BEMO
Inspiring Metal Envelopes

Technical Information
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Details

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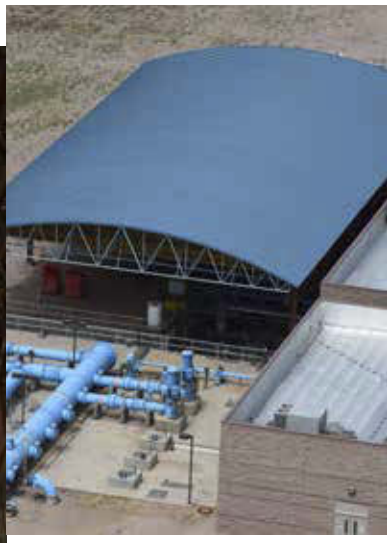
Notable Projects - by Region

DOMESTIC PROJECTS - WESTERN REGION

AIRPORT / TRANSPORTATION			
Carnival Cruise	Long Beach, CA	28,143sf	Aluminum
LA Metro Transit Re-Roof	Los Angeles, CA	45,000sf	Aluminum
McCarran Airport	Las Vegas, NV	106,451sf	Rheinzink
McCarran Consolidated Parking Structure	Las Vegas, NV	88,498sf	Aluminum & Galvalume
Phoenix Sky Harbor Consolidated Parking	Phoenix, AZ	597,760sf	Aluminum
Phoenix Transit Facility	Phoenix, AZ	52,297sf	Galvalume
Sacramento AP Airside Modernization	Sacramento, CA	208,615sf	Stainless Steel
Sky Harbor 44th Street People Mover	Phoenix, AZ	87,942sf	Aluminum
Valley Metro Light Rail	Phoenix, AZ	61,306sf	Galvalume
COMMUNITY CENTER / CONVENTION CENTER			
Southern Ute Cultural Center	Ignacio, CO	61,326sf	Aluminum
Renaissance Convention Center	Glendale, AZ	36,217sf	Galvalume
GENERAL			
Cathedral of Our Lady of Angels	Los Angeles, CA	43,891st	Copper
Disney Grand Hotel	Anaheim, CA	20,412sf	Galvalume
M Resort	Las Vegas, NV	80,000sf	Quartz Zinc
Ravenswood Winery II & III	Sonoma, CA	36,422sf	Galvalume
Solyndra Fab 2	Fremont, CA	31,850sf	Galvalume
MILITARY			
Army Aviation Support Facility	Buckley AFB, CO	113,732sf	Galvalume
GAF Wing Headquarters	Holloman AFB, NM	44,000sf	Stainless Steel
Luke AFB A35 ATC	Luke AFB, AZ	83,700sf	Galvalume
Luke AFB Squad Ops 1	Luke AFB, AZ	27,733sf	Galvalume
Sierra Nevada Job Corps	Reno, NV	125,750sf	Galvalume



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Notable Projects - by Region

MUNICIPAL FACILITY			
22nd Street Reservoir Renovation	Tucson, AZ	140,000sf	Aluminum
64th St & Thomas Reservoir	Phoenix, AZ	234,053sf	Aluminum
AZ DOT Grand Canyon Fire & Rescue	Grand Canyon, AZ	17,050sf	CorTen
Boulder City High School	Boulder City, NV	26,930sf	Galvalume
California State University Stanislaus	Turlock, CA	11,800sf	Stainless Steel
CUBS Training Facility	Mesa, AZ	33,500sf	Galvalume
Fresno United States Courthouse	Fresno, CA	30,621sf	Rheinzink
Gateway Community College	Phoenix, AZ	25,000sf	Copper & Galvalume
Gregori High School	Modesto, CA	73,256sf	Aluminum
James Enoch High School	Modesto, CA	78,682sf	Aluminum
John Pittman High School	Turlock, CA	12,542sf	Galvalume
Johnny G Martinez WTP	Tempe, AZ	160,548sf	Aluminum
King County Fire Station	Seattle, WA	22,500sf	Galvalume
LeMay Auto Museum	Tacoma, WA	75,000sf	Aluminum
Logan High School - Performing Arts	Union City, CA	15,778sf	Galvalume
Mary Lou Dieterich Elementary School	Modesto, CA	18,625sf	Aluminum
Mesa Performing Arts	Mesa, AZ	28,000sf	Stainless Steel
Murphy Schools (Garcia, Sullivan & Kurban)	Phoenix, AZ	129,199sf	Galvalume
Northern Arizona University Lab Facility	Flagstaff, AZ	32,470sf	Galvalume
Oakland Library	Oakland, CA	10,589sf	Aluminum
Palomino Elementary School Expansion	Paradise Valley, AZ	23,974sf	Aluminum
Pasadena Reservoir	Mesa, AZ	90,018sf	Aluminum
Pearl Branch Library	San Jose, CA	12,187sf	Aluminum
Raisbeck Aviation High School	Tukwila, WA	25,500sf	Aluminum
Shilshole Bay Marina	Seattle, WA	20,393sf	Galvalume
Southern Avra Valley Reservoir	Tucson, AZ	57,417sf	Aluminum
Southern Regional Crime Lab (DPS)	Tucson, AZ	15,014sf	Aluminum
T2 Water Plant Reservoir	Marana, AZ	30,400sf	Aluminum
Town Well Reservoir	Avondale, AZ	43,000sf	Galvalume
U of A Athletic Facility	Tucson, AZ	19,345sf	Galvalume
WSU Teaching & Learning Center	Pullman, WA	21,600sf	Quartz Zinc

DOMESTIC PROJECTS - CENTRAL REGION

AIRPORT / TRANSPORTATION			
Bayport Cruise Terminal	Seabrook, TX	129,919sf	Aluminum
Bush Intercontinental Airport	Houston, TX	1,400,000sf	Aluminum
Consolidated Parking Facility	Houston, TX	877,000sf	Aluminum
Detroit NW Terminal Phase 2-Concourse B & C	Detroit, MI	880,000sf	Stainless Steel
Houston Hobby Airport	Houston, TX	285,000sf	Galvalume & Zinc
COMMUNITY CENTER / CONVENTION CENTER			
Garland Events Center	Garland, TX	124,369sf	Aluminum
GENERAL			
Borgess Medical Center	Kalamazoo, MI	19,111sf	Aluminum
One Financial Plaza	St. Louis, MO	27,807sf	Aluminum
Villa de Matel	Houston, TX	54,362sf	Rheinzink
MILITARY			
McConnell AFB 3 Bay Hangers	McConnell AFB, KS	329,000sf	Galvalume
Wright Patterson AFB Museums	Wright Patterson AFB, OH	520,000sf	Galvalume

