. Ixx and Sxx are effective section properties for deflection and bending.
2. Allowable load is calculated in accordance with AISI 2016 specifications considering bending, shear, combined bending & shear and deflection. Allowable load does not address web crippling, fasteners, support material or load testing. Allowable load considers the three or more equal spans condition. 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 for wind.
5. **Diaphragm Capacity** - 246 plf average Ultimate Shear Strength using the above fastening pattern on 2x supports located 2' on center, per ASTM E 455.

PANEL LAP DETAIL

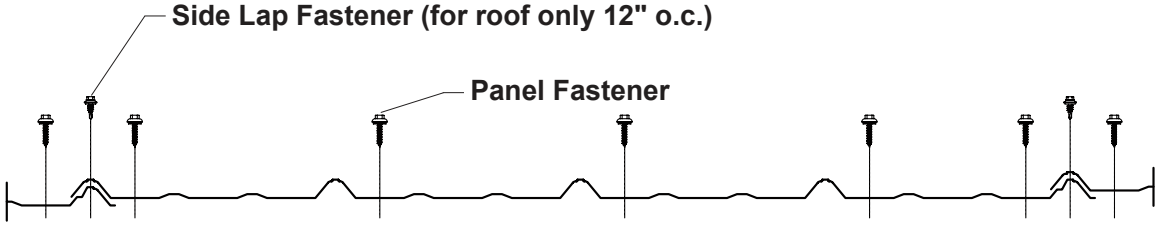


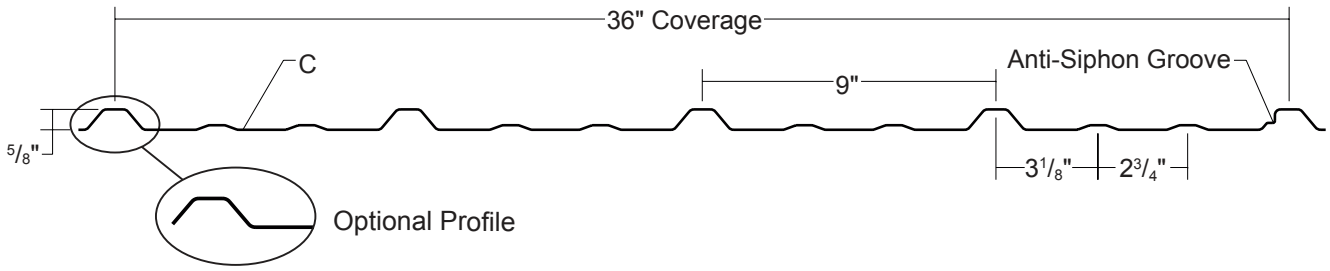
FASTENING PATTERNS

END OF PANEL



FIELD OF PANEL





PANEL OVERVIEW

- **Finishes**: MS Colorfast45®, ColorFit40™, MS Crinkle Finish and Acrylic Coated Galvalume®
- **Corrosion Protection**: AZ55 per ASTM A 792 for unpainted Galvalume®
  AZ50 per ASTM A 792 for painted Galvalume®
  AZ35 per ASTM A 792 for painted Galvalume® (ColorFit40™ only)
  G60, G90 or G100 per ASTM A 653 for Galvanized
- **Gauges**: 29 ga and 26 ga standard
- **Panel Length**: Minimum: 5'; Maximum: 45' recommended
- **Profile**: 36" panel coverage, 5/8" rib height
- **Info**: Exposed fastened, low profile roof and wall panel; Trapezoidal rib on 9" centers
- **Minimum roof slope**: 3:12

TESTING AND APPROVALS

- UL 2218 Impact Resistance - Class 4
- UL 790 Fire Resistance Rating - Class A, per building code
- UL 263 Fire Resistance Rating - per assembly
- ASTM E 283 Air Leakage - 0.0076 cfm/ft^2 at 6.24 psf *
- ASTM E 331 Water Penetration - none at 12 psf*
- ASTM E 330 Structural Performance
- ASTM E 455 Diaphragm Capacity
- 2023 FBC Approvals - FL14645.12 and FL46539.2

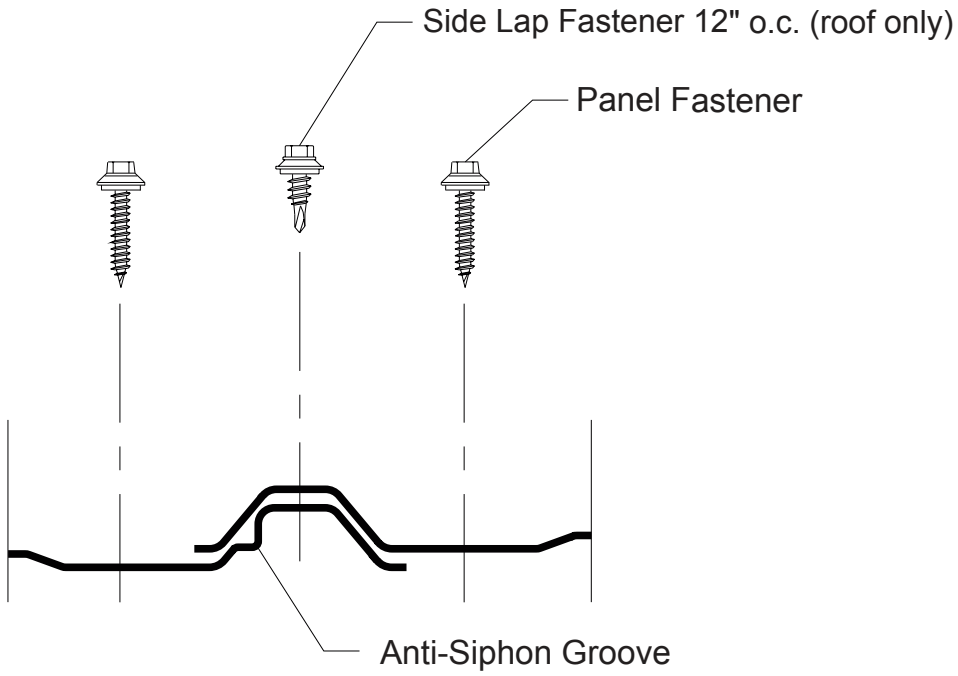
* uses tape sealant and stitch screws 1' on center in side lap

SECTION PROPERTIES

SECTION PROPERTIES								ALLOWABLE UNIFORM LOADS, psf For various fastener spacings											
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	1.5'	2'	2.5'	3'	3.5'	4'	1.5'	2'	2.5'	3'	3.5'	4'
29	36	80	0.62	0.0060	0.0123	0.0043	0.0128	155	88	57	40	27	18	150	85	55	38	27	18
26	36	80	0.79	0.0083	0.0171	0.0057	0.0165	200	114	73	51	34	23	207	118	76	53	34	23

1. Theoretical section properties have been calculated per AISI 2016 'North American 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 2016 specifications considering bending, shear, combined bending & shear and deflection. Allowable load does not address web crippling, fasteners, support material or load testing. Allowable load considers the three or more equal spans condition. 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 for wind.

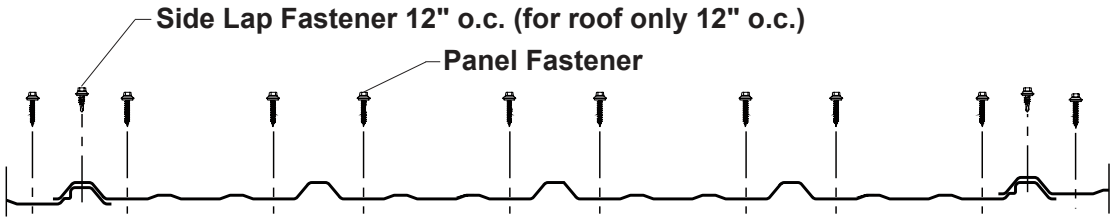
PANEL LAP DETAIL



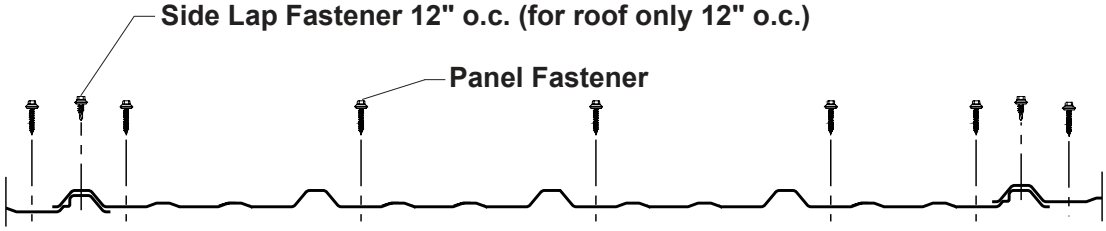
Optional Profile

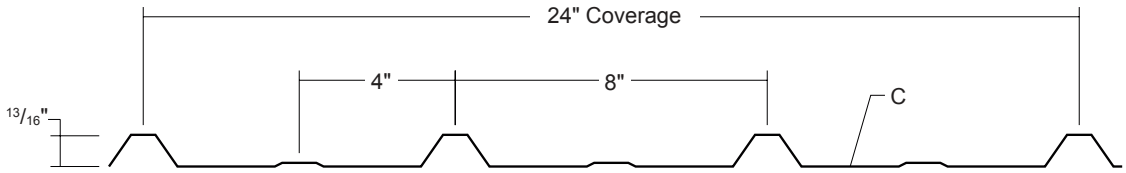
FASTENING PATTERNS

END OF PANEL



FIELD OF PANEL





PANEL OVERVIEW

- **Finishes**: MS Colorfast45® and Acrylic Coated Galvalume®
- **Corrosion Protection**: AZ55 per ASTM A 792 for unpainted Galvalume®
  AZ50 per ASTM A 792 for painted Galvalume®
  G90 per ASTM A 653 for Galvanized
- **Gauges**: 29 ga and 26 ga standard, 24 ga optional
- **Panel Length**: Minimum: 5'; Maximum: 40' recommended
- **Profile**: 24" panel coverage, 13/16" rib height
- **Info**: Exposed fastened, low profile roof and wall panel; Trapezoidal rib on 8" centers
- **Minimum roof slope**: 3:12

TESTING AND APPROVALS

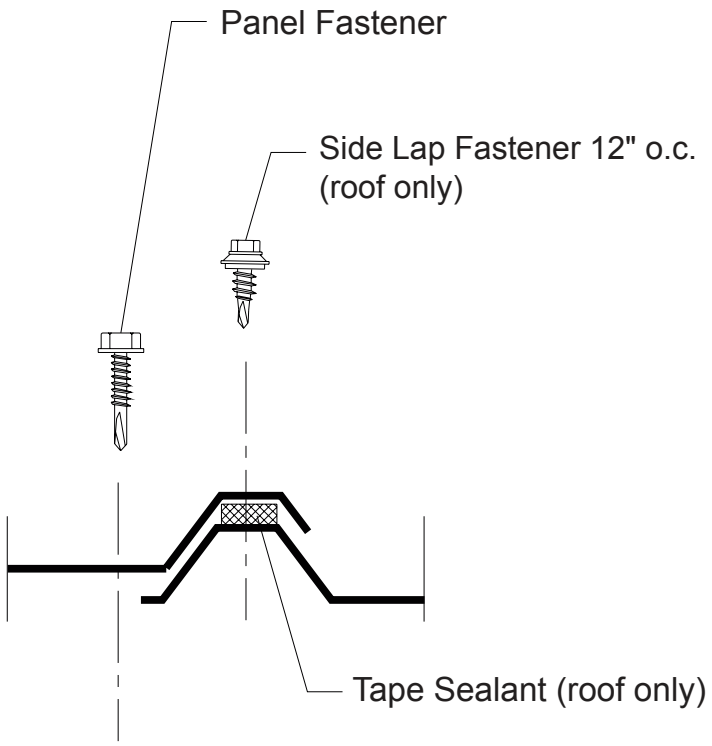
- UL 2218 Impact Resistance - Class 4
- UL 790 Fire Resistance Rating - Class A, per building code
- UL 263 Fire Resistance Rating - per assembly

SECTION PROPERTIES

SECTION PROPERTIES								ALLOWABLE UNIFORM LOADS, psf For various fastener spacings											
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	3'	3.5'	4'	4.5'	5'	6'	3'	3.5'	4'	4.5'	5'	6'
29	24	80	0.64	0.0115	0.0193	0.0100	0.0228	67	50	37	29	19	11	58	43	33	26	19	11
26	24	80	0.82	0.0165	0.0283	0.0135	0.0295	89	66	48	34	25	14	86	64	48	34	25	14
24	24	50	1.07	0.0230	0.0403	0.0195	0.0394	101	74	57	44	32	19	103	76	58	44	32	19

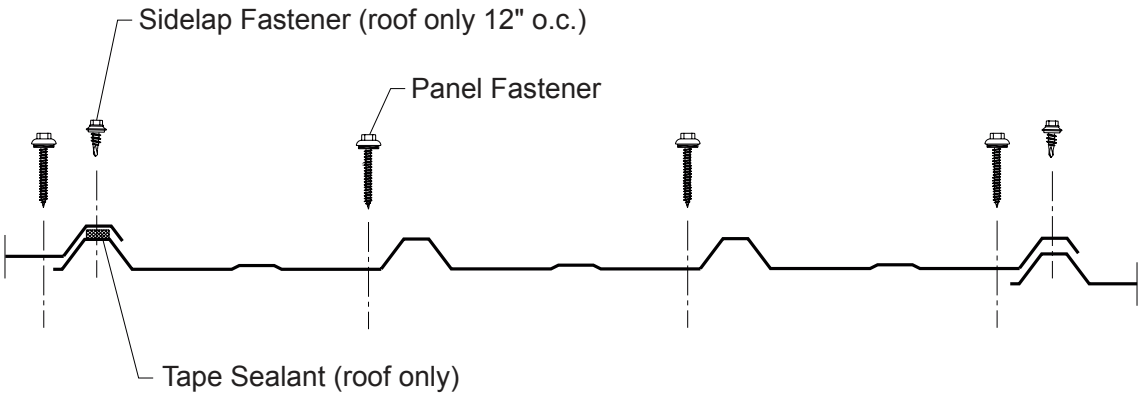
1. Theoretical section properties have been calculated per AISI 2016 'North American Specification for the Design of Cold-Formed Steel Structural Members'. Ixx and Sxx are effective section properties for deflection and bending.
2. Allowable load is calculated in accordance with AISI 2016 specifications considering bending, shear, combined bending and shear and deflection. Allowable load considers the 3 or more equal spans condition. Allowable load does not address web crippling, fasteners, support material 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 for wind.

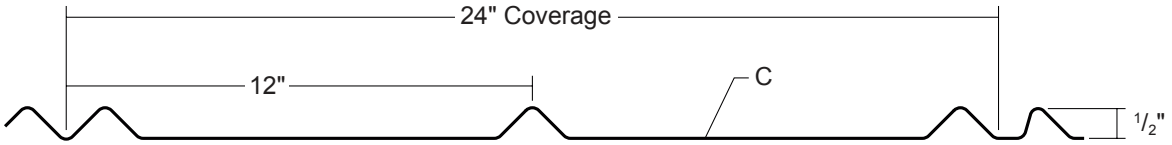
PANEL LAP DETAIL



FASTENING PATTERN

ENDS AND FIELD OF PANEL





PANEL OVERVIEW

- **Finishes**: MS Colorfast45® and Acrylic Coated Galvalume®
- **Corrosion Protection**: AZ55 per ASTM A 792 for unpainted Galvalume®
  AZ50 per ASTM A 792 for painted Galvalume®
  G90 per ASTM A 653 for Galvanized
- **Gauges**: 26 ga standard; 24 ga optional
- **Panel Length**: Minimum: 5'; Maximum: 45' recommended
- **Profile**: 24" panel coverage, 1/2" rib height
- **Minimum roof slope**: 3:12
- **Info**: "V" rib roof panel 12" on center. Applies over plywood with minimum 30# felt underlayment

TESTING AND APPROVALS

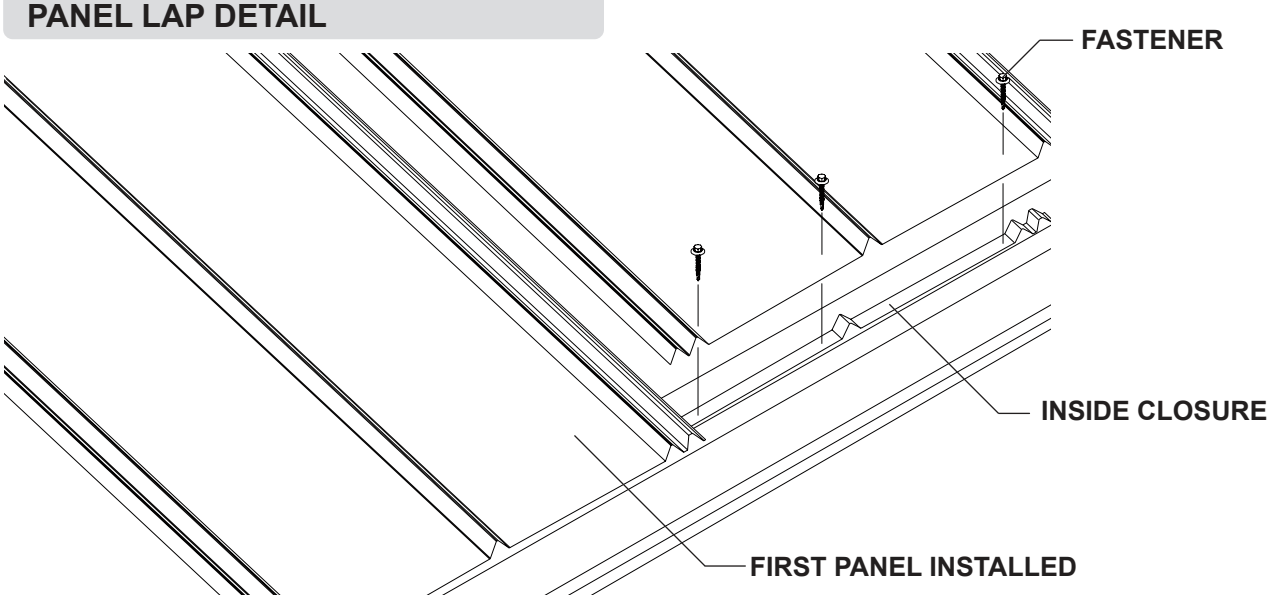
- UL 2218 Impact Resistance - Class 4
- UL 790 Fire Resistance Rating - Class A, per building code
- UL 263 Fire Resistance Rating - per assembly
- UL 580 Uplift Resistance - Class 90 Constructions: #579 and #453
- Texas Windstorm - Evaluation RC-160
- 2023 FBC Approvals - FL14645.2 and FL14645.3
- Miami-Dade County, Florida NOA 23-0222.06 (26 ga) expires 6/29/2028
- Miami-Dade County, Florida NOA 24-0212.05 (0.032" Aluminum) expires 4/24/2029

SECTION PROPERTIES

SECTION PROPERTIES								ALLOWABLE UNIFORM LOADS, psf For various fastener spacings					
Ga	Width in	Yield ksi	Weight psf	Top In Compression		Bottom In Compression		Outward Load					
				Ixx in^4/ft	Sxx in^3/ft	Ixx in^4/ft	Sxx in^3/ft	0.5'	1'	1.5'	2'	2.5'	3'
26	24	50	0.78	0.0025	0.0070	0.0015	0.0055	197	100	71	62	50	42
24	24	50	1.02	0.0030	0.0089	0.0020	0.0073	197	100	71	62	50	42

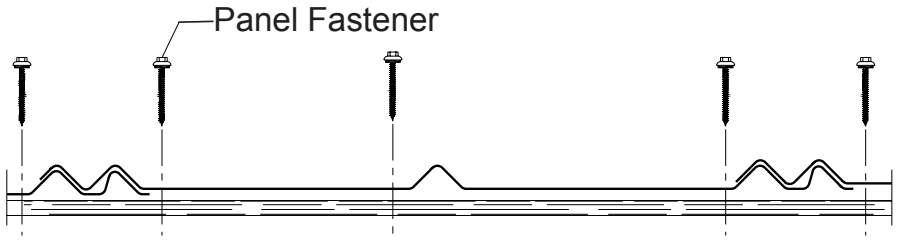
1. Theoretical section properties have been calculated per AISI 2016 'North American Specification for the Design of Cold-Formed Steel Structural Members'. Ixx and Sxx are effective section properties for deflection and bending.
2. Allowable load is calculated in accordance with AISI 2016 specifications considering bending, shear, combined bending and shear and deflection. Allowable load considers the 3 or more equal spans condition. Allowable load does not address web crippling, fasteners, support material 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 for wind.

