



Custom Solution Roof and Metal Products™

Product Catalog and Specifications

Roof Curbs • Roof Stack Flashings • Roof Access Hatches • Adapter Curbs • Snow Guards • Skylights

*Building a reputation as a Leader
in metal roof top accessories!*



About Custom Solution

Custom Solution Roof and Metal Products was established in 1994 as a division of Colony Heating and Air Conditioning. Our unique business manufactures a variety of custom metal roof top accessories which include roof curbs, equipment rails, roof access hatches, adapter curbs and stack flashings.

Located in Cedar Rapids, Iowa, we work with HVAC, general and metal roof contractors, architects and mechanical engineers. Our business has grown substantially since its inception, and continues to grow as our customer base spans the United States.

Custom Solution offers a unique advantage due to our relationship with Colony Heating and Air Conditioning, in which resources and knowledge are shared to develop cutting-edge premium products.

Our custom-made roof curbs conform perfectly to the shape and pitch of any metal, shingled, or membrane built-up roof. Our equipment is custom manufactured to be strong, level, leak-proof and capable of supporting all types of roof equipment.

We bring superior customer service, competitive pricing, and the highest quality to your project, accompanied by the ability to meet and exceed project deadlines.

Contact Information

CUSTOM SOLUTION ROOF & METAL PRODUCTS
2224 16th Avenue SW
Cedar Rapids, IA 52404

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(800) 757-2872
(319) 298-2872

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Custom Solution

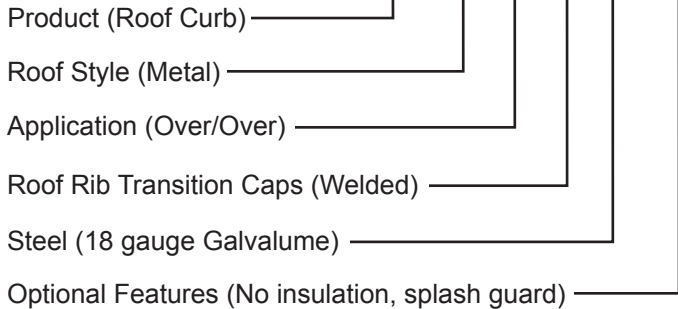
Roof and Metal Products™

Ordering Guidelines

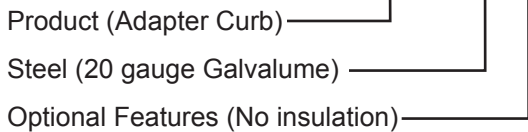
After identifying the product, type of steel and optional features required to meet the engineering specification, place order using the model number as shown below:

Examples:

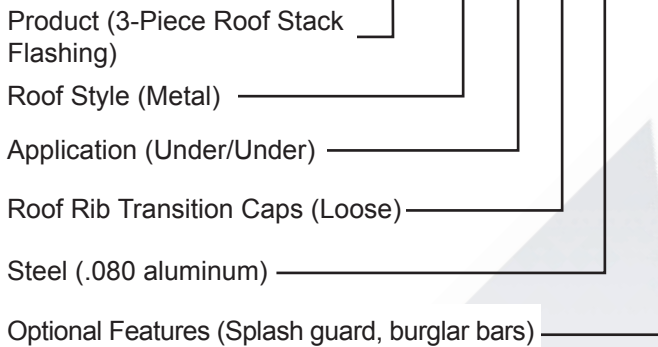
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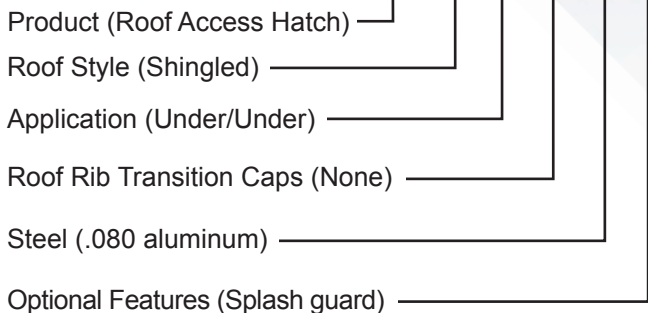
P200-(02-A)



P300-M-VU-L(03-DF)



P400-S-UU-N(03-D)



PRODUCT	
P100	Roof Curb
P150	Seismic Roof Curb
P200	Adapter Curb
P300	3-Piece Roof Stack Flashing
P350	2-Piece Roof Stack Flashing
P400	Roof Access Hatch
P500	Equipment Rail
ROOF STYLE	
M	- Metal Roof
S	- Shingled Roof
B	- Membrane Built-Up Roof
APPLICATION	
VV	- Over/Over
VU	- Over/Under
SR	- Seamed Roof
UU	- Under/Under (built-up/shingled)
ROOF RIB TRANSITION CAPS	
W	- Welded
L	- Loose
S	- Slide On
N	- None
STEEL OPTIONS	
01	- 18 gauge Galvalume steel
02	- 20 gauge Galvalume steel
03	- 0.080 aluminum
04	- Stainless steel
05	- 16 gauge galvanized
06	- 18 gauge galvanized
07	- 20 gauge galvanized
OPTIONAL FEATURES*	
A.	No insulation
B.	Top flange bent to outside
C.	Interior protective metal liner
D.	Splash guard
E.	Sidewall support bracing
F.	Burglar bars
G.	Purlin support rails
H.	Internal damper flange
I.	Wood nailer on top
J.	Split assembly
K.	Cant (equipment rail only)
L.	1-1/2" foil-faced insulation board
M.	Wood nailer on side
*Customized Dimensions Available	

**All variation suffixes are shown in parentheses.*

SECTION 07721
ROOF ACCESSORIES

PART 1 GENERAL

1.01 SECTION INCLUDES

[NOTE TO SPECIFIER: adjust list below to suit Project.]

- A. Roof curbs.
- B. Adapter Curbs.
- C. Seismic Curbs.
- D. Equipment supports.
- E. Roof access hatches.
- F. Vent stack flashings.
- G. Vent stack flashing with insulated roof curb.

1.02 Related Sections include the following:

[NOTE TO SPECIFIER: Delete referenced not used.]

- A. Division 07 Section "Metal Roof Panels" for preformed metal roofing, and accessories.
- B. Division 07 Section "Sheet Metal Flashing and Trim" for shop- and field-fabricated sheet metal trim and accessories.
- C. Division 06 Section "Rough Carpentry" for wood-nailers.

1.03 SUBMITTALS

- A. Most recent copy of manufacturer's literature applicable to products and specifications to be used including material characteristics, test data, dimensions, profiles, finishes, and installation recommendations.

[NOTE TO SPECIFIER: Retain paragraph below if required for complicated projects and custom installations involving special shapes.]

- B. Shop Drawings: Show fabrication and installation details for roof accessories. Show layouts of roof accessories including plan view, elevation view, and section cut. Indicate dimensions, weights, loadings, required clearances, method of field assembly, and components. Shop drawings must be completed by manufacturer.

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[NOTE TO SPECIFIER: Retain first paragraph and subparagraphs below if Drawings do not include detailed plans or if Project involves unusual coordination requirements.]

- C. Coordination Drawings: Roof plans, drawn to scale, showing penetrations and roof-mounted items to be coordinated. Show the following:
 - 1. Size and location of roof accessories.
 - 2. Method of attachment to roof accessories to roof or building structure.
 - 3. Location of utilities and connecting equipment.

1.04 QUALITY ASSURANCE

- A. Units manufactured using plasma cutting tables, RAS Turbobends, and welded by certified welders.
- B. Fully welded mitered corners. Welds primed or micro-sealed and finish coated to prevent rust.
- C. Engage a contractor qualified to install roof accessories who has a minimum of three (3) years experience in the installation of roof accessories on the specified roof system.
- D. Sheet Metal Standard: Comply with the latest version of SMACNA's "Architect/Engineerural Sheet Metal Manual." Coordinate details for fabrication of units, including flanges and cap flashing with appropriate roofing type.

1.05 WARRANTY

- A. The Contractor shall provide to the Owner a notarized written warranty assuring all sheet metal work, including caulking and fasteners, to be watertight and secure for a period of two years from the date of final acceptance of the building. Warranty shall include all materials and workmanship required to repair any leaks that develop, and make good any damage to other work or equipment caused by such leaks or the repairs thereof. Refer to the sample warranty at the end of this section.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Manufacturer's responsibility:
 - 1. Protect components during fabrication and packing from mechanical abuse, stains, discoloration, and corrosion.
- B. Installer's responsibility:
 - 1. Store materials off ground providing for drainage, under cover providing for air circulation, and protected from wind movement, foreign material

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contamination, mechanical damage, cement, lime or other corrosive substances.

2. Handle materials to prevent damage to surfaces, edges and ends of panels and sheet metal items. Damaged material shall be rejected and removed from the site.
3. Inspect materials upon delivery. Reject and remove physically damaged or marred material from project site.

1.07 PROJECT CONDITIONS

- A. Field Measurements: Field verify required openings for each roof accessory before fabrication and indicate measurements on Shop Drawings.

1.08 COORDINATION

- A. Coordinate layout and installation of roof accessories with [**roofing material, base flashing and**] adjoining construction to provide a weathertight and secure installation.
- B. Identify roof accessories that would interrupt [**roof drainage routes**] [**roof expansion joints**] <Insert construction element> and notify A/E or owner's representative of conflict. Request possible alternate location before installation.

PART 2 PRODUCTS

2.01 MANUFACTURER

- A. Custom Solution Roof and Metal Products
2224 16th Avenue S. W.
Cedar Rapids, IA 52404
Phone: 800-757-2872
Fax: 877-299-2875
Web Site: www.csroofmetalproducts.com

2.02 MATERIALS

[NOTE TO SPECIFIER: Delete those materials not specified for use in the project.]

- A. Aluminum-Zinc Alloy-Coated Steel Sheet (Galvalume):
 1. ASTM A 792, Class AZ-55 coating, Grade 40 (**or to suit project conditions**) with 55 percent aluminum, not less than 0.0396 inch thick, unless otherwise indicated.
- B. Aluminum:
 1. Mill-Finished Aluminum Sheet:

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- a. ASTM B 209, 3003-H14, with a minimum thickness of 0.063 inch, #3003 Standard unless otherwise indicated.
- C. Stainless-Steel Sheet:
 - 1. ASTM A 167, Type 304, soft annealed, with a No. 4 finish; minimum thickness of 0.028 inch, unless otherwise indicated.
- D. Galvanized Steel Sheet:
 - 1. ASTM A 526, G 90, commercial quality, or ASTM A 527, G 90, lock-forming quality, hot-dip galvanized steel sheet with 0.20 percent copper, mill phosphatized where indicated for painting; not less than 0.0635 inch thick, unless otherwise indicated.

[NOTE TO SPECIFIER: Delete if aluminum materials are not specified.]

2.03 ALUMINUM FINISHES

- A. Spray Finish
 - 1. Product dipped or wiped with acetone, prime coated, and finish coated using a 30% silicone alkyd meeting the following requirements.
 - a. Adhesion: ASTM D3359 - method B. Result: 5B 100% retention.
 - b. Exterior Durability: Method: 1 year at 45° South. Result: Excellent
 - c. Impact Resistance, Direct: Method: ASTM D2794. Result: 40 in. lb.
 - d. Prohesion: Method: ASTM G85, Annex 5, 2000 hours. Result: Rating 10 per ASTM D610. No blistering, no loss of adhesion, no softening or loss of film integrity.
 - e. Accelerated Weathering: Method: ASTM G53 (UVA-BULB) 2000 hours. Result: Retains 72% of initial gloss.
 - f. Provides performance comparable to products formulated to federal specifications: TT-E-1593B.

[NOTE TO SPECIFIER: Specify color or indicate manufacturer's color chart to be used. Delete portion not used.]

- g. The Architect/Engineer/Engineer shall select a color from the [**insert manufacturer's name**] standard color chart.
- h. The Architect/Engineer/Engineer shall select a color from the full range of colors and gloss available as standard mixes from the [**insert manufacturer's name**].

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- i. Match the Architect/Engineer/Engineer's sample.
- j. A custom color as specified by the A/E or owner's representative.

[NOTE TO SPECIFIER: Delete if galvalume materials are not specified.]

2.04 GALVALUME FINISHES

A. Spray Finish

- 1. Product dipped or wiped with acetone, prime coated, and finish coated using a 30% silicone alkyd meeting the following requirements.
 - a. Adhesion: ASTM D3359 - method B. Result: 5B 100% retention.
 - b. Exterior Durability: Method: 1 year at 45° South. Result: Excellent
 - c. Impact Resistance, Direct: Method: ASTM D2794. Result: 40 in. lb.
 - d. Prohesion: Method: ASTM G85, Annex 5, 2000 hours. Result: Rating 10 per ASTM D610. No blistering, no loss of adhesion, no softening or loss of film integrity.
 - e. Accelerated Weathering: Method: ASTM G53 (UVA-BULB) 2000 hours. Result: Retains 72% of initial gloss.
 - f. Provides performance comparable to products formulated to federal specifications: TT-E-1593B

[NOTE TO SPECIFIER: Specify color or indicate manufacturer's color chart to be used. Delete portion not used.]

- g. The Architect/Engineer shall select a color from the [**insert manufacturer's name**] standard color chart.
- h. The Architect/Engineer shall select a color from the full range of colors and gloss available as standard mixes from the [**insert manufacturer's name**].
- i. Match the Architect/Engineer's sample.
- j. A custom color as specified by the A/E or owner's representative.

[NOTE TO SPECIFIER: Delete if stainless steel materials are not specified.]

2.05 STAINLESS STEEL FINISHES

A. Spray Finish

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1. Product dipped or wiped with acetone, prime coated, and finish coated using a 30% silicone alkyd meeting the following requirements.
 - a. Adhesion: ASTM D3359 - method B. Result: 5B 100% retention.
 - b. Exterior Durability: Method: 1 year at 45° South. Result: Excellent
 - c. Impact Resistance, Direct: Method: ASTM D2794. Result: 40 in. lb.
 - d. Prohesion: Method: ASTM G85, Annex 5, 2000 hours. Result: Rating 10 per ASTM D610. No blistering, no loss of adhesion, no softening or loss of film integrity.
 - e. Accelerated Weathering: Method: ASTM G53 (UVA-BULB) 2000 hours. Result: Retains 72% of initial gloss.
 - f. Provides performance comparable to products formulated to federal specifications: TT-E-1593B.

[NOTE TO SPECIFIER: Specify color or indicate manufacturer's color chart to be used. Delete portion not used.]

- g. The Architect/Engineer shall select a color from the [**insert manufacturer's name**] standard color chart.
- h. The Architect/Engineer shall select a color from the full range of colors and gloss available as standard mixes from the [**insert manufacturer's name**].
- i. Match the Architect/Engineer's sample.
- j. A custom color as specified by the A/E or owner's representative.

[NOTE TO SPECIFIER: Delete if galvanized materials are not specified.]

2.06 GALVANIZED FINISHES

A. Spray Finish

1. Product dipped or wiped with acetone, prime coated, and finish coated using a 30% silicone alkyd meeting the following requirements.
 - a. Adhesion: ASTM D3359 - method B. Result: 5B 100% retention.
 - b. Exterior Durability: Method: 1 year at 45° South. Result: Excellent
 - c. Impact Resistance, Direct: Method: ASTM D2794. Result: 40 in. lb.

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- d. Prohesion: Method: ASTM G85, Annex 5, 2000 hours. Result: Rating 10 per ASTM D610. No blistering, no loss of adhesion, no softening or loss of film integrity.
- e. Accelerated Weathering: Method: ASTM G53 (UVA-BULB) 2000 hours. Result: Retains 72% of initial gloss.
- f. Provides performance comparable to products formulated to federal specifications: TT-E-1593B

[NOTE TO SPECIFIER: Specify color or indicate manufacturer's color chart to be used. Delete portion not used.]

- g. The Architect/Engineer shall select a color from the [**insert manufacturer's name**] standard color chart.
- h. The Architect/Engineer shall select a color from the full range of colors and gloss available as standard mixes from the [**insert manufacturer's name**].
- i. Match the Architect/Engineer's sample.
- j. A custom color as specified by the A/E or owner's representative.

2.07 FABRICATION, GENERAL

- A. Sheet Metal Fabrication Standard:
 - 1. Fabricate sheet metal flashing and trim to comply with recommendations of the latest edition of the Architect/Engineer's Sheet Metal Manual that apply to the design, dimensions, metal, and other characteristics of the item indicated.
- B. Shop Fabrication
 - 1. Comply with details shown to fabricate sheet metal flashing and trim that fit substrates and result in waterproof and weather-resistant performance once installed. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
 - 2. Form exposed sheet metal Work that is without excessive oil canning, buckling, and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems.
- C. Dissimilar Metals
 - 1. Separate flashings from non-compatible metal or corrosive substrates by coating concealed surfaces at locations of contact with asphalt mastic or other permanent separation as recommended by manufacturer.

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D. Attachment:

1. Fabricate cleats and attachment devices from same material as sheet metal component being anchored or from compatible, non-corrosive metal recommended by sheet metal manufacturer.
2. Size cleats as recommended by the latest edition of the Architect/Engineer's Sheet Metal Manual or sheet metal manufacturer for application, but never less than thickness of metal being secured.

2.08 ROOF CURBS

- A. Roof Curbs: Provide metal single piece designed roof curbs, internally reinforced as required to meet superimposed live and dead loads, including equipment loads and other construction to be supported on roof curbs. Fabricate with welded corner joints, with **[integral metal cant]** and integral formed mounting flange at perimeter bottom. Coordinate dimensions of curb with supported equipment, rough-in information, or Shop Drawings.

[NOTE TO SPECIFIER: Delete materials not used]

1. Fabricate roof curbs in thickness or weight needed to comply with performance requirements but not less than that listed below for each application and metal.
 - a. Aluminum-Zinc Alloy-Coated Steel: 0.0516 inch thick (18 Gauge Galvalume).
 - b. Aluminum-Zinc Alloy-Coated Steel: 0.0396 inch thick (20 Gauge Galvalume).
 - c. Aluminum: #3003 Standard 0.080 inch thick.
 - d. Aluminum: #3003 Standard 0.063 inch thick.
 - e. Stainless Steel: 0.028 inch thick.
 - f. Galvanized Steel: 0.0635 inch thick (16 gauge).

[NOTE TO SPECIFIER: Delete subparagraph below if interior metal liner is not required.]

- B. Liner: Same material as curb, fabricated of manufacturer's standard liner thickness and finish.

[NOTE TO SPECIFIER: Delete items below if not applicable. Add other features such as security grilles or cap or counterflashing if required.]

- C. Manufacturer installed wood-nailers at tops or sides of curbs.

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- D. On ribbed or fluted metal roofs, form bottom flange to roof profile.

[NOTE TO SPECIFIER: Retain first subparagraph below for insulated units.]

- E. Fabricated insulated curbs with 1 ½” fiberglass foil faced insulation board, #3 pound density.
- F. Curb height thickness to be determined by the sum of the roof insulation at curb location and the minimum base flashing height as recommended by roofing membrane manufacturer. Fabricate units to minimum height of 12” unless otherwise indicated.
- G. Sloping Roofs: Where slope of roof deck exceeds ¼”:12, fabricate curb units with cricket and with height tapered to match roof, leveling tops of unit. Fabricate units to minimum 12” height.

2.09 ADAPTER CURBS

- A. Adapter Curbs: Provide metal single piece designed adapter curbs, internally reinforced as required to meet superimposed live and dead loads, including equipment loads and other construction to be supported on adapter curbs. Fabricate with welded corner joints. Coordinate dimensions of curb with supported equipment, rough-in information, or Shop Drawings.
- B. Fabricated insulated curbs with 1 ½” fiberglass foil faced insulation board, #3 pound density.

[NOTE TO SPECIFIER: Delete materials not used]

1. Fabricate roof curbs in thickness or weight needed to comply with performance requirements, but not less than that listed below for each application and metal.
 - a. Aluminum-Zinc Alloy-Coated Steel: 0.0516 inch thick (18 Gauge Galvalume):
 - b. Aluminum-Zinc Alloy-Coated Steel: 0.0396 inch thick (20 Gauge Galvalume).
 - c. Aluminum: #3003 Standard 0.080 inch thick.
 - d. Aluminum: #3003 Standard 0.063 inch thick.
 - e. Stainless Steel: 0.028 inch thick.
 - f. Galvanized Steel: 0.0635 inch thick (16 gauge).