Notable Projects - by Region

MUNICIPAL FACILITY			
Detroit Zoo	Detroit, MI	21,920sf	Galvalume
Everest Academy	Clarkston, MI	60,000sf	Galvalume
Lansing Community College	Lansing, MI	36,657sf	Aluminum
Maplewood Middle & High School	Cortland, OH	17,780sf	Aluminum
Ruahmah Hutchings Elementary School	Howell, MI	53,651sf	Galvalume
Sartell School	Sartell, MN	14,322sf	Aluminum
St. Tammany County Courthouse	Tammany, LA	48,000sf	Quartz Zinc
U of Cincinnati Recreation Center	Cincinnati, OH	210,000sf	Aluminum
Ypsilanti District Library	Ypsilanti, MI	28,000sf	Aluminum

DOMESTIC PROJECTS - SOUTH EAST REGION

AIRPORT / TRANSPORTATION			
Bay County Airport	South Port, FL	103,685sf	Aluminum
Charlotte Douglas Airport	Charlotte, NC	328,144sf	Aluminum & Galvalume
Charlotte Douglas Airport Parking	Charlotte, NC	25,900sf	Galvalume
GSP Airport	Greer, SC	18,196sf	Aluminum
Huntsville Airport	Huntsville, AL	43,944sf	Aluminum
Jacksonville Port Dames Point Container Terminal	Jacksonville, FL	121,173sf	Aluminum
Tampa Airport	Tampa, FL	1,000,000sf	Aluminum
West Ox Bus Operation Center	Fairfax, VA	69,984sf	Galvalume
COMMUNITY CENTER / CONVENTION CENTER			
Bayou LaBatre Community Center Re-Roof	Bayou LaBatre, AL	26,800sf	Aluminum
Gwinnet Civic Center	Duluth, GA	95,000sf	Aluminum
Virginia Beach Convention Center	Virginia Beach, VA	260,000sf	Aluminum
Wickham Park Community Center	Melbourne, FL	27,800sf	Aluminum
GENERAL			
Boynton Beach Mall	Boynton Beach, FL	38,161sf	Aluminum
City Furniture	Boca Raton, FL	17,332sf	Aluminum
Dan Rivers Power Station	Danville, NC	52,203sf	Galvalume
Duke Power	Salisbury, NC	52,134sf	Galvalume
Hydro Aluminum	St. Augustine, FL	214,813sf	Aluminum
Joint Ambulatory Care Center	Pensacola, FL	110,622sf	Galvalume
Net App GDL 2	Morrisville, NC	31,000sf	Aluminum
MILITARY			
Camp Shelby Deployment Processing Facility	Hattiesburg, MS	33,592sf	Galvalume
Kennedy Space Center	Kennedy Space Center, FL	34,310sf	Aluminum
Langley AFB-DCGS	Langley AFB, VA	100,613sf	Aluminum

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Notable Projects - by Region

MUNICIPAL FACILITY			
Atlantic Treatment Plant	Virginia Beach, VA	47,795sf	Galvalume
Auburn University Indoor Sports	Auburn, AL	95,538sf	Galvalume
Braden Elementary School (3 Buildings)	Bradenton, FL	144,793sf	Aluminum
Durbin Creek Elementary	St. Augustine, FL	80,566sf	Aluminum
Durham Libraries	Durham, NC	27,683sf	Galvalume Plus
Durham Library	Durham, NC	16,369sf	Aluminum
Duval County Courthouse	Jacksonville, FL	47,349sf	Aluminum
East Carolina University - Cardio	Greenville, NC	29,000sf	Galvalume
ECU-Allied Health School of Medicine	Greenville, NC	46,051sf	Galvalume
Elementary School E	Switzerland, FL	78,397sf	Aluminum
Elementary School K	St. Augustine, FL	83,169sf	Aluminum
Federal Law Buildings 69 & 70	Glynco, GA	14,996sf	Aluminum
Federal Law Enforcement Facility Bldg 681	Glynco, GA	54,613sf	Aluminum
Fort Pierce Federal Courthouse	Fort Pierce, FL	22,886sf	Aluminum
FSC Becker Business Building	Lakeland, FL	25,000sf	Aluminum
Georgia State University Fine Arts Center	Statesboro, GA	10,561sf	Aluminum
Henrico WTP	Henrico, VA	89,600sf	Copper
Hickory Creek Elementary School	Jacksonville, FL	15,745sf	Aluminum
High School DDD	Orange City, FL	121,844sf	Galvalume Plus
Hurst Elementary School	Daytona Beach, FL	87,287sf	Galvalume Plus
Julington Creek School	Jacksonville, FL	17,623sf	Aluminum
Lake County Middle School DD	Clermont, FL	124,838sf	Galvalume Plus
McFatter Technical Center	Davie, FL	25,316sf	Aluminum
Middle Georgia College	Cochran, GA	32,345sf	Aluminum
New Smyrna Beach High School	New Smyrna Beach, FL	241,910sf	Galvalume
Norfolk State University - Gill Gym	Norfolk, VA	26,945sf	Galvalume
Okaloosa County Water	Fort Walton Beach, FL	20,006sf	Aluminum
Ormond Beach Middle School (3 Phases)	Ormond Beach, FL	155,517sf	Aluminum
Pompano Park Raceway (Isle of Capri)	Pompano Beach, FL	18,451sf	Aluminum
Poquoson Elementary School	Poquoson, VA	47,493sf	Aluminum
School HH K-8	St. Johns, FL	30,090sf	Aluminum
School II K-8	Ponte Verde, FL	30,090sf	Aluminum
St. John's County EOC	St. Augustine, FL	24,052sf	Galvalume
Sunrise Elementary School	Deltona, FL	13,920sf	Galvalume Plus
Tampa Fire & Rescue	Tampa, FL	32,811sf	Aluminum
Tussahaw WTP	Tussahaw, GA	34,428sf	Aluminum
Virginia Air & Space Museum	Virginia Beach, VA	44,000sf	Aluminum
West Riverfront Park	Nashville, TN	45,449sf	Aluminum & Galvalume