PANEL LAP DETAIL



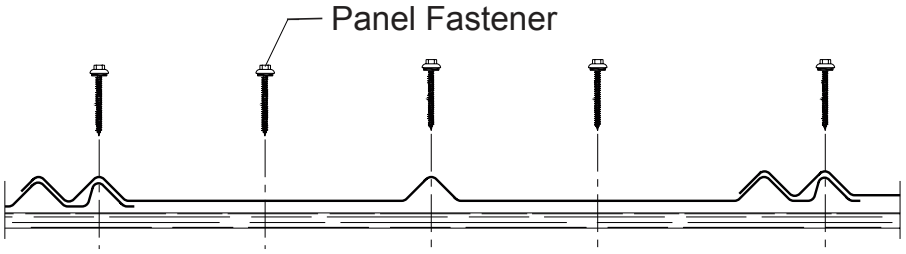
FASTENING PATTERN

FIELD & END OF PANEL

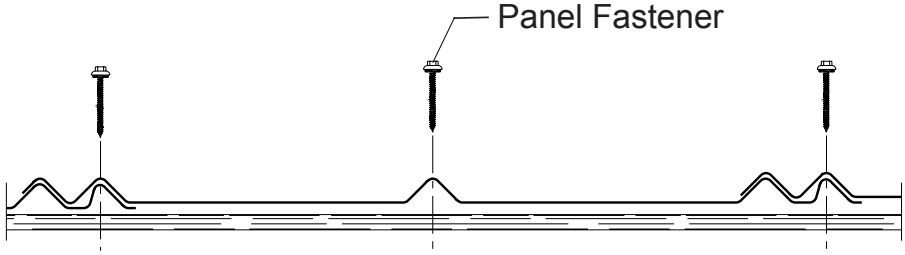


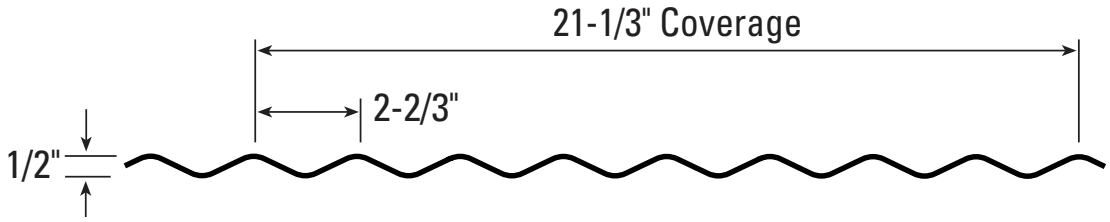
OPTIONAL FASTENING PATTERNS

END OF PANEL



FIELD OF PANEL





PANEL OVERVIEW

- **Finishes**: MS Colorfast45® and Acrylic Coated Galvalume®
- **Corrosion Protection**: AZ55 per ASTM A 792 for unpainted Galvalume®
  AZ50 per ASTM A 792 for painted Galvalume®
  G90 per ASTM A 653 for Galvanized
- **Gauges**: 26 ga standard; 24 ga optional
- **Panel Length**: Minimum: 5'; Maximum: 45' recommended
- **Profile**: 21-1/3" panel coverage, 1/2" rib height
- **Minimum roof slope**: 3:12
- **Info**: Ribs on 2.66" centers. Applies over plywood with minimum 30# felt underlayment

TESTING AND APPROVALS

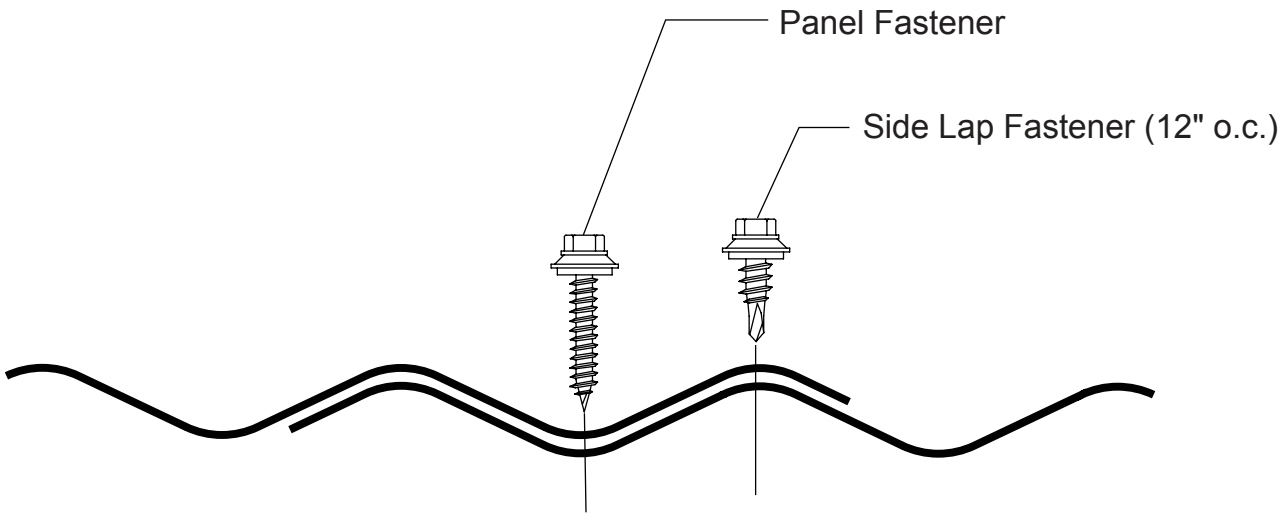
- UL 2218 Impact Resistance - Class 4
- UL 790 Fire Resistance Rating - Class A, per building code
- UL 263 Fire Resistance Rating - per assembly
- Texas Windstorm - Evaluation RC-159
- 2023 FBC Approval - FL14645.1
- ICC Evaluation Report - ESR-2385

SECTION PROPERTIES

SECTION PROPERTIES								ALLOWABLE UNIFORM LOADS, psf For various fastener spacings											
Ga	Width in	Yield ksi	Weight psf	Top In Compression		Bottom In Compression		Inward Load						Outward Load					
				Ixx in^4/ft	Sxx in^3/ft	Ixx in^4/ft	Sxx in^3/ft	2'	2.5'	3'	3.5'	4'	4.5'	2'	2.5'	3'	3.5'	4'	4.5'
30	21.33	80	0.66	0.0051	0.0202	0.0051	0.0185	107	55	32	20	14	9	107	55	32	20	14	9
29	21.33	80	0.70	0.0056	0.0215	0.0056	0.0208	118	60	35	22	15	10	118	60	35	22	15	10
26	21.33	50	0.90	0.0073	0.0275	0.0073	0.0274	153	78	45	29	19	13	153	78	45	29	19	13
24	21.33	50	1.17	0.0096	0.0354	0.0096	0.0354	200	102	59	37	25	18	200	102	59	37	25	18
22	21.33	50	1.53	0.0124	0.0457	0.0124	0.0457	259	133	77	48	32	23	259	133	77	48	32	23

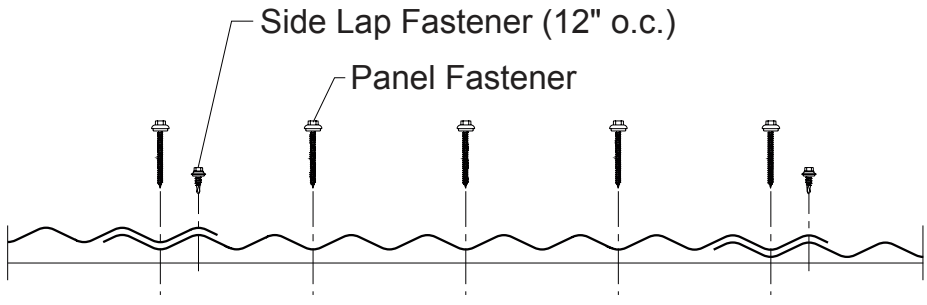
1. Theoretical section properties have been calculated per AISI 2016 'North American Specification for the Design of Cold-Formed Steel Structural Members'. Ixx and Sxx are effective section properties for deflection and bending.
2. Allowable load is calculated in accordance with AISI 2016 specifications considering bending, shear, combined bending and shear and deflection. Allowable load considers the 3 or more equal spans condition. Allowable load does not address web crippling, fasteners, support material 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 for wind.

ROOF PANEL LAP DETAIL

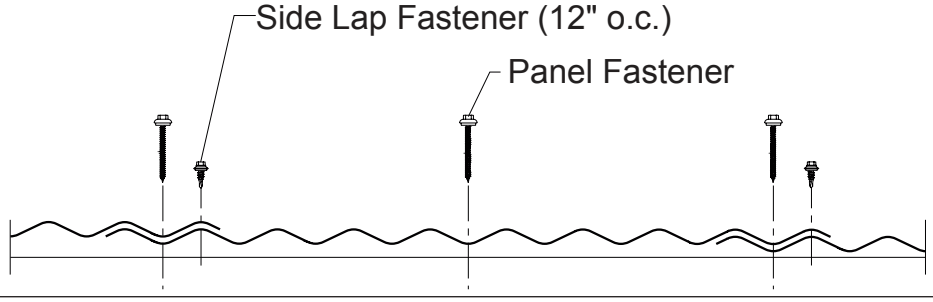


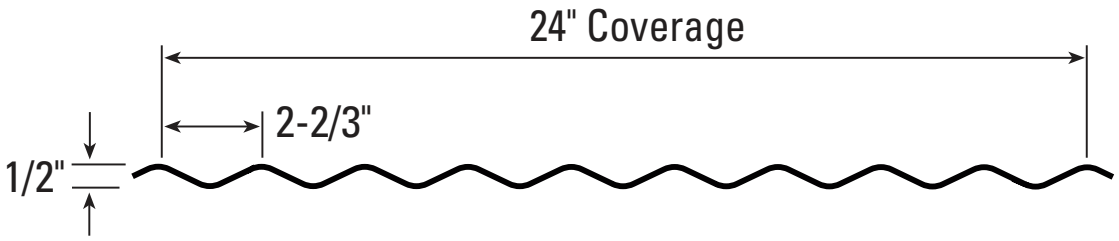
FASTENING PATTERNS

END OF PANEL



FIELD OF PANEL





PANEL OVERVIEW

- **Finishes**: MS Colorfast45® and Acrylic Coated Galvalume®
- **Corrosion Protection**: AZ55 per ASTM A 792 for unpainted Galvalume®
  AZ50 per ASTM A 792 for painted Galvalume®
  G90 per ASTM A 653 for Galvanized
- **Gauges**: 26 ga standard; 24 ga optional
- **Panel Length**: Minimum: 5'; Maximum: 45' recommended
- **Profile**: 24" panel coverage, 1/2" rib height
- **Minimum roof slope**: 3:12
- **Info**: Ribs on 2.66" centers. Applies over plywood with minimum 30# felt underlayment

TESTING AND APPROVALS

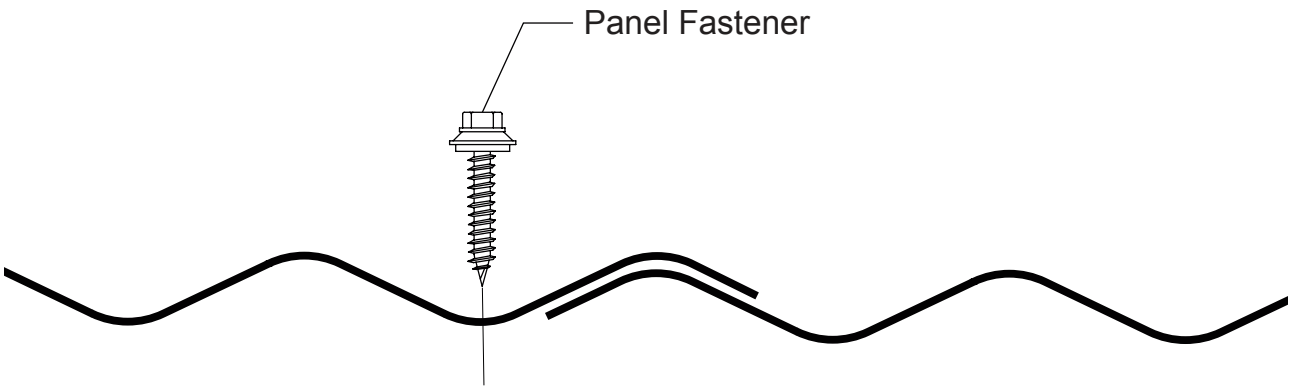
- UL 2218 Impact Resistance - Class 4
- UL 790 Fire Resistance Rating - Class A, per building code
- UL 263 Fire Resistance Rating - per assembly

SECTION PROPERTIES

SECTION PROPERTIES								ALLOWABLE UNIFORM LOADS, psf For various fastener spacings											
Ga	Width in	Yield ksi	Weight psf	Top In Compression		Bottom In Compression		Inward Load						Outward Load					
				Ixx in^4/ft	Sxx in^3/ft	Ixx in^4/ft	Sxx in^3/ft	2'	2.5'	3'	3.5'	4'	4.5'	2'	2.5'	3'	3.5'	4'	4.5'
30	24	80	0.59	0.0045	0.0180	0.0045	0.0165	96	49	28	18	12	8	96	49	28	18	12	8
29	24	80	0.62	0.0050	0.0191	0.0050	0.0185	105	54	31	20	13	9	105	54	31	20	13	9
26	24	50	0.80	0.0065	0.0245	0.0065	0.0244	136	70	40	25	17	12	136	70	40	25	17	12
24	24	50	1.04	0.0085	0.0315	0.0085	0.0315	178	91	53	33	22	16	178	91	53	33	22	16
22	24	50	1.36	0.0110	0.0407	0.0110	0.0407	230	118	68	43	29	20	230	118	68	43	29	20

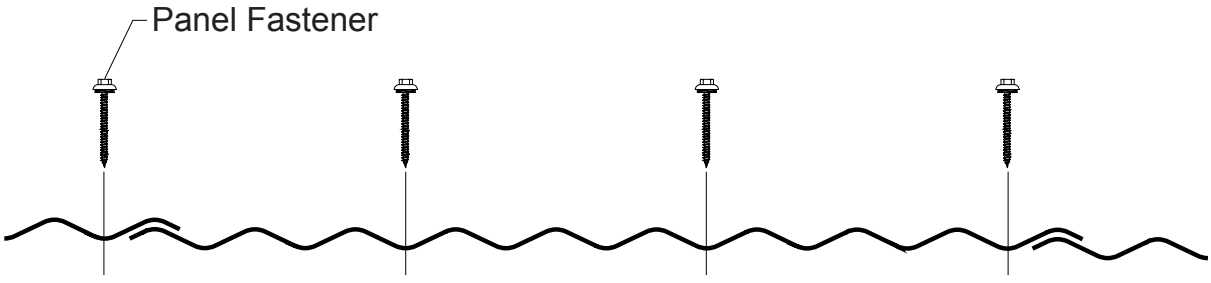
1. Theoretical section properties have been calculated per AISI 2016 'North American Specification for the Design of Cold-Formed Steel Structural Members'. Ixx and Sxx are effective section properties for deflection and bending.
2. Allowable load is calculated in accordance with AISI 2016 specifications considering bending, shear, combined bending and shear and deflection. Allowable load considers the 3 or more equal spans condition. Allowable load does not address web crippling, fasteners, support material 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 for wind.

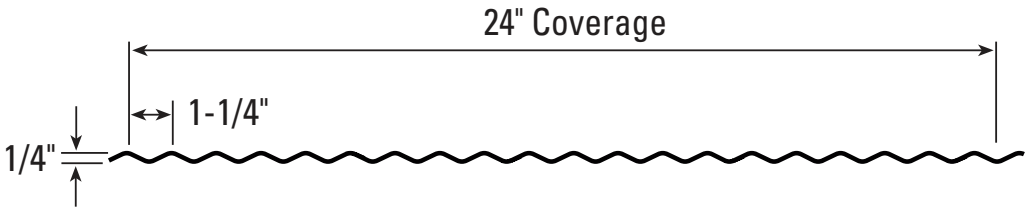
WALL PANEL LAP DETAIL



FASTENING PATTERN

ENDS AND FIELD OF PANEL





PANEL OVERVIEW

- **Finishes**: MS Colorfast45® and Acrylic Coated Galvalume®
- **Corrosion Protection**: AZ55 per ASTM A 792 for unpainted Galvalume®
  AZ50 per ASTM A 792 for painted Galvalume®
  G90 per ASTM A 653 for Galvanized
- **Gauges**: 26 ga standard; 24 ga optional
- **Panel Length**: Minimum: 3'; Maximum: 30' recommended
- **Profile**: 24" panel coverage, 1/2" rib height
- **Minimum roof slope**: 3:12
- **Info**: Ribs on 1.25" centers. Applies over plywood with minimum 30# felt underlayment

TESTING AND APPROVALS

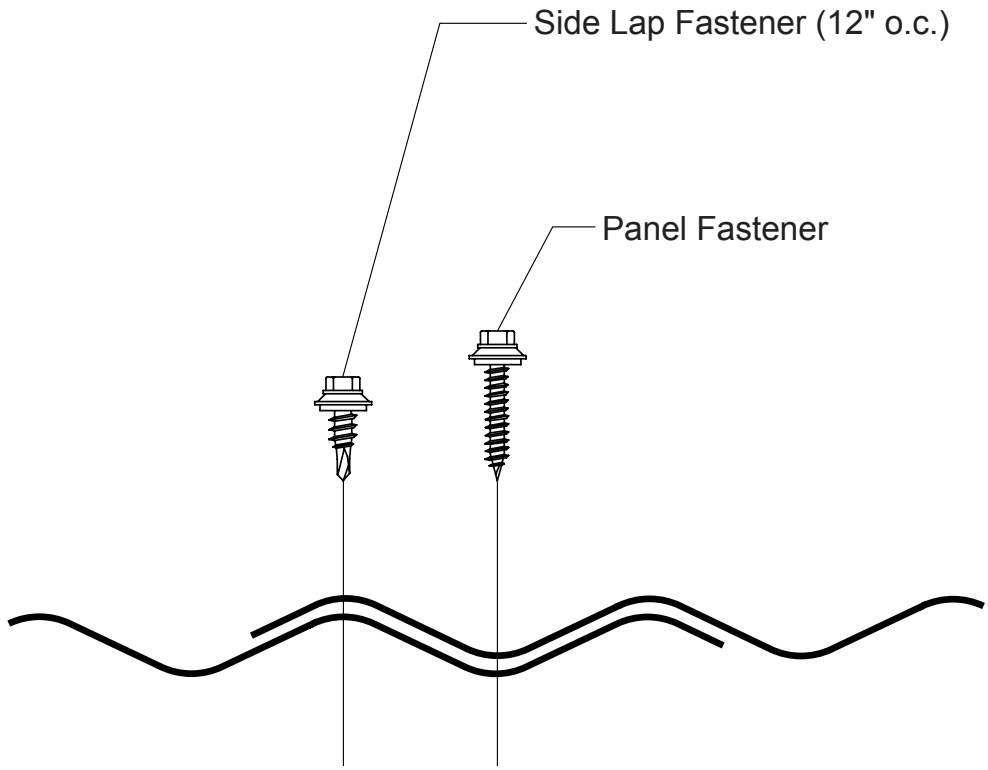
- UL 2218 Impact Resistance - Class 4
- UL 790 Fire Resistance Rating - Class A, per building code
- UL 263 Fire Resistance Rating - per assembly

SECTION PROPERTIES

SECTION PROPERTIES								ALLOWABLE UNIFORM LOADS, psf For various fastener spacings											
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	1'	1.25'	1.5'	1.75'	2'	2.5'	1'	1.25'	1.5'	1.75'	2'	2.5'
30	24	80	0.61	0.0010	0.0066	0.0010	0.0063	167	86	50	31	21	11	167	86	50	31	21	11
29	24	80	0.64	0.0010	0.0070	0.0010	0.0067	167	86	50	31	21	11	167	86	50	31	21	11
26	24	50	0.81	0.0015	0.0087	0.0015	0.0085	196	126	74	47	31	16	202	113	65	41	27	14

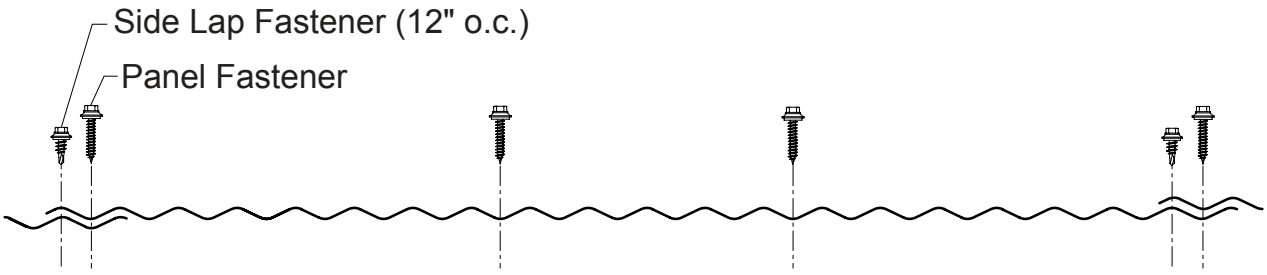
1. Theoretical section properties have been calculated per AISI 2016 'North American Specification for the Design of Cold-Formed Steel Structural Members'. Ixx and Sxx are effective section properties for deflection and bending.
2. Allowable load is calculated in accordance with AISI 2016 specifications considering bending, shear, combined bending and shear and deflection. Allowable load considers the 3 or more equal spans condition. Allowable load does not address web crippling, fasteners, support material 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 for wind.

PANEL LAP DETAIL

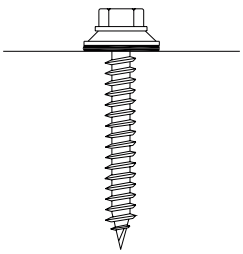
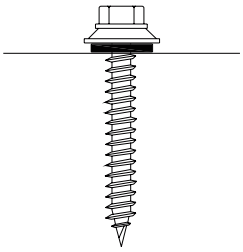
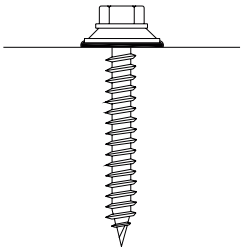


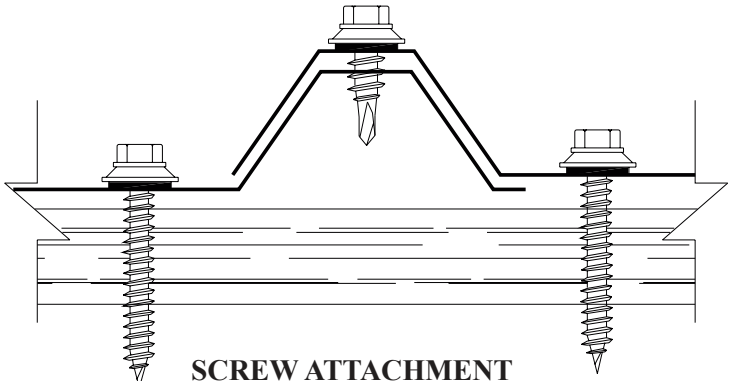
FASTENING PATTERN

ENDS AND FIELD OF PANEL



USING SCREWS:
For fastening with screws, it is best to use a painted or plated screw, Type A or driller tip with a flat rubber washer. The correct screw gun is also important to the proper installation of self-drilling or self-tapping screws. A tool with the appropriate speed and torque setting (as recommended by the fastener manufacturer) will help prevent fastener thread strip-out and possible damage to the panel or its coating. Typically 40 screws should be used per square for 2' wide panels and 80 screws should be used per square for 3' wide panels.

CORRECT	**TOO LOOSE**	**TOO TIGHT**
Sealing material slightly visible at edge of washer. Assembly is water tight.	Sealing material is not visible; not enough compression to seal.	Washer is deformed; sealing material pressed beyond fastener edge.
		