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2.10 ROOF CURBS WITH SEISMIC RAIL

- A. Roof Curbs: Provide metal single piece designed roof curbs, internally reinforced as required to meet superimposed live and dead loads, including equipment loads and other construction to be supported on roof curbs. Fabricate with welded corner joints, with **[integral metal cant]** and integral formed mounting flange at perimeter bottom. Coordinate dimensions of curb with supported equipment, rough-in information or Shop Drawings.
1. Seismic Isolation Rail: Placed on top perimeter of roof curb, spring loaded & calibrated to corner weights of RTU.

[NOTE TO SPECIFIER: Delete materials not used]

2. Fabricate roof curbs in thickness or weight needed to comply with performance requirements but not less than that listed below for each application and metal.
 - a. Aluminum-Zinc Alloy-Coated Steel: 0.0516 inch thick (18 Gauge Galvalume).
 - b. Aluminum-Zinc Alloy-Coated Steel: 0.0396 inch thick (20 Gauge Galvalume).
 - c. Aluminum: #3003 Standard 0.080 inch thick.
 - d. Aluminum: #3003 Standard 0.063 inch thick.
 - e. Stainless Steel: 0.028 inch thick.
 - f. Galvanized Steel: 0.0635 inch thick (16 Gauge).

[NOTE TO SPECIFIER: Delete subparagraph below if interior metal liner is not required.]

- B. Liner: Same material as curb, fabricated of manufacturer's standard liner thickness and finish.
- C. Manufacturer installed wood nailers at tops or sides of curbs.
- D. On ribbed or fluted metal roofs, form bottom flange to roof profile.

[NOTE TO SPECIFIER: Retain first subparagraph below for insulation units.]

- E. Fabricated insulated curbs with 1 ½" fiberglass foil faced insulation board, #3 pound density.

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- F. Curb height thickness to be determined by the sum of the roof insulation at curb location and the minimum base flashing height as recommended by roofing membrane manufacturer. Fabricate units to minimum height of 12” unless otherwise indicated.
- G. Sloping Roofs: Where slope of roof deck exceeds ¼”:12, fabricate curb units with cricket and with height tapered to match roof, leveling tops of unit. Fabricate units to minimum 12” height.

2.11 EQUIPMENT SUPPORTS

- A. Equipment Supports: Provide metal equipment supports, internally reinforced as required to meet superimposed live and dead loads, as specified, including equipment loads and other construction to be supported. Fabricate with welded corner joints, with **[integral metal cant]** and integral formed mounting flange at perimeter bottom. Coordinate dimensions with supported equipment, rough-in information, or Shop Drawings.
 - 1. Fabricate roof curbs in thickness or weight needed to comply with performance requirements, but not less than that listed below for each application and metal.

[NOTE TO SPECIFIER: Delete materials not used.]

- a. Aluminum-Zinc Alloy-Coated Steel: 0.0516 inch thick (18 Gauge Galvalume).
 - b. Aluminum-Zinc Alloy-Coated Steel: 0.0396 inch thick (20 Gauge Galvalume).
 - c. Aluminum: #3003 Standard 0.080 inch thick.
 - d. Aluminum: #3003 Standard 0.063 inch thick.
 - e. Stainless Steel: 0.028 inch thick.
 - f. Galvanized Steel: 0.0635 inch thick (16 gauge).
- 2. Manufacturer installed wood-nailers at tops or sides of equipment supports.

[NOTE TO SPECIFIER: Delete if Metal Counterflashing unit not required]

- 3. Metal Counterflashing Unit: Manufacturer's standard removable counterflashing, fabricated of same metal and finish as equipment support.
- 4. On ribbed or fluted metal roofs, form bottom flange to roof profile.
- 5. Fabricate units to minimum height of 12 inches unless otherwise indicated.

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6. Sloping Roofs: Where slope of roof deck exceeds ¼":12 fabricate curb units with cricket and with height tapered to match roof, leveling tops of unit. Fabricate units to minimum 12" height.

2.12 ROOF ACCESS HATCHES

- A. Roof Hatches: Fabricate roof hatches with insulated double-wall lids and insulated [single] [double]-wall curb frame with integral deck mounting flange. Fabricate with welded corner joints. Provide dual continuous weathertight perimeter gasketing and equip with corrosion-resistant hardware. Includes positive lock and gas shock.

[NOTE TO SPECIFIER: Revise external and internal loads to suit local conditions.]

1. Loads: Manufacture roof access hatches to withstand 40-lbs/sf external loads and 20-lbs/sf internal loads.
2. Fabricate roof access hatches in thickness or weight needed to comply with performance requirements, but not less than that listed below for each application and metal.

[NOTE TO SPECIFIER: Delete materials not used]

- a. Aluminum-Zinc Alloy-Coated Steel: 0.0516 inch thick (18 Gauge Galvalume).
- b. Aluminum-Zinc Alloy-Coated Steel: 0.0396 inch thick (20 Gauge Galvalume).
- c. Aluminum: #3003 Standard 0.080 inch thick.
- d. Aluminum: #3003 Standard 0.063 inch thick.
- e. Stainless Steel: 0.028 inch thick.
- f. Galvanized Steel: 0.0635 inch thick (16 gauge).
3. Insulation: 1 ½" fiberglass foil faced insulation board, #3 pound density.
4. Interior Lid Liner: Same material as hatch, fabricated of manufacturer's standard metal liner and finish.

[NOTE TO SPECIFIER: Delete subparagraph below if not applicable.]

5. On ribbed or fluted metal roofs, form bottom flange to roof profile.
6. Fabricate units to minimum height of 12 inches unless otherwise indicated.

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7. Sloping Roofs: Where slope or roof deck exceeds ¼":12, fabricate hatch curb unit with cricket and with height tapered to match roof, leveling top of hatch. Fabricate hatch curb to minimum of 12" height, unless indicated.
8. Hardware: Galvanized steel spring latch with turn handles, butt-type hinge system, and padlock hasps or slide bolts inside and outside.

[NOTE TO SPECIFIER: Delete if not required.]

9. Provide 2-point latch on covers larger than 84 inches.

2.13 VENT STACK FLASHING

- A. Metal stack flashing with integral deck flange, un-insulated with storm collar.
 1. Fabricate stack flashings in thickness or weight needed to comply with performance requirements, but not less than that listed below for each application and metal.
 - a. Aluminum-Zinc Alloy-Coated Steel: 0.0516 inch thick (18 Gauge Galvalume).
 - b. Aluminum-Zinc Alloy-Coated Steel: 0.0396 inch thick (20 Gauge Galvalume).
 - c. Aluminum: #3003 Standard 0.080 inch thick.
 - d. Aluminum: #3003 Standard 0.063 inch thick.
 - e. Stainless Steel: 0.028 inch thick.
 - f. Galvanized Steel: 0.0635 inch thick (16 gauge)

[NOTE TO SPECIFIER: Delete item below if not applicable.]

- B. On ribbed or fluted metal roofs, form bottom flange to roof profile.

2.14 VENT STACK FLASHINGS WITH INSULATED ROOF CURB

- A. Exhaust Vent Flashings with roof curb, metal stack flashing with removable lid, slotted storm collar and integral deck flange.
 1. Fabricate flashings and roof curbs in thickness or weight needed to comply with performance requirements, but not less than that listed below for each application and metal.
 - a. Aluminum-Zinc Alloy-Coated Steel: 0.0516 inch thick (18 Gauge Galvalume).

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- b. Aluminum-Zinc Alloy-Coated Steel: 0.0396 inch thick (20 Gauge Galvalume).
- c. Aluminum: #3003 Standard 0.080 inch thick.
- d. Aluminum: #3003 Standard 0.063 inch thick.
- e. Stainless Steel: 0.028 inch thick.
- f. Galvanized Steel: 0.0635 inch thick (16 gauge).

[NOTE TO SPECIFIER: Delete subparagraph below if interior metal liner is not required.]

- B. Liner: Same material as curb, fabricated of manufacturer's standard liner thickness and finish.

[NOTE TO SPECIFIER: Delete items below if not applicable.]

- C. Manufacturer installed wood nailers at tops or sides of curbs.
- D. On ribbed or fluted metal roofs, form bottom flange to roof profile.

[Retain first subparagraph below if roof curb is a continuous four-sided unit that needs to maintain the thermal integrity of low-slope roofing membrane installation.]

- E. Fabricated insulated curbs with 1 ½" fiberglass foil faced insulation board, #3 pound density.
- F. Curb height thickness to be determined by the sum of the roof insulation at curb location and the minimum base flashing height as recommended by roofing membrane manufacturer. Fabricate units to minimum height of 12" unless otherwise indicated.
- G. Sloping Roofs: Where slope of roof deck exceeds ¼":12, fabricate curb units with cricket and with height tapered to match roof, leveling tops of unit. Fabricate units to minimum 12" height.

PART 3 EXECUTION

3.01 INSPECTION

- A. Upon receipt of shipment installer should examine roof and unit conditions. Installer to verify actual locations, dimensions, and other conditions affecting performance.
 - 1. Verify roof accessory unit finish meets project color specification.
 - 2. Verify that roof opening is properly supported, smooth, clean, dry, sloped for drainage, and is ready to apply roof accessories.

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3. Verify dimensions are compatible for installation.
4. Proceed with installation only after verification that previously noted unsatisfactory conditions have been corrected.

3.02 INSTALLATION

- A. Comply with manufacturer's instructions and recommendations for installation, as applicable to project conditions and supporting substrate, including anchorage, joint sealers, flashing and trim for the proper and permanent installation of roof accessories, with provisions for thermal/structural movement to provide watertight installation.
 1. Anchor component parts securely in place, providing for necessary thermal and structural movement, in accordance with manufacturer's standard practice.
 2. Install work watertight, without waves, warps, buckles, fastening stress, or distortion of roof accessories or adjacent roofing materials.
 3. All accessories or other items essential to installation, whether specifically indicated or not, shall be provided and of the same materials as item to which applied.
 4. Apply bituminous coating or other permanent separation materials on concealed surfaces in direct contact with substrate materials which are incompatible or could result in corrosion or deterioration of either the material or the finish.

3.03 TOUCH UP

- A. Only minor scratches and abrasions shall be allowed to be touched up. Any other damaged materials shall be replaced.

3.04 CLEANING

- A. Clean surfaces of roof accessories after installation.

END OF SECTION 07721

ROOF ACCESSORIES MAINTENANCE WARRANTY

PROJECT: _____

This agreement between _____, hereinafter referred to as OWNER, and _____, hereafter referred to as CONTRACTOR, is entered into to provide maintenance on the roof of _____, located at _____, _____, Iowa _____, for _____ years beginning _____, 20____ and ending _____, 20____.

For the purpose of this agreement, maintenance is defined as the repair of roof accessory and flashing defects, and the replacement of roof accessory and flashing components that threaten the viability of the roof system to keep the building free from externally caused leakage through the roof. Warranty shall include all materials and workmanship required to repair any defects that develop during the warranty period at no expense to the OWNER.

Specifically excluded from the responsibility of the CONTRACTOR under the terms of this agreement are any and all damages to said roof, the building or contents caused by the acts or omissions of other trades or contractors; lightning, winds in excess of a strong gale as defined by the Beaufort scale, hailstorm, flood, earthquake or other unusual phenomena of the elements.

The component parts of this agreement are:

1. A yearly comprehensive inspection of the roof during which time all defects that need to be repaired and all components that need to be replaced will be identified by the inspector.
2. Should defects be found during inspection that are not covered by this agreement, the CONTRACTOR will notify the OWNER in writing as to the cause (who or what was responsible), and the estimate of the cost to return the roof to its condition before the problem occurred. Written approval to proceed with the work must be granted by the OWNER.
3. Completion of all repairs and replacement in a manner consistent with the highest standards of the roofing industry. Work shall be in compliance with the roof accessory manufacturer's written specifications and warranty, so as not to void warranty.
4. A follow-up inspection of the completed maintenance work.
5. Response within 24 hours of all requests for repair of leaks or other emergencies that are part of this agreement.
6. This maintenance warranty covers CAULKING for the listed project and shall be included along with the roofing warranty. The undersigned CONTRACTOR will repair or replace defective caulking work and other work damaged thereby during the warranty period at no expense to the OWNER. The following type of failures are considered defects: Leakage, hardening, cracking, crumbling, melting, shrinkage, running or staining adjacent work.
7. This maintenance warranty covers FLASHING for the listed project and shall be included along with the roofing warranty.
8. This maintenance warranty covers SHEETMETAL for the listed project and shall be included along with the roofing warranty.

OWNER:

CONTRACTOR:

Name

Name

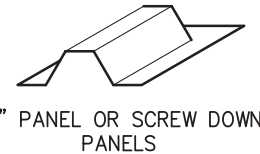
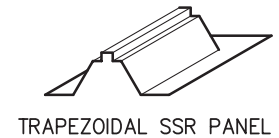
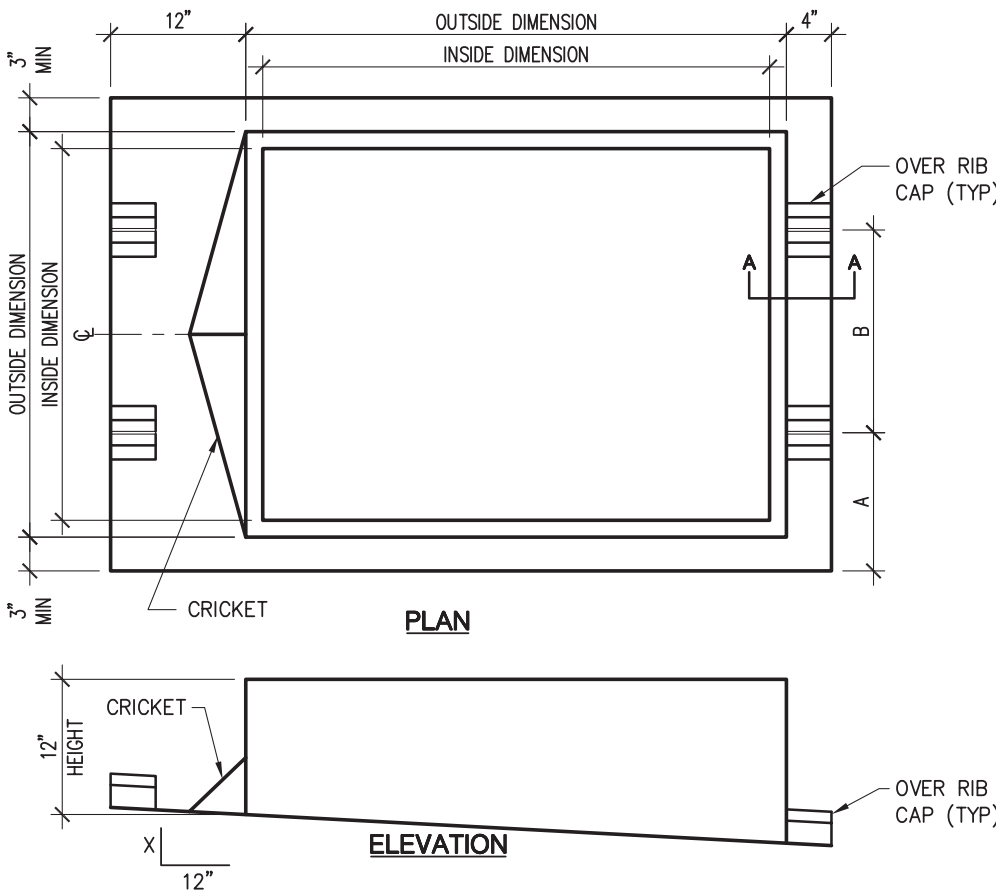
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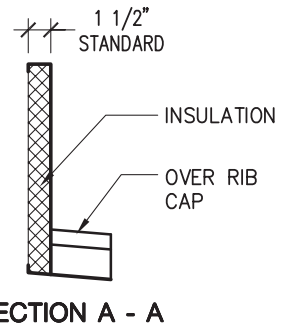


Roof Curb
#P100-M-VV-W
Metal Roof, Over/Over, Welded Caps

STANDARD FEATURES	STEEL OPTIONS	OPTIONAL FEATURES*
<ul style="list-style-type: none"> Mitered top & bottom flanges Water tight welds 12" minimum height 1-1/2" foil-faced insulation board Integral water-diverting cricket Welds zinc enriched, primed & finish coated 	<ul style="list-style-type: none"> 01 - 18 gauge Galvalume steel* 02 - 20 gauge Galvalume steel 03 - 0.080 aluminum 04 - Stainless steel 05 - 16 gauge galvanized 06 - 18 gauge galvanized 07 - 20 gauge galvanized <p>*Standard</p>	<ul style="list-style-type: none"> A. No insulation B. Top flange bent to outside C. Interior protective metal liner D. Splash guard E. Sidewall support bracing F. Burglar bars G. Purlin support rails H. Internal damper flange <p>*Customized Dimensions Available</p>

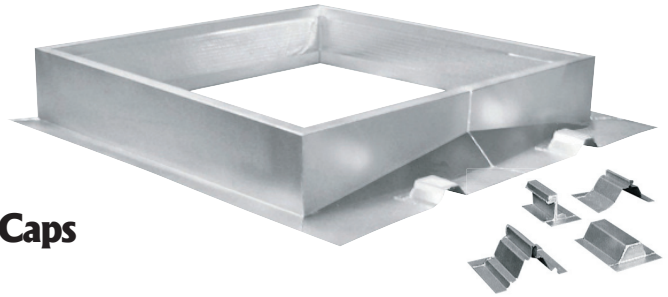


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Roof Curb
#P100-M-VV-W
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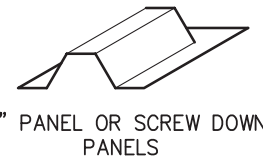
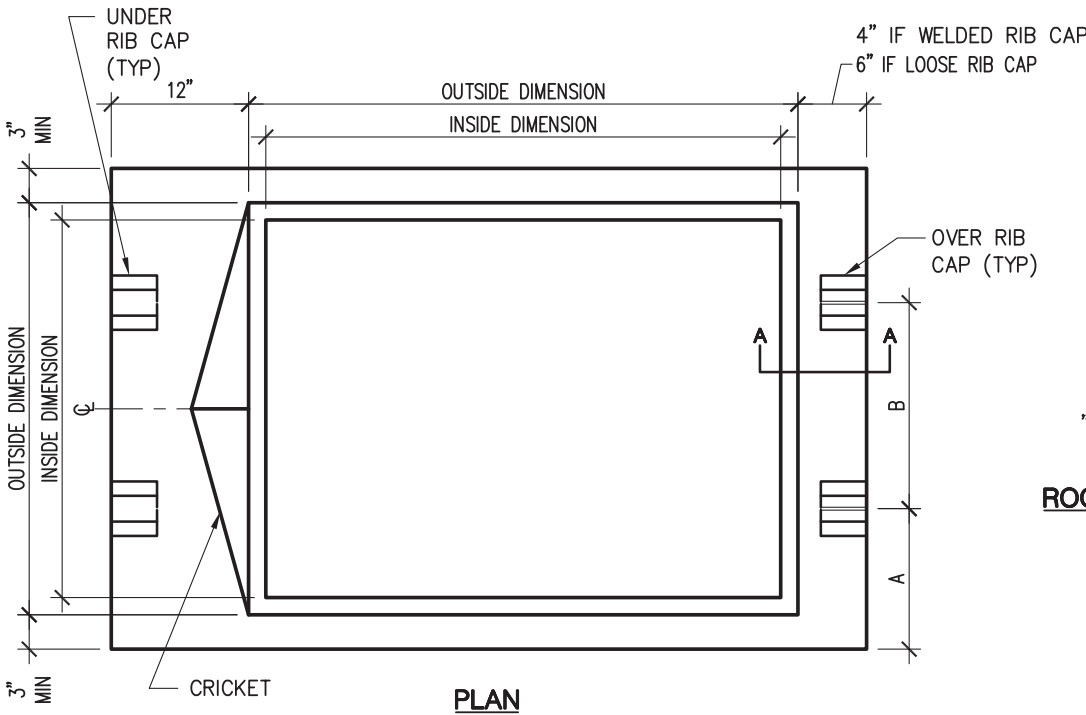


Roof Curb

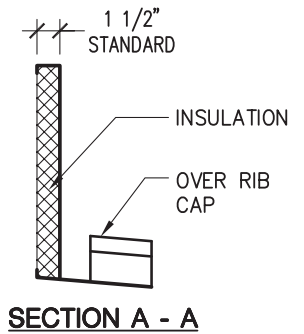
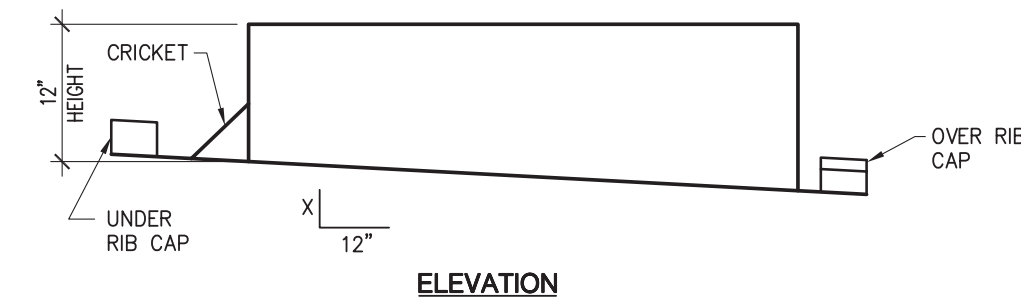
#P100-M-VU