DOMESTIC PROJECTS - NORTH EAST REGION

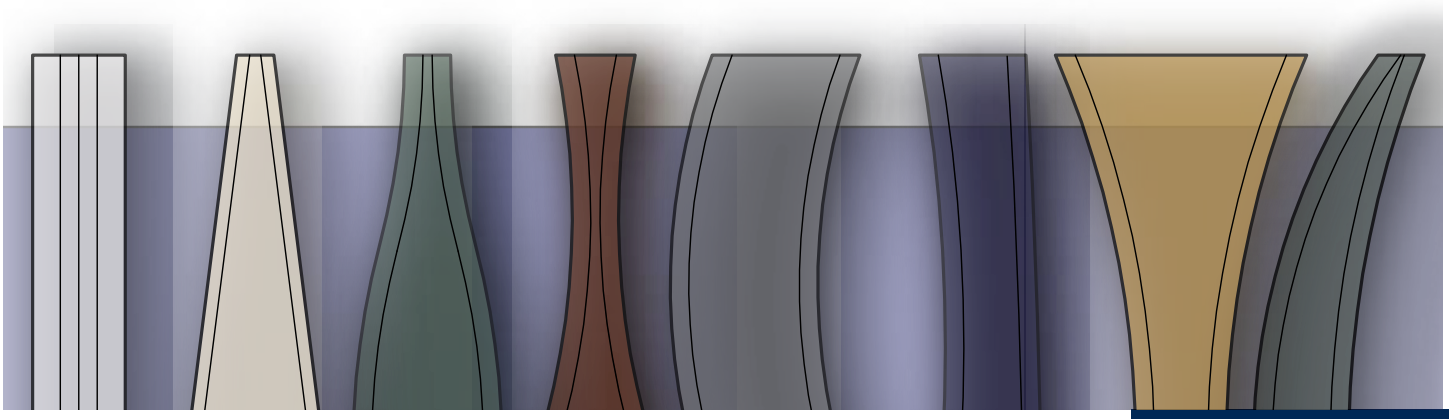
AIRPORT / TRANSPORTATION			
BWI Airport D/E Connector	Baltimore, MD	84,050sf	Aluminum
COMMUNITY CENTER / CONVENTION CENTER			
Bayfront Convention Center	Erie, PA	29,956sf	Aluminum
Boston Exhibition / Convention Center	Boston, MA	650,000sf	Aluminum & Stainless Steel
YMCA	Greenwich, CT	22,527sf	Aluminum
GENERAL			
Advanced Manufacturing & Innovation Center	Erie, PA	29,000sf	Aluminum
Amherst Power	Amherst, MA	90,202sf	Galvalume

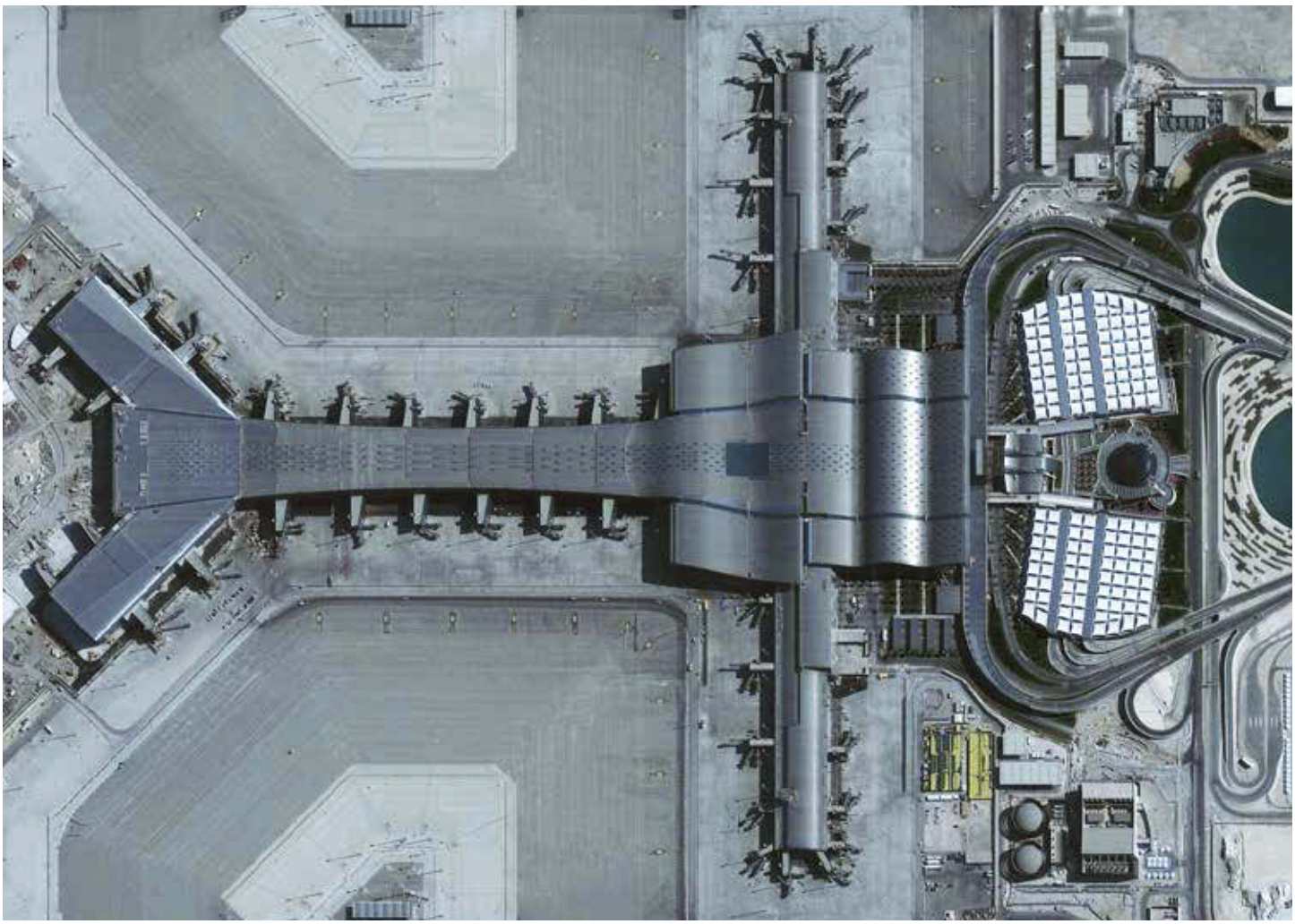
Notable Projects - by Region

MILITARY			
Aberdeen Proving Grounds	Gunpowder, MD	71,160sf	Aluminum
MUNICIPAL FACILITY			
Bethel Park High School	Bethel Park, PA	64,207sf	Galvalume
Darien High School	Darien, CT	19,952sf	Aluminum
MIT Media Lab	Cambridge, MA	6,660sf	Aluminum
Pine Richland Elementary School	Gibsonia, PA	48,827sf	Aluminum
Seven Bridges Middle School	Chappaqua, NY	44,326sf	Copper