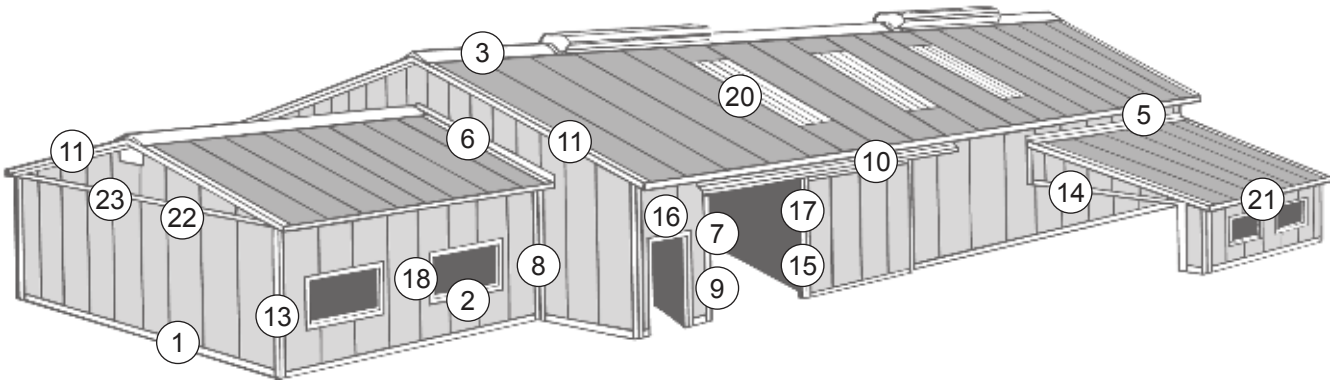
SCREW ATTACHMENT

SEATING THE WASHER - Apply sufficient torque to seat the washer - do not overdrive the fastener.

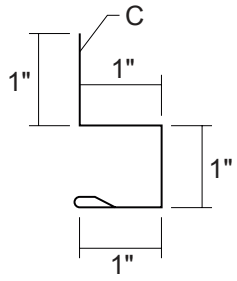
TO PREVENT WOBBLING - Make sure fastener head is completely engaged in the socket. If the head does not go all the way in the socket - tap the magnet deeper into the socket to allow full head engagement. Metal chips will build up from drilling and should be removed from time to time.

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.

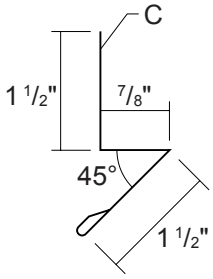
POST FRAME FLASHING PROFILES



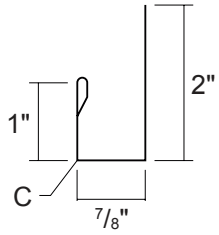
1▶ BASE MOLDING



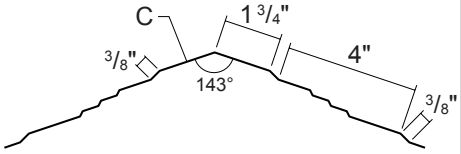
1▶ ANGLE BASE



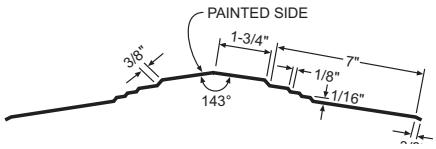
2▶ J-CHANNEL



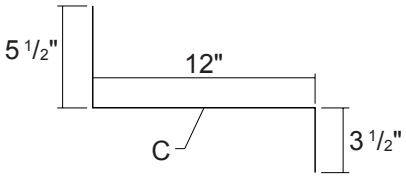
3▶ 14" UNIVERSAL RIDGE



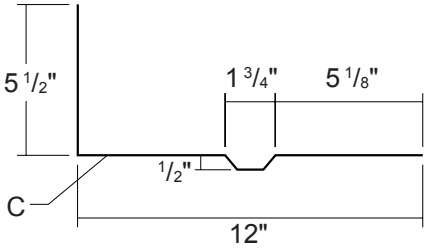
3▶ 20" UNIVERSAL RIDGE



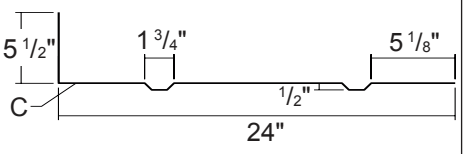
4▶ SOFFIT



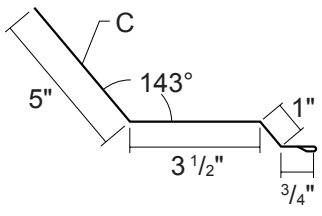
4▶ 12" SOFFIT



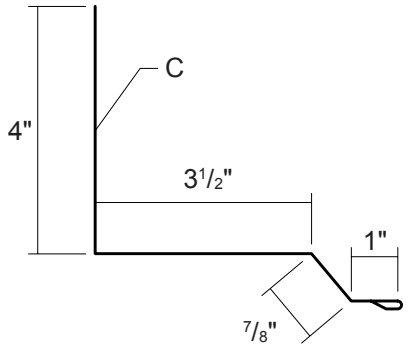
4▶ 24" SOFFIT



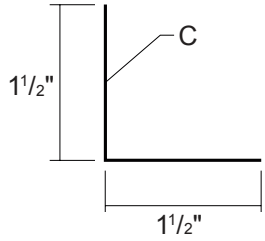
5▶ UNIVERSAL ENDWALL



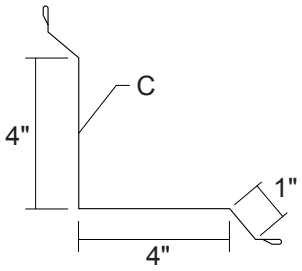
6▸ UNIVERSAL SIDEWALL



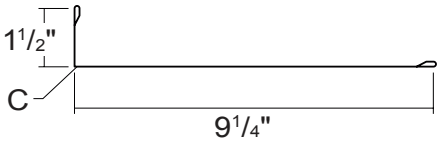
7▸ MINI ANGLE



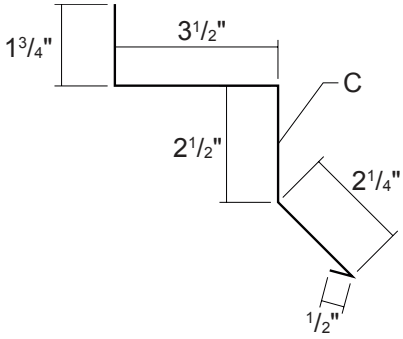
8▸ INSIDE CORNER



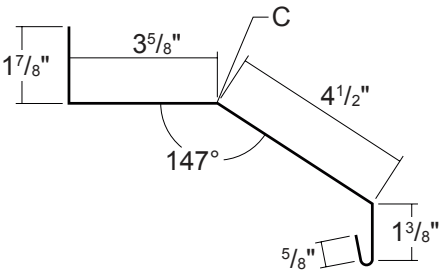
9▸ POST TRIM



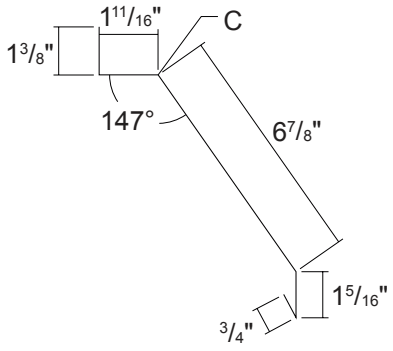
10▸ NATIONAL TRACK COVER



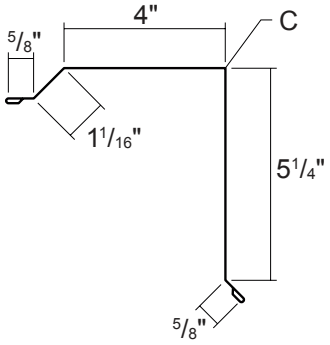
10▸ TOP MOUNT TRACK COVER



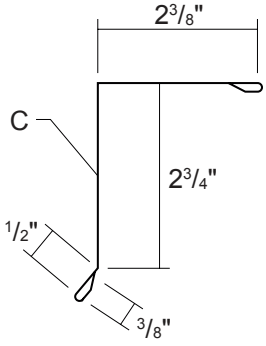
10▸ CANNONBALL TRACK COVER



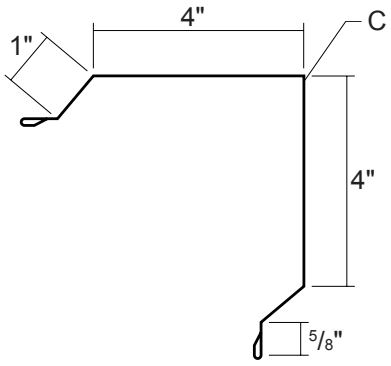
11▸ GABLE TRIM



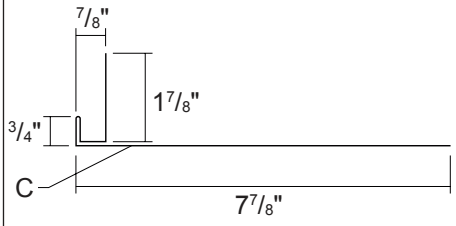
11▸ RAKE TRIM



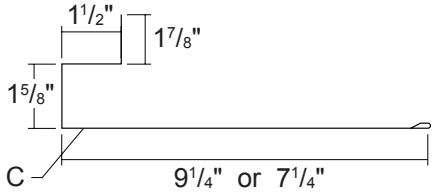
13▸ OUTSIDE CORNER



14▸ OVERHEAD DOOR TRIM

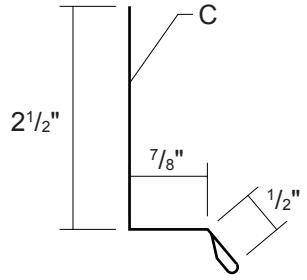


15▸ DOOR JAMB

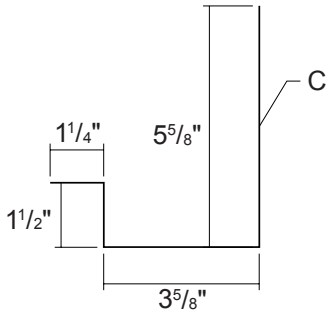


POST FRAME FLASHING PROFILES

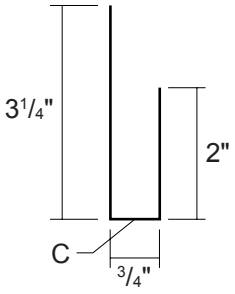
16▸ DRIP CAP



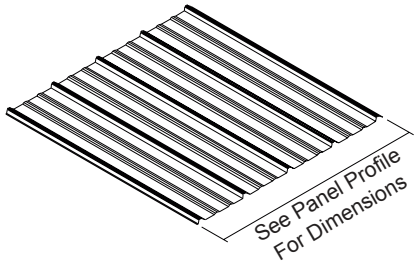
17▸ DOOR POST TRIM



18▸ FRAMING CLOSURE

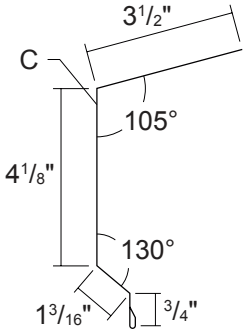


20▸ TRANSLUCENT PANEL

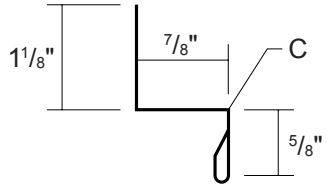


LENGTHS: 8'-0",10'-0",12'-0"

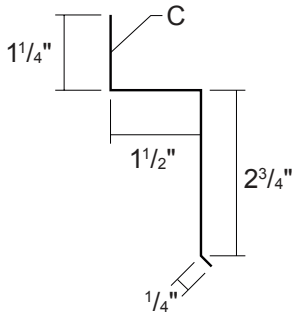
21▸ EAVE MOLDING



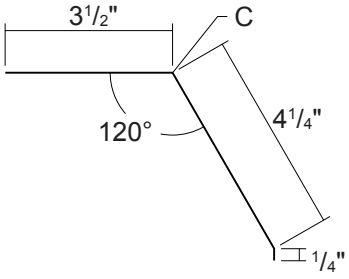
22▸ DOUBLE ANGLE



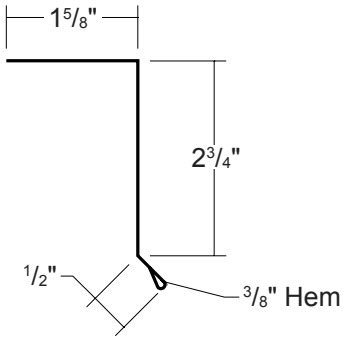
23▸ WIDE Z-METAL



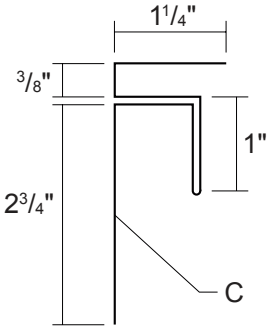
24▸ UNIVERSAL GAMBREL



25▸ RAKE/EAVE TRIM



26▸ 3/8" F&J CHANNEL



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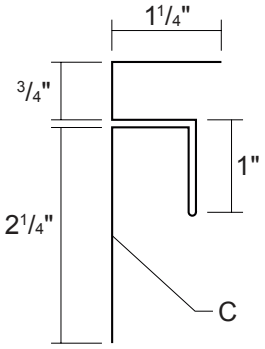
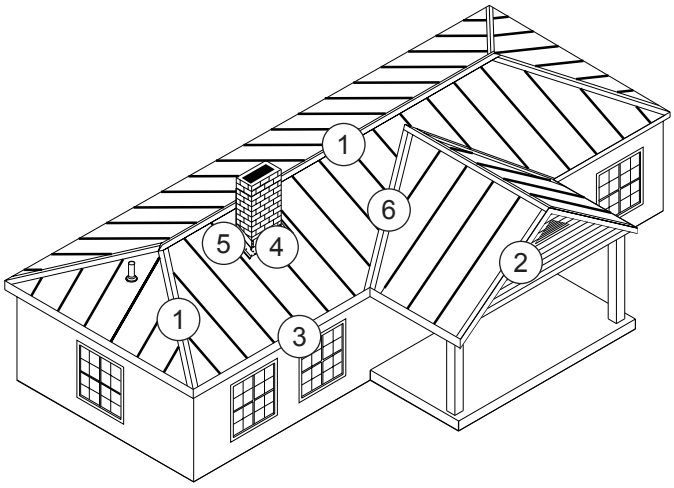
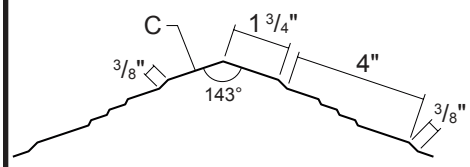


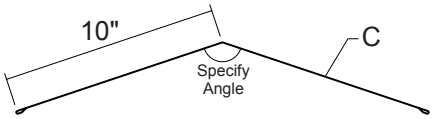
RESIDENTIAL FLASHING PROFILES



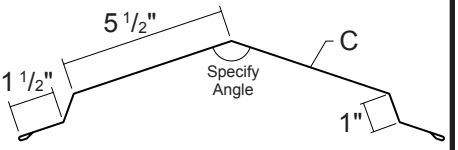
1 14" UNIVERSAL RIDGE COVER



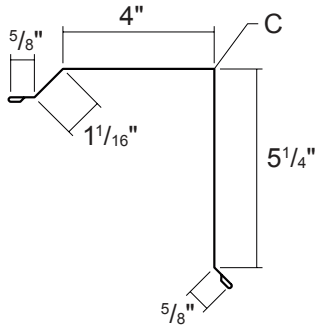
1 RIDGE / HIP COVER



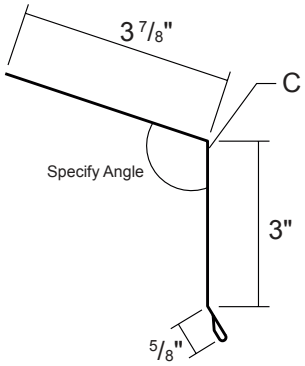
1 13" STEP RIDGE / HIP COVER



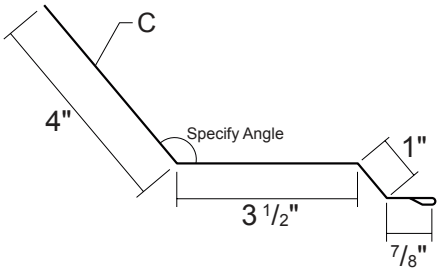
2 GABLE TRIM



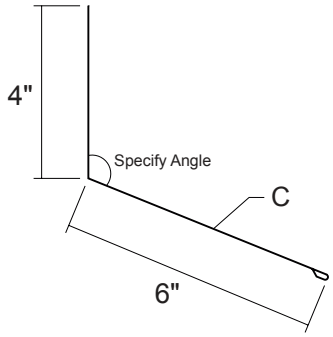
3 EAVE TRIM



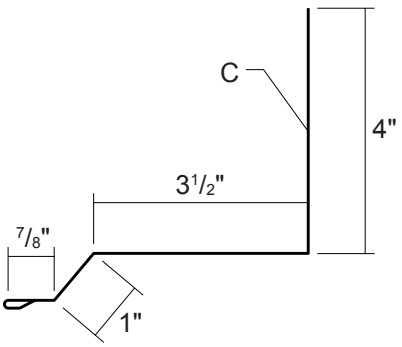
4 UNIVERSAL ENDWALL



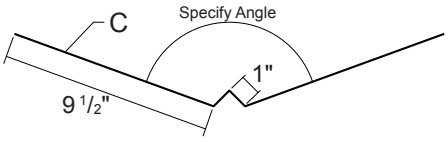
4 PITCH BREAK



5 UNIVERSAL SIDEWALL



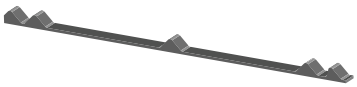
6 VALLEY



POST FRAME FOAM CLOSURES

CLASSIC RIB	APPLICATION	SIZE	TYPE	WEIGHT	COLOR
	Inside Closure	36"	Polyethylene Foam	0.3 lbs	Grey
	Outside Closure	36"	Polyethylene Foam	0.3 lbs	Grey

PRO-PANEL II	APPLICATION	SIZE	TYPE	WEIGHT	COLOR
	Inside Closure	36"	Polyethylene Foam	0.3 lbs	Grey
	Outside Closure	36"	Polyethylene Foam	0.3 lbs	Grey

5V-CRIMP	APPLICATION	SIZE	TYPE	WEIGHT	COLOR
	Inside Closure	24"	Polyethylene Foam	0.2 lbs	Grey
	Outside Closure	24"	Polyethylene Foam	0.2 lbs	Grey

DELTA-RIB	APPLICATION	SIZE	TYPE	WEIGHT	COLOR
	Inside Closure	24"	Polyethylene Foam	0.2 lbs	Grey
	Outside Closure	24"	Polyethylene Foam	0.2 lbs	Grey

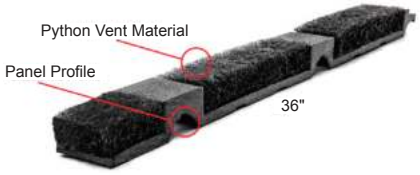
2.5" CORRUGATED	APPLICATION	SIZE	TYPE	WEIGHT	COLOR
	Inside/Outside Closure	24"	Polyethylene Foam	0.2 lbs	Grey

1.25" CORRUGATED	APPLICATION	SIZE	TYPE	WEIGHT	COLOR
	Inside/Outside Closure	24"	Polyethylene Foam	0.2 lbs	Grey

UNIVERSAL CLOSURE

SIZE	TYPE	PRODUCT NO.	WT/100	COLOR
1" x 1½" x 25'	Polyethylene Foam	6411499	2.0 lbs	Grey
1" x 1½" x 50'	Polyethylene Foam	6411299	4.0 lbs	Grey

LP2 RIDGE VENT ■ CLASSIC RIB



SIZE	TYPE	PRODUCT NO.	WEIGHT	COLOR
36" Wide	Python™ Polyester Vent Material	6451899	0.7 lbs	Grey

LP2 RIDGE VENT ■ PRO-PANEL II

SIZE	TYPE	PRODUCT NO.	WEIGHT	COLOR
36" Wide	Python™ Polyester Vent Material	6440669 6441499 6465099	0.7 lbs	Grey

LP2 RIDGE VENT ■ DELTA-RIB

SIZE	TYPE	PRODUCT NO.	WEIGHT	COLOR
24" Wide	Python™ Polyester Vent Material	6441099	0.5 lbs	Grey

PROFILE VENT

Modified polyester fiber-based vent material

PROFILE	TOTAL LF	PACKAGE	PRODUCT NO.	WEIGHT	COVERAGE
Classic Rib	50'	2 Rolls at 25'	6442100	4.7 lbs	25' Ridge
Classic Rib	100'	2 Rolls at 50'	6441699	10.7 lbs	50' Ridge
Pro-Panel II	50'	2 Rolls at 25'	6442200	4.7 lbs	25' Ridge
Pro-Panel II	100'	2 Rolls at 50'	6441599	10.7 lbs	50' Ridge
5V-Crimp	50'	2 Rolls at 25'	6423106	4.7 lbs	25' Ridge
5V-Crimp	100'	2 Rolls at 50'	6423000	10.7 lbs	50' Ridge

VERSA VENT

SIZE	TYPE	PRODUCT NO.	WT/100	WEIGHT
1" x 1½" x 25'	Polyethylene Foam	6442100	2.0 lbs	Grey
1" x 1½" x 50'	Polyethylene Foam	6411299	4.0 lbs	Grey

POST FRAME ACCESSORIES

SINGLE BEAD TUBE SEALANT

SIZE	TYPE	PRODUCT NO.	WT/24	
3/8" x 3/32" x 50'	Butyl	6404099	48.0 lbs	24 Rolls

DOUBLE BEAD TUBE SEALANT

SIZE	TYPE	PRODUCT NO.	WT/CTN	CTN QTY
7/8" x 3/16" x 25'	Butyl	6403899	57.6 lbs	24 Rolls
7/8" x 3/16" x 40'	Butyl	6403999	48.0 lbs	10 Rolls