Metal Roof, Over/Under, Welded or Loose Caps

STANDARD FEATURES	STEEL OPTIONS	OPTIONAL FEATURES*
<ul style="list-style-type: none"> Mitered top & bottom flanges Water tight welds 12" minimum height 1-1/2" foil-faced insulation board Integral water-diverting cricket Welds zinc enriched, primed & finish coated 	<ul style="list-style-type: none"> 01 - 18 gauge Galvalume steel* 02 - 20 gauge Galvalume steel 03 - 0.080 aluminum 04 - Stainless steel 05 - 16 gauge galvanized 06 - 18 gauge galvanized 07 - 20 gauge galvanized 	<ul style="list-style-type: none"> A. No insulation B. Top flange bent to outside C. Interior protective metal liner D. Splash guard E. Sidewall support bracing F. Burglar bars G. Purlin support rails H. Internal damper flange
	*Standard	*Customized Dimensions Available



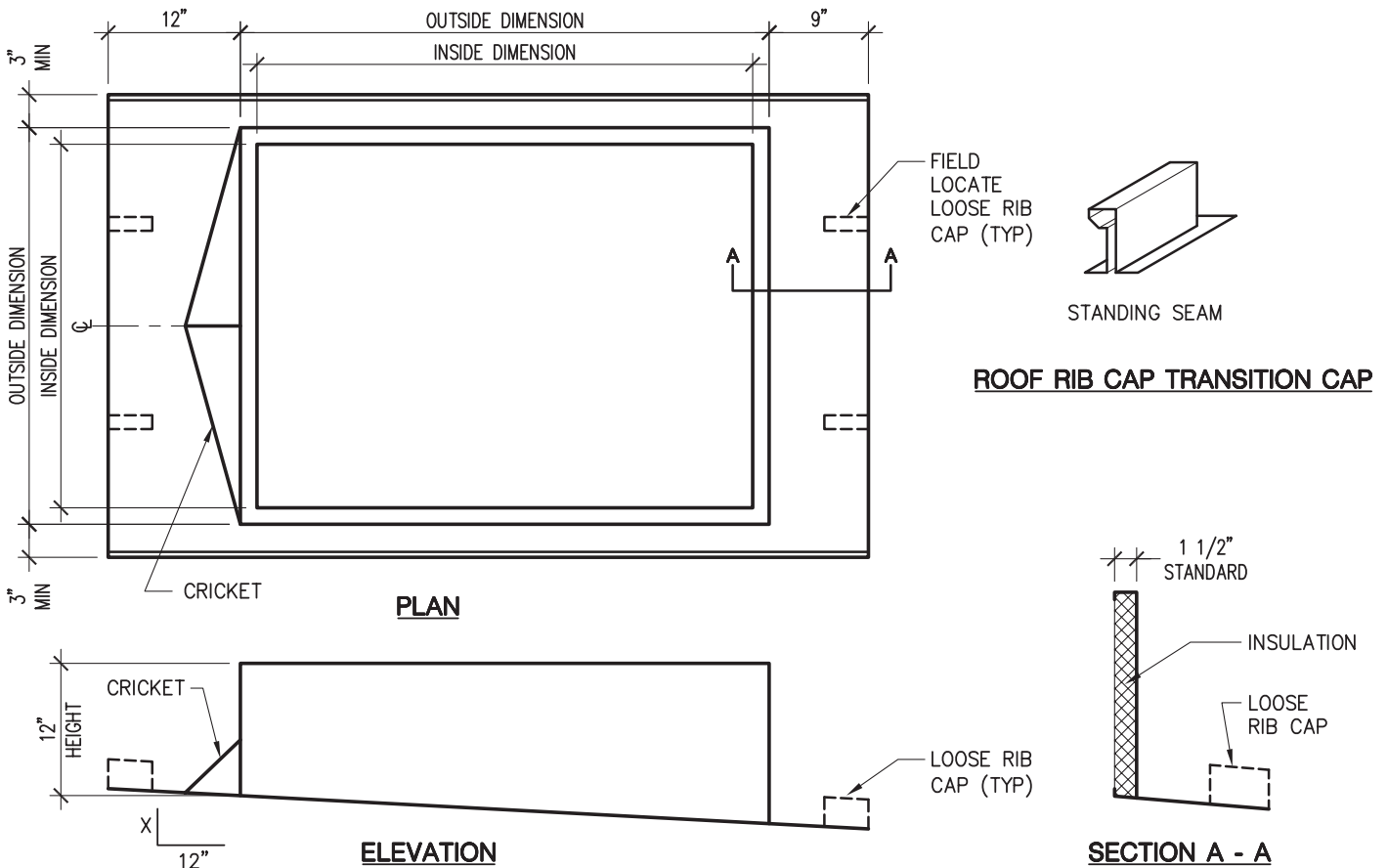
ROOF RIB TRANSITION CAPS





Roof Curb
#P100-M-SR-S
Metal Roof, Seamed, Slide-On Caps

STANDARD FEATURES	STEEL OPTIONS	OPTIONAL FEATURES*
<ul style="list-style-type: none"> Mitered top & bottom flanges Water tight welds 12" minimum height 1-1/2" foil-faced insulation board Integral water-diverting cricket Welds zinc enriched, primed & finish coated 	<ul style="list-style-type: none"> 01 - 18 gauge Galvalume steel* 02 - 20 gauge Galvalume steel 03 - 0.080 aluminum 04 - Stainless steel 05 - 16 gauge galvanized 06 - 18 gauge galvanized 07 - 20 gauge galvanized <p>*Standard</p>	<ul style="list-style-type: none"> A. No insulation B. Top flange bent to outside C. Interior protective metal liner D. Splash guard E. Sidewall support bracing F. Burglar bars G. Purlin support rails H. Internal damper flange <p>*Customized Dimensions Available</p>

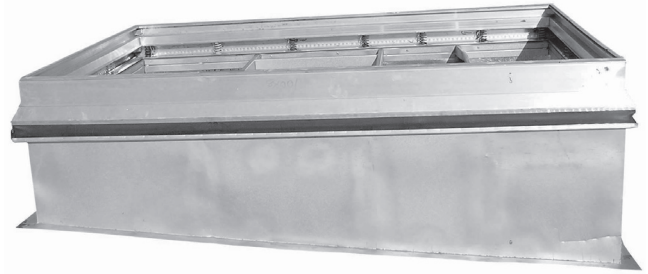


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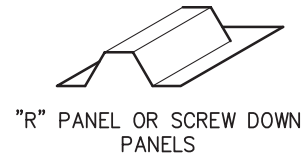
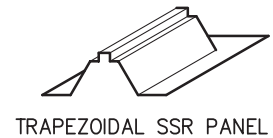
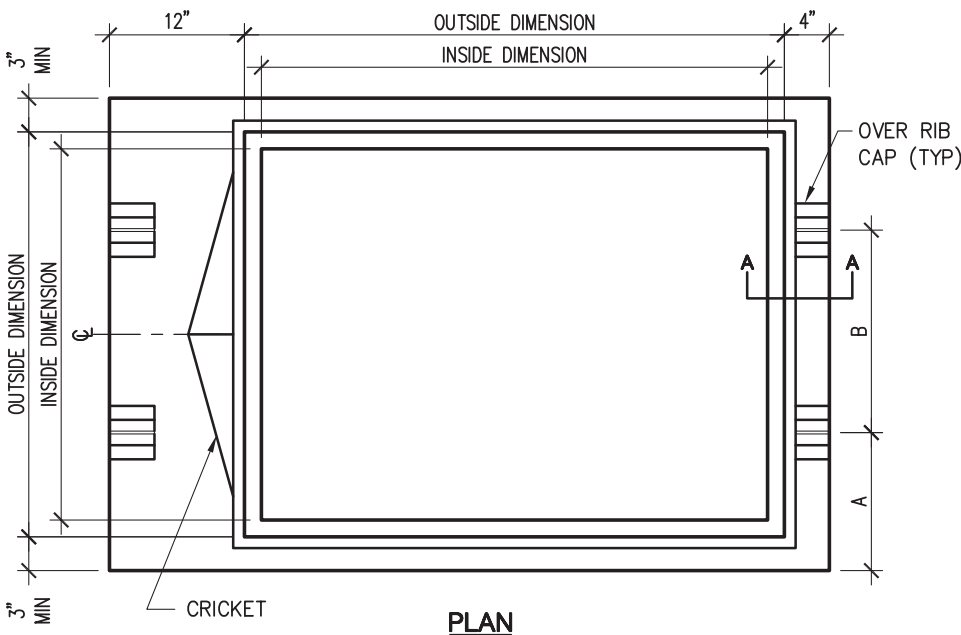
Roof Curb
#P100-M-SR-S
Metal Roof, Seamed, Slide-On Caps



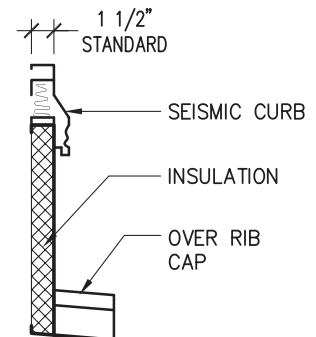
Seismic Roof Curb
#P150-M-VV-W
Metal Roof, Over/Over, Welded Caps



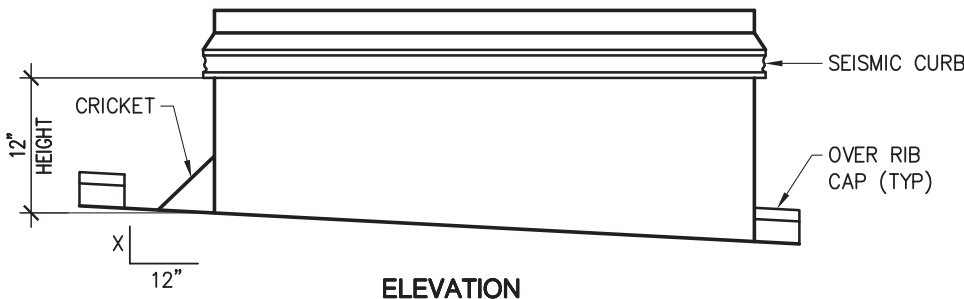
STANDARD FEATURES	STEEL OPTIONS	OPTIONAL FEATURES*
<ul style="list-style-type: none"> Mitered top & bottom flanges Water tight welds 12" minimum height 1-1/2" foil-faced insulation board Integral water-diverting cricket Welds zinc enriched, primed & finish coated 	<ul style="list-style-type: none"> 01 - 18 gauge Galvalume steel* 02 - 20 gauge Galvalume steel 03 - 0.080 aluminum 04 - Stainless steel 05 - 16 gauge galvanized 06 - 18 gauge galvanized 07 - 20 gauge galvanized 	<ul style="list-style-type: none"> A. No insulation B. Top flange bent to outside C. Interior protective metal liner D. Splash guard E. Sidewall support bracing F. Burglar bars G. Purlin support rails H. Internal damper flange
	*Standard	*Customized Dimensions Available



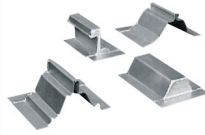
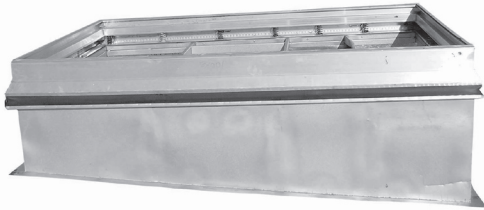
ROOF RIB TRANSITION CAPS



SECTION A - A



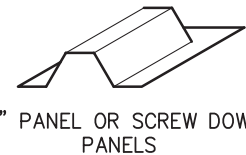
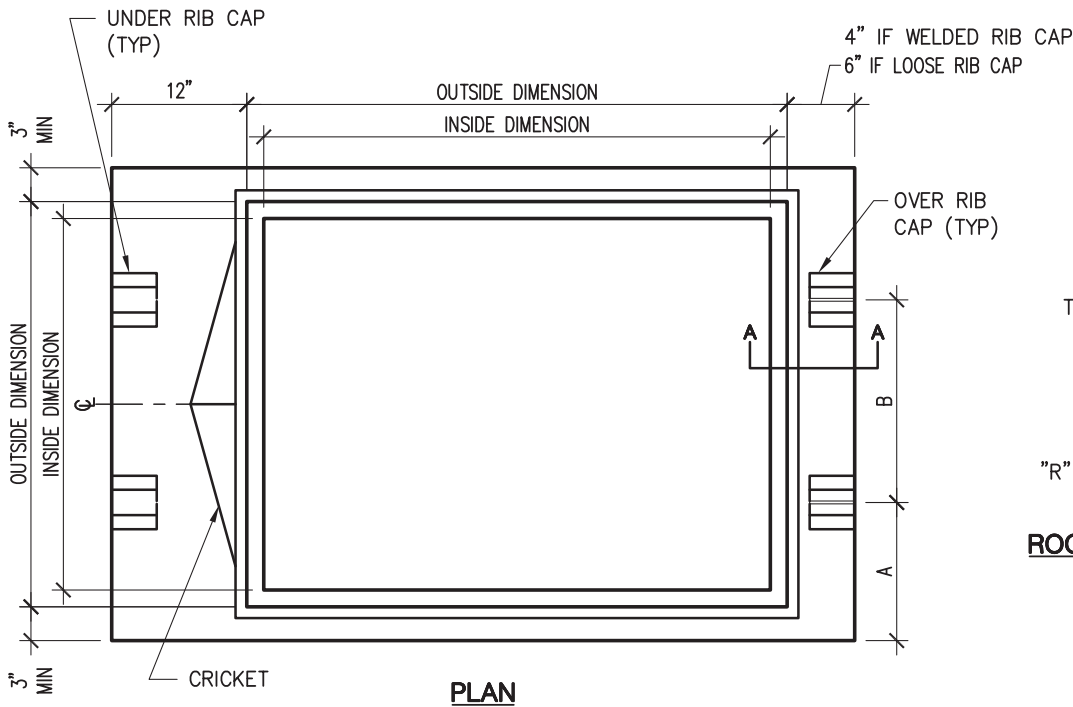
ELEVATION



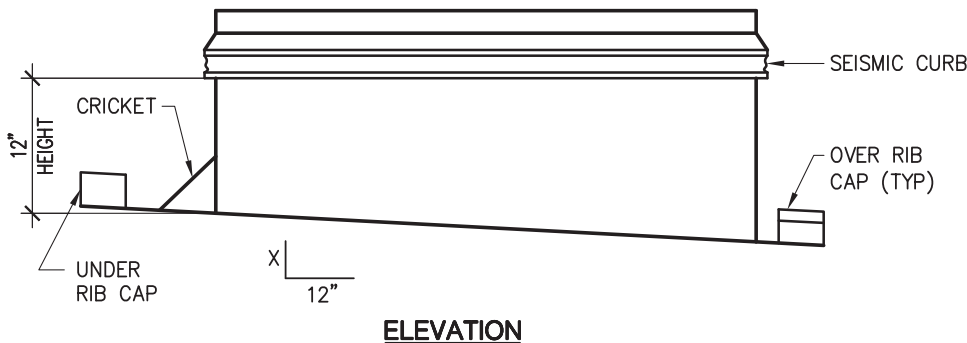
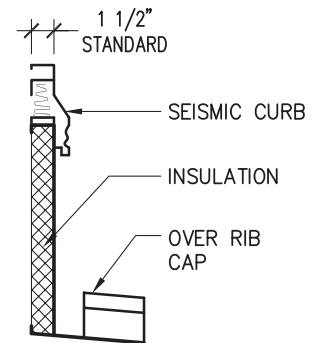
Seismic Roof Curb
#P150-M-VU

Metal Roof, Over/Under, Welded or Loose Caps

STANDARD FEATURES	STEEL OPTIONS	OPTIONAL FEATURES*
<ul style="list-style-type: none"> Mitered top & bottom flanges Water tight welds 12" minimum height 1-1/2" foil-faced insulation board Integral water-diverting cricket Welds zinc enriched, primed & finish coated 	<ul style="list-style-type: none"> 01 - 18 gauge Galvalume steel* 02 - 20 gauge Galvalume steel 03 - 0.080 aluminum 04 - Stainless steel 05 - 16 gauge galvanized 06 - 18 gauge galvanized 07 - 20 gauge galvanized <p>*Standard</p>	<ul style="list-style-type: none"> A. No insulation B. Top flange bent to outside C. Interior protective metal liner D. Splash guard E. Sidewall support bracing F. Burglar bars G. Purlin support rails H. Internal damper flange <p>*Customized Dimensions Available</p>



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Seismic Roof Curb
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Metal Roof, Over/Under, Welded or Loose Caps



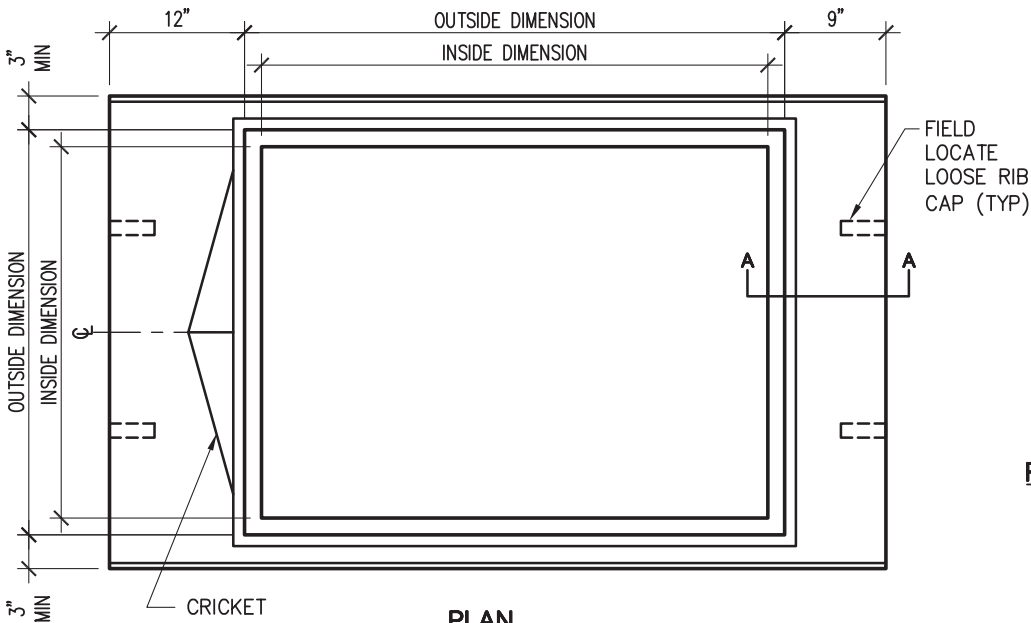
Seismic Roof Curb

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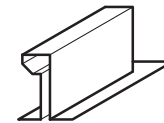
Metal Roof, Seamed, Slide-On Caps



STANDARD FEATURES	STEEL OPTIONS	OPTIONAL FEATURES*
<ul style="list-style-type: none"> Mitered top & bottom flanges Water tight welds 12" minimum height 1-1/2" foil-faced insulation board Integral water-diverting cricket Welds zinc enriched, primed & finish coated 	<ul style="list-style-type: none"> 01 - 18 gauge Galvalume steel* 02 - 20 gauge Galvalume steel 03 - 0.080 aluminum 04 - Stainless steel 05 - 16 gauge galvanized 06 - 18 gauge galvanized 07 - 20 gauge galvanized 	<ul style="list-style-type: none"> A. No insulation B. Top flange bent to outside C. Interior protective metal liner D. Splash guard E. Sidewall support bracing F. Burglar bars G. Purlin support rails H. Internal damper flange
	*Standard	*Customized Dimensions Available