INTERNATIONAL PROJECTS

AIRPORT / TRANSPORTATION			
Calgary Metro Rail Station	Alberta, Canada	45,000sf	Galvalume
Changi Terminal 2	Singapore	1,000,000sf	Aluminum
Hamad International Airport	Doha, Qatar	3,000,000sf	Stainless Steel
Kuwait Cultural Center	Kuwait	600,000sf	Titanium
NTUC Fairprice	Singapore	240,000sf	Aluminum
Paaet Stadium	Kuwait	215,000sf	Aluminum
Saipan Airport	Saipan	94,500sf	Aluminum
Saskatoon Airport Terminal Building Expansion	Saskatchewan, Canada	4,800sf	Aluminum
COMMUNITY CENTER / CONVENTION CENTER			
Puerto Rico Convention Center	San Juan, Puerto Rico	155,000sf	Aluminum
GENERAL			
Queen Charlotte Hospital	British Columbia, Canada	29,845sf	Aluminum
Swift Current Long Term Care	Saskatchewan, Canada	232,035sf	Aluminum & Steel
Saskpower Shand CCTF	Saskatchewan, Canada	18,532sf	Aluminum
MILITARY			
JTF Military Commission Complex	Guantanamo Bay, Cuba	28,290sf	Aluminum
MUNICIPAL FACILITY			
Jasper Place Library	Alberta, Canada	14,388sf	Aluminum
Lethbridge College TTRIP #2	Alberta, Canada	12,100sf	Aluminum
Okanagan College	British Columbia, Canada	15,005sf	Aluminum
Rocky Ridge Recreation Centre	Alberta, Canada	170,000sf	Aluminum
Shouldice Athletic Park	Alberta, Canada	16,855sf	Aluminum





Introduction

Structural Standing Seam Roof

The leader in Metal Roofing Technology is the BEMO-Roof System. BEMO offers Flexibility, Durability, Structural Integrity, Excellent Weather-Performance characteristics and state-of-the-art Manufacturing Technology. The BEMO-Roof system provides the most advanced and versatile structural standing seam roof system available in today's architecturally demanding market.

FLEXIBILITY: With its specialized German Engineered tooling the architectural capabilities of BEMO are not restricted to just simple or traditional roof configurations. The custom designed curving mill provides the unmatched capability of providing smoothly curved convex and concave panels to radii as tight as ten (10) feet. No other structural system in the US can match the combined flexibility and performance characteristics into one system.

DURABILITY: BEMO has the unique ability to use two different panel attachment methods. Since the metal industry has continued to evolve and mature, there has been an increase in the demand to use more natural metals like copper, zinc, stainless steel and aluminum. BEMO is able to meet the unique individual design and performance needs of each substrate. Thermal expansion and contraction in long length panels is easily accomplished with BEMO's exclusive halter system while traditional steel construction panels are held in place by a more conventional method.

STRUCTURAL INTEGRITY: The 2-9/16" high standing seam legs are the structural backbone of the panel system. The uplift values achieved in ASTM E-1592 tests are among the highest in the industry. BEMO's ability to use two distinct clip attachment methods has provided an avenue for Architects and Owners to realize the long-term advantages of using natural metals.

HIGH-PERFORMANCE: BEMO was designed for the ultimate in high-end performance. Virtually any application, including slopes less than ½-12, can be completely weather proofed with the proper details and system components.

STATE OF THE ART MANUFACTURING TECHNOLOGY: While BEMO Mills are mobile, they are light years beyond being "portable" roll formers. The German Engineered mills are comprised of state-of-the-art roll forming technology utilizing twelve (12) stations for the forming process. These 20 ton mills utilize an ocean going container as their platform for operation and would be equally at home on any manufacturing floor. Since the BEMO Mills are at the very highest end of the quality spectrum being a "factory" mill, they bring the added benefit of being mobile to provide superior panel quality that is custom fit to a project's exact field conditions. The curving mills take the very latest stretch forming techniques and apply them to the smooth curve applications of today's most demanding designs.

BEMO Roof System Field Forming Information

- An operator will be provided with the BEMO Mobile Panel Forming Mills, (Panel, Curving and Tapering). If additional operators are required for simultaneous operations or extending shifts, other charges will apply.
- The BEMO Mobile Panel Forming Mill and BEMO Mobile Panel Curving Mill are charged on a per day basis. Field Formed projects are quoted with a specific number of days included in the unit panel price. The quoted Per Day Charge is assessed for EACH DAY, EACH MILL IS ON THE PROJECT SITE beyond those included in the quote. Any weather or project site related work stoppages will still be charged at the per day rate. BEMO Straight Mills and Curving Mills are charged at $995.00/day, BEMO Tapering Mill is charged at $1,475.00/day. BEMO Maxis Mill is charged at $7,500.00 per day. Manufacturer will not be charged for any day that the equipment is out of service due to mechanical difficulty. Waiver of the per diem charge for non-operable days is the extent of manufacturer's liability. Each project will incur its own appropriate trip charge to get the mills to their destination as well as the mill operators. Refer to your proposal for those rates.
- Your project has been quoted with an estimated number of roll-forming days and the appropriate equipment has been reserved for a specific period of time. The number of days has been calculated by taking into consideration the number of squares, length of panels, climate conditions, and project site conditions, etc. Therefore, it is imperative that the minimum recommended requirements for manpower and equipment be available from the outset of the roll-forming process. It is highly probable that the equipment is required on another project site immediately following the allotted time.
- The mobile panel former for the Straight BEMO-Roof panels will manufacture panels at an average of 125 LF to 150 LF (38m to 46m) of panel per minute. This production rate should be accommodated through the use of appropriate man-power. When field forming on the ground, manufacturer will provide the self-contained generator power source for the BEMO mill as well as 300 LF (91m) of roller stands to support the straight and/or curved panels during the forming process. The BEMO generator holds approximately two-week's worth of forming time fuel under normal operations.
- The mobile BEMO Curving Mill will require the roofing contractor to provide one (1) twenty-kilowatt 440 / 3-phase generator power source for the independent curving mill located within 50 ft. (15 m) of the curving process as well as a 120 psf compressor. BEMO generator holds approximately two-week's worth of forming time fuel under normal operations.
- Roofing contractor must make provisions for bundling/crating all site formed panels as well as all hoisting (crane, spreader bar, manpower, permits, etc.) and scrap or trash container costs. Manufacturer can assist in determining these requirements.
- The possibility of roll-forming panels directly to the roof exists. Subject to availability, the Manufacturer can provide the special BEMO-Tilt Trailer (Please refer to the BEMO Field Roll-Form Slope Chart) to assist in placement of the panels throughout the duration of the job. If the manufacturer determines that it is economically feasible, for both parties, to roll the panels to the roof, it will be the roofing contractors' responsibility to provide the equipment (crane, manlifts, Skytraks, scissors lifts, 20' scaffold planks, 10' conveyor sections, etc.) and all required personnel for this operation other than as specifically indicated above. The roofing contractor will keep all savings relative to his estimated costs for hoisting, crating, etc.
- If the roofing contractor decides to hoist the BEMO-Roof Mill to the roof edge, please contact Manufacturer for specific guidelines, bonds and insurance requirements for this operation. The crane must be capable of handling the weight of the mill (40,000 lbs.- 18 tonne) plus the weight of two coils (9,000 lbs.). Normally a 125 ton (113 tonne) crane is required for this operation. Each project has site