TUBE SEALANT

SIZE	TYPE	PRODUCT NO.	WT/CTN	CTN QTY
10.3 oz	Urethane White	6402830	29.1 lbs	30 Tubes
10.3 oz	Urethane Bronze	6402999	29.1 lbs	30 Tubes
10.3 oz	Urethane Grey	6402829	29.1 lbs	30 Tubes

MS-HT UNDERLAYMENT

SIZE	TYPE	COVERAGE	WEIGHT
36" x 67'-0"	Peel and Stick	2 Squares	44 lbs

POST FRAME TRANSLUCENT PANELS

POLYCARBONATE PANELS

PROFILE	LENGTH	WIDTH	PRODUCT NO.	WEIGHT	COLOR
Classic Rib	2'-0"	37.88"	6151000	1.5 lbs	Clear
Classic Rib	2'-0"	37.88"	6151030	1.5 lbs	White
Classic Rib	8'-0"	37.88"	6151300	6.1 lbs	Clear
Classic Rib	8'-0"	37.88"	6151330	6.1 lbs	White
Classic Rib	10'-0"	37.88"	6151400	7.6 lbs	Clear
Classic Rib	10'-0"	37.88"	6151430	7.6 lbs	White
Classic Rib	12'-0"	37.88"	6151500	9.2 lbs	Clear
Classic Rib	12'-0"	37.88"	6151530	9.2 lbs	White
Pro-Panel II	8'-0"	37.88"	6197900	6.1 lbs	Clear
Pro-Panel II	10'-0"	37.88"	6198000	7.6 lbs	Clear
Pro-Panel II	10'-0"	37.88"	6198030	7.6 lbs	White
Pro-Panel II	12'-0"	37.88"	6198100	9.2 lbs	Clear
Pro-Panel II	12'-0"	37.88"	6198130	9.2 lbs	White
5V-Crimp	12'-0"	26"	6198400	7.7 lbs	Clear
5V-Crimp	12'-0"	26"	6198430	7.7 lbs	White
1.25" Corrugated	12'-0"	26"	6193800	8.0 lbs	Clear
1.25" Corrugated	12'-0"	26"	6193830	8.0 lbs	White
2.5" Corrugated	12'-0"	26"	6193700	8.1 lbs	Clear
2.5" Corrugated	12'-0"	26"	6193730	8.1 lbs	White

FIBERGLASS PANELS

PROFILE	LENGTH	WIDTH	PRODUCT NO.	WEIGHT	COLOR
Classic Rib	2'-0"	37.88"	6150702 6150130	1.6 lbs	White
Classic Rib	8'-0"	37.88"	6150730	8.0 lbs	White
Classic Rib	10'-0"	37.88"	6150830	10.0 lbs	White
Classic Rib	12'-0"	37.88"	6150930	12.0 lbs	White
Pro-Panel II	8'-0"	37.88"	6140230	8.0 lbs	White
Pro-Panel II	10'-0"	37.88"	6140430	10.0 lbs	White
Pro-Panel II	12'-0"	37.88"	6140630	12.0 lbs	White
Delta-Rib	8'-0"	26.25"	6115230	6.0 lbs	White
Delta-Rib	10'-0"	26.25"	6115430	8.0 lbs	White
Delta-Rib	12'-0"	26.25"	6115630	10.0 lbs	White
1.25" Corrugated	12'-0"	26"	6105630	10.0 lbs	White
2.5" Corrugated	10'-0"	26"	6110530	8.0 lbs	White
2.5" Corrugated	12'-0"	26"	6110630	10.0 lbs	White

POST FRAME ROOF JACKS

ROUND BASE

Hi-Temp

SIZE	TYPE	PRODUCT NO.	BASE DIAMETER	WEIGHT
#1 Flasher	Rubber	68501XX*	1/4" - 2"	0.9 lbs
#2 Flasher	Rubber	68502XX*	1 3/4" - 3 1/4"	1.5 lbs
#3 Flasher	Rubber	68503XX*	1/4" - 5"	2.1 lbs
#4 Flasher	Rubber	68504XX*	3" - 6 1/4"	2.8 lbs
#5 Flasher	Rubber	68505XX*	4 1/4" - 7 1/2"	3.9 lbs
#6 Flasher	Rubber	68506XX*	5" - 9"	4.6 lbs
#7 Flasher	Rubber	68507XX*	6" - 11"	5.9 lbs
#8 Flasher	Rubber	68508XX*	7" - 13"	7.0 lbs
#9 Flasher	Rubber	68509XX*	10" - 19"	10.2 lbs
*Special order colors: 93=Brown; 94=Green; 95=Red; 96=Blue; 97=White; 98=Grey; 99=Black				
#1 Flasher	HT Silicone	6850011	1/4" - 2"	3.0 lbs
#2 Flasher	HT Silicone	6850012	1 3/4" - 3 1/4"	3.5 lbs
#3 Flasher	HT Silicone	6850013	1/4" - 5"	4.0 lbs
#4 Flasher	HT Silicone	6850014	3" - 6 1/4"	4.5 lbs
#5 Flasher	HT Silicone	6850015	4 1/4" - 7 1/2"	5.0 lbs
#6 Flasher	HT Silicone	6850016	5" - 9"	6.0 lbs
#7 Flasher	HT Silicone	6850017	6" - 11"	11.0 lbs
#8 Flasher	HT Silicone	6850018	7" - 13"	12.0 lbs
#9 Flasher	HT Silicone	6850019	10" - 19"	13.0 lbs

RETROFIT

SIZE	TYPE	PRODUCT NO.	PIPE DIAMETER	WEIGHT
#1 Masterflash	Retrofit HT	6850060	1/4" - 2"	1.2 lbs
#2 Masterflash	Retrofit HT	6850061	1-1/4" - 3"	2.5 lbs
#3 Masterflash	Retrofit HT	6850062	1/4" - 4"	3.9 lbs
#1 Masterflash	Retrofit E.P.D.M	6850073	3/4" - 2-3/4"	1.2 lbs
#2 Masterflash	Retrofit E.P.D.M	6850074	2" - 7-1/4"	2.5 lbs
#3 Masterflash	Retrofit E.P.D.M	6850075	3/4" - 10"	3.9 lbs
#1 Masterflash	Retrofit E.P.D.M	6850070	3/4" - 2-3/4"	1.2 lbs
#2 Masterflash	Retrofit E.P.D.M	6850071	2" - 7-1/4"	2.5 lbs
#3 Masterflash	Retrofit E.P.D.M	6850072	3/4" - 10"	3.9 lbs
#1 Masterflash	Retrofit E.P.D.M	6850046	1/2" - 4"	1.2 lbs
#2 Masterflash	Retrofit E.P.D.M	6850047	1-1/4" - 3"	2.5 lbs
#3 Masterflash	Retrofit E.P.D.M	6850048	1/4" - 5"	3.9 lbs

RECEIVING MATERIAL

It is the responsibility of the installer to unload material from the delivery truck. The installer shall be responsible for providing suitable equipment for unloading of material from the delivery.

Metal Sales is not responsible for any damages or shortages unless they are documented in writing and presented to Metal Sales within 48 hours. A claim should be made against the carrier as soon as possible.

After receiving material:

- Check the condition of the material
- Review the shipment against the shipping list to ensure all materials are all accounted for
- If damages or shortages are discovered, it should be noted on the Bill of Lading at the time of delivery

BUNDLE HANDLING

Each bundle should be handled carefully to avoid being damaged. Care should be taken to prevent bending of the panel or scratching of the finish. Whenever possible, the bundle should remain crated until it is located in its place of storage or use. If bundles must be opened, we recommend you re-crate them before lifting. To avoid damage lift the bundle at its center of gravity.

CAUTION

Improper loading and unloading of bundles and crates may result in bodily harm and/or material damage. Metal Sales is not responsible for bodily injuries and/or material damages resulting from improper loading and unloading.

MECHANICAL HANDLING

Forklift - A forklift may be used for panels up to 20'-0" long. Make sure the forks are at their maximum separation. Do not transport open bundles. When transporting bundles across rough terrain, or over a longer distance, some means of supporting the panel load must be used.

Crane - A crane should be used when lifting panels with lengths greater than 20'-0". Be sure to utilize a spreader bar to ensure the even distribution of the weight to the pick up points. As a rule when lifting panels, no more than $^1/_3$ of the length of the panel should be left unsupported. Never use wire rope because this will damage the panels.

UNSTACKING MATERIAL

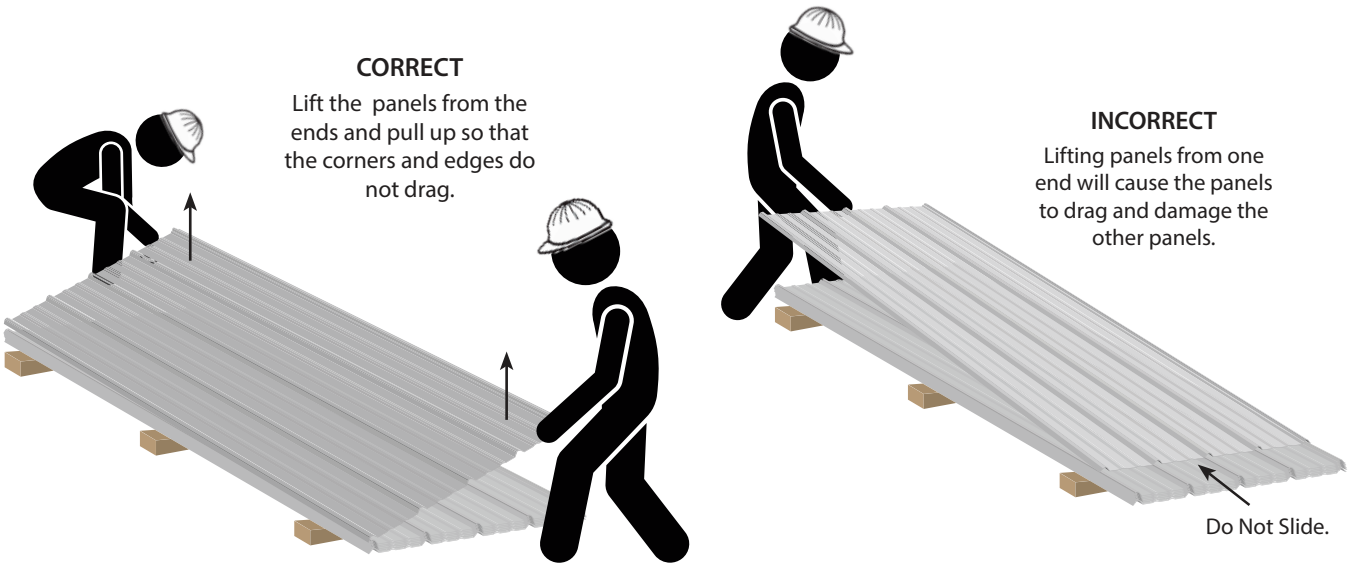
For panels over 5'-0" in length at least two people on the ends of the panel are required. Additional help will be needed for every 10'-0" in length beyond that.

Take care when unstacking to ensure panels are lifted up and not across other panels in the stack. Minimize handling of panels when unstacking and stacking to avoid damage. Be sure to wear appropriate safety equipment including clean gloves, as panel edges are sharp.

Inspect panels before lifting. Metal Sales is not responsible for damage created by unstacking panels incorrectly. Dragging or sliding the panels will cause the corners and edges to scratch the paint.

Defect claims must be reported upon inspection and *before* panels are handled or installed.

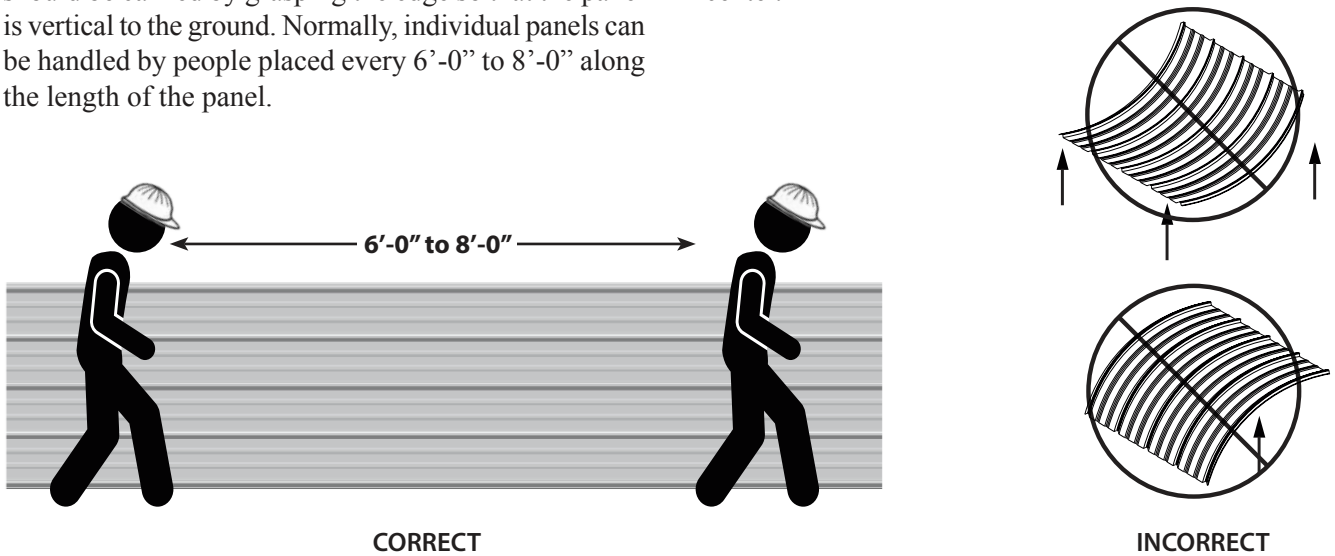
Restacking – Align bottom-side edge with the stack and lay panel onto the stack, nesting with the panels.



TRANSPORTING MATERIAL

Handling of individual panels should be done carefully and properly to avoid bending or damaging. Panels should be carried by grasping the edge so that the panel is vertical to the ground. Normally, individual panels can be handled by people placed every 6'-0" to 8'-0" along the length of the panel.

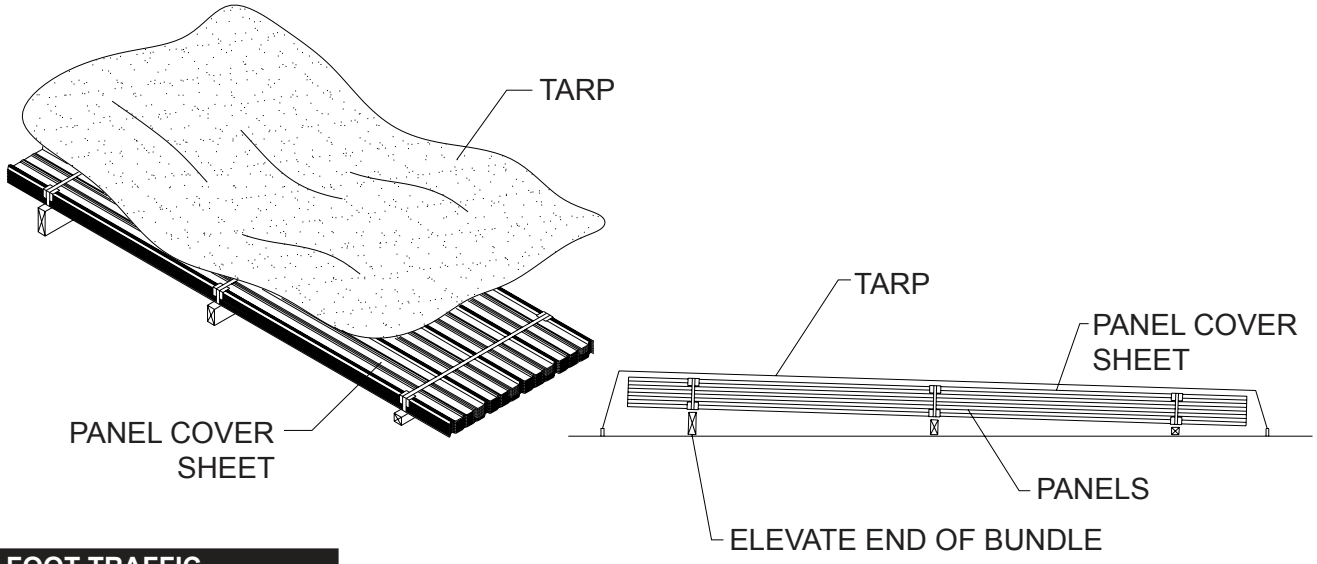
The panel should not be carried horizontal to the ground as this could cause the panel to buckle or bend in the center.



GENERAL

Please inspect panels for moisture accumulation. If moisture has formed, the panels should be unbundled, wiped dry, and allowed to dry completely. Once dry, carefully re-stack the panels and loosely recover allowing for ample air circulation.

Bundled sheets should be stored high enough off of the ground to allow for air circulation and prevent contact with accumulating water. Elevate one end of the bundle to allow any moisture to run off the panels. Metal Sales recommends covering the bundle with a Tarp. Do not use tight fitting plastic-type Tarp as panel bundle covers. While they may provide protection from heavy downpours, they can also retard necessary ventilation and trap heat and moisture that may accelerate metal corrosion. If panels are to be stored in possible bad weather, we suggest they be stored inside. Extended storage of panels in a bundle is not recommended. **Under no circumstances should the panels be stored near or come in contact with salt water, corrosive chemicals, ash or fumes generated or released inside the building or nearby plants, foundries, plating works, kilns, fertilizer and wet or green lumber.**



FOOT TRAFFIC

Care of metal panels and flashings must be exercised throughout erection. Foot traffic can cause distortion of panel and damage to finish. Traffic over the installed system must be kept to an absolute minimum. Installers should wear rubber sole shoes to keep from scuffing material while walking on the roof.

When walking on the roof panels is unavoidable, walk only in the flats of the panel. Walking on the ribs can cause damage to the panels.

REQUIRED TOOLS

Standard required tools for field installation include:

- Screw Guns
- Magnetic Bits
- Metal Nibbler or Shear
- Tin Snips
- Tape Measure
- Hammer
- Chalk Line
- Drill with bits
- Pop Rivet Gun
- Safety Goggles
- Gloves
- Ear Plugs
- Fall Protection

GENERAL

Metal Sales' panels are designed to be installed over open framing and/or directly over a wood substrate (minimum 5/8") with 30# felt moisture barrier (or an Ice and Water Shield when required by Local Building Codes).

Always check with local building codes prior to all installations for any additional requirements that may be specific to your area.

Galvanized and Galvalume panels should not be in contact with, or subject to, water runoff from copper, lead or uncoated steel materials.

Condensate water from air conditioning units typically contains dissolved copper. This condensate should be discharged through a plastic pipe extended beyond the edge of the roof.

There are two critical measurements involving metal panels: the length of panel overhang required at the eave, and the peak end. In each case a certain measurement is required. Check each measurement to ensure panel placement gives you the distance required at the eave, and peak condition. In most cases any variance can be taken out at the eave or peak ends.

CONDITION OF SUBSTRUCTURE

The roof should be inspected for any trapped moisture or structural damage such as bowing or sagging rafters and warped or loose roof purlins or solid decking. These areas should be repaired prior to installing new metal panels.

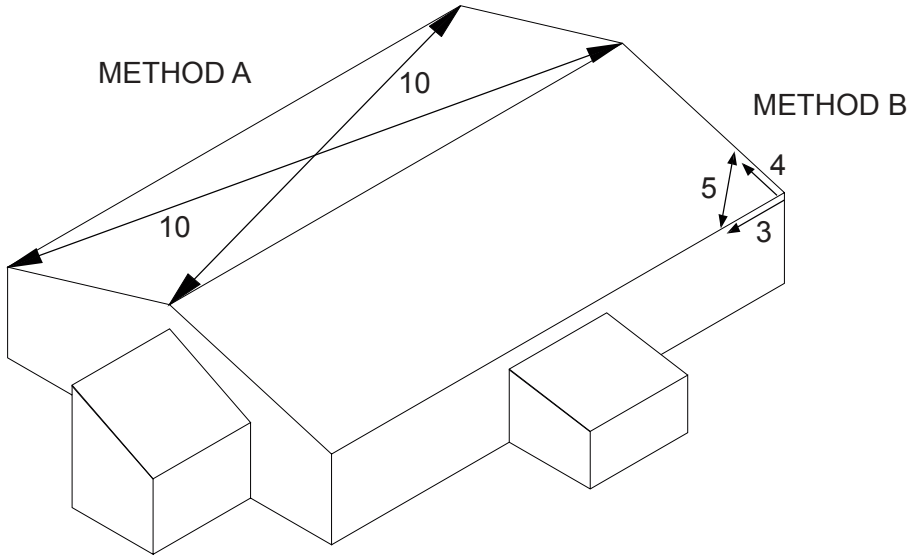
Prior to installation, make sure there are no nails or fasteners protruding from the roof framing or wood substrate which could damage the panels and impede the installation process.

When installed, panel distortion may occur if not applied over properly aligned and uniform substructure.

Whether installing over new or existing roof, the installer should check the roof deck for squareness before installing 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). 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.



FIELD CUTTING AND TOUCH-UP

FIELD CUTTING

Tin snips or a "nibbler" type electric tool are recommended for field cutting metal panels. Cutting the steel generates slivers or metal chips. These slivers and metal chips must be immediately removed from the panels because they will damage the finish and shorten the life of the product.

One method of preventing this problem is to flip the panels over when cutting. This allows the slivers and metal chips to be brushed from the back side and avoids damaging the paint on the top side of the panels.

When cutting metal panels and flashings, goggles must be worn for eye protection.

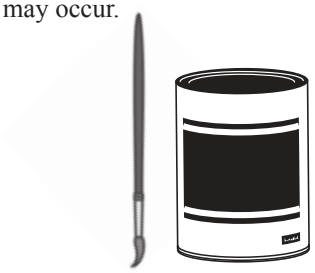
CAUTION

All product surfaces should be free of debris at all times. Installed surfaces should be wiped clean at the end of each work period. Never cut panels over metal surfaces. Metal shavings will rust on the surface, voiding the warranty.