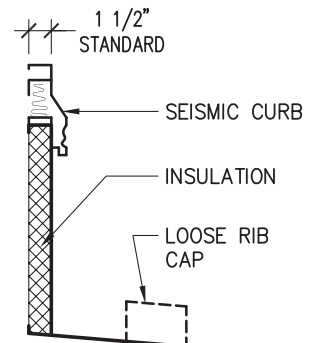


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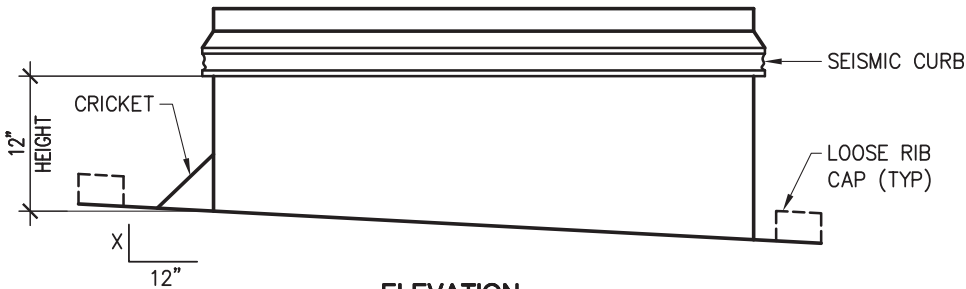


STANDING SEAM

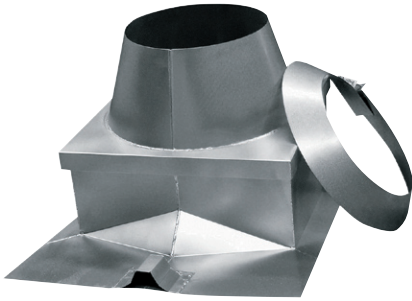
ROOF RIB TRANSITION CAPS



SECTION A - A

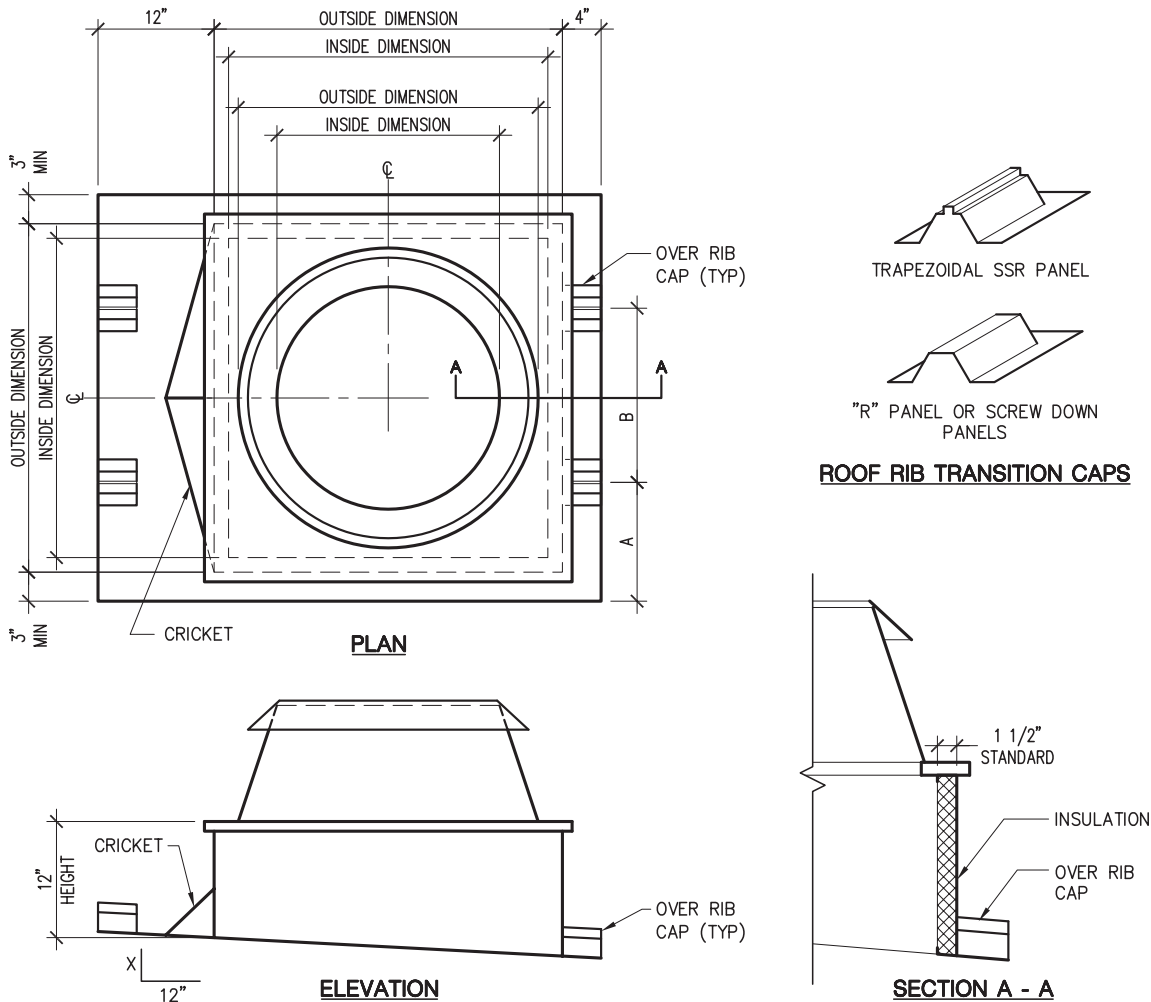


ELEVATION



3-Piece Roof Stack Flashing #P300-M-VV-W Metal Roof, Over/Over, Welded Caps

STANDARD FEATURES	STEEL OPTIONS	OPTIONAL FEATURES*
<ul style="list-style-type: none"> • Roof Curb - Mitered top & bottom flanges - Water tight welds - 12" minimum height - 1-1/2" foil-faced insulation board - Integral water-diverting cricket • Tapered stack flashing • Adjustable storm collar • Welds zinc enriched primed & finish coated 	<ul style="list-style-type: none"> 01 - 18 gauge Galvalume steel* 02 - 20 gauge Galvalume steel 03 - 0.080 aluminum 04 - Stainless steel 05 - 16 gauge galvanized 06 - 18 gauge galvanized 07 - 20 gauge galvanized <p>*Standard</p>	<ul style="list-style-type: none"> A. No insulation B. Top flange bent to outside C. Interior protective metal liner D. Splash guard E. Purlin support rails J. Split assembly <p>*Customized Dimensions Available</p>



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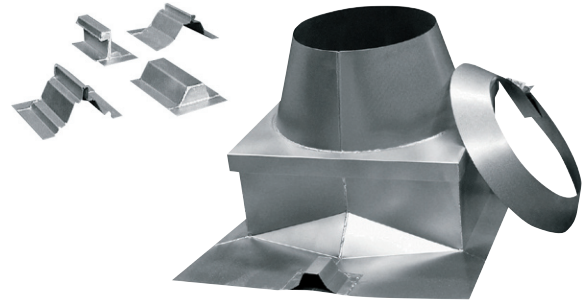
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**3-Piece Roof Stack Flashing
#P300-M-VV-W
Metal Roof, Over/Over, Welded Caps**

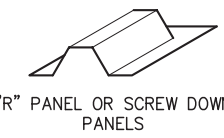
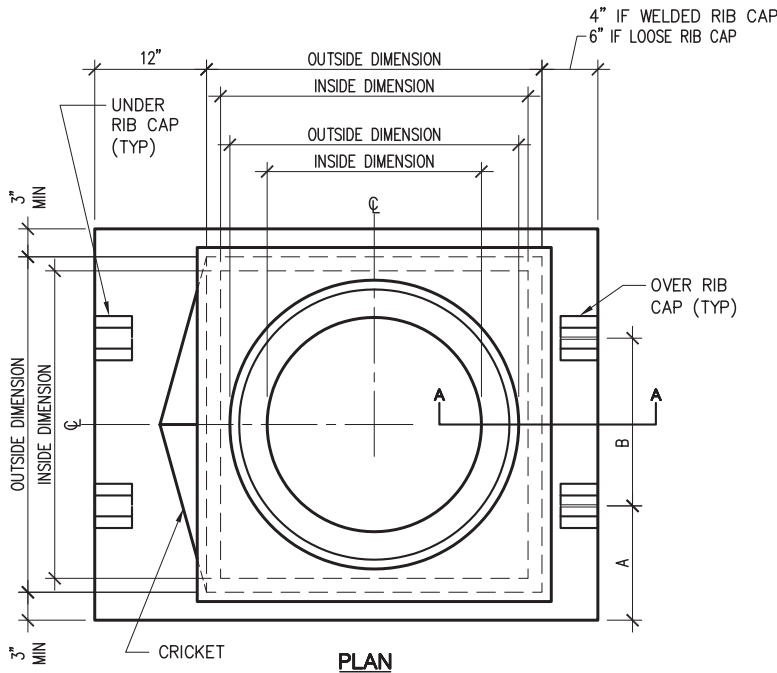
3-Piece Roof Stack Flashing

#P300-M-VU

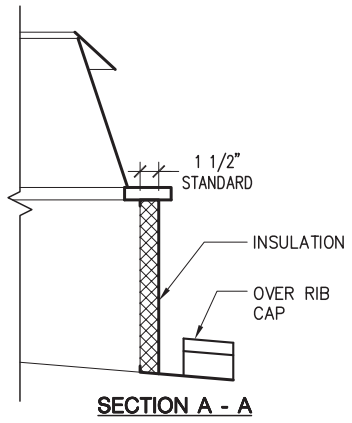
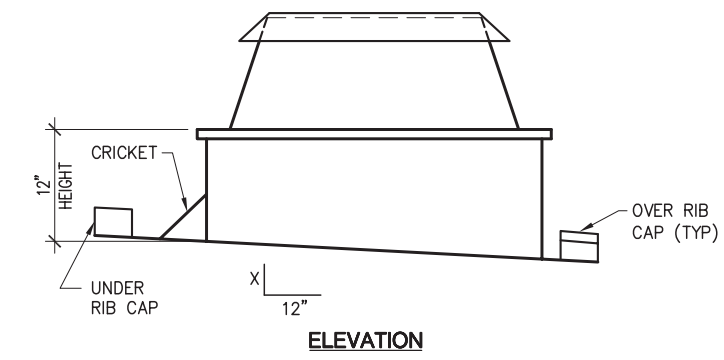
Metal Roof, Over/Under, Welded or Loose Caps

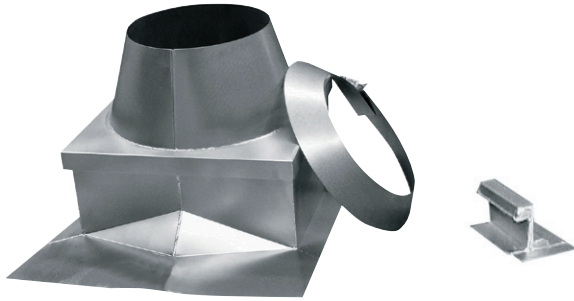


STANDARD FEATURES	STEEL OPTIONS	OPTIONAL FEATURES*
<ul style="list-style-type: none"> • Roof Curb <ul style="list-style-type: none"> - Mitered top & bottom flanges - Water tight welds - 12" minimum height - 1-1/2" foil-faced insulation board - Integral water-diverting cricket • Tapered stack flashing • Adjustable storm collar • Welds zinc enriched primed & finish coated 	01 - 18 gauge Galvalume steel* 02 - 20 gauge Galvalume steel 03 - 0.080 aluminum 04 - Stainless steel 05 - 16 gauge galvanized 06 - 18 gauge galvanized 07 - 20 gauge galvanized *Standard	A. No insulation B. Top flange bent to outside C. Interior protective metal liner D. Splash guard E. Purlin support rails J. Split assembly *Customized Dimensions Available



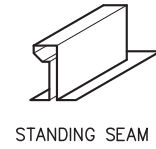
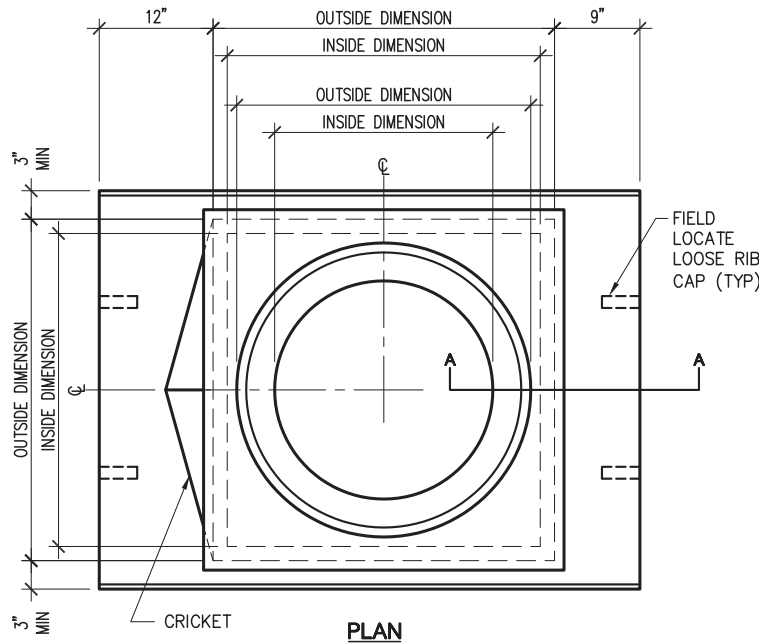
ROOF RIB TRANSITION CAPS





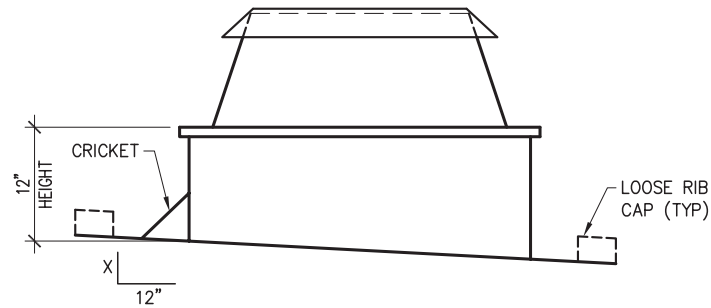
3-Piece Roof Stack Flashing
#P300-M-SR-S
Metal Roof, Seamed, Slide-On Caps

STANDARD FEATURES	STEEL OPTIONS	OPTIONAL FEATURES*
<ul style="list-style-type: none"> • Roof Curb <ul style="list-style-type: none"> - Mitered top & bottom flanges - Water tight welds - 12" minimum height - 1-1/2" foil-faced insulation board - Integral water-diverting cricket • Tapered stack flashing • Adjustable storm collar • Welds zinc enriched primed & finish coated 	01 - 18 gauge Galvalume steel* 02 - 20 gauge Galvalume steel 03 - 0.080 aluminum 04 - Stainless steel 05 - 16 gauge galvanized 06 - 18 gauge galvanized 07 - 20 gauge galvanized *Standard	A. No insulation B. Top flange bent to outside C. Interior protective metal liner D. Splash guard E. Purlin support rails J. Split assembly *Customized Dimensions Available

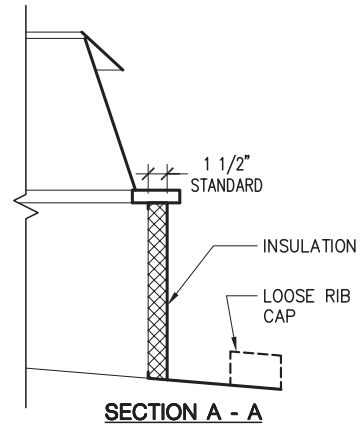


STANDING SEAM

ROOF RIB TRANSITION CAPS



ELEVATION

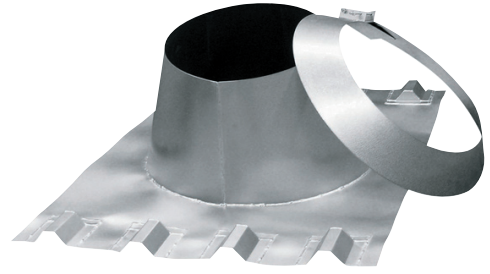


SECTION A - A

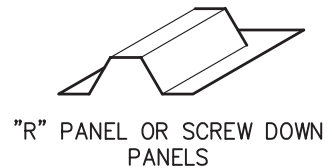
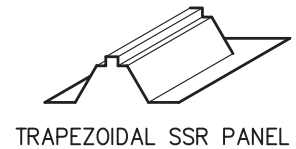
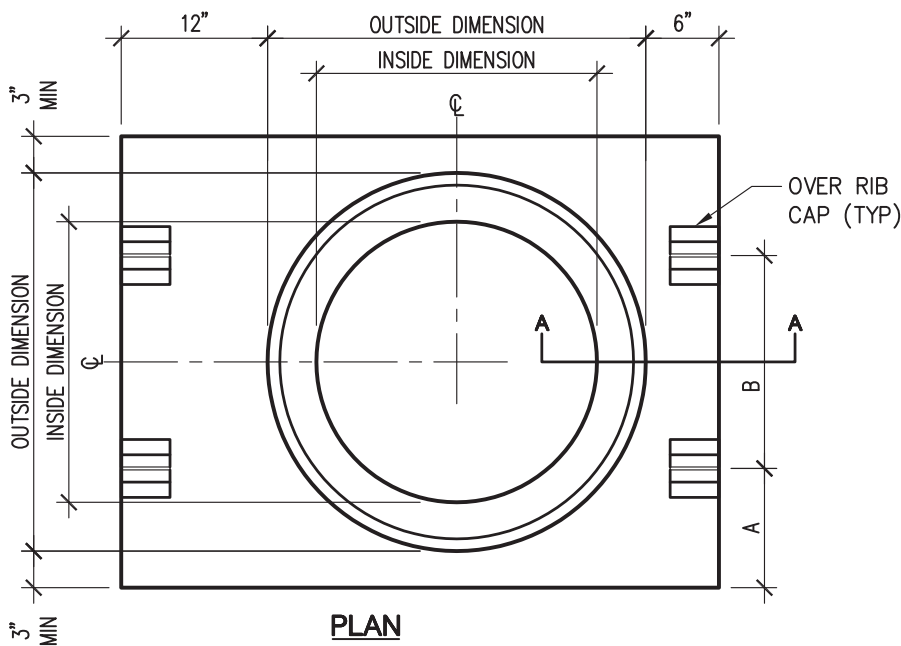
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3-Piece Roof Stack Flashing
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Metal Roof, Seamed, Slide-On Caps

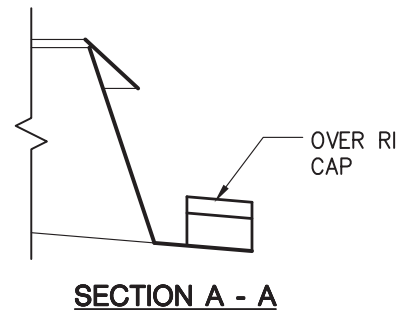
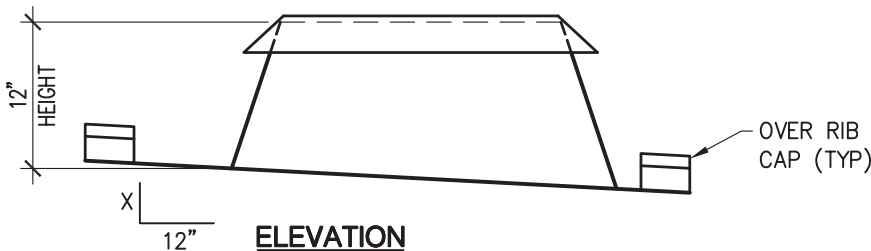
2-Piece Roof Stack Flashing
#P350-M-VV-W
Metal Roof, Over/Over, Welded Caps

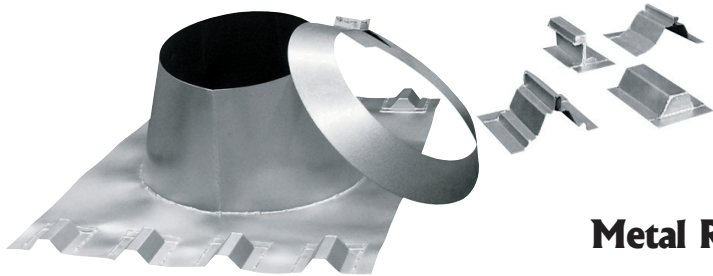


STANDARD FEATURES	STEEL OPTIONS	OPTIONAL FEATURES*
<ul style="list-style-type: none"> Tapered stack flashing Adjustable storm collar Welds zinc enriched, primed & finish coated 	01 - 18 gauge Galvalume steel* 02 - 20 gauge Galvalume steel 03 - 0.080 aluminum 04 - Stainless steel 05 - 16 gauge galvanized 06 - 18 gauge galvanized 07 - 20 gauge galvanized *Standard	J. Split assembly *Customized Dimensions Available