specific requirements and we strongly recommend consulting with your crane supplier about lift and reach capacity for this operation.

- Roofing contractor must provide a forklift / Skytrak (forward lifter) and operator to efficiently maintain coil changes for the entire field forming process. When roll-forming to the ground, coil changes normally average 10 - 20 minutes each depending on the roofing contractors crew efficiency and positioning of the mill. The BEMO coil tipper and de-coiler can handle a maximum weight of 5,000-lbs. (2268kg) per steel coil and 3,500-lbs (1588kg) per aluminum coil. Coils for loading the BEMO mill will be provided to the project site on skids with the eye vertical. When coils arrive on the project site, it is the roofing contractor's responsibility to unload and protect the metal until the site forming process begins.
- BEMO Mechanical Seamers operate at a variable controlled speed of 20 LF - 80 LF (6m - 24m) per minute. Roofer MUST hand crimp the installed BEMO panels, at the clip locations- DAILY, to avoid damage during high winds prior to the mechanical seaming process. BEMO manufacturer recommends using 40 LF (12m) per minute for estimating purposes. It is the Roofing Contractor's responsibility to notify the manufacturer immediately of any equipment problems. Seams must be clean prior to mechanical seaming process. Extension cords must be a minimum of 10 gauge and used within 100' (30m) of the power source.
- Manufacturer recommends, for panel handling, using a minimum of one (1) man per 15'-0"(4.6m) of straight steel panel and (1) man per 20'-0" (6m) of straight aluminum panel.
- Manufacturer recommends, for panel handling, using a minimum of one (1) man per 15'-0" (4.6m) of curved steel, aluminum, copper or zinc panel.
- CURVING NOTE: BEMO Roof Panels are formed in the straight and horizontal plane when exiting the roll-former. A separate operation is required to curve the straight panels. Make sure to include the necessary manpower for BOTH operations on a single square foot of curved material.
- The curving process, once "dialed-in" will operate at approximately 50 LF (15m) per minute. Refer to the above guidelines for the minimum recommended manpower requirements. NOTE: Roofing contractor should make provisions for four (4) hours of crew time startup (number of men determined by the above guidelines) for every change in the radius of the mechanically curved panels. Once the tangent points and stretch forming parameters are established the curving process will operate as indicated above.
- Union Personnel Requirements: Manufacturer's employees do not have union affiliations for moving the truck/trailer/BEMO mill around the project site nor individuals for the regular weekly/daily fueling and/or maintenance of the generators.
- Manufacturer's roll forming personnel are Non-Union employees. Any costs associated with union fees, project agreements, pension funds, etc. will be paid by and at the expense of the Roofing Contractor. Manufacturer will pay its roll forming personnel the prevailing wage rates on Public Works projects.
- Many finished metal products include a protective strippable film or paper interleaving. If the project is supplied with either paper interleaving or protective strippable film, it is the roofing contractors responsibility to provide the manpower for removal as well as all associated disposal costs.
- BEMO can offer the services of a Field Technical Representative at a per diem rate, prior to the scheduled roll-form, during the roll-form or during installation to help maximize manpower efficiencies, make production and installation recommendations and assist in general BEMO application.

BEMO Certifications

International

FM Approvals: BEMO 305 and BEMO 400
British, German and Singapore Standards

USA

ASTM1592: Structural performance of BEMO sheet metal roof with aluminum halter
ASTM1592: Structural performance of BEMO sheet metal roof with HOOK halter

UL94 Standard for test for flammability of plastics materials for devices and parts
ASTM D3916-08 Standard test method for tensile properties of pultruded glass-fiber reinforced plastic rod

BS 2782-1 Flammability test

Dade County NOAA Certification: (-219.6 psf)
– Dynamic Hurricane Test
– Missile Impact Test
– Submersion Test

ASTM E1592 Dynamic Loading
ASTM E283 & E331 Air and Water
ASTM E1646 & E1680 Air and Water
100,000 Cycle Thermal Test
UL 580 - UL 90 Certification
UL Fire Classification "P" Assemblies (37)
UL Class A Fire Resistance Rating
Sound Transmission Ratings (STC)

Factory Mutual Global:
– Windstrom Classification 4471
– Class 1-90
– Class 1-105
– Class 1-120
– Class 1-180

UK

BBA certificate no. 01/3790: KeyBEMO secret fix roof system

Germany

abZ certification from DIBt:
Z-14.1-182 BEMO-FLAT-ROOF aluminum standing seam roof elements
Z-14.1-640 BEMO-FLAT-ROOF steel standing seam roof elements

France

Avis Technique 5/10-2095: BEMO steel/stainless steel 65/305 and 65/400

Russia

GOST certificate no. POCC DE.Al30.H15270

Independent Testing of BEMO Systems and Components

KIT Karlsruhe:
Fire and usability tests in line with DIN 18234-2 for glass-fiber reinforced BEMO GFK thermal halters

KIT Karlsruhe:
Test report no. 123004-3, cyclic movement tests (100,000 thermal cycles)

ENCONSM Consultants, Inc.:
Cyclic Movement of BEMO standing seam panel system

RWTH Aachen University:
Measurement of the thermal bridging effect of mechanical mounting elements made from glass-fiber reinforced materials for various roof designs

Frost resistance test for the glass-fiber reinforced BEMO GFK thermal halter

Fraunhofer Institut:
Measurement of the water vapor permeability of panels with standing seams, with or without integrated rubber seals, in accordance with DIN EN ISO 12572 (calculation of the Sd value of standing-seam roofing)