TOUCH-UP PAINT

All painted panels and flashings have a factory applied baked on finish. Handling and installing panels may result in some small scratches or nicks to the paint finish. Touch-up paint is available in matching colors from Metal Sales. It is recommended that a small brush be used to apply touch-up paint to those areas that are in need of repair. Touch-up paint does not have the superior chalk and fade resistance of the factory applied paint finish and will normally discolor at an accelerated rate. Aerosol paint should not be used because of the overspray that may occur.

SPRAY PAINT



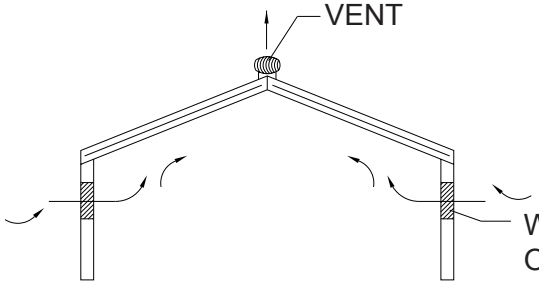
TOUCH-UP PAINT

VENTILATION

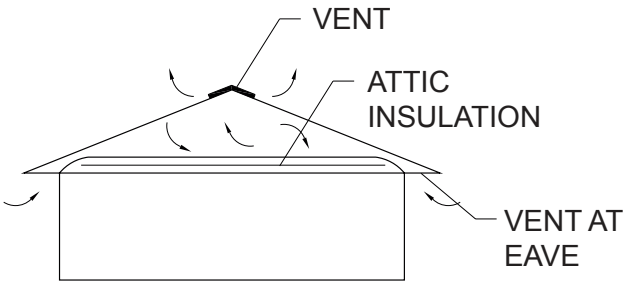
Proper design and installation of vapor barriers and ventilation systems are important to prevent condensation and the resulting problems of moisture damage and loss of insulation efficiency.

Condensation occurs when moisture laden air comes in contact with a surface temperature equal to or below the dew point of the air. This phenomenon creates problems that are not unique with metal buildings; these problems are common to all types of construction.

The underside of the metal roof on a typical metal building (no attic) should be protected from condensation by insulating with a faced insulation. This should reduce the potential of condensation forming on the underside of the panels.
On buildings that have an attic space or are being retrofitted with a metal roofing system, vents should be placed at both the eave and peak of the roof in order to prevent a buildup of moisture (humidity) in the attic space.



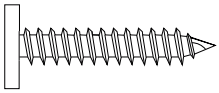
BUILDING
WITHOUT ATTIC

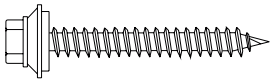


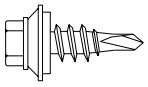
BUILDING
WITH ATTIC

POST FRAME FASTENER SELECTION GUIDE

POP RIVET	SIZE	TYPE	FINISH	APPLICATION
	1/8" x 3/8"	A	Unpainted	Flashing to Panel, Flashing to Flashing
	1/8" x 3/8"	A	Painted	Flashing to Panel, Flashing to Flashing

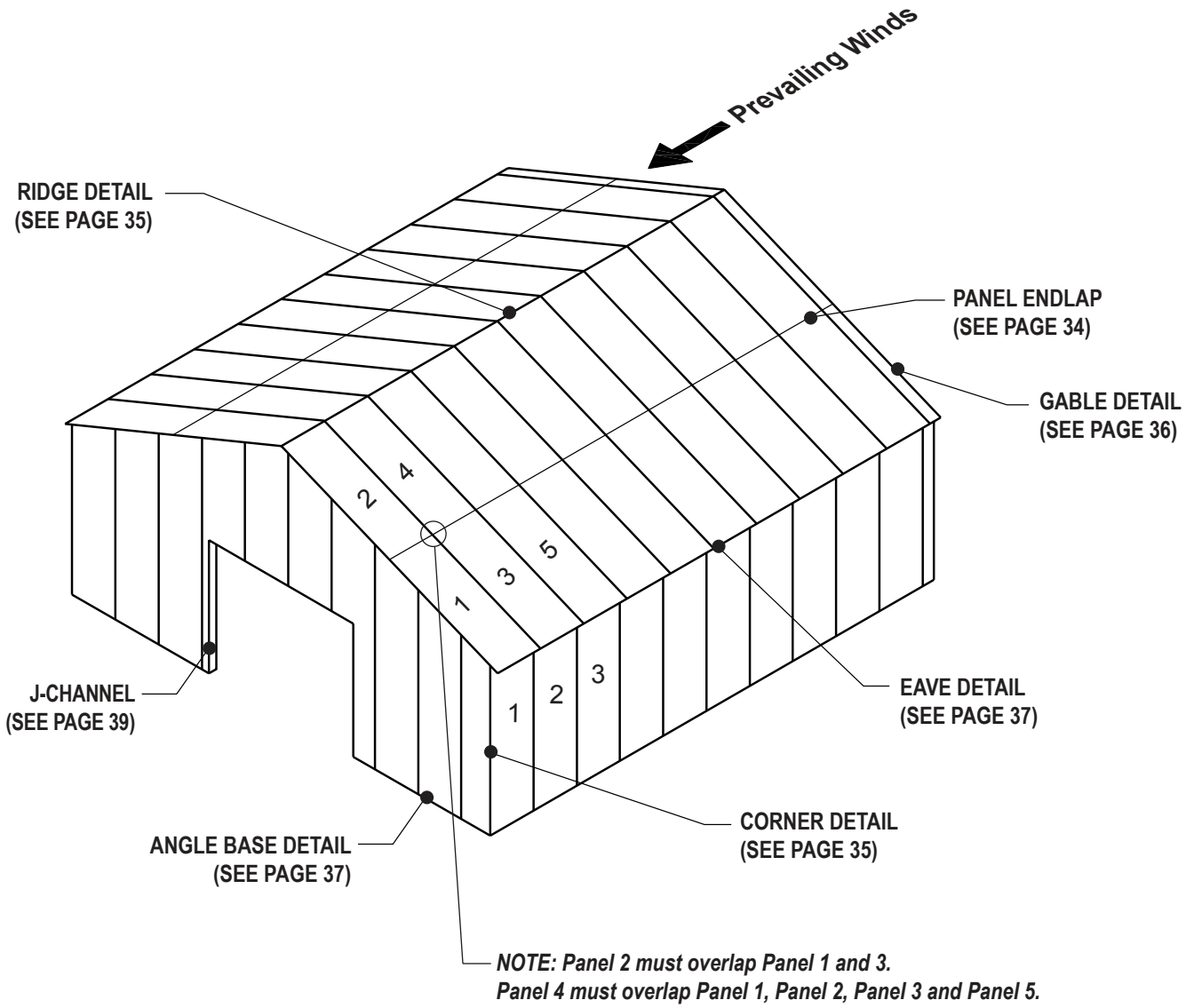
PANCAKE HEAD WOODSCREW	SIZE	TYPE	FINISH	APPLICATION
	#10-12 x 1"	A	Plated	Panel or Flashing to wood substructure

WOODSCREW	SIZE	TYPE	FINISH	APPLICATION
	#10-14 x 1" #10-14 x 1 1/2" #10-14 x 2"	A A A	Painted Painted Painted	Panel or Flashing to wood substructure

STITCH SCREW	SIZE	TYPE	FINISH	APPLICATION
	1/4"- 14 x 7/8"	Stitch	Painted	Flashing to Panel, Flashing to Flashing, Panel Sidelap

INSTALLATION OVERVIEW

- As shown below with the number designations, install panel against the prevailing wind. Installing Wall Panels first then Roof Panels
- To minimize corrosion, siding panels should not be installed all the way to the ground.
- Siding panels should lap over the foundations or splash boards at least three inches.
- Make sure panels are square and plumb, to assure straight and proper alignment of the entire row of panels.
- For areas with high wind considerations, closer fastener spacing may be required.
- It is necessary to attach a temporary guide to the foundation to use as an alignment guide when installing siding panels.
- Anti-Siphon groove side of panel must be overlapped with the non siphon groove side of the adjacent panel (if applicable)
- **When endlapping panels: at the side laps, both of the ridge panels must overlap both eave panels.**
- **At Endlaps apply Tape Sealant across the full width of the upper end of the eave panels.**



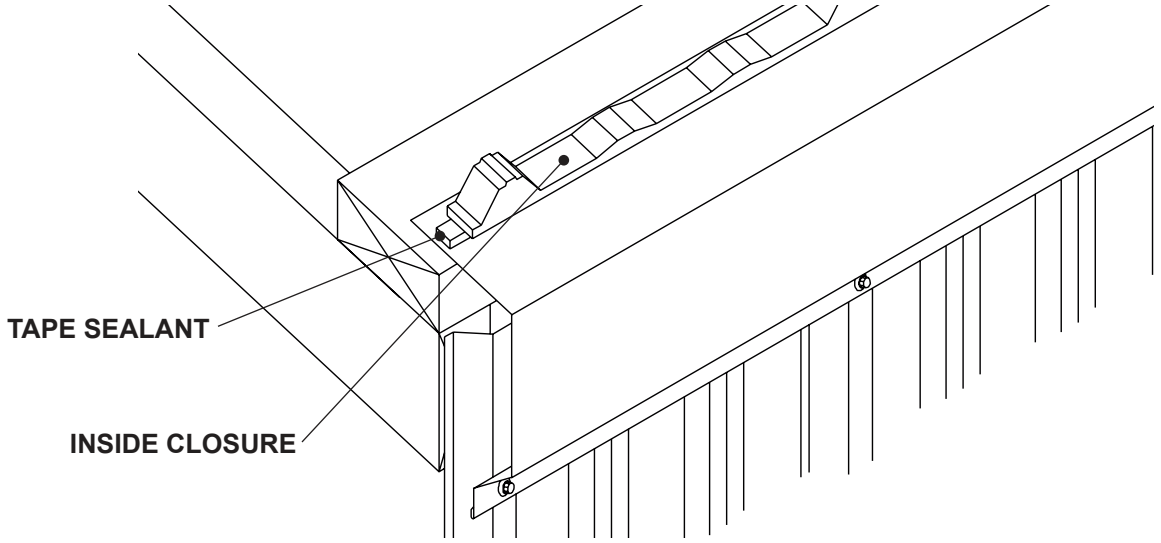
POST FRAME PANEL INSTALLATION

NOTE: **-Eave Molding and Valley Flashings must first be installed before panel installation can begin.**
-Panels can be installed going from either left to right or right to left / looking from eave to highside.

INSTALLING INSIDE CLOSURES

STEP 1

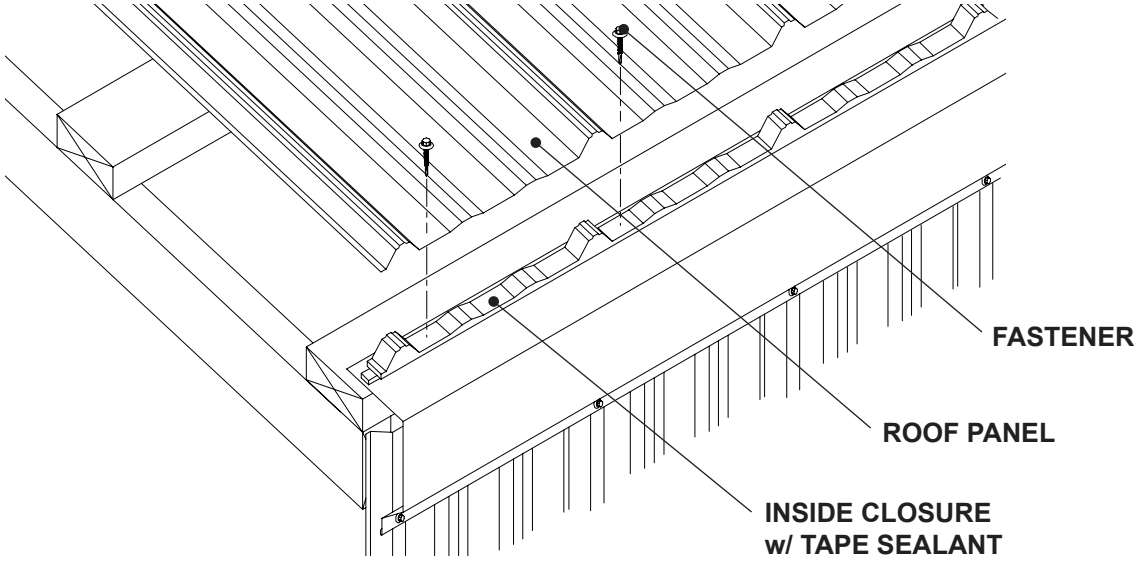
1. Apply a row of Tape Sealant across the top leg of the Eave Molding along the width of the building.
2. Align and place Inside Closures over the Tape Sealant. It is critical that Inside Closures are square to building as this will control the alignment of the panels. (See page 29 to check building square).
3. Apply a row of Tape Sealant across the top of the Inside Closure (Not shown for clarity).



INSTALLING FIRST PANEL

STEP 2

1. Install the first panel over the Inside Closure allowing desired overhang. Make sure the panel is square to the eave and rake.
2. Fasten through panel, closure and sealants into decking with appropriate amount of fasteners to meet local building code. (See fastening patterns on pages 7, 9, 11, 13, 15 or 19). Fasteners must penetrate closure and sealant.
3. After securing panel at eave, repeat the fastening pattern at all panel support locations.



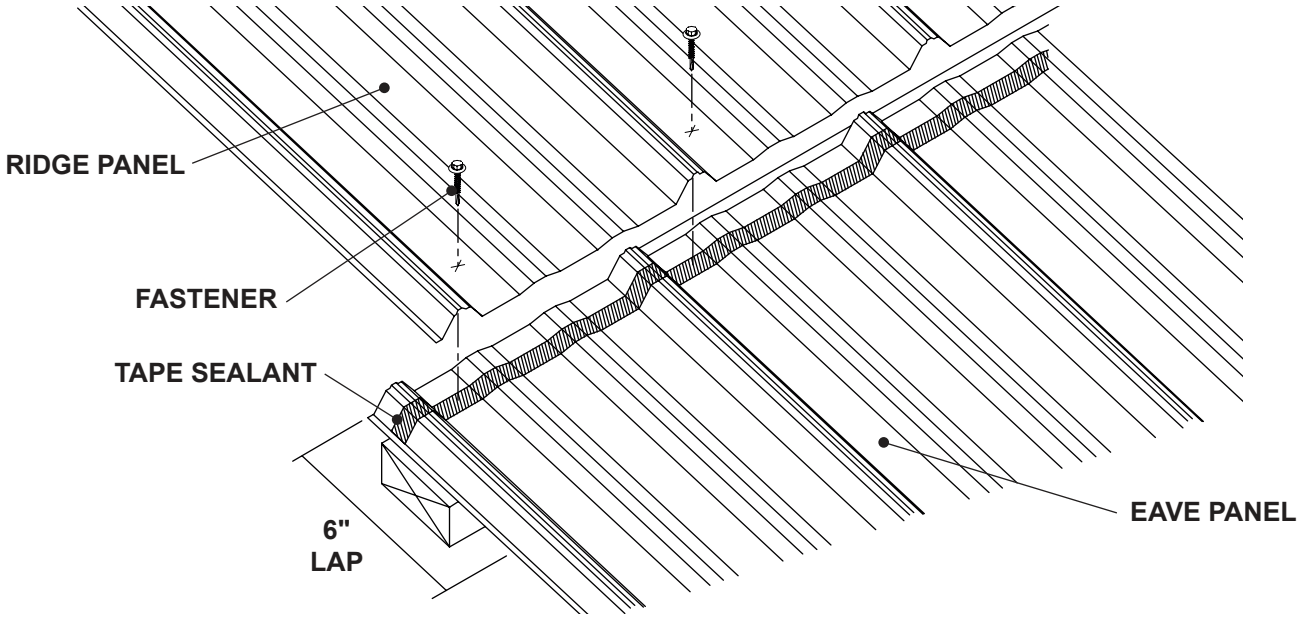
POST FRAME PANEL INSTALLATION

INSTALLING ENDLAP PANEL (IF REQUIRED)

STEP 3

1. Apply a row of Tape Sealant across and over the ribs of the eave panel about 3" from panel end.
2. Install the ridge panel over the eave panel and Tape Sealant with a 6" Endlap. Fasten through both panels and Tape Sealant into support with appropriate amount of fasteners to meet local building code. (See fastening patterns on pages 7, 9, 11, 13, 15 or 19). Fasteners must penetrate sealant.
3. After securing panel, repeat the fastening pattern at all panel support locations.

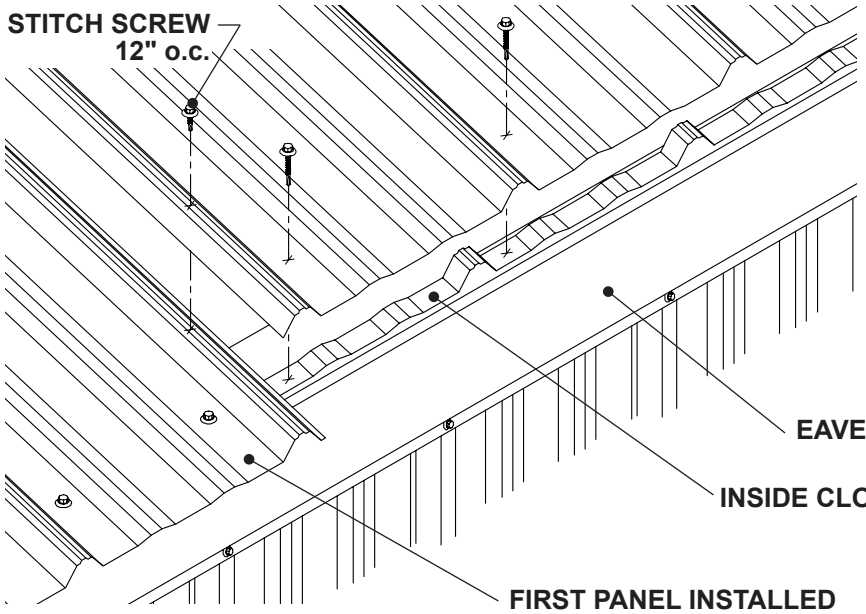
Note: when endlapping multiple panels: at the side laps, both the ridge panels must overlap both eave panels.

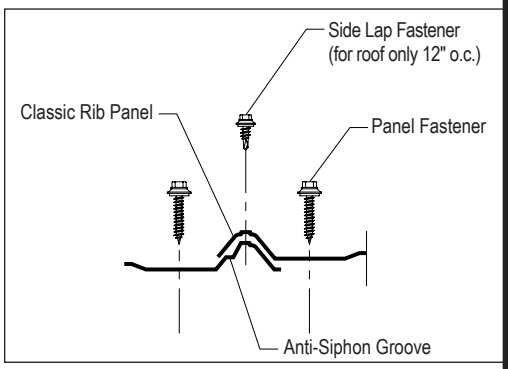


INSTALLING SIDELAP PANEL

STEP 4

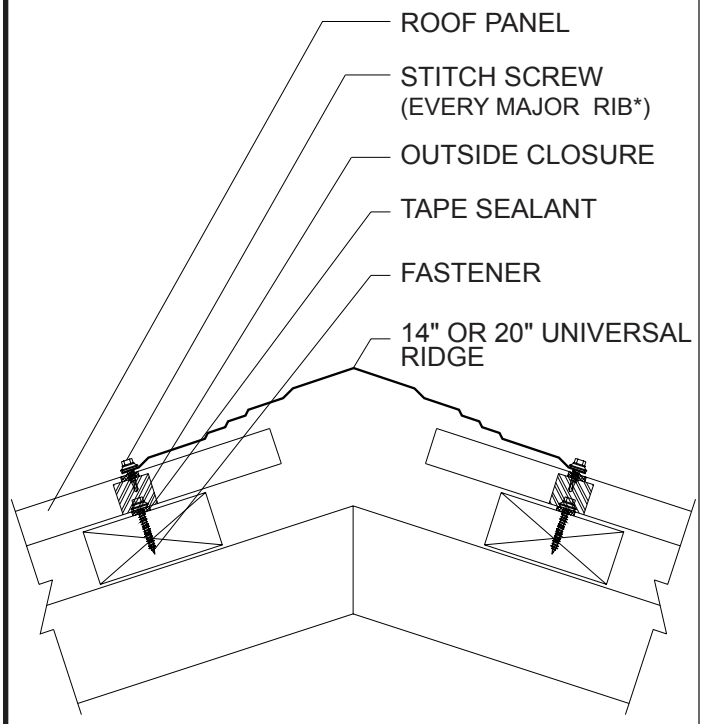
1. Place the lapping seam of the second panel on top of previously installed panel so that panel ends are flush at eave (See below).
2. Fasten through panel, closure, and Tape Sealant into support with appropriate amount of fasteners to meet local building code. (See fastening patterns on pages 7, 9, 11, 13, 15 or 19). Fasteners must penetrate closure and sealant.
3. After securing panel, repeat the fastening pattern at all panel support locations.