ROOF RIB TRANSITION CAPS

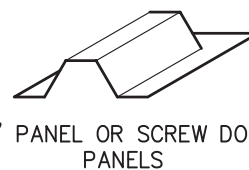
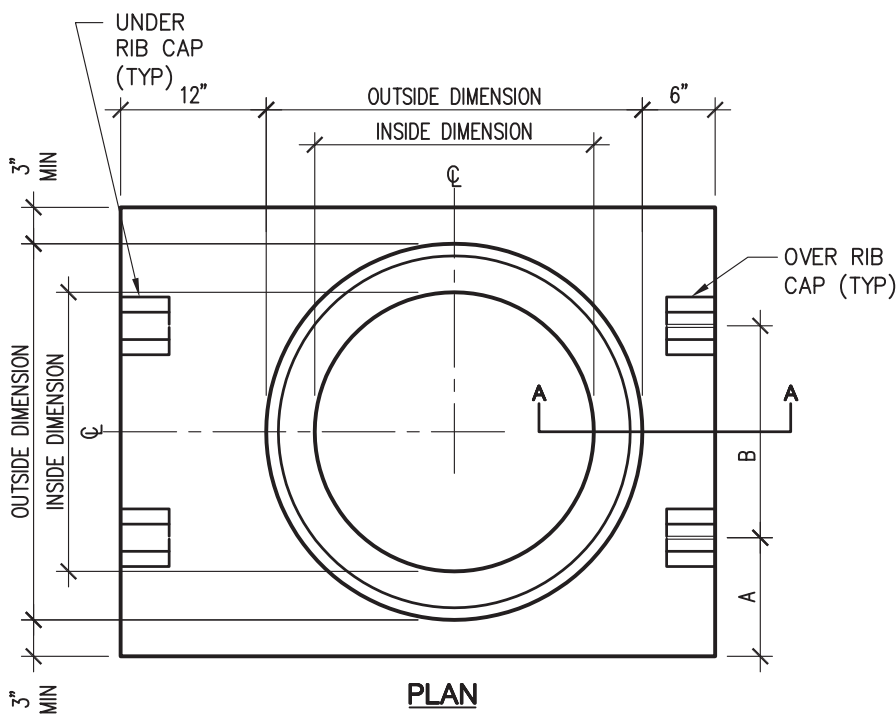




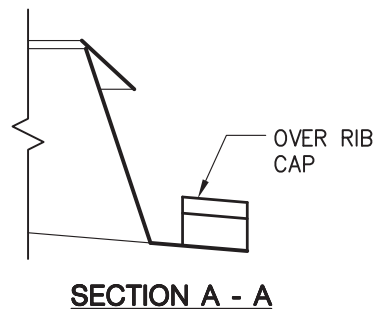
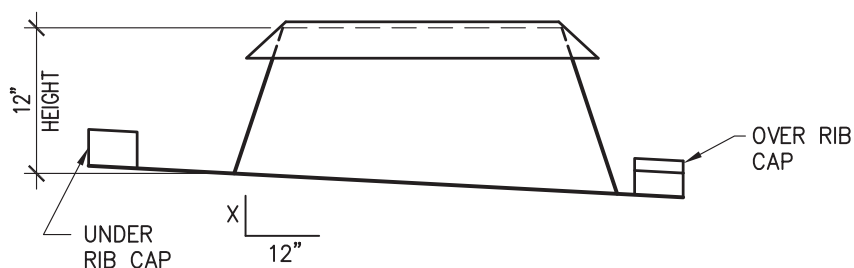
2-Piece Roof Stack Flashing
#P350-M-VU

Metal Roof, Over/Under, Welded or Loose Caps

STANDARD FEATURES	STEEL OPTIONS	OPTIONAL FEATURES*
<ul style="list-style-type: none"> • Tapered stack flashing • Adjustable storm collar • Welds zinc enriched, primed & finish coated 	01 - 18 gauge Galvalume steel* 02 - 20 gauge Galvalume steel 03 - 0.080 aluminum 04 - Stainless steel 05 - 16 gauge galvanized 06 - 18 gauge galvanized 07 - 20 gauge galvanized *Standard	J. Split assembly *Customized Dimensions Available



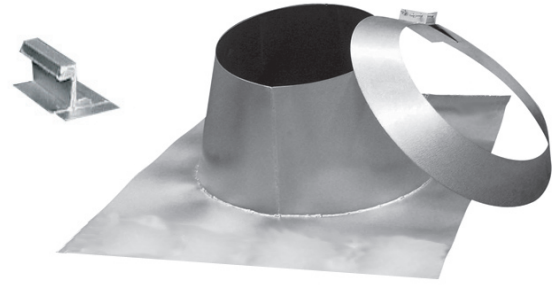
ROOF RIB TRANSITION CAPS



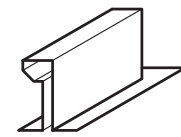
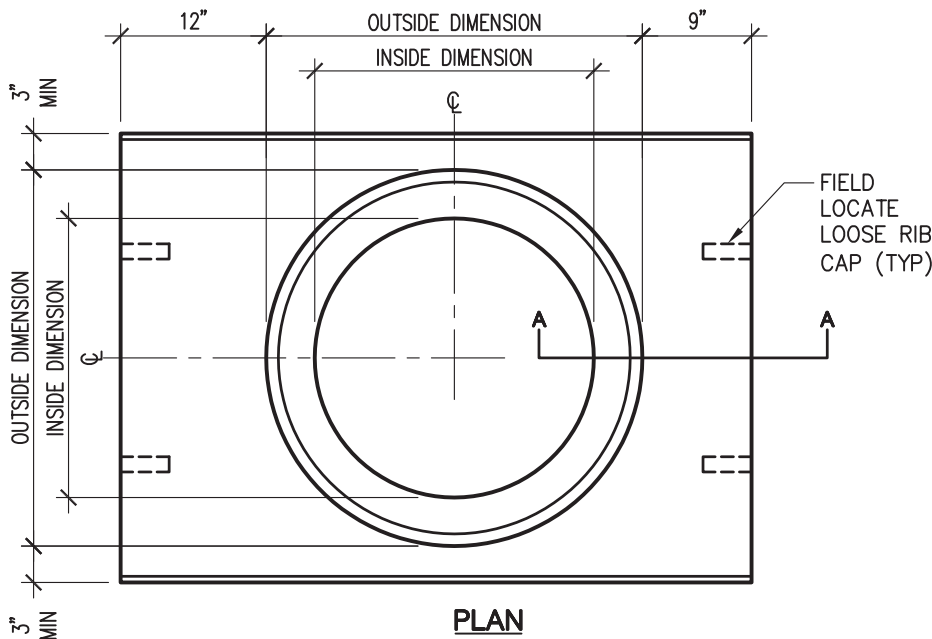
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2-Piece Roof Stack Flashing
#P350-M-VU
Metal Roof, Over/Under, Welded or Loose Caps

2-Piece Roof Stack Flashing
#P350-M-SR-S
Metal Roof, Seamed, Slide-On Caps

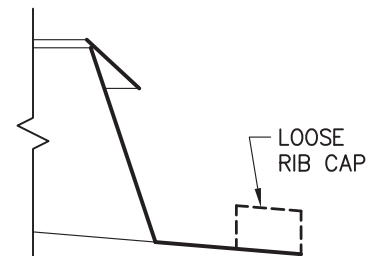
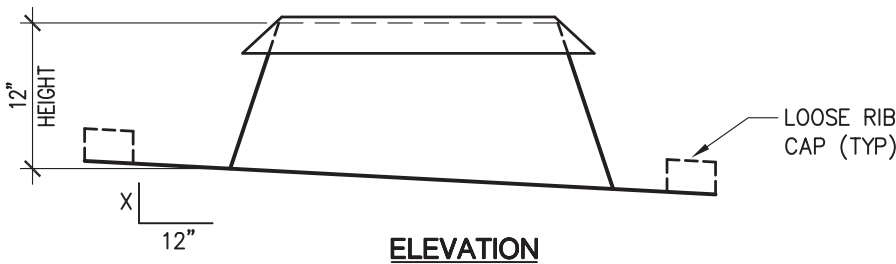


STANDARD FEATURES	STEEL OPTIONS	OPTIONAL FEATURES*
<ul style="list-style-type: none"> Tapered stack flashing Adjustable storm collar Welds zinc enriched, primed & finish coated 	<ul style="list-style-type: none"> 01 - 18 gauge Galvalume steel* 02 - 20 gauge Galvalume steel 03 - 0.080 aluminum 04 - Stainless steel 05 - 16 gauge galvanized 06 - 18 gauge galvanized 07 - 20 gauge galvanized <p>*Standard</p>	<ul style="list-style-type: none"> J. Split assembly <p>*Customized Dimensions Available</p>



STANDING SEAM

ROOF RIB TRANSITION CAPS





Roof Access Hatch #P400-M-VV-W Metal Roof, Over/Over, Welded Caps

STANDARD FEATURES

- Roof Curb
 - Mitered top & bottom flanges
 - Water tight welds
 - 12" minimum height
 - 1-1/2" foil-faced insulation board
 - Integral water-diverting cricket
- Double weather seal lid
- Positive lock
- Hold open gas shock
- Internal or external lasp locking system
- Welds zinc enriched primed & finish coated

STEEL OPTIONS

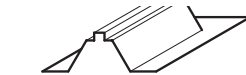
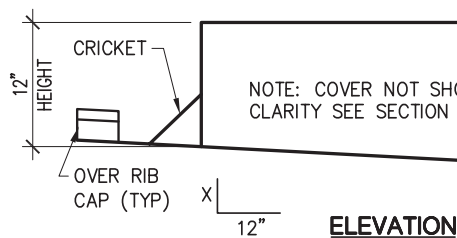
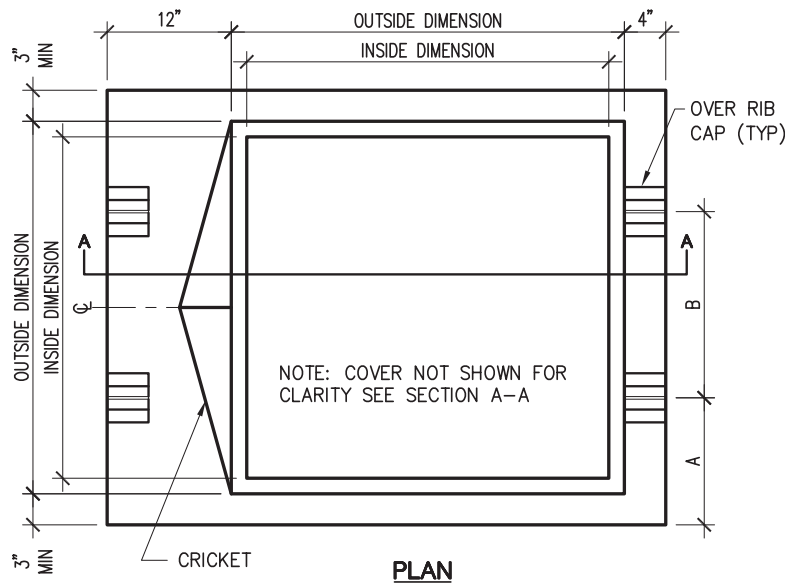
- 01 - 18 gauge Galvalume steel*
- 02 - 20 gauge Galvalume steel
- 03 - 0.080 aluminum
- 04 - Stainless steel
- 05 - 16 gauge galvanized
- 06 - 18 gauge galvanized
- 07 - 20 gauge galvanized

*Standard

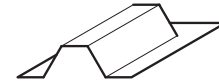
OPTIONAL FEATURES*

- A. No insulation
- B. Top flange bent to outside
- C. Interior protective metal liner
- D. Splash guard
- G. Purlin support rails

*Customized Dimensions Available

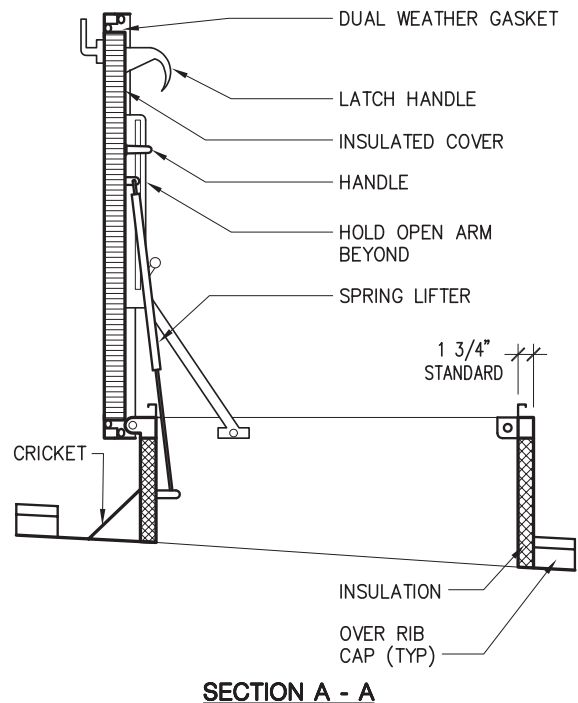


TRAPEZOIDAL SSR PANEL



"R" PANEL OR SCREW DOWN PANELS

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Roof Access Hatch
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Metal Roof, Over/Over, Welded Caps



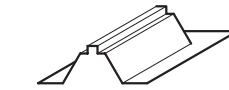
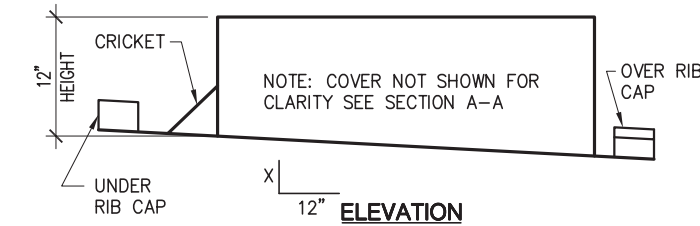
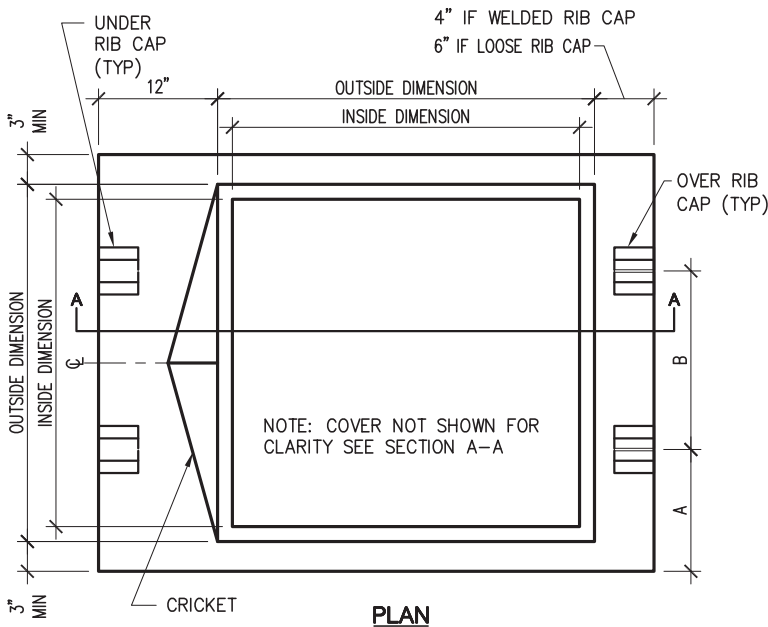
Roof Access Hatch

#P400-M-VU

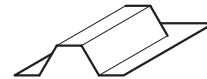
Metal Roof, Over/Under, Welded or Loose Caps



STANDARD FEATURES	STEEL OPTIONS	OPTIONAL FEATURES*
<ul style="list-style-type: none"> • Roof Curb <ul style="list-style-type: none"> - Mitered top & bottom flanges - Water tight welds - 12" minimum height - 1-1/2" foil-faced insulation board - Integral water-diverting cricket • Double weather seal lid • Positive lock • Hold open gas shock • Internal or external lasp locking system • Welds zinc enriched primed & finish coated 	<ul style="list-style-type: none"> 01 - 18 gauge Galvalume steel* 02 - 20 gauge Galvalume steel 03 - 0.080 aluminum 04 - Stainless steel 05 - 16 gauge galvanized 06 - 18 gauge galvanized 07 - 20 gauge galvanized 	<ul style="list-style-type: none"> A. No insulation B. Top flange bent to outside C. Interior protective metal liner D. Splash guard G. Purlin support rails
*Standard		*Customized Dimensions Available

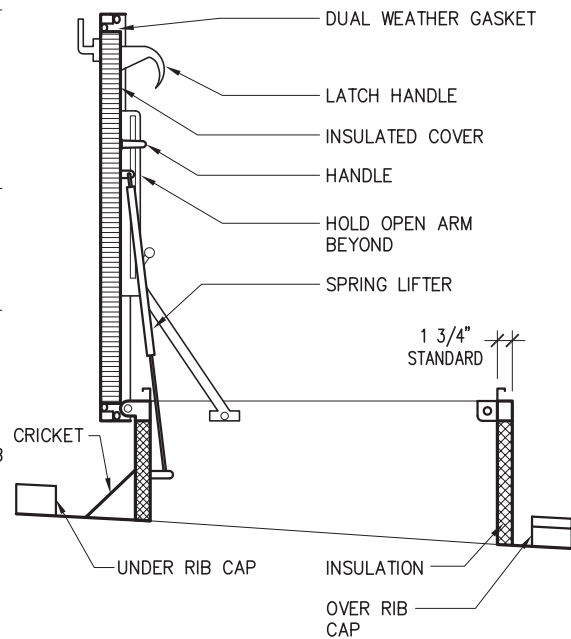


TRAPEZOIDAL SSR PANEL



"R" PANEL OR SCREW DOWN PANELS

ROOF RIB TRANSITION CAPS



SECTION A - A

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Roof Access Hatch

#P400-M-SR-S

Metal Roof, Seamed, Slide-On Caps



STANDARD FEATURES

- Roof Curb
 - Mitered top & bottom flanges
 - Water tight welds
 - 12" minimum height
 - 1-1/2" foil-faced insulation board
 - Integral water-diverting cricket
- Double weather seal lid
- Positive lock
- Hold open chain limit
- Open limit chain
- Internal or external lasp locking system
- Welds zinc enriched primed & finish coated

STEEL OPTIONS

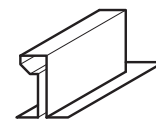
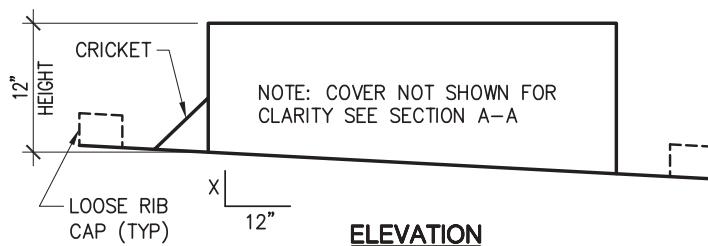
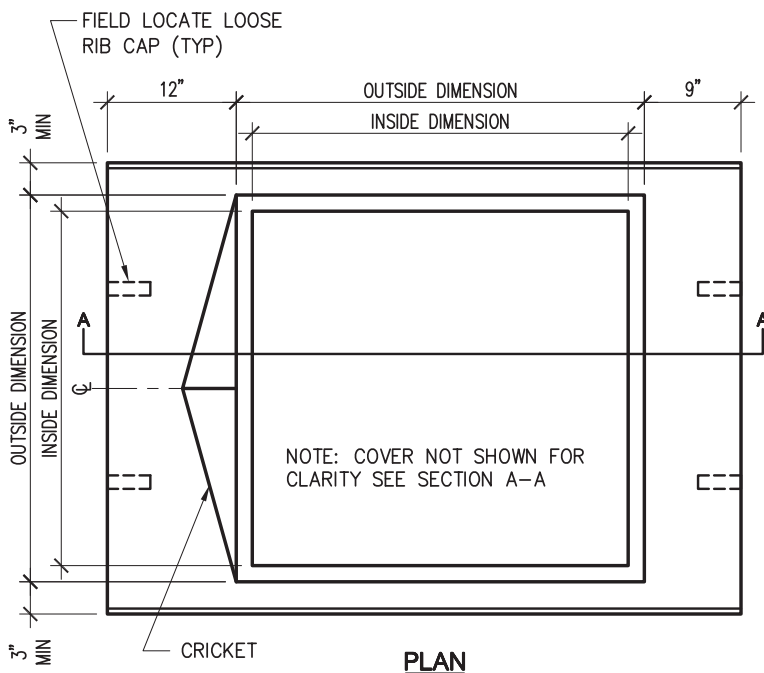
- 01 - 18 gauge Galvalume steel*
- 02 - 20 gauge Galvalume steel
- 03 - 0.080 aluminum
- 04 - Stainless steel
- 05 - 16 gauge galvanized
- 06 - 18 gauge galvanized
- 07 - 20 gauge galvanized