Fraunhofer Institut in partnership with GENEST:
Acoustic insulation testing for two-layer roofing with a standing seam panel in line with DIN EN ISO 140-4

ifo, Institut für Oberflächentechnik GmbH:
Testing of the BEMO-DOME substructure's resistance to corrosion as defined by DIN EN ISO 9227 NSS

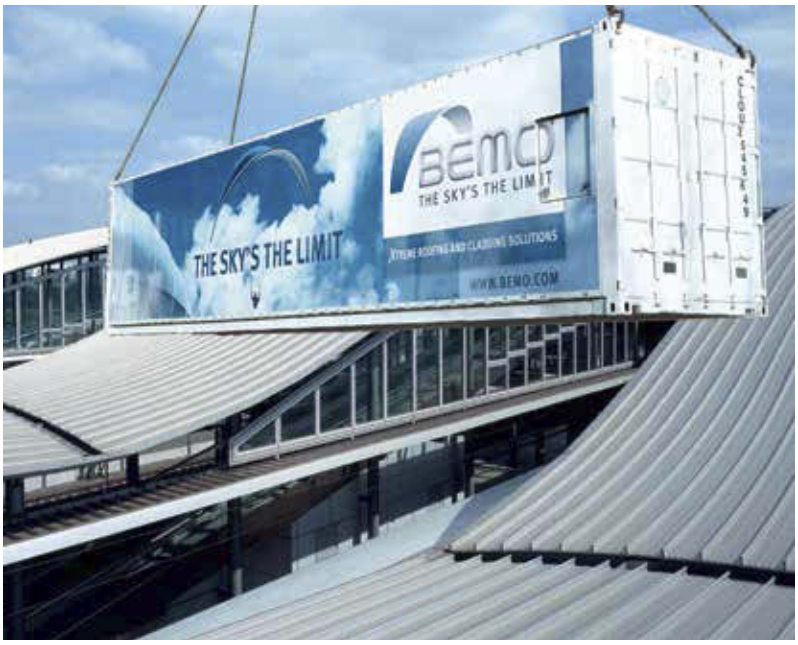
Peutz Consult:
Measurement of airborne sound insulation for two-layer metal roofing systems

Water tightness test for rubber seals:
Test report no. 174823, Istituto Giordano S.p.a. – Campo prove di Via San Mauro 47814 Bellaria (RN)

Deutsches Institut für Bautechnik (DIBt):
No. Z-14.1-523 for the Prodach® insulation system

Forming to the Roof

With the manufacturing mill's mobility comes the flexibility of rolling BEMO panels directly to the roof. This can be accomplished with either our BEMO tilt-trailer or by hoisting the mill with a crane directly to the roof's edge. Either method will save significant labor and equipment dollars. Site forming also eliminates the need for leak-prone end-laps conditions since the panels can easily be formed in continuous lengths.



Optional Pre-Clipping – Quicker Dry-In, Saves Crew Time and Cost

Aluminum BEMO Panel Projects allows the option for the installer to use BEMO's exclusive Halter Attachment system. This state-of-the-art system provides the roofing contractor with the flexibility to pre-clip the entire project before panels arrive or are formed on the site. Crew efficiency can be increased by over 30% on average when pre-clipping is employed. By reducing the number of workers required during the clip installation process, crew down time is virtually eliminated.

Mechanical Seamer Operating Guide

BEMO Roof Seamer

IMPORTANT – PLEASE READ!

Bi-Directional Seaming/De-Seaming Machine

GENERAL:

- Standard Electric Seaming Tool (Seamer) operates on 110V designed for closing of the open female leg of the seam tightly to the male seam of the leg.
- Before mechanical seaming, be sure that all electric cords, tools and debris are out of the path of the seamer.
- Hand Crimp seam at all clip locations.
- The seamer should never be left unattended once the seaming operation begins.
- Care should always be taken when working on the roof edge. Always follow all OSHA safety recommendations.

Panel Seams must be hand crimped at the clip locations prior to the mechanical seaming process.

For proper crimping the yellow handle is placed on the open side of the seam.

Your BEMO Roof Seamer motor requires a 20 amp, 100-125 volt AC power supply. Poor performance and motor damage can result from use of an improper power supply.

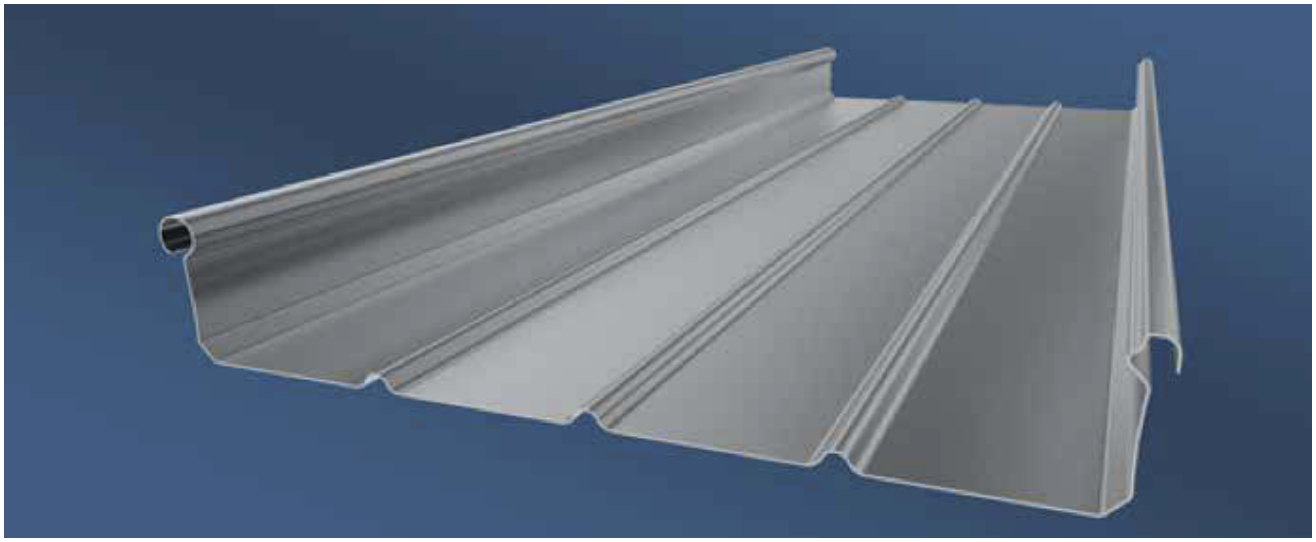
Recommended extension cord size:

Distance (FT)	0-50	50-100	100-200	200+
Wire Gauge (AWG)	12	10	8	6

READ THIS FIELD MANUAL COMPLETELY BEFORE PERFORMING ANY SEAMING OPERATIONS!
FAILURE TO DO SO MAY RESULT IN SERIOUS INJURY OR DEATH!