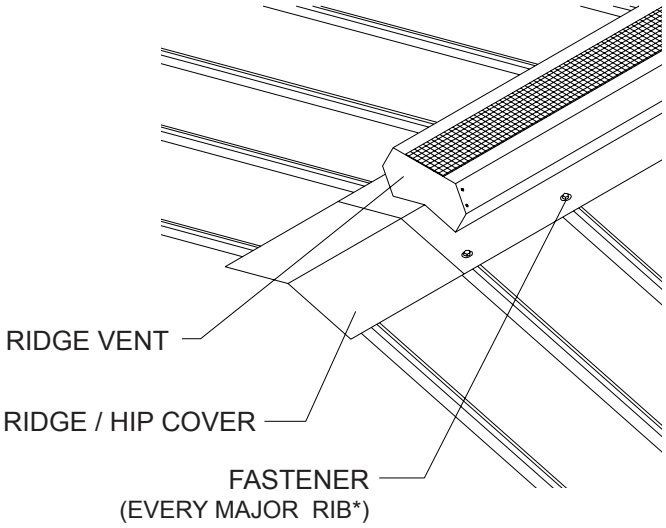
POST FRAME BUILDING DETAILS

14" UNIVERSAL RIDGE DETAIL



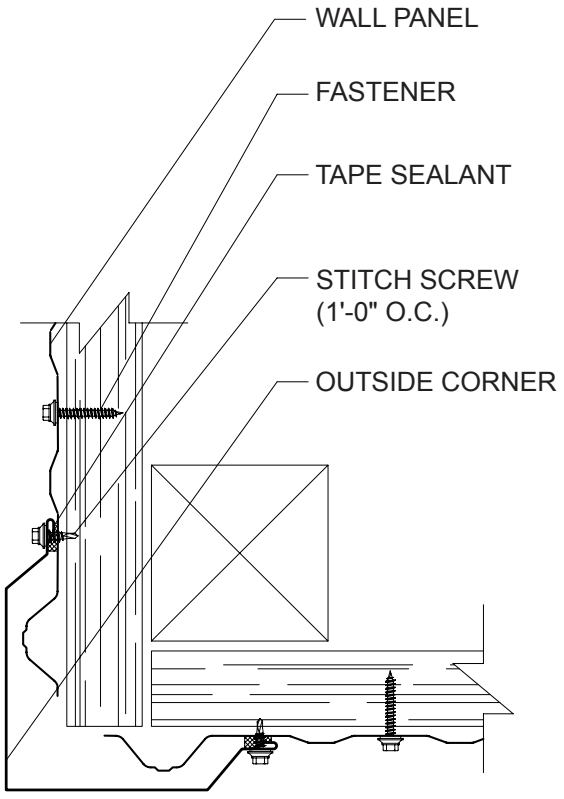
* Fastener to be 8"-12" O.C. depending on panel profile.

LOW PROFILE RIDGE VENT DETAIL

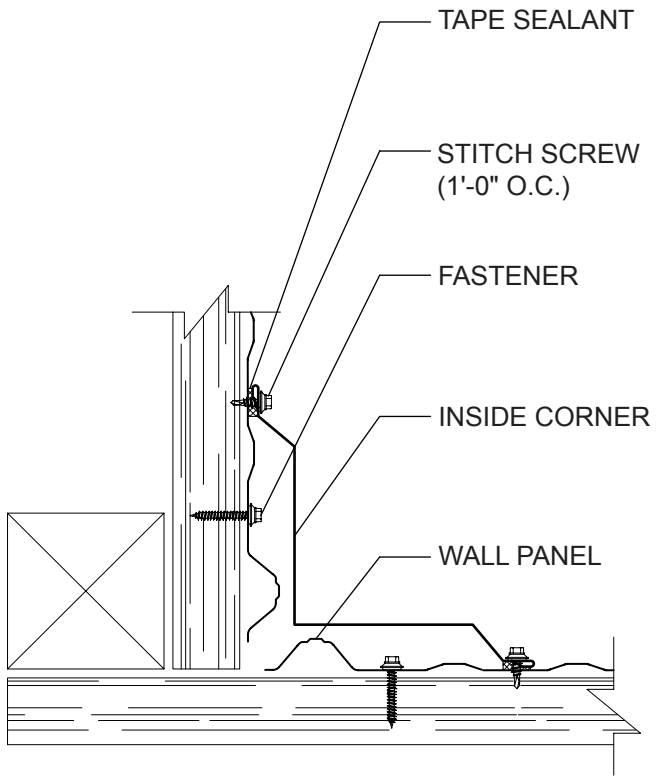


* Fastener to be 8"-12" O.C. depending on panel profile.

OUTSIDE CORNER DETAIL

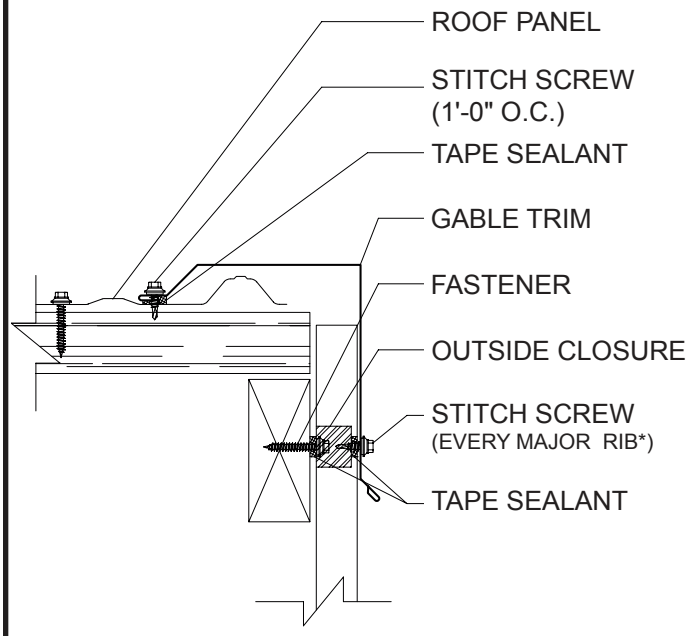


INSIDE CORNER DETAIL



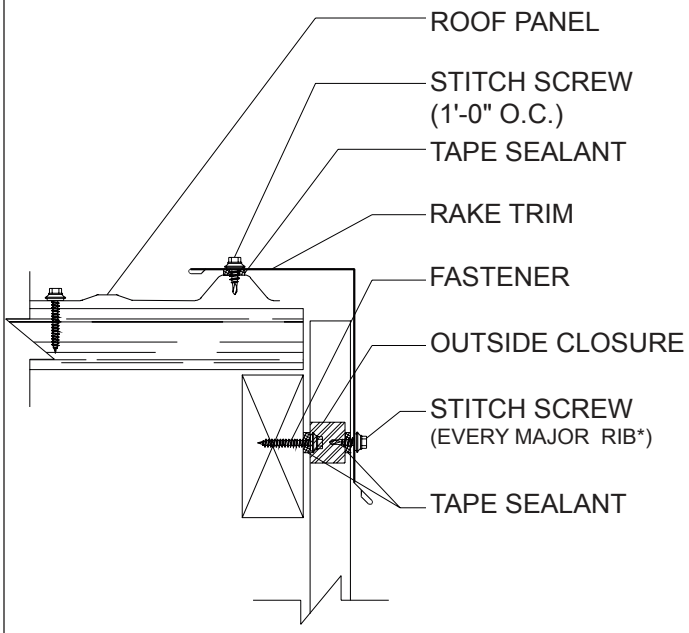
POST FRAME BUILDING DETAILS

GABLE TRIM DETAIL



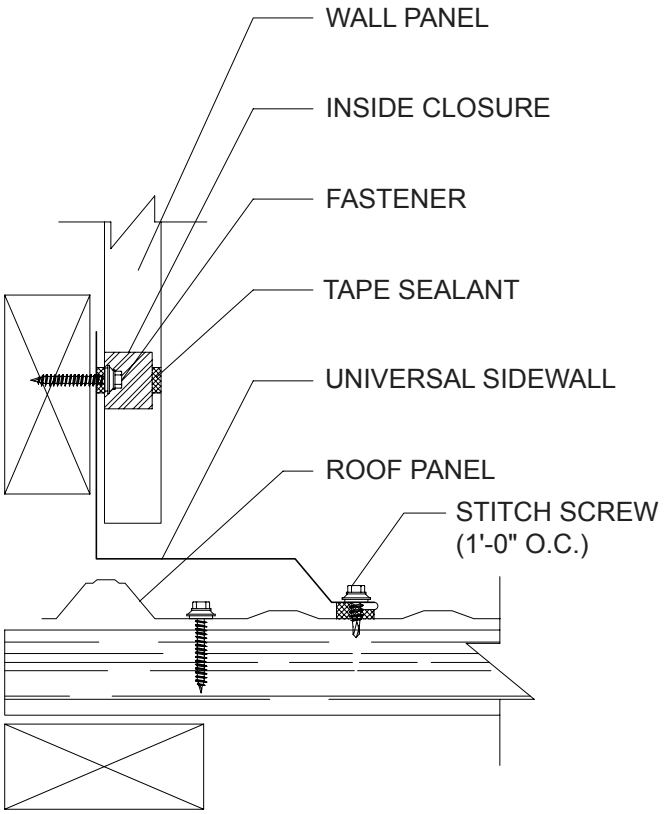
* Fastener to be 8"-12" O.C. depending on panel profile.

RAKE TRIM DETAIL

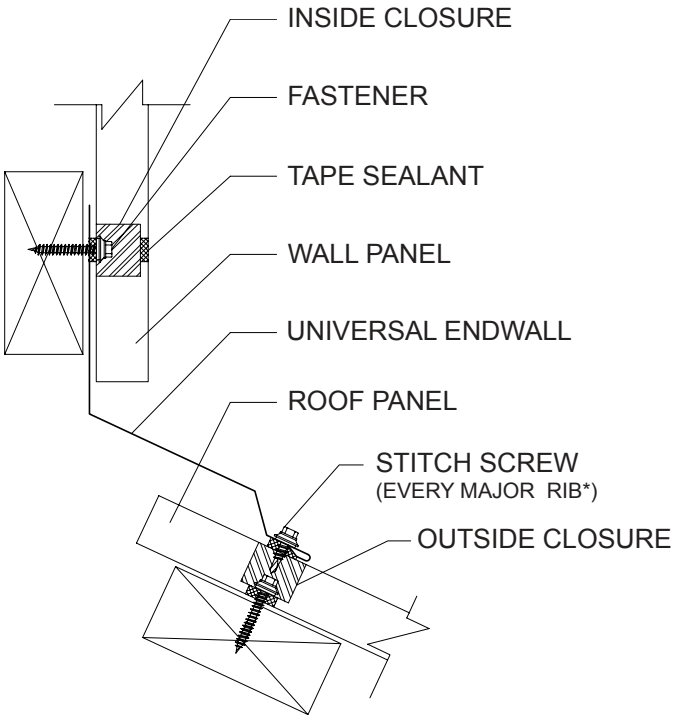


* Fastener to be 8"-12" O.C. depending on panel profile.

UNIVERSAL SIDEWALL DETAIL



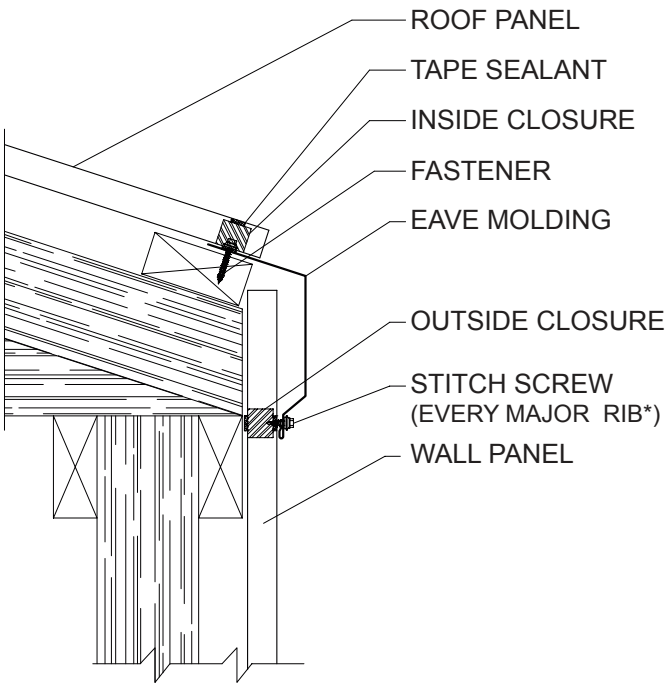
UNIVERSAL ENDWALL DETAIL



* Fastener to be 8"-12" O.C. depending on panel profile.

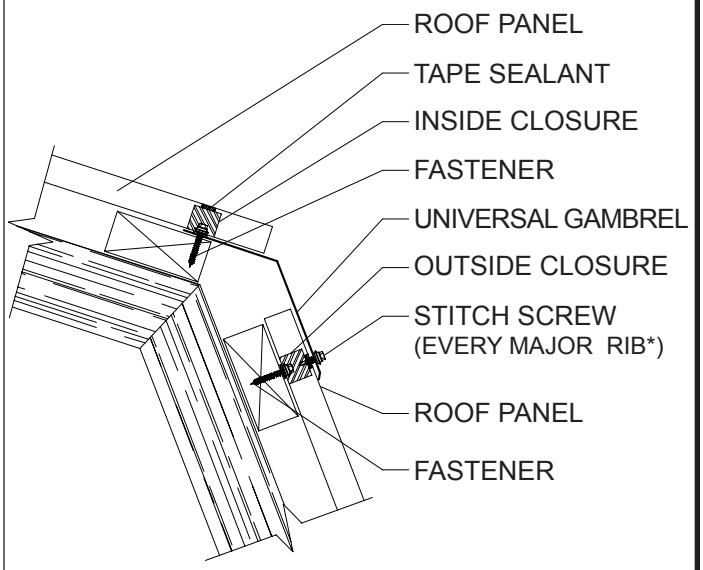
POST FRAME BUILDING DETAILS

EAVE MOLDING DETAIL



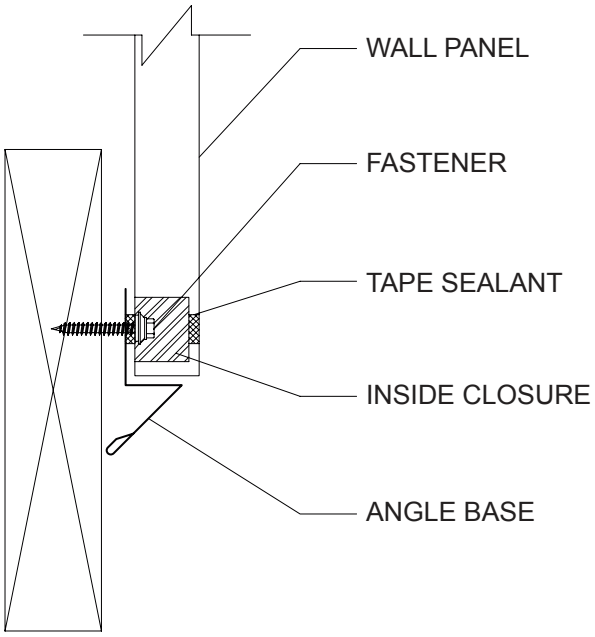
* Fastener to be 8"-12" O.C. depending on panel profile.

UNIVERSAL GAMBREL DETAIL

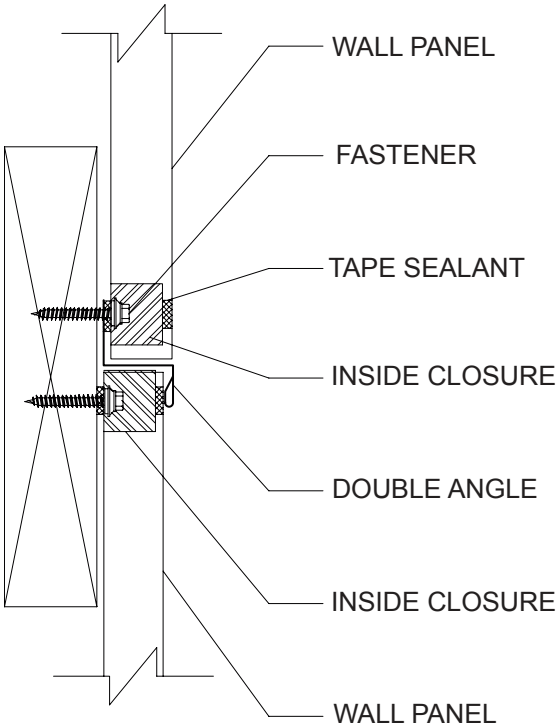


* Fastener to be 8"-12" O.C. depending on panel profile.