*Standard

OPTIONAL FEATURES*

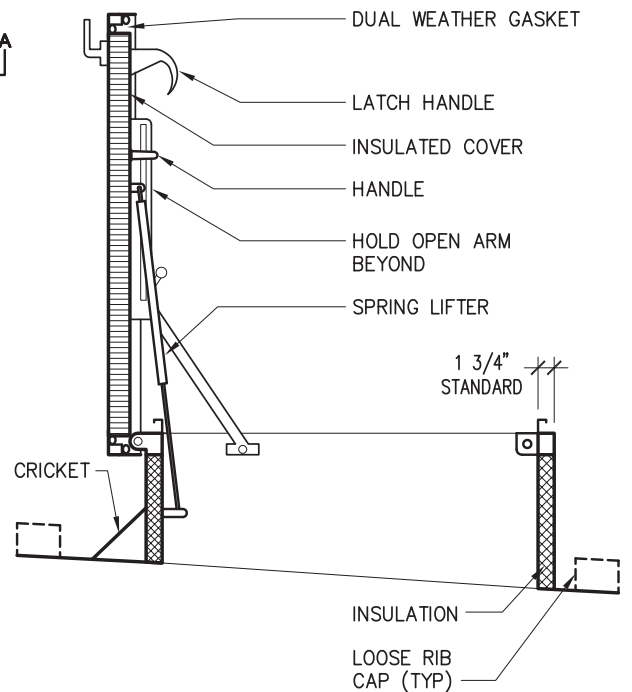
- A. No insulation
- B. Top flange bent to outside
- C. Interior protective metal liner
- D. Splash guard
- G. Purlin support rails

*Customized Dimensions Available



STANDING SEAM

ROOF RIB TRANSITION CAPS



SECTION A - A

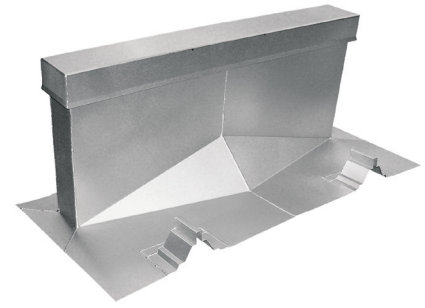
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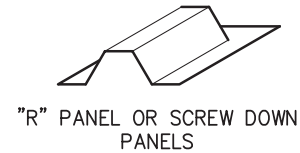
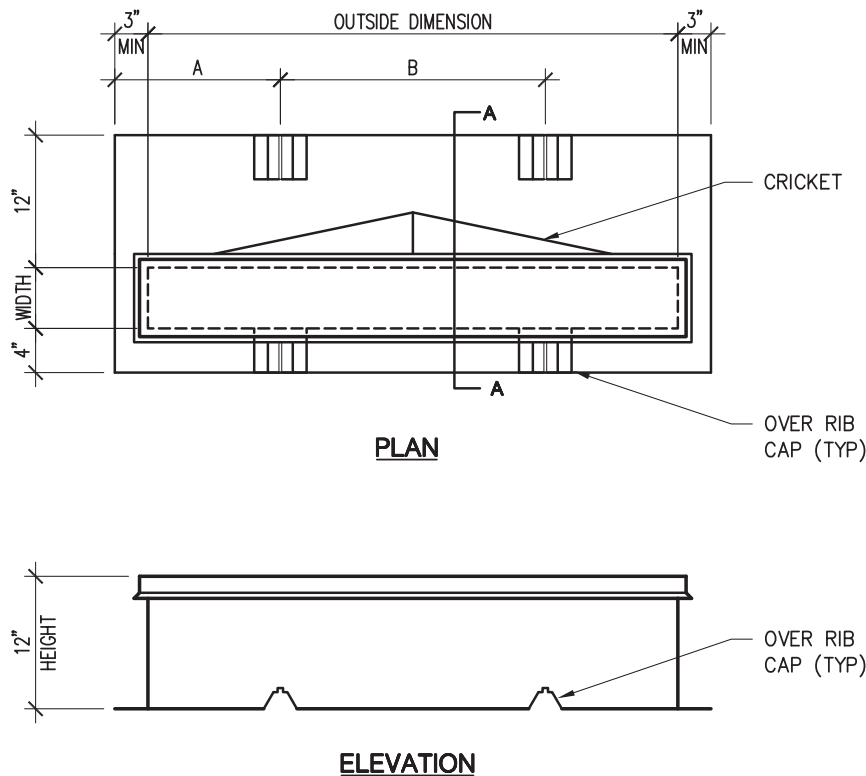
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Roof Access Hatch
#P400-M-SR-S
Metal Roof, Seamed, Slide-On Caps

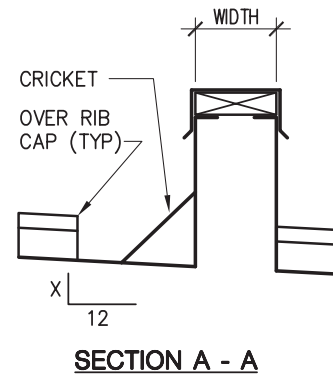
Equipment Rail
#P500-M-VV-W
Metal Roof, Over/Over, Welded Caps

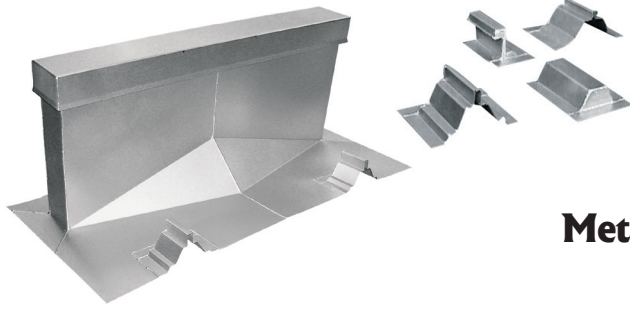


STANDARD FEATURES	STEEL OPTIONS	OPTIONAL FEATURES*
<ul style="list-style-type: none"> • Pressure-treated wood top • Metal flashing cap • Welds zinc enriched, primed & finish coated 	05 - 16 gauge galvanized* *Standard	A. No insulation G. Purlin support rails K. Cant *Customized Dimensions Available



ROOF RIB TRANSITION CAPS

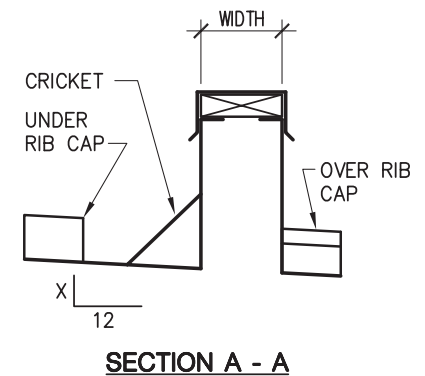
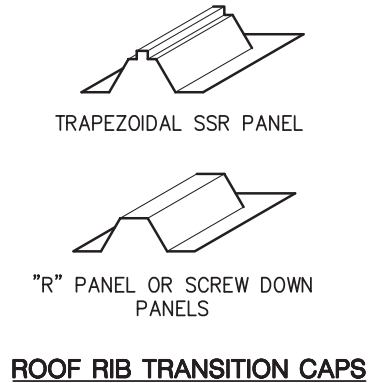
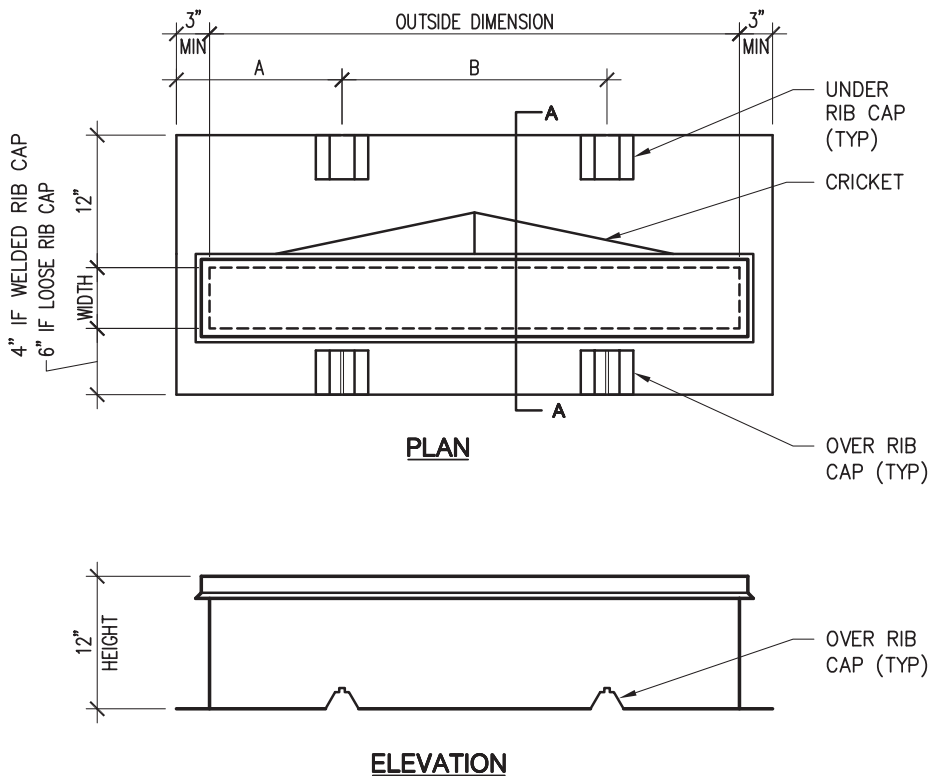




Equipment Rail
#P500-M-VU

Metal Roof, Over/Under, Welded or Loose Caps

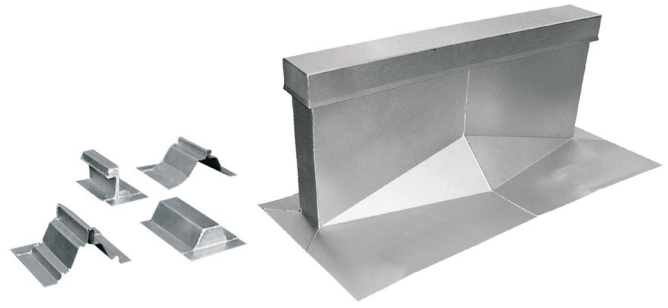
STANDARD FEATURES	STEEL OPTIONS	OPTIONAL FEATURES*
<ul style="list-style-type: none"> • Pressure-treated wood top • Metal flashing cap • Welds zinc enriched, primed & finish coated 	05 - 16 gauge galvanized* *Standard	A. No insulation G. Purlin support rails K. Cant *Customized Dimensions Available



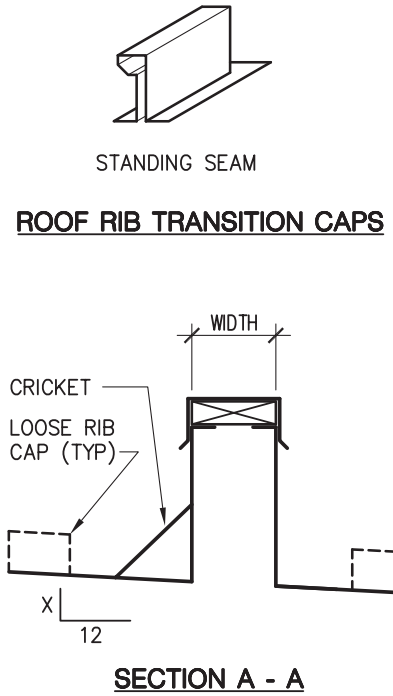
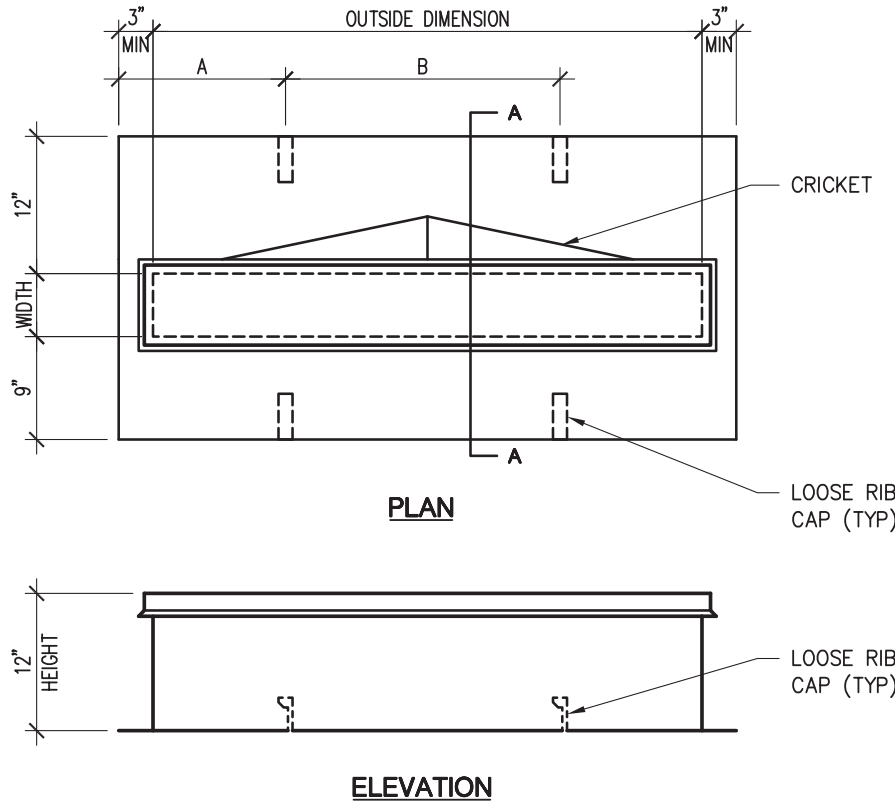
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Equipment Rail
#P500-M-VU
Metal Roof, Over/Under, Welded or Loose Caps

Equipment Rail
#P500-M-SR-S
Metal Roof, Seamed, Slide-On Caps



STANDARD FEATURES	STEEL OPTIONS	OPTIONAL FEATURES*
<ul style="list-style-type: none"> • Pressure-treated wood top • Metal flashing cap • Welds zinc enriched, primed & finish coated 	05 - 16 gauge galvanized* *Standard	A. No insulation G. Purlin support rails K. Cant *Customized Dimensions Available

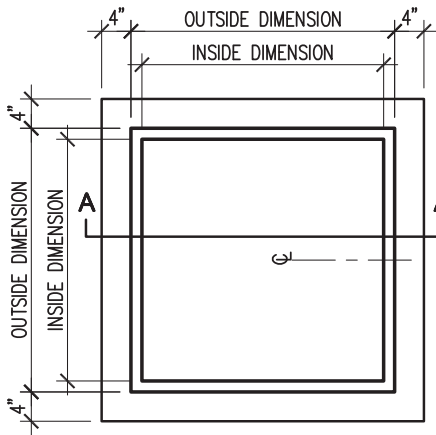




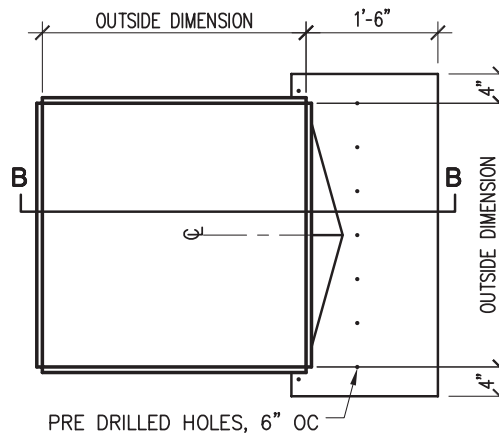
3-Piece Roof Curb #P100-S-UU-N

Shingled Roof, Under/Under, No Caps

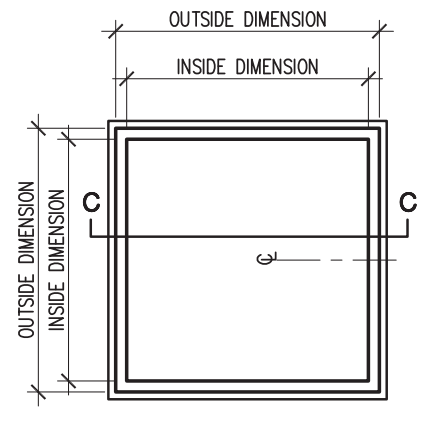
STANDARD FEATURES	STEEL OPTIONS	OPTIONAL FEATURES*
<ul style="list-style-type: none"> Mitered top & bottom flanges Water tight welds 12" minimum height 1-1/2" foil-faced insulation board Integral water-diverting cricket Welded continuous step-flashing Welds zinc enriched, primed & finish coated 	<ul style="list-style-type: none"> 01 - 18 gauge Galvalume steel* 02 - 20 gauge Galvalume steel 03 - 0.080 aluminum 04 - Stainless steel 05 - 16 gauge galvanized 06 - 18 gauge galvanized 07 - 20 gauge galvanized <p>*Standard</p>	<ul style="list-style-type: none"> A. No insulation B. Top flange bent to outside C. Interior protective metal liner D. Splash guard E. Sidewall support bracing F. Burglar bars G. Purlin support rails H. Internal damper flange <p>*Customized Dimensions Available</p>



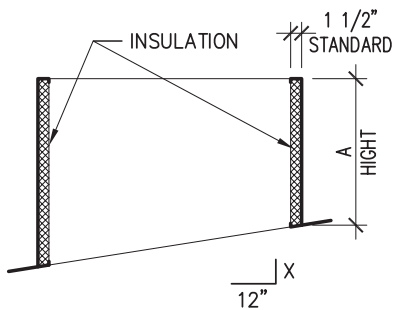
BASE PLAN



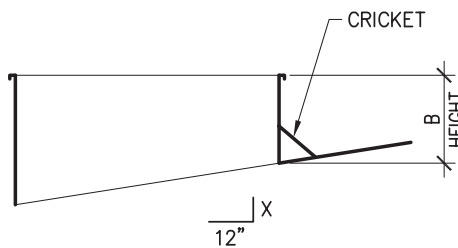
FLASHING PLAN



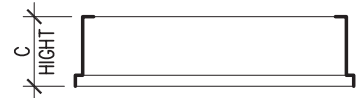
OPEN CAP PLAN



SECTION A - A



SECTION B - B



SECTION C - C

See Installation Instructions (Section X) for photo of fully-assembled roof curb.