IMPORTANT INFORMATION

- This Roof Seamer has been setup for your custom panel profile. Never use this machine on any other roof panel or profile. Do not attempt to alter or modify the machine in any way. BEMO profile shown below.
- Follow all safety suggestions and warnings in this manual and posted on the machine itself. Failure to do so may result in serious injury or death.
- Do not attempt to ride the Roof Seamer in any way.



STEP 1

Before beginning, ensure that the panels are installed correctly and are free of all debris and contaminants such as sand, snow, excessive fluids, sealant/mastic, tools, extensions cords, etc. Always attach a safety tether to the seamer any time it is on the roof. Failure to do so could result in machine damage, serious injury and/or death. It is required by BEMO to manually hand crimp each clip location prior to seaming. Please contact BEMO for crimping tool.

STEP 2

Next, place the machine on the hand crimped portion of the panel at the beginning of the seam, then engage by pulling the handle into the locked position. Connect the power supply into the quick-release plug near the handle of the machine and turn the machine on. Run the seamer approximately 12" to ensure that you are receiving the desired seaming operation.

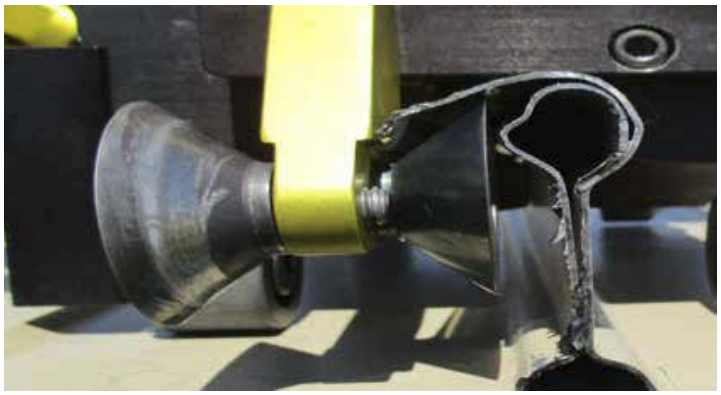
This is a BI-DIRECTIONAL Roof Seamer. Therefore, you may simply rotate the seamer 180º, place it on the next seam and run the machine in the opposite direction of travel. It is important to remember to use extreme caution when reaching the edge of the roof. Stop and disengage the locking handle of the seamer while the wheels remain on the roof panel.

Do not run the seamer within 6" of the end of a panel without using extreme caution. Hand crimping this area may be necessary if there are safety concerns or risks.

DE-SEAMING PROCEDURE

In the event that a panel has to be removed, this machine can “de-seam” the previously seamed panel. Using a flat head screwdriver pry open either end of the seamed panel as shown in the photo to the left.

Once the seam has been prepared to receive the de-seaming tool. Place the de-seaming arm in the appropriate slot and slide the tool into the opening created by the flat head screwdriver as shown below. The machine can “de-seam” in both directions by moving the de-seaming arm from the left slot to the right slot. The angle slot is for tool storage when seaming.



Note: It may be necessary to complete the de-seaming process manually for the last few inches of the seam.

The normal set screw setting for the de-seaming arm is .450". Depending on the material, this setting may require adjustment. Setting can be adjusted by turning the set screw with a 1/8" Allen wrench.

Use your hand crimper's to finish any area that the seamer may not be able to complete, such as against a ridge cap, end cap or at a pitch change in the roof. Crimper's can be purchased or rented from DI Roof Seamers.

Note: The Roof Seamer may leave dark forming marks on light colored panels. This is acceptable as long as the paint finish is not damaged. Marks can easily be rubbed off by hand – DO NOT use solvents that will soften or remove paint.

MAINTENANCE SUGGESTIONS

- This machine requires daily cleaning. Additional cleaning may be required based on job site conditions. It is imperative that tooling be kept clean and free of debris.
- Damaged tooling should be replaced immediately. Plastic tooling requires daily inspection.
- If you must remove or replace tooling, place ONE DROP of Loctite® 222 on the threads of the bolt before putting it back into the machine to prevent the bolts from backing out.
- When not in use, always store your Roof Seamer in a dry place to prevent damage to the machine. NEVER operate it in inclement weather, such as rain or snow.

BEMO Field Rollform Slope Chart – Truck and Tilt Trailer

Building Eave Height/m	Panel Shear to Wall Distance/ft	Bemo Box Angle
18' 11 13/16"	33'	10°
14' 4 5/8"	33'	5°
19' 10 3/8"	38'	10°
14' 9 7/8"	38'	5°
20' 9"	43'	10°
15' 3 1/8"	43'	5°
21' 7 9/16"	48'	10°
15' 8 3/8"	48'	5°
22' 6 1/8"	53'	10°
16' 1 5/8"	53'	5°
23' 4 3/4"	58'	10°
16' 6 7/8"	58'	5°
24' 3 5/16"	63'	10°
17' 0 1/8"	63'	5°
25' 1 7/8"	68'	10°
17' 5 3/8"	68'	5°
26' 0 7/16"	73'	10°
17' 10 5/8"	73'	5°
26' 11 1/16"	78'	10°
18' 3 7/8"	78'	5°
27' 9 5/8"	83'	10°
18' 9 1/8"	83'	5°
28' 8 3/16"	88'	10°
19' 2 3/8"	88'	5°
29' 6 3/4"	93'	10°
19' 7 5/8"	93'	5°