ANGLE BASE DETAIL

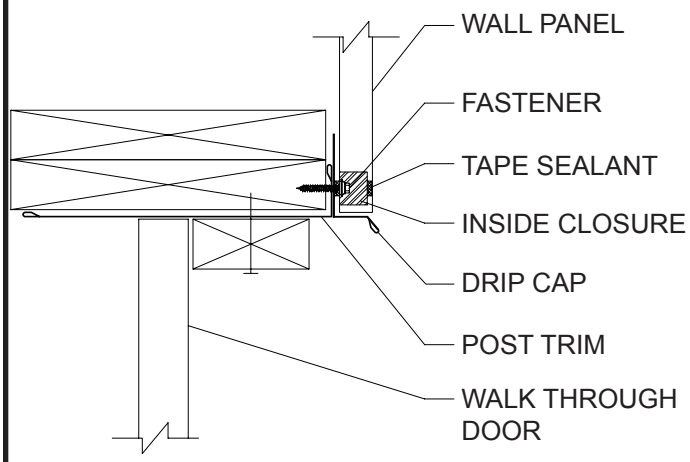


DOUBLE ANGLE DETAIL

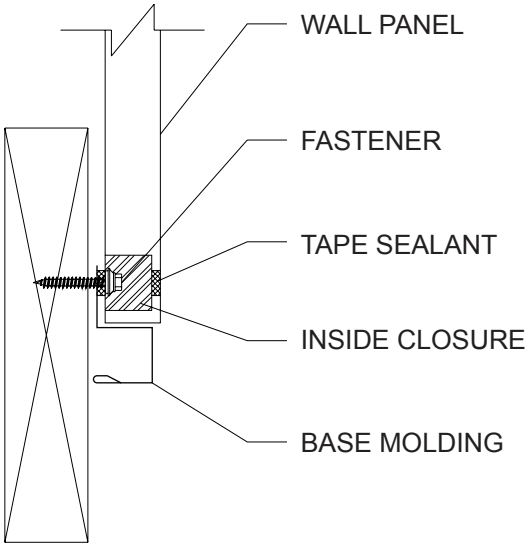


POST FRAME BUILDING DETAILS

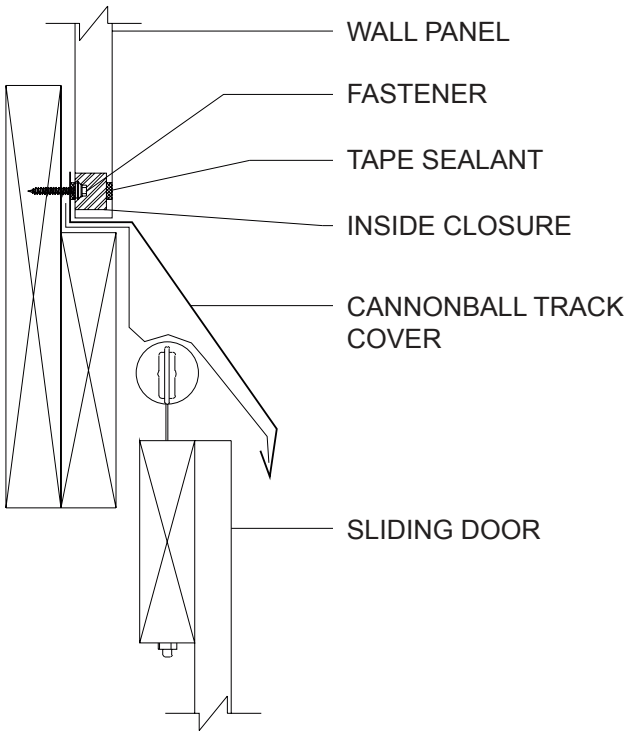
DRIP CAP DETAIL



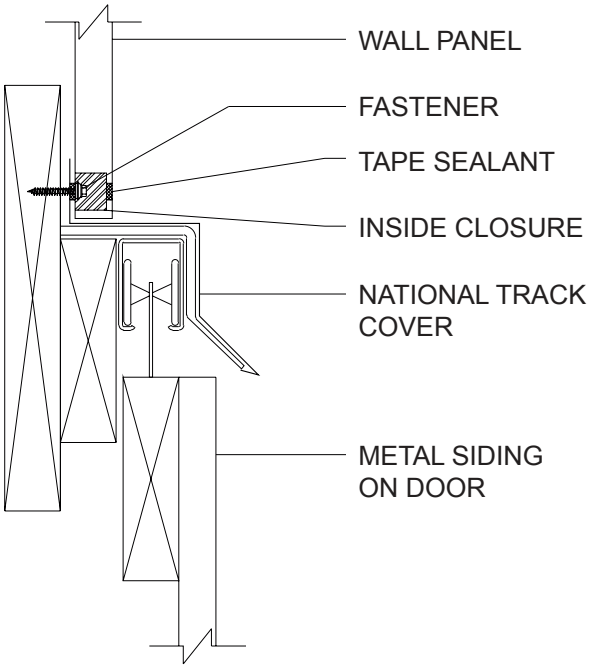
BASE MOLDING DETAIL



CANNONBALL TRACK COVER DETAIL

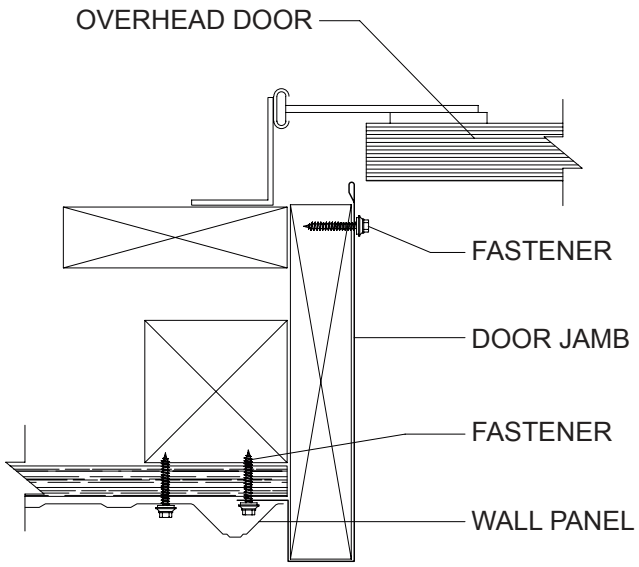


NATIONAL TRACK COVER DETAIL

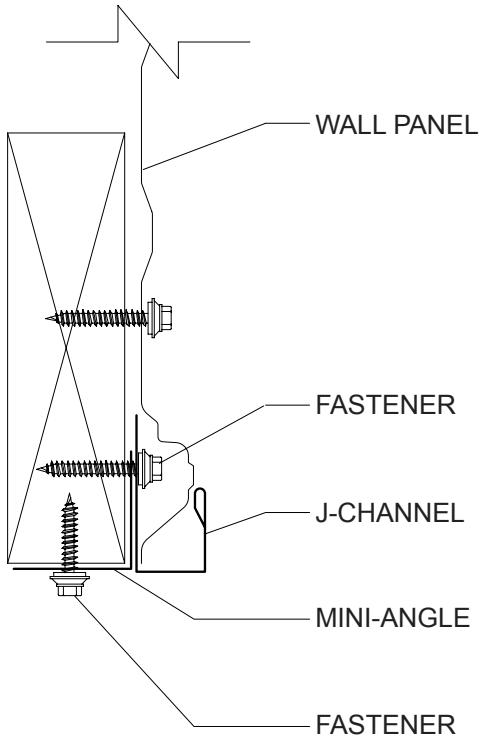


POST FRAME BUILDING DETAILS

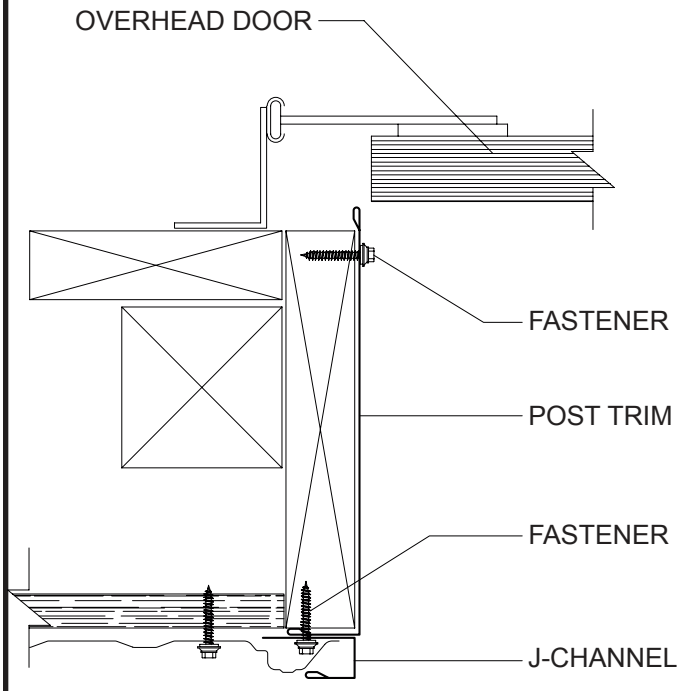
DOOR JAMB DETAIL



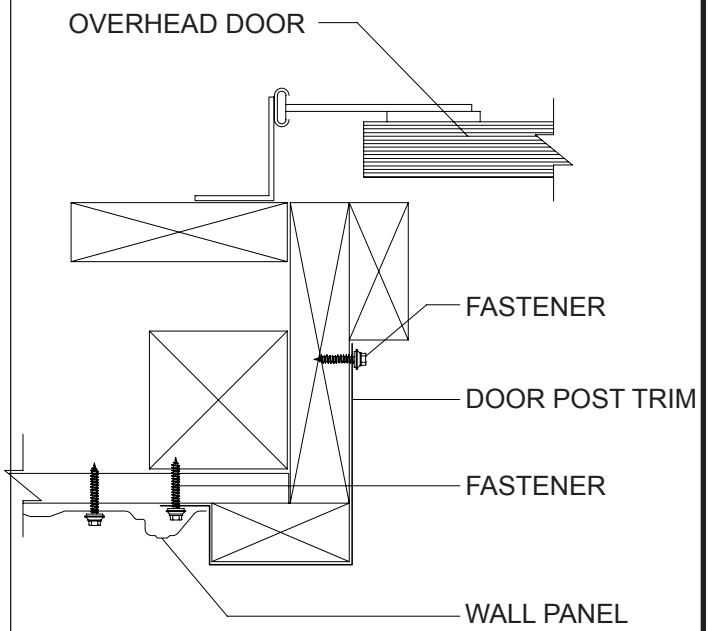
MINI-ANGLE / U-FLASHING DETAIL



POST TRIM DETAIL

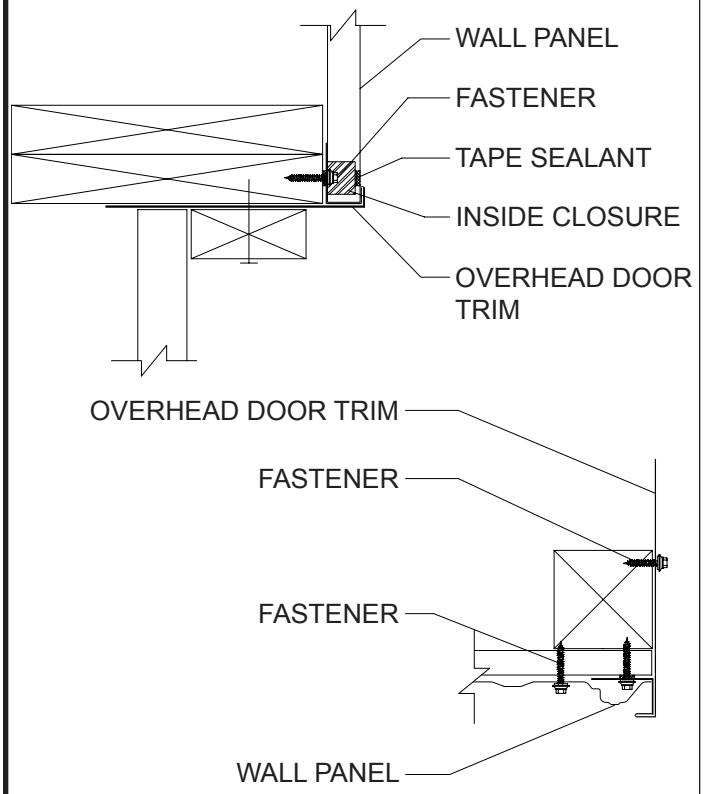


DOOR POST TRIM DETAIL

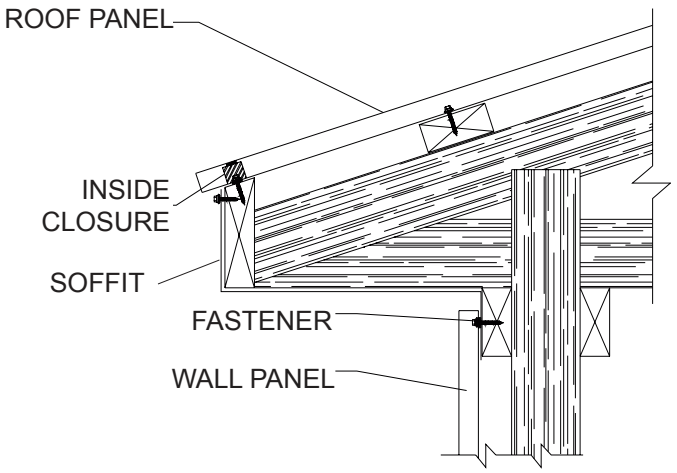


POST FRAME BUILDING DETAILS

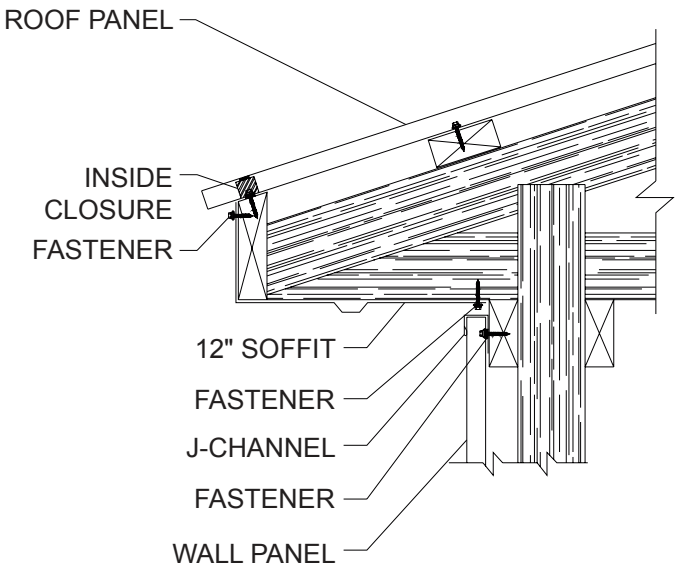
OVERHEAD DOOR TRIM DETAIL



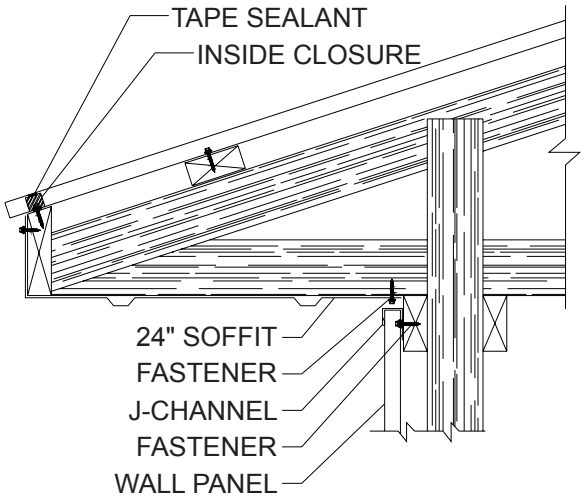
SOFFIT DETAIL



12" SOFFIT DETAIL

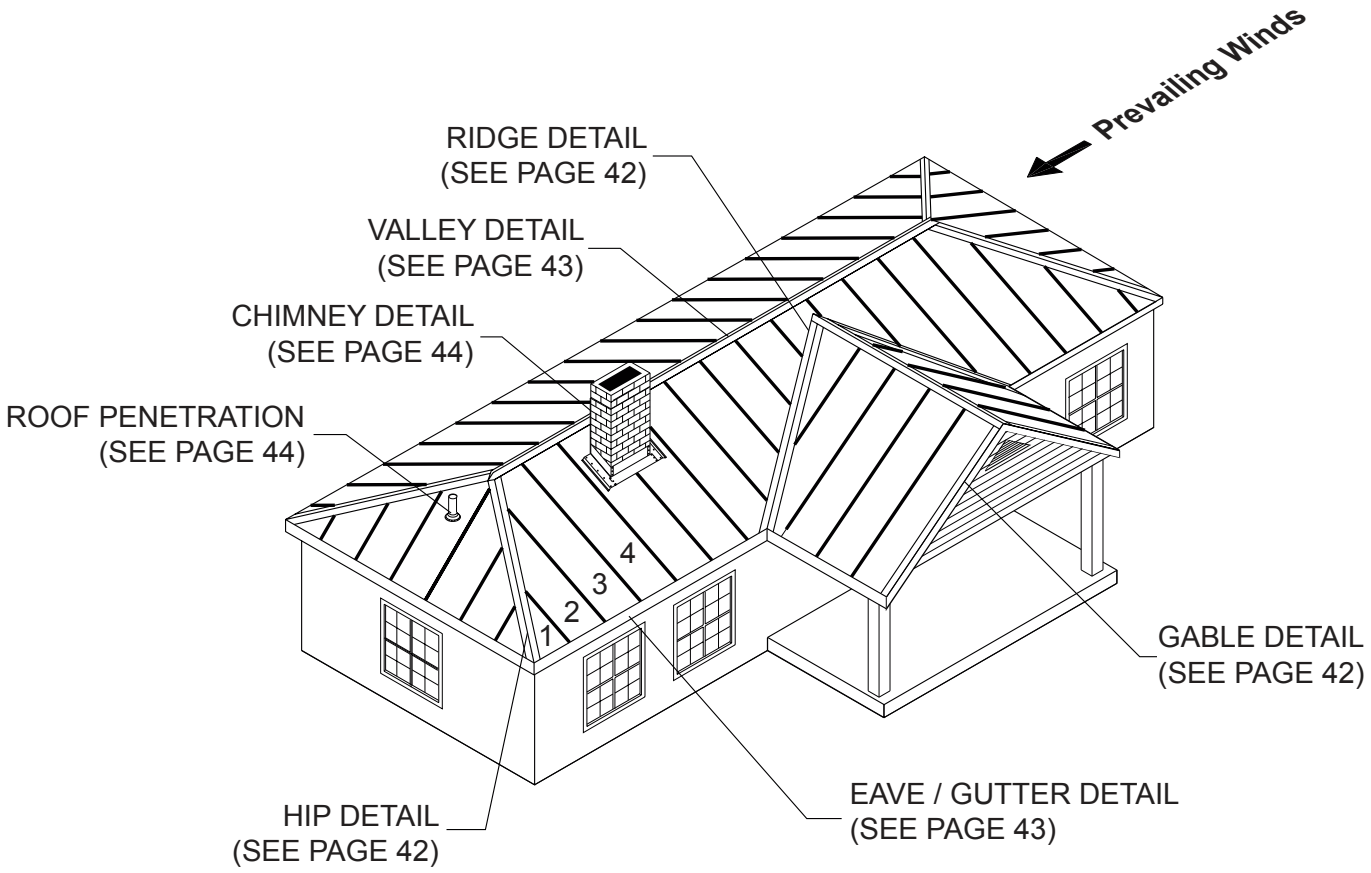


24" SOFFIT DETAIL



INSTALLATION OVERVIEW

- As shown below with the number designations, install panel against the prevailing wind.
- Make sure panels are square and plumb, to assure straight and proper alignment of the entire row of panels.
- For areas with high wind considerations, closer fastener spacing may be required.
- It is necessary to attach a temporary guide to the foundation to use as an alignment guide when installing siding panels.
- Anti-Siphon groove side of panel must be overlapped with the non-siphon groove side of the adjacent panel (if applicable).



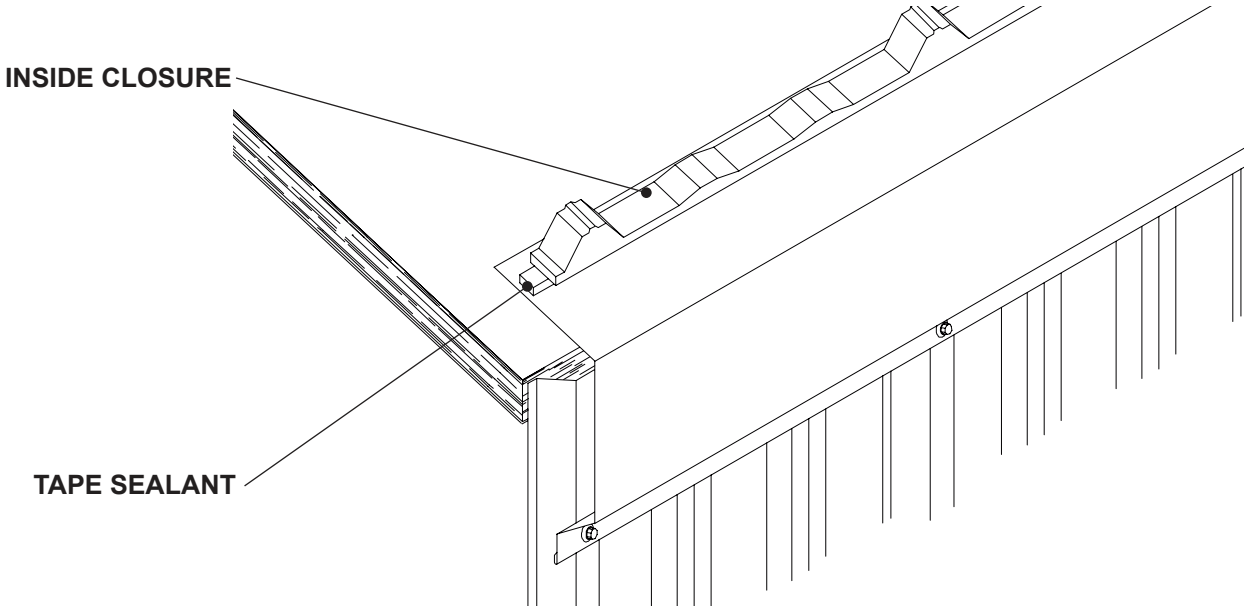
POST FRAME RESIDENTIAL PANEL INSTALLATION

NOTE: -Eave Molding, Gutter and Valley Flashings must first be installed before panel installation can begin.
-Panels can be installed going from either letf to right or right to left / looking from eave to peak.

INSTALLING INSIDE CLOSURES

STEP 1

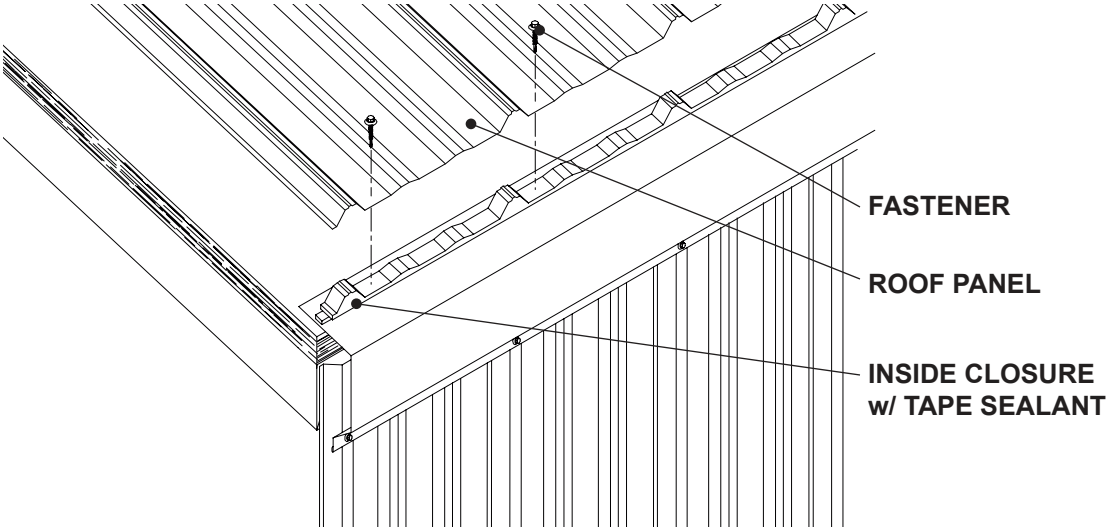
1. Apply a row of Tape Sealant across the top leg of the Eave Molding along the width of the building.
2. Align and place Inside Closures over the Tape Sealant. It is critical that Inside Closures are square to building as this will control the alignment of the panels. (See page 29 to check building square).
3. Apply a row of Tape Sealant across the top of the Inside Closure (not shown for clarity).



INSTALLING FIRST PANEL

STEP 2

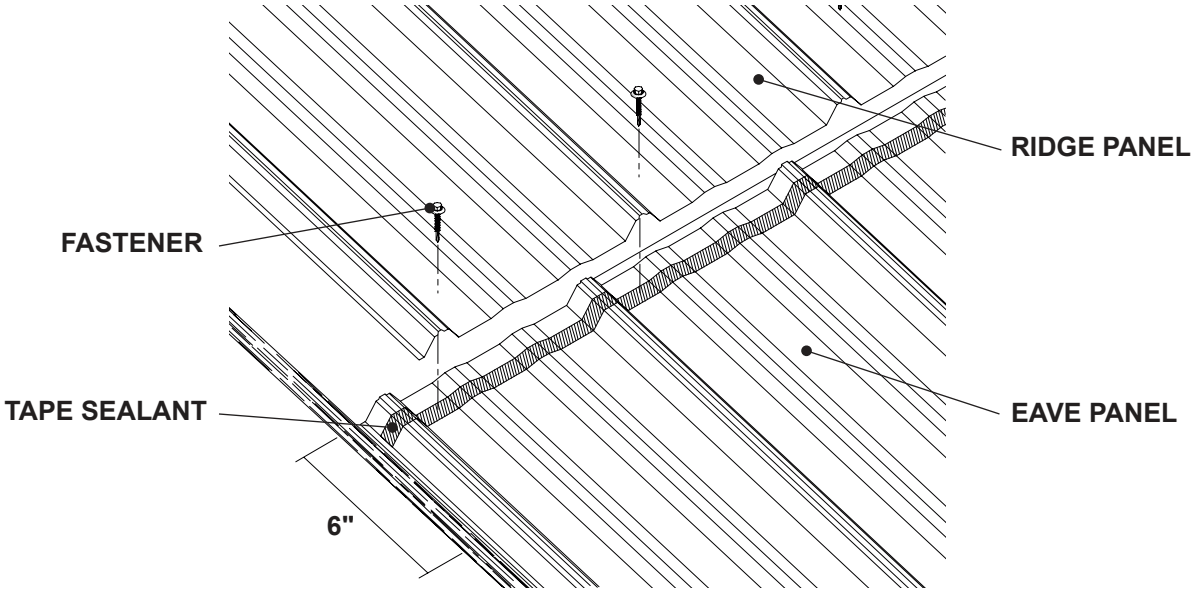
1. Install the first panel over the Inside Closure to allow for desired overhang. Make sure the panel is square to the eave and rake.
2. Fasten through panel, closure and sealants into decking with appropriate amount of fasteners to meet local building code. (See fastening patterns on pages 7, 9, 11, 13, 15 or 19). Fasteners must penetrate closure and sealant.
3. After securing panel at eave, repeat the fastening pattern at the appropriate spacing to meet local building codes.



INSTALLING SECOND PANEL

STEP 3

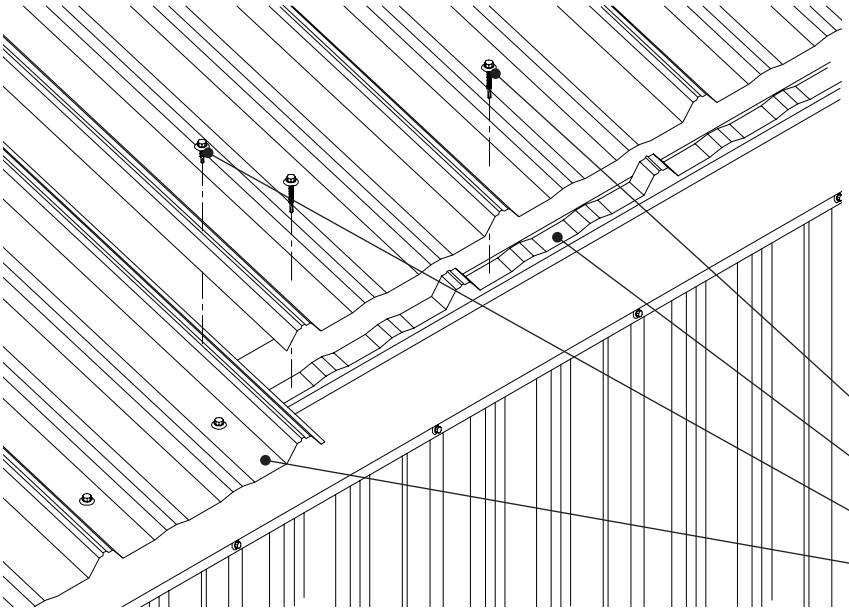
1. Apply a row of Tape Sealant across and over the ribs of the first panel about 3" from panel end.
2. Install the second panel over the first panel and Tape Sealant with a 6" Endlap. Fasten through both panels and Tape Sealant into support with appropriate amount of fasteners to meet local building code. (See fastening patterns on pages 7, 9, 11, 13, 15 or 19). Fasteners must penetrate sealant.
3. After securing panel at eave, repeat the fastening pattern at the appropriate spacing to meet local building codes.