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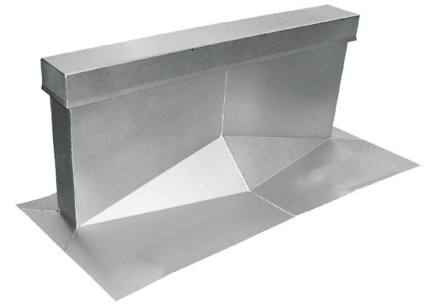
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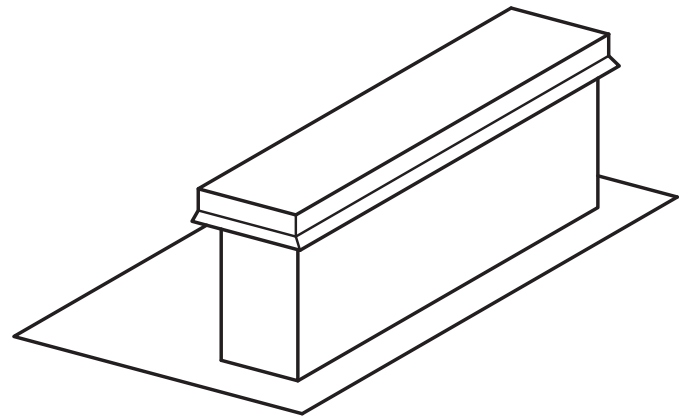
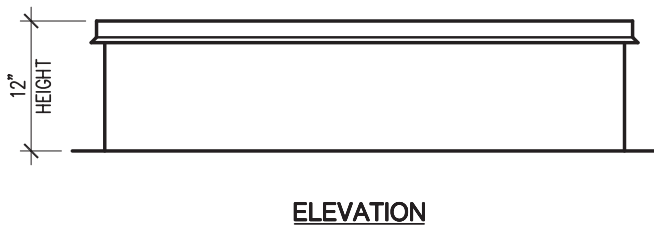
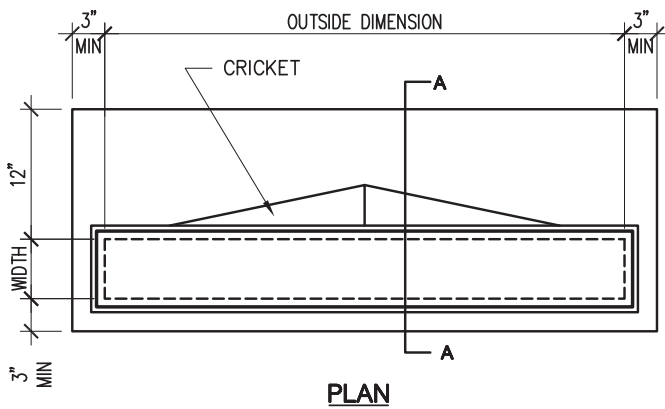
**3-Piece Roof Curb
#P100-S-UU-N
Shingled Roof, Under/Under, No Caps**



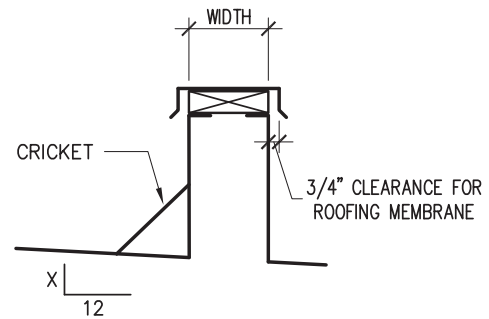
Equipment Rail
#P500-S-UU-N
Shingled Roof, Under/Under, No Caps



STANDARD FEATURES	STEEL OPTIONS	OPTIONAL FEATURES*
<ul style="list-style-type: none"> • Pressure-treated wood top • Metal flashing cap • Welds zinc enriched, primed & finish coated 	05 - 16 gauge galvanized* *Standard	A. No insulation G. Purlin support rails K. Cant *Customized Dimensions Available



ISOMETRIC



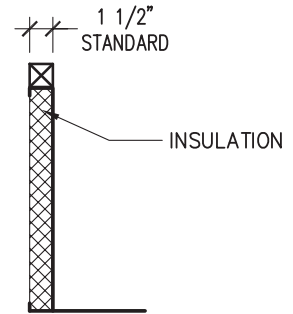
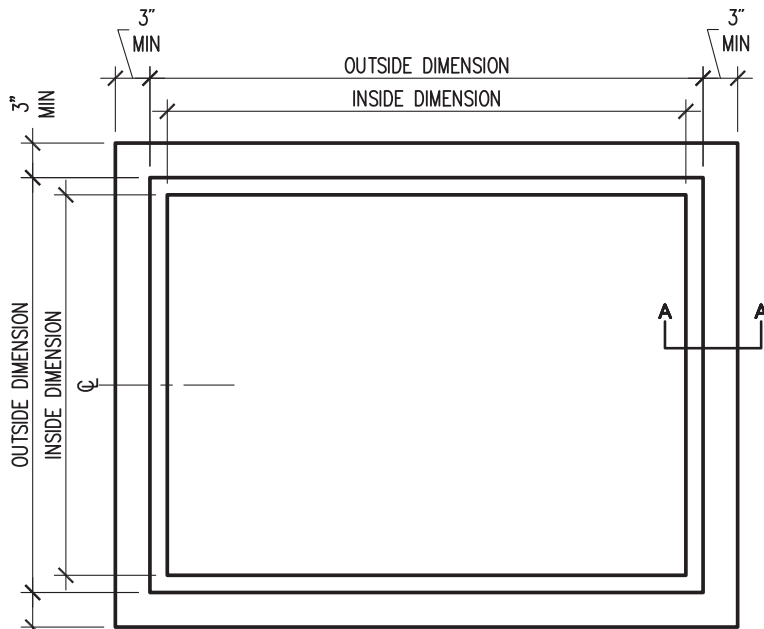


Roof Curb
#P100-B-UU-N

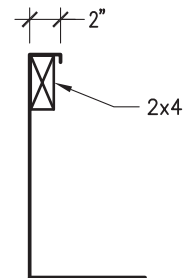
Membrane Built-Up Roof, Under/Under, No Caps

Shown with Option I -
Wood nailer on top

STANDARD FEATURES	STEEL OPTIONS	OPTIONAL FEATURES*
<ul style="list-style-type: none"> Mitered top & bottom flanges Water tight welds 12" minimum height No insulation Welds zinc enriched, primed & finish coated Wood nailer - Must select option I (wood nailer on top) or option M (wood nailer on side) 	<ul style="list-style-type: none"> 01 - 18 gauge Galvalume steel* 02 - 20 gauge Galvalume steel 03 - 0.080 aluminum 04 - Stainless steel 05 - 16 gauge galvanized 06 - 18 gauge galvanized 07 - 20 gauge galvanized 	<ul style="list-style-type: none"> C. Interior protective metal liner D. Splash guard E. Sidewall support bracing F. Burglar bars G. Purlin support rails H. Internal damper flange I. Wood nailer on top (flange bent to inside) L. 1-1/2" foil-faced insulation board M. Wood nailer on side (flange bent to outside)
	*Standard	*Customized Dimensions Available

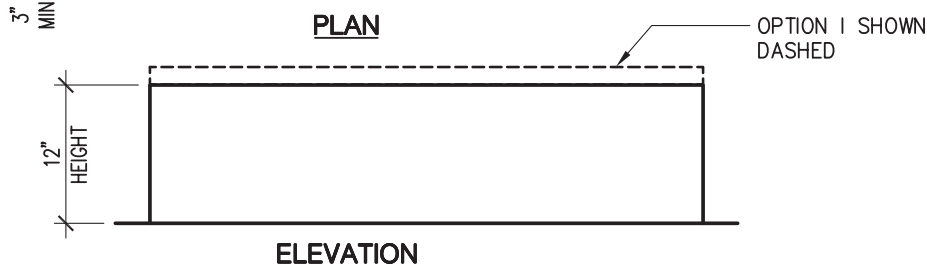


OPTION I



OPTION M

SECTION A - A



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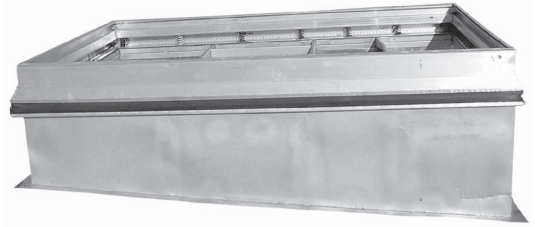
Roof Curb
#P100-B-UU-N
Membrane Built-Up Roof, Under/Under, No Caps



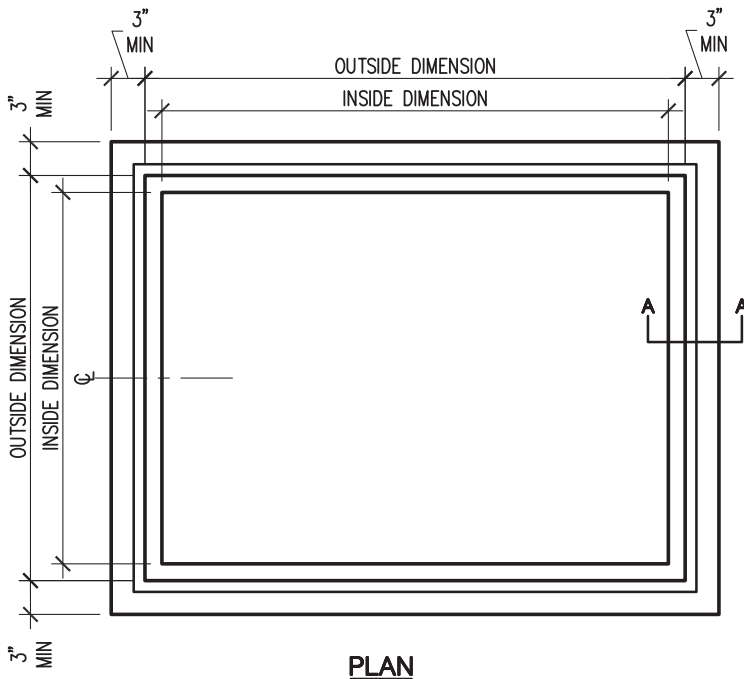
Seismic Roof Curb

#P150-B-UU-N

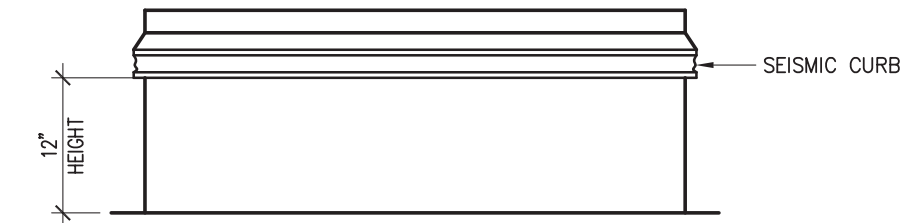
Membrane Built-Up Roof, Under/Under, No Caps



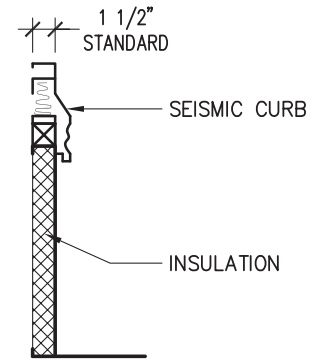
STANDARD FEATURES	STEEL OPTIONS	OPTIONAL FEATURES*
<ul style="list-style-type: none"> Mitered top & bottom flanges Water tight welds 12" minimum height No insulation Welds zinc enriched, primed & finish coated Wood nailer -Must select option I (wood nailer on top) or option M (wood nailer on side) 	<ul style="list-style-type: none"> 01 - 18 gauge Galvalume steel* 02 - 20 gauge Galvalume steel 03 - 0.080 aluminum 04 - Stainless steel 05 - 16 gauge galvanized 06 - 18 gauge galvanized 07 - 20 gauge galvanized <p>*Standard</p>	<ul style="list-style-type: none"> C. Interior protective metal liner D. Splash guard E. Sidewall support bracing F. Burglar bars G. Purlin support rails H. Internal damper flange I. Wood nailer on top (flange bent to inside) L. 1-1/2" foil-faced insulation board M. Wood nailer on side (flange bent to outside) <p>*Customized Dimensions Available</p>



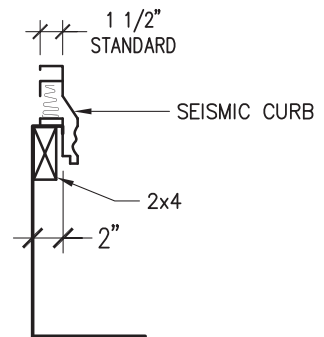
PLAN



ELEVATION

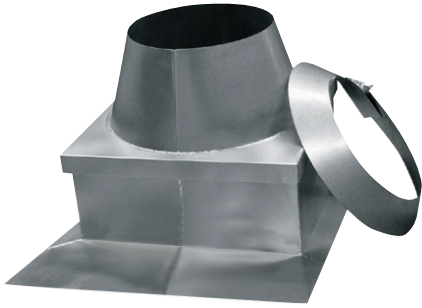


OPTION I



OPTION M

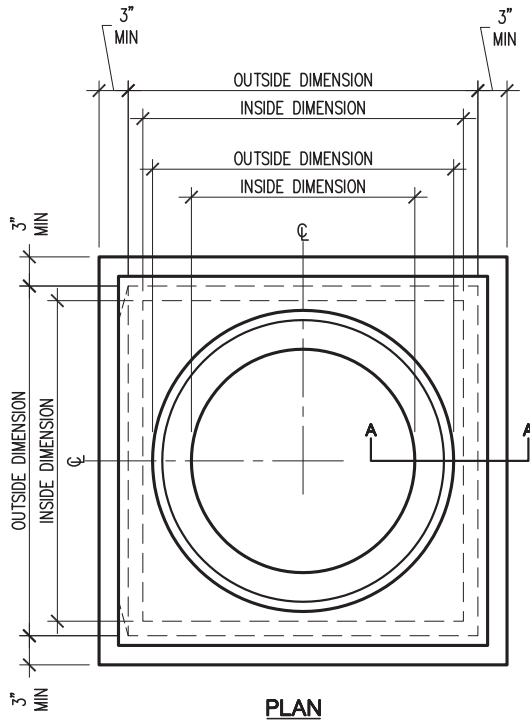
SECTION A - A



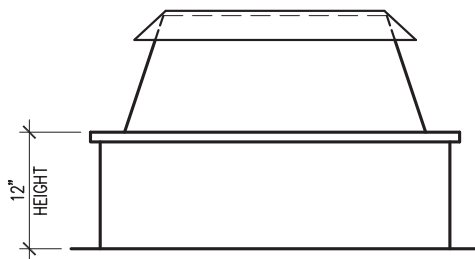
3-Piece Roof Stack Flashing #P300-B-UU-N

Membrane Built-Up Roof, Under/Under, No Caps

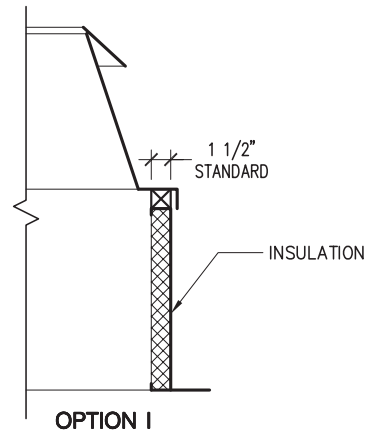
STANDARD FEATURES	STEEL OPTIONS	OPTIONAL FEATURES*
<ul style="list-style-type: none"> Roof Curb <ul style="list-style-type: none"> Mitered top & bottom flanges Water tight welds 12" minimum height 1-1/2" foil-faced insulation board No insulation Tapered stack flashing Adjustable storm collar Welds zinc enriched primed & finish coated Wood nailer - Must select option I (wood nailer on top) or option M (wood nailer on side) 	<ul style="list-style-type: none"> 01 - 18 gauge Galvalume steel* 02 - 20 gauge Galvalume steel 03 - 0.080 aluminum 04 - Stainless steel 05 - 16 gauge galvanized 06 - 18 gauge galvanized 07 - 20 gauge galvanized <p>*Standard</p>	<ul style="list-style-type: none"> C. Interior protective metal liner E. Purlin support rails I. Wood nailer on top (flange bent to inside) J. Split assembly L. 1-1/2" foil-faced insulation board M. Wood nailer on side (flange bent to outside) <p>*Customized Dimensions Available</p>



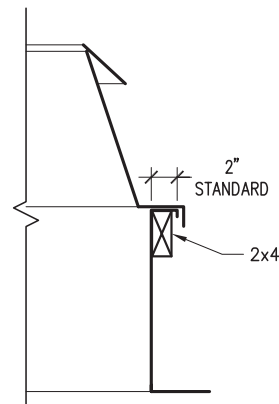
PLAN



ELEVATION



OPTION I



OPTION M

SECTION A - A

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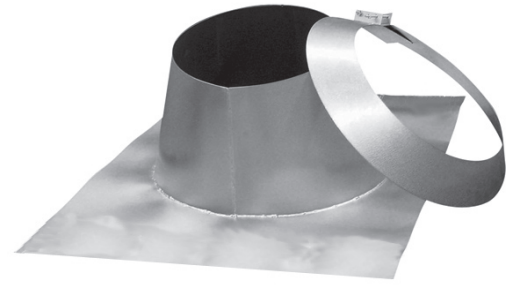
**3-Piece Roof Stack Flashing
#P300-B-UU-N**

Membrane Built-Up Roof, Under/Under, No Caps

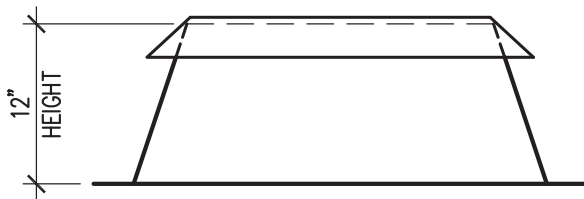
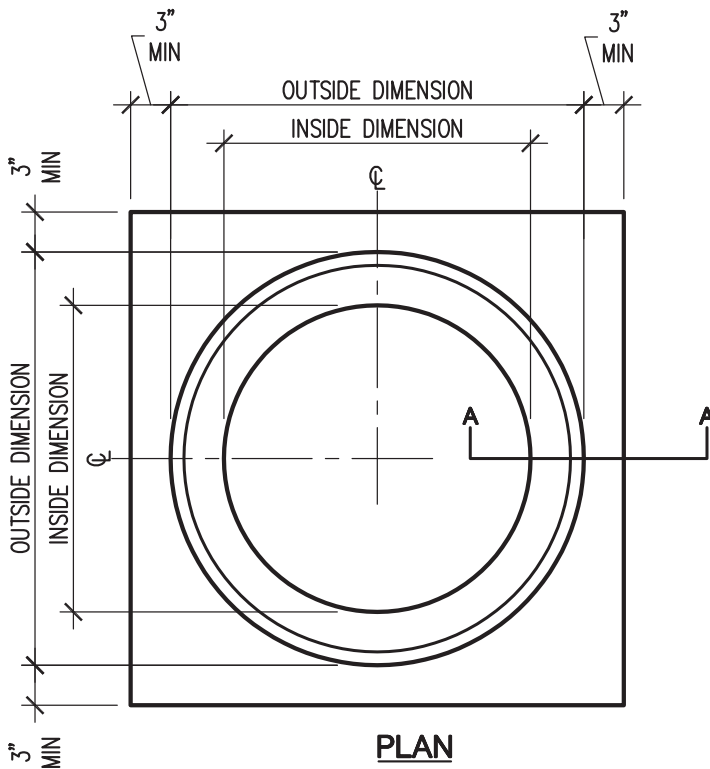
2-Piece Roof Stack Flashing

#P350-B-UU-N

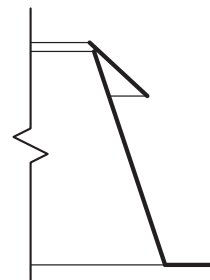
Membrane Built-Up Roof, Under/Under, No Caps



STANDARD FEATURES	STEEL OPTIONS	OPTIONAL FEATURES*
<ul style="list-style-type: none"> Tapered stack flashing Adjustable storm collar Welds zinc enriched, primed & finish coated 	01 - 18 gauge Galvalume steel* 02 - 20 gauge Galvalume steel 03 - 0.080 aluminum 04 - Stainless steel 05 - 16 gauge galvanized 06 - 18 gauge galvanized 07 - 20 gauge galvanized *Standard	J. Split assembly *Customized Dimensions Available



ELEVATION



SECTION A - A

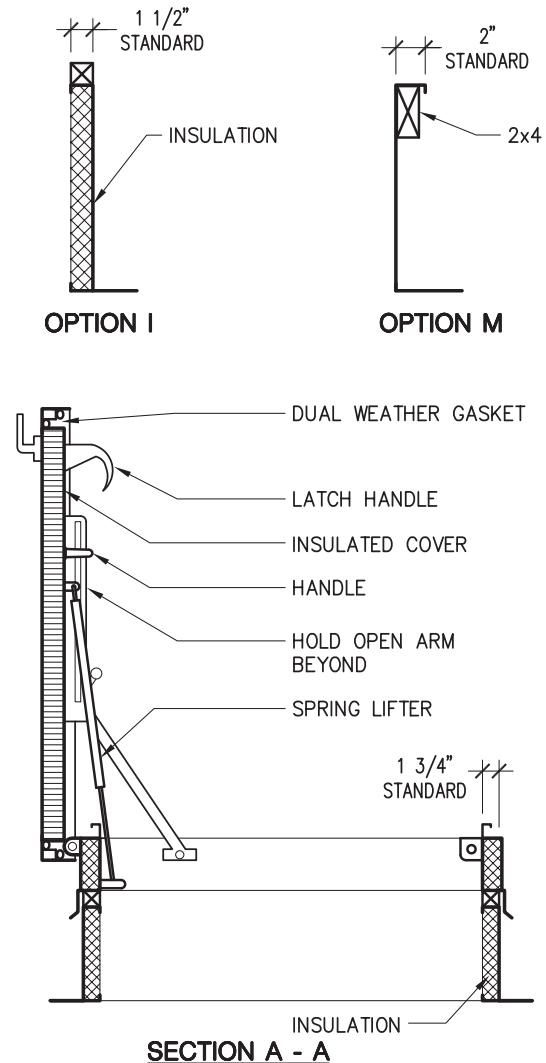
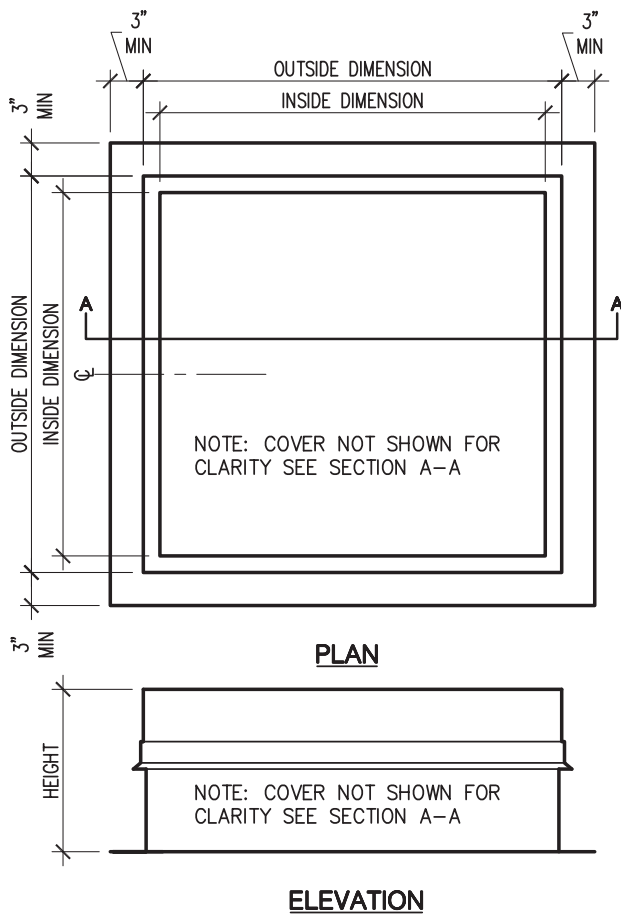


Roof Access Hatch

#P400-B-UU-N

Membrane Built-Up Roof, Under/Under, No Caps

STANDARD FEATURES	STEEL OPTIONS	OPTIONAL FEATURES*
<ul style="list-style-type: none"> • Roof Curb <ul style="list-style-type: none"> - Mitered top & bottom flanges - Water tight welds - 12" minimum height - 1-1/2" foil-faced insulation board • Double weather seal lid • Positive lock • Hold open gas shock 	<ul style="list-style-type: none"> • Open limit chain • Internal or external lasp locking system • Welds zinc enriched primed & finish coated <p>01 - 18 gauge Galvalume steel* 02 - 20 gauge Galvalume steel 03 - 0.080 aluminum 04 - Stainless steel 05 - 16 gauge galvanized 06 - 18 gauge galvanized 07 - 20 gauge galvanized</p> <p>*Standard</p>	<ul style="list-style-type: none"> A. No insulation B. Top flange bent to outside C. Interior protective metal liner G. Purlin support rails I. Wood nailer on top M. Wood nailer on side <p>*Customized Dimensions Available</p>



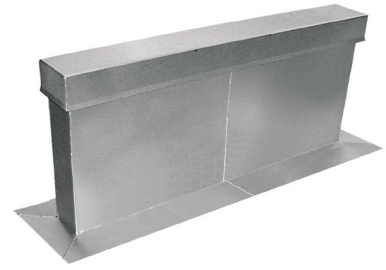
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Roof Access Hatch
#P400-B-UU-N
Membrane Built-Up Roof, Under/Under, No Caps

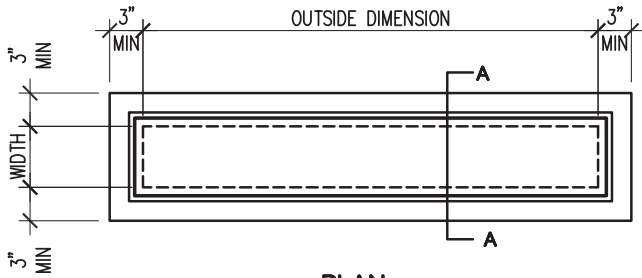
Equipment Rail

#P500-B-UU-N

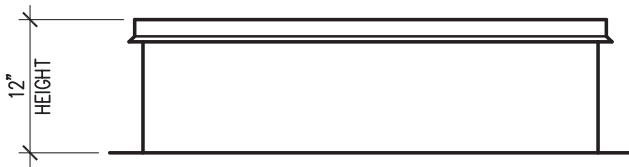
Membrane Built-Up Roof, Under/Under, No Caps



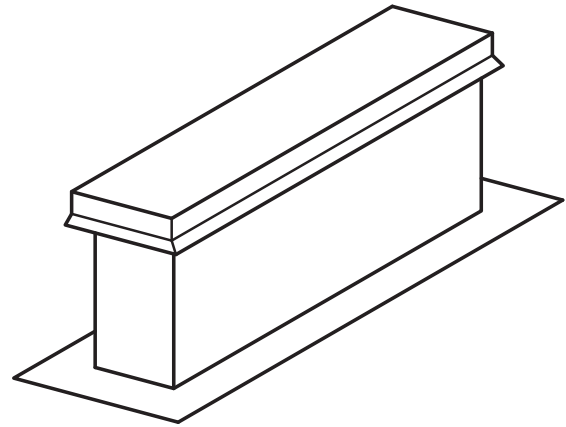
STANDARD FEATURES	STEEL OPTIONS	OPTIONAL FEATURES*
<ul style="list-style-type: none"> • Pressure-treated wood top • Metal flashing cap • Welds zinc enriched, primed & finish coated • 1-1/2" foil-faced insulation board 	<p>05 - 16 gauge galvanized*</p> <p>*Standard</p>	<p>G. Purlin support rails K. Cant</p> <p>*Customized Dimensions Available</p>



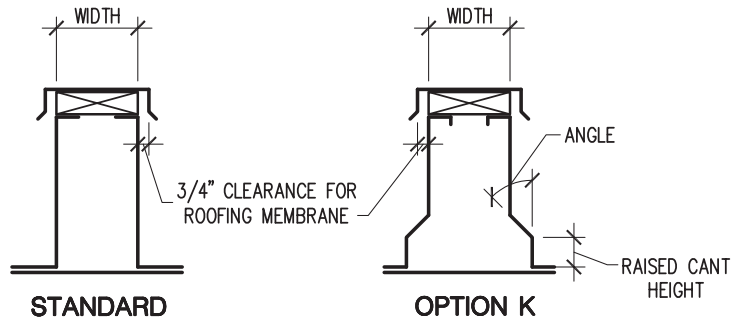
PLAN



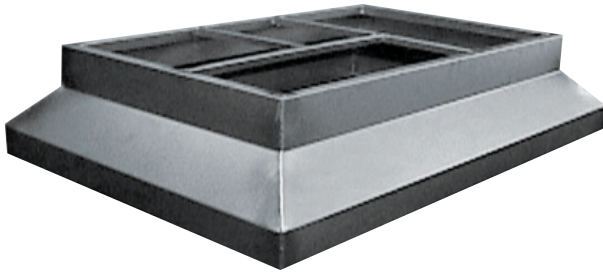
ELEVATION



ISOMETRIC



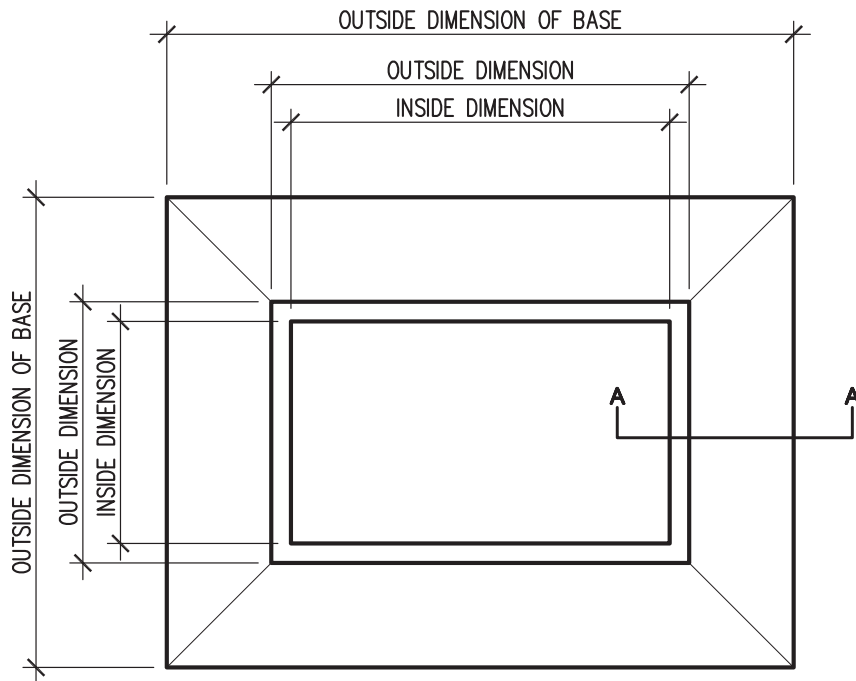
SECTION A - A



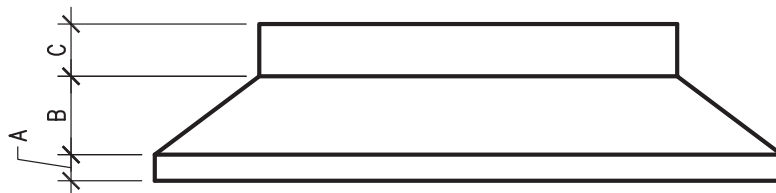
Adapter Curb
#P200

Metal, Shingled or Built-Up Roof

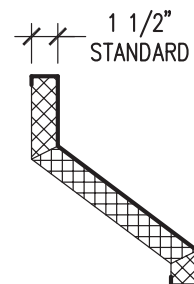
STANDARD FEATURES	STEEL OPTIONS	OPTIONAL FEATURES*
<ul style="list-style-type: none"> Mitered top & bottom flanges Water tight welds 20" minimum height 1-1/2" foil-faced insulation board Welds zinc enriched, primed & finish coated 	<ul style="list-style-type: none"> 01 - 18 gauge Galvalume steel* 02 - 20 gauge Galvalume steel 03 - 0.080 aluminum 04 - Stainless steel 05 - 16 gauge galvanized 06 - 18 gauge galvanized 07 - 20 gauge galvanized <p>*Standard</p>	<ul style="list-style-type: none"> A. No insulation B. Top flange bent to outside C. Interior protective metal liner D. Splash guard E. Sidewall support bracing F. Burglar bars G. Purlin support rails H. Internal damper flange <p>*Customized Dimensions Available</p>



PLAN



ELEVATION



SECTION A - A

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Adapter Curb
#P200

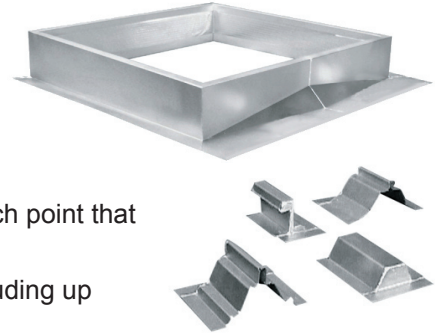
Metal, Shingled or Membrane Roof



Installation Instructions*

Metal Ribbed Roof - Over/Over Application - Loose Roof Rib Cap

1. Set curb on desired roof top location
2. Mark an outline of the curb
3. Remove curb
4. Cut hole in roof to within 4" of curb flange edge on top and bottom, cut width to inside dimension of curb opening.
5. Cut a notch in the curb flange that is 4" deep and as wide as the roof rib at each point that the curb flange will overlap the rib.
 - a. This will allow the curb to be placed flat on the roof with the roof ribs protruding up through the flange notches.
6. Apply a continuous strip of 2 ½" butyl tape just inside of marked perimeter outline, including over the roof ribs.
7. Apply a bead of exterior caulk to outer edge of the butyl tape around entire perimeter
8. Place curb back down over butyl tape and exterior caulk and attach to roof using ¼" x 14" x 7/8" self tapping stitch point hydro screws. Screws should be attached at the outside perimeter of the curb at 6" minimum intervals on the side flanges and 4" minimum intervals on the top and bottom flanges.
9. Apply butyl tape and exterior caulk to the curb flange area around each notch.
10. Set the loose roof rib caps over the roof rib panels.
11. Attach roof rib caps using ¼" x 14" x 7/8" self tapping stitch point hydro screws. Number of screws needed, will vary upon size and style of cap.
12. Apply additional caulk to roof rib caps as needed
13. When curb is fully fastened spread a heavy coat of self leveling caulk over the edges of the curb flanges and exposed screw heads.



Metal Ribbed Roof - Over/Over Application - Welded Roof Rib Cap

1. Set curb on desired roof top location
2. Mark an outline of the curb
3. Remove curb
4. Cut hole in roof to within 4" of curb flange edge on top and bottom, cut width to inside dimension of curb opening.
5. Apply a continuous strip of 2 ½" butyl tape just inside of marked perimeter outline, including over the roof ribs.
6. Apply a bead of exterior caulk to outer edge of the butyl tape around entire perimeter
7. Place curb back down over butyl tape and exterior caulk and attach to roof using ¼" x 14" x 7/8" self tapping stitch point hydro screws. Screws should be attached at the outside perimeter of the curb at 6" minimum intervals on the side flanges and 4" minimum intervals on the top and bottom flanges.
8. Apply additional caulk to roof rib caps as needed
9. When curb is fully fastened spread a heavy coat of self leveling caulk over the edges of the curb flanges and exposed screw heads.





Installation Instructions*

Metal Ribbed Roof - Over/Over Application– Slide On Roof Rib Cap

1. Set curb on desired roof top location
2. Mark an outline of the curb
3. Remove curb
4. Cut hole in roof to within 4" of curb flange edge on top and bottom, cut width to inside dimension of curb opening.
5. Cut a notch in the curb flange that is 4" deep and as wide as the roof rib at each point that the curb flange will overlap the rib.
 - a. This will allow the curb to be placed flat on the roof with the roof ribs protruding up through the flange notches.
6. Apply a continuous strip of 2 ½" butyl tape just inside of marked perimeter outline, including over the roof ribs.
7. Apply a bead of exterior caulk to outer edge of the butyl tape around entire perimeter
8. Place curb back down over butyl tape and exterior caulk and attach to roof using ¼" x 14" x 7/8" self tapping stitch point hydro screws. Screws should be attached at the outside perimeter of the curb at 6" minimum intervals on the side flanges and 4" minimum intervals on the top and bottom flanges.
9. Apply butyl tape and exterior caulk to the curb flange area around each notch.
10. Slide loose roof rib caps over the roof rib panels.
11. Attach roof rib caps using ¼" x 14" x 7/8" self tapping stitch point hydro screws. Number of screws needed, will vary upon size and style of cap.
12. Apply additional caulk to roof rib caps as needed
13. When curb is fully fastened spread a heavy coat of self leveling caulk over the edges of the curb flanges and exposed screw heads.



Metal Ribbed Roof - Over/Under Application – Welded or Loose Roof Rib Caps

1. Set curb on desired roof top location
2. Mark an outline of the curb
3. Remove curb
4. Cut hole in roof to within 4" of curb flange edge on top and bottom, cut width to inside dimension of curb opening.
5. Apply a continuous strip of 2 ½" butyl tape just inside of marked perimeter outline, including over the roof ribs.
6. Apply a bead of exterior caulk to outer edge of the butyl tape around entire perimeter
7. Place curb back down over butyl tape and exterior caulk, sliding peak side roof caps under metal roof panel and placing eave side roof caps over metal roof panel.
8. Attach to roof using ¼" x 14" x 7/8" self tapping stitch point hydro screws. Screws should be attached at the outside perimeter of the curb at 6" minimum intervals on the side flanges and 4" minimum intervals on the top and bottom flanges.
9. Apply additional caulk to roof rib caps as needed
10. When curb is fully fastened spread a heavy coat of self leveling caulk over the edges of the curb flanges and exposed screw heads.





Installation Instructions*

Metal Ribbed Roof - Seamed

1. Set curb on desired roof top location
2. Mark an outline of the curb
3. Remove curb
4. Cut hole in roof to within 4" of curb flange edge on top and bottom, cut width to inside dimension of curb opening.
5. Apply a strip of 2 ½" butyl tape to peak and eave side of curb on marked perimeter outline.
6. Apply a bead of exterior caulk to peak and eave side of curb on outer edge of the butyl tape.
7. Slide peak side of curb with butyl tape and exterior caulk under roof panel, then slide eave side with butyl tape and exterior caulk into place and seam side edges of curb to roof panel using installer's approved mechanical seamer.



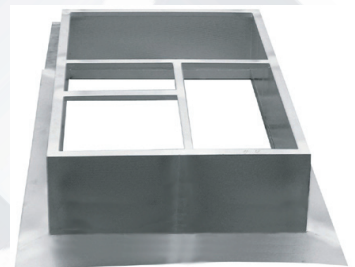
Seamed Application in Which Loose Roof Rib Caps will be Attached:

1. Cut a notch in the curb flange in which roof rib will slide into curb flange. Cut to desired length and width. Recommend 6" deep notch.
 - a. This will allow the curb to be placed flat on the roof with the roof ribs protruding up through the flange notches.
2. Apply butyl tape and exterior caulk to the curb flange area around each notch.
3. Slide the loose roof rib caps onto the roof rib panels.
4. Attach roof rib caps using ¼" x 14" x 7/8" self tapping stitch point hydro screws. Number of screws needed, will vary upon size and style of cap.
5. Apply additional caulk to roof rib caps as needed



Membrane Built Up Roof – Under/Under Application

1. Fasten base flange to steel or roof deck by stitch welding or using fasteners. Not to exceed 18" on center as per NRCA specifications.
2. Flash roof material to wood-nailer, located on top perimeter of curb, per job specifications.





Installation Instructions*

Shingled Roof

1. Set curb on desired roof top location
3. Mark an outline of the curb
4. Remove curb
5. Cut desired hole in roof.
6. Shingle roof to the bottom edge of the cut opening
7. Place curb back down and attach to roof deck using screws or nails. Screws or nails should be attached at the outside perimeter of the curb at 6" minimum intervals on the side flanges and 4" minimum intervals on the top and bottom flanges.
8. Proceed with step flashing process toward the peak of the roof. Standing leg of step flashing will terminate inside the step flashing pocket provided on the side wall of the curb.
9. Shingle around peak side of curb flange, shingles should cover above curb flange.
10. Attach cricket flange flashing piece to peak side curb using self tapping screws. Cricket flange piece should sit on top of shingle layer.
11. Attach top flange flashing cap, using self tapping screws.
12. Shingle over cricket flashing base flange.
13. Use exterior caulk to fill around cricket flange and roof curb.



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METAL RIBBED ROOF INFORMATION

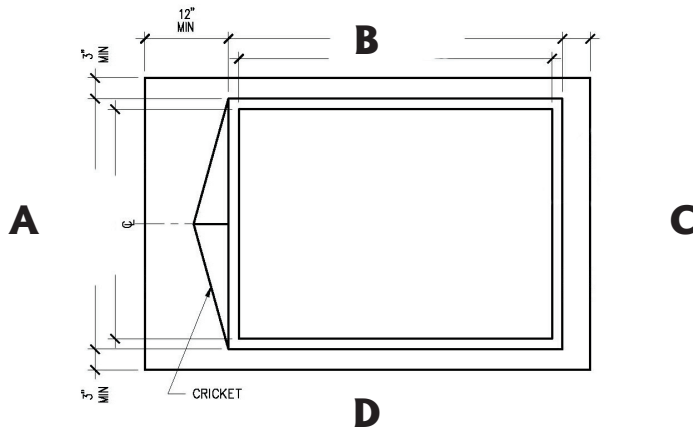
Brand of Roof: _____

Roof Style: _____

Roof Rib Spacing: _____

MODEL #	LENGTH OD	WIDTH OD	MIN. HEIGHT	CAPS W/L/N*	ROOF PITCH	DIAMETER ¹

*W/L/N - Roof Rib Transition Caps: Welded, Loose or None
1- Indicate diameter for Stack Flashing only



CUSTOMIZED DIMENSIONS (inches)

A. _____ **C.** _____

B. _____ **D.** _____

STEEL OPTIONS

- 01 - 18 gauge Galvalume steel*
- 02 - 20 gauge Galvalume steel
- 03 - 0.080 aluminum
- 04 - Stainless steel
- 05 - 16 gauge galvanized
- 06 - 18 gauge galvanized
- 07 - 20 gauge galvanized

*Standard

OPTIONAL FEATURES*

- A. No insulation
- B. Top flange bent to outside
- C. Interior protective metal liner
- D. Splash guard
- E. Sidewall support bracing
- F. Burglar bars
- G. Purlin support rails
- H. Internal damper flange
- I. Wood nailer on top
- J. Split assembly
- K. Cant (equipment rail only)
- L. 1-1/2" foil-faced insulation board
- M. Wood nailer on side

*Customized Dimensions Available

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