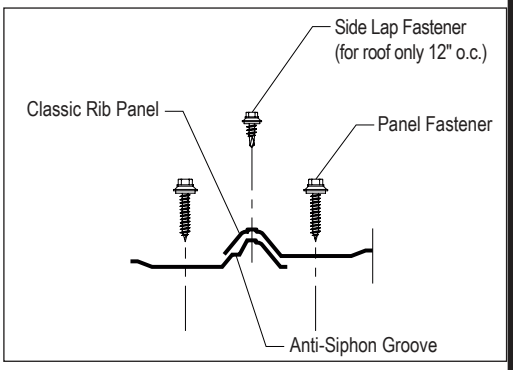


INSTALLING SECOND EAVE PANEL

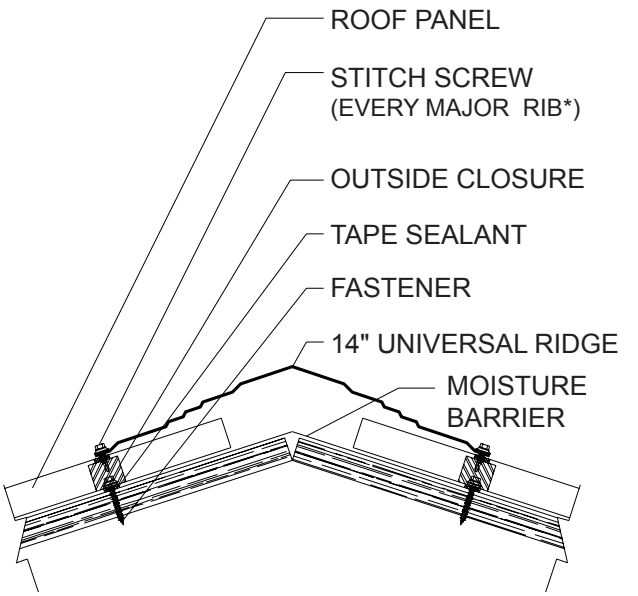
STEP 4

1. Place the lapping seam of the second panel on top of previously installed panel so that panel ends are flush at eave (See below).
2. Fasten through panel, closure and Tape Sealant into support with appropriate amount of fasteners to meet local building code. (See fastening patterns on pages 7, 9, 11, 13, 15 or 19). Fasteners must penetrate closure and sealant.
3. After securing panel at eave, repeat the fastening pattern at the appropriate spacing to meet local building codes.



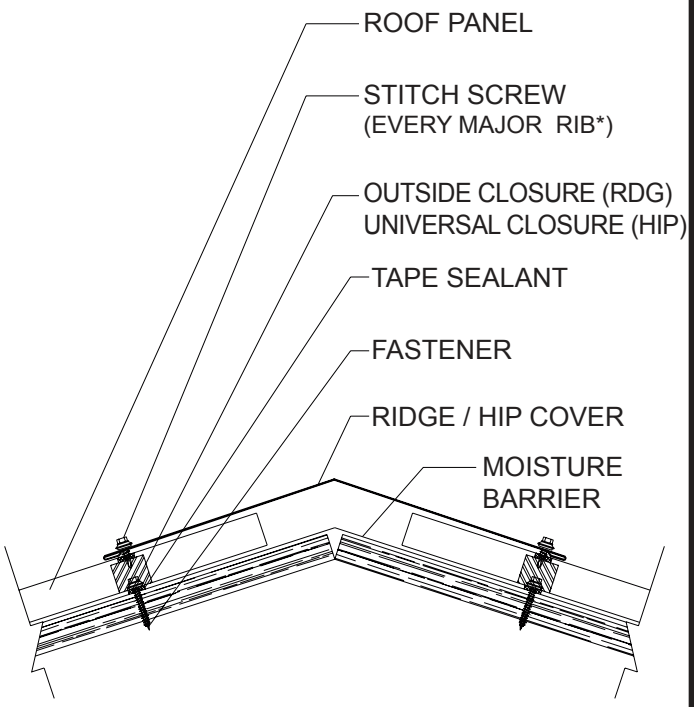


14" UNIVERSAL RIDGE DETAIL



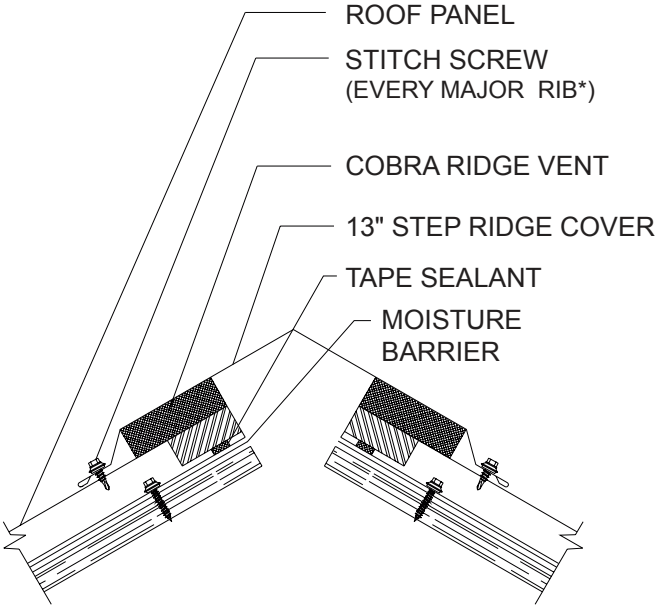
* Fastener to be 8"-12" O.C. depending on panel profile.

RIDGE / HIP COVER DETAIL



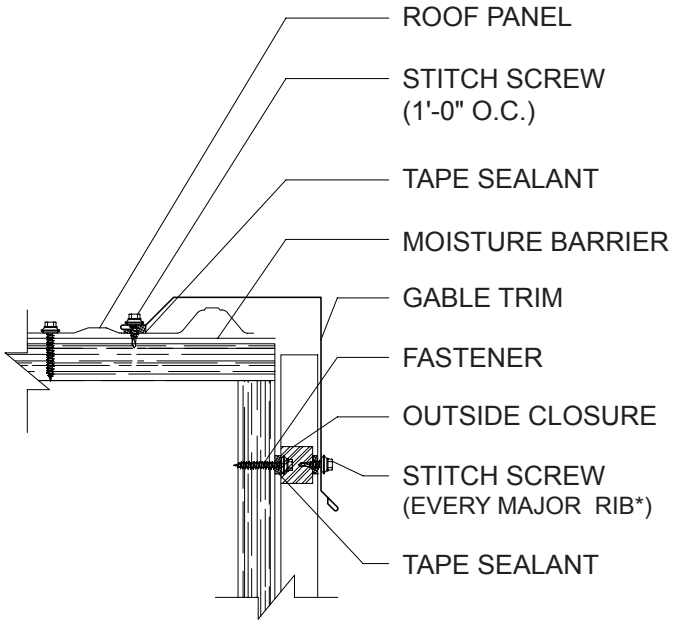
* Fastener to be 8"-12" O.C. depending on panel profile.

VENTED RIDGE DETAIL



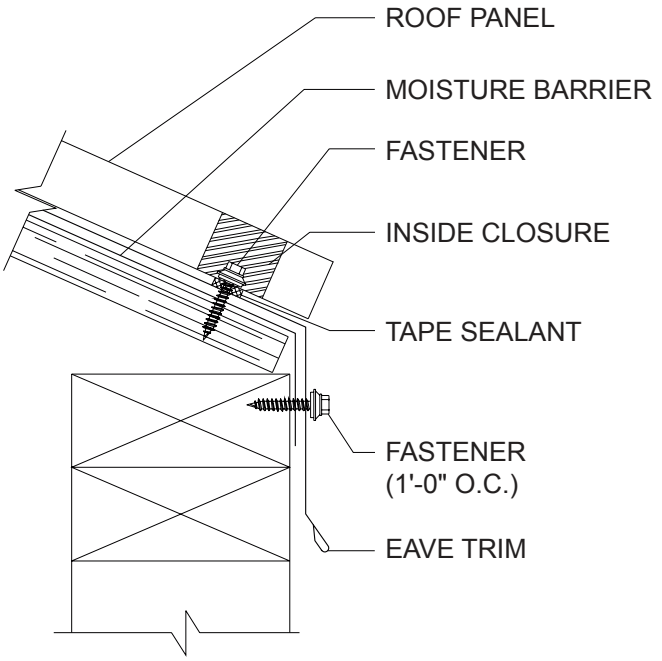
* Fastener to be 8"-12" O.C. depending on panel profile.

GABLE TRIM DETAIL

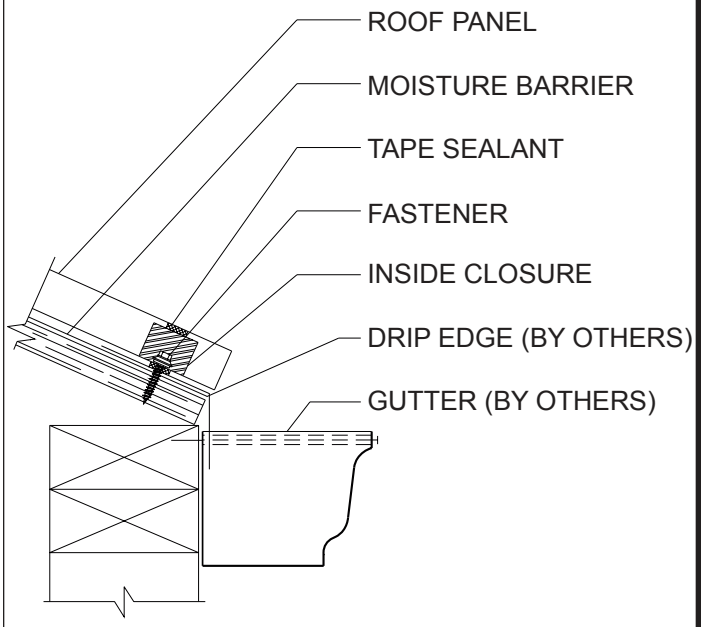


* Fastener to be 8"-12" O.C. depending on panel profile.

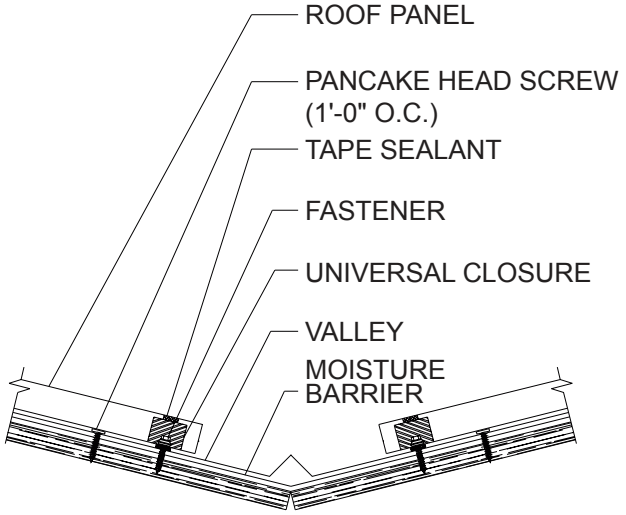
EAVE DETAIL



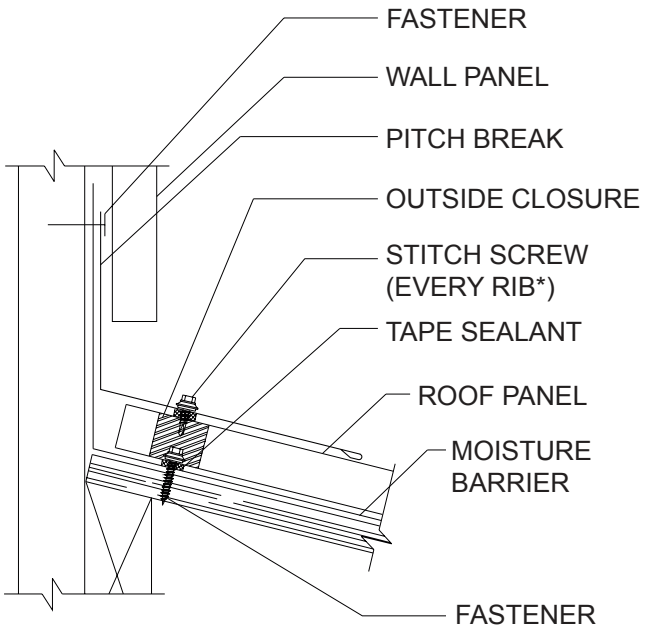
GUTTER DETAIL



VALLEY DETAIL

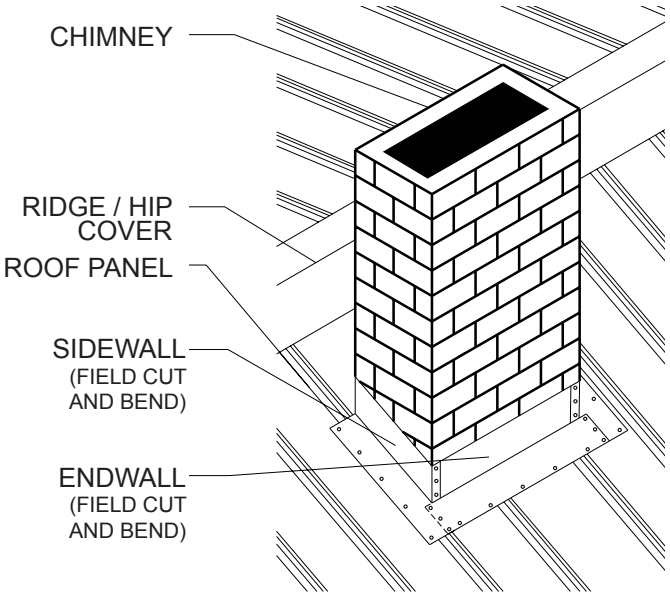


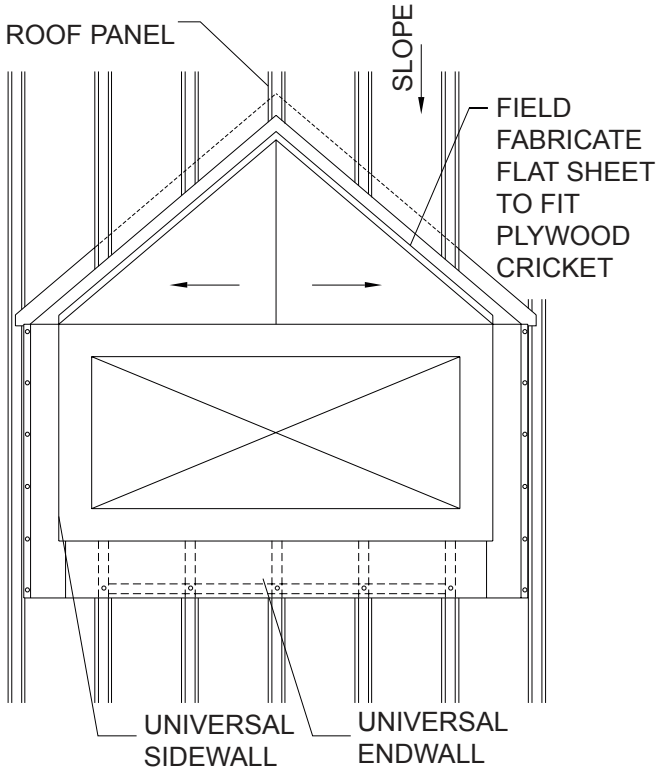
PITCH BREAK DETAIL



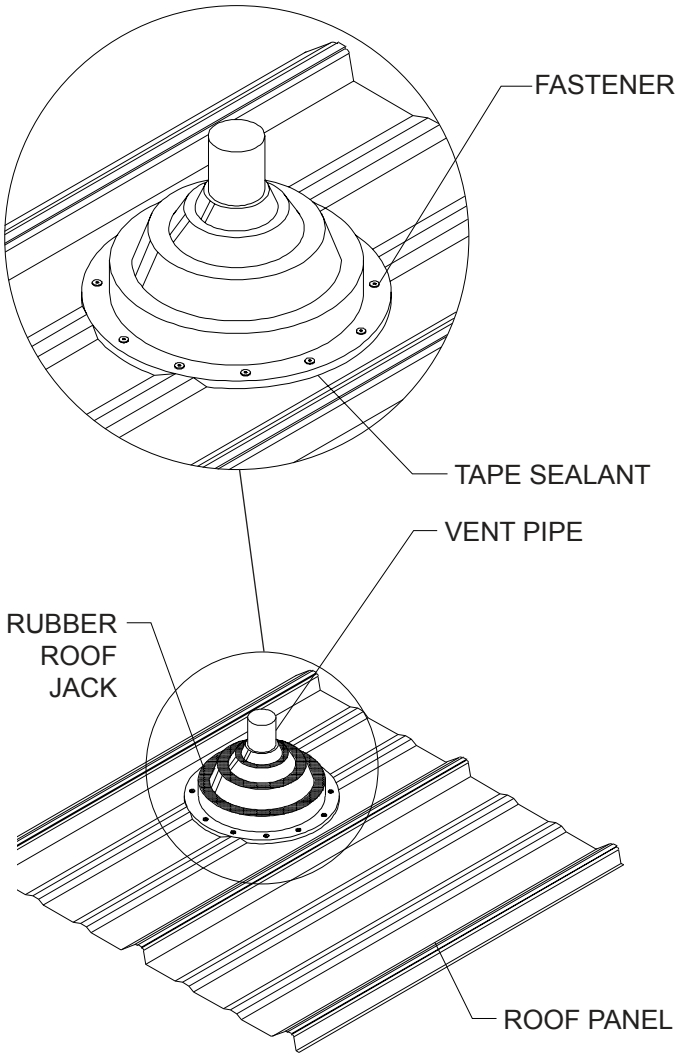
* Fastener to be 8"-12" O.C. depending on panel profile.

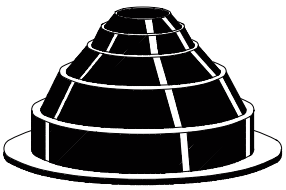
CHIMNEY / CRICKET DETAIL





ROOF PENETRATION DETAIL





AVAILABLE SIZES

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)

POST FRAME CARE AND MAINTENANCE

Though factory applied prepainted finishes are very durable and will last many years, eventually it may be desirable to thoroughly clean or repaint them.

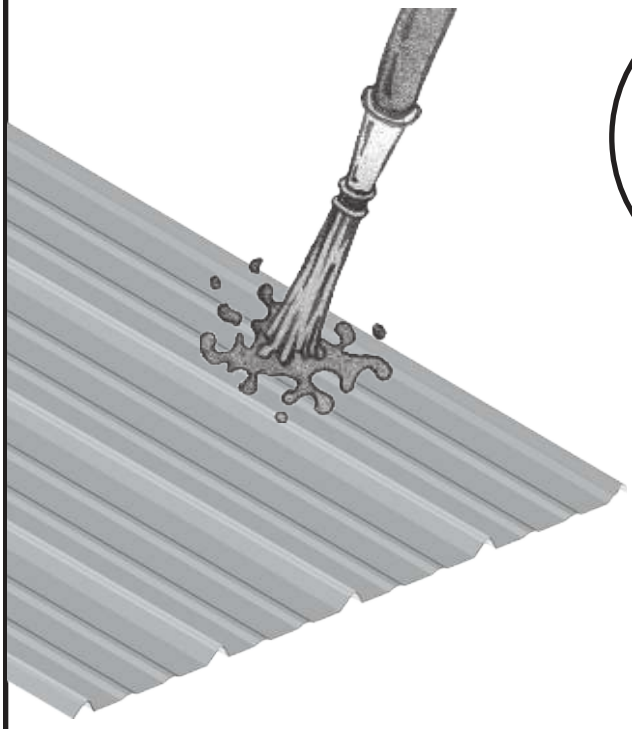
Dirt pickup may cause apparent discoloration of the paint when it has been exposed in some dirt-laden environments for long periods of time. In areas of strong sunlight, slight chalking may cause some change in appearance. A good cleaning will often restore the appearance of these buildings and render repainting unnecessary. An occasional light cleaning will help maintain a good appearance.

In many cases, simply washing the building with plain water using a hose or pressure sprayer will be adequate. In areas where heavy dirt deposits dull the surface, a cloth or soft bristle brush and solution of water and detergent ($^1/_3$ cup of laundry detergent per gallon of water for example) may be used. This should be followed by an adequate rinse of water. Do not use wire brushes, abrasives, or cleaning tools which will damage the coating surface.

Mildew may occur in areas subject to high humidity but is not normally a problem due to the high inherent mildew resistance of the baked finish that is used. To remove mildew along with the dirt, the following solution is recommended.

$^1/_3$ cup detergent (Tide® or equivalent)
$^2/_3$ cup trisodium phosphate (Solex® or equivalent)
1 quart of 5% sodium hypochlorite solution (Clorox® or equivalent)
3 quarts of water

Strong solvents and abrasive type cleaners should be avoided. Most organic solvents are flammable and toxic and must be handled accordingly. When using a solvent, consult maintenance professionals and label instructions for proper handling and disposal of washings. If required, a mild solvent such as mineral spirits can be used to remove caulking compounds, oil, grease, tars, wax, and similar substances. Use a cloth dampened with mineral spirits and apply only to areas which are contaminated. Follow up the use of this mild solvent with detergent cleaning and rinsing.



HOSE OR PRESSURE SPRAY FOR ADEQUATE CLEANING

DO NOT USE A WIRE BRUSH

USE MILD DETERGENT AND WATER FOR HEAVY DIRT DEPOSITS