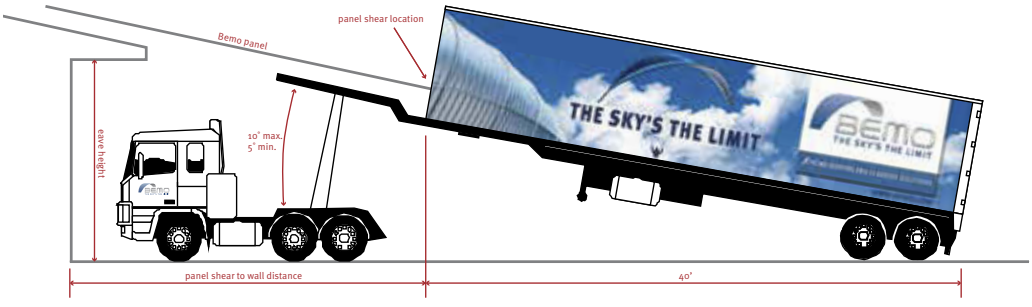
Building Eave Height/m	Panel Shear to Wall Distance/ft	Bemo Box Angle
30' 5 3/8"	98'	10°
20' 0 7/8"	98'	5°
31' 3 15/16"	103'	10°
20' 6 1/8"	103'	5°
32' 2 1/2"	108'	10°
20' 11 3/8"	108'	5°
33' 1 1/8"	113'	10°
21' 4 5/8"	113'	5°
33' 11 11/16"	118'	10°
21' 9 7/8"	118'	5°
34' 10 1/4"	123'	10°
22' 3 1/8"	123'	5°
35' 8 13/16"	128'	10°
22' 8 3/8"	128'	5°
36' 7 7/16"	133'	10°
23' 1 5/8"	133'	5°
37' 6"	138'	10°
23' 6 7/8"	138'	5°
38' 4 9/16"	143'	10°
24' 0 1/8"	143'	5°
39' 3 3/16"	148'	10°
24' 5 3/8"	148'	5°
40' 1 3/4"	153'	10°
24' 10 5/8"	153'	5°
41' 0 5/16"	158'	10°
25' 3 7/8"	158'	5°
41' 10 7/8"	163'	10°
25' 9 1/8"	163'	5°

The maximum slope that the rollformer can be raised is 10° and the minimum slope is 5°. The adjustment of degrees between the two slopes is infinite.

Addition panel supports may be needed to prevent deflection during rollforming from the trailer to the eave. Please consult Bemo for recommendations.

If the roof pitch is greater than the above chart, please consult Bemo for recommendations.

Eave heights are based for level, compact surfaces. Unstable site and weather conditions may alter chart configurations.



BEMO Curving Guidelines – Curves & Custom Applications

Extreme Flexibility

Convex, concave or even "S" curves can be easily and efficiently accommodated by the BEMO System. The BEMO panels can be curved by means of a specially developed rolling mill that can curve the BEMO panels smoothly to a radius as tight as 14 feet or less, depending on the profile and material used.

BEMO 305 & 400 Convex Lay-down Curves

Minimum Panel Radius *without* mechanical curving

Aluminum		Steel	
Thickness	Min. Radius	Gauge	Min. Radius
.032	125 ft	24 ga	175 ft
.040	135 ft	22 ga	215 ft
.050	145 ft	20 ga	250 ft

Zinc		Copper	
Thickness	Min. Radius	Wt./Sq. Ft.	Min. Radius
0.8 mm	175 ft	16 oz	175 ft
1.0 mm	185 ft	20 oz	185 ft
1.25 mm	200 ft	24 oz	200 ft

BEMO 305 & 400 Concave Mechanical Curves

Minimum Panel Radius *with* mechanical curving

Aluminum		Steel	
Thickness	Min. Radius	Gauge	Min. Radius
.032	30 ft	24 ga	33 ft
.040	20 ft	22 ga	33 ft
.050	15 ft	20 ga	33 ft

Zinc		Copper	
Thickness	Min. Radius	Wt./Sq. Ft.	Min. Radius
0.8 mm	25 ft	16 oz	33 ft
1.0 mm	18 ft	20 oz	30 ft
1.25 mm	16 ft	24 oz	20 ft

BEMO 305 Convex Mechanical Curves

Minimum Panel Radius *with* mechanical curving

Aluminum		Steel	
Thickness	Min. Radius	Gauge	Min. Radius
.032	17 ft	24 ga	32 ft
.040	12 ft	22 ga	32 ft
.050	10 ft	20 ga	32 ft

Zinc		Copper	
Thickness	Min. Radius	Wt./Sq. Ft.	Min. Radius
0.8 mm	30 ft	16 oz	25 ft
1.0 mm	30 ft	20 oz	22 ft
1.25 mm	30 ft	24 oz	15 ft

BEMO 400 Convex Mechanical Curves

Minimum Panel Radius *with* mechanical curving

Aluminum		Steel	
Thickness	Min. Radius	Gauge	Min. Radius
.032	18 ft	24 ga	40 ft
.040	13 ft	22 ga	40 ft
.050	12 ft	20 ga	40 ft

Zinc		Copper	
Thickness	Min. Radius	Wt./Sq. Ft.	Min. Radius
0.8 mm	27 ft	16 oz	33 ft
1.0 mm	20 ft	20 oz	30 ft
1.25 mm	18 ft	24 oz	20 ft

General Design and Manufacturing Guidelines:

- BEMO recommends that the Technical Services Group be consulted on all curved applications. The curving capabilities listed above are to be used as general guidelines only.
- Panel widths: BEMO 305mm (12"), 400mm (15 3/4") and 500mm (19 3/4")
- For curved panels: Aluminum 3105 H14, Steel Grade 33 and Copper 1/4 to 1/2 hard.
- For information on curving BEMO 500mm please consult BEMO 1-800-926-2366.

Painted Material Curving Considerations:

- On radii less than 35' (10.5 meters) the backside of the BEMO panel may exhibit paint marring induced during the curving process.
- On radii less than 50' (16.6 meters) steel panels may exhibit a slight "dishing" effect within 6" to 12" of the end of each curved panel. These ends can be field cut if required, providing the extra length estimated originally for the project. In most applications the "dishing" effect is not objectionable.
- Embossed materials on radii less than 25' (8.3 meters) the top of the material may have visible marring from the curving process.

Thermal Expansion Chart

		Panel Length from Fixed Point (Feet)														
Material	Factor	10	20	30	40	50	60	70	80	90	100	120	140	160	180	200
G-90 GAL. STEEL	0.0000067	0.145	0.289	0.434	0.579	0.724	0.868	1.013	1.158	1.302	1.447	1.737	2.026	2.316	2.605	2.894
ALUMINUM	0.0000129	0.279	0.557	0.836	1.115	1.393	1.672	1.950	2.229	2.508	2.786	3.344	3.901	4.458	5.016	5.573
COPPER	0.0000094	0.203	0.406	0.609	0.812	1.015	1.218	1.421	1.624	1.827	2.030	2.436	2.843	3.249	3.655	4.061
ZINC	0.0000122	0.264	0.527	0.791	1.054	1.318	1.581	1.845	2.108	2.372	2.635	3.162	3.689	4.216	4.743	5.270
STAINLESS STEEL	0.0000096	0.207	0.415	0.622	0.829	1.037	1.244	1.452	1.659	1.866	2.074	2.488	2.903	3.318	3.732	4.147
TITANIUM	0.0000047	0.102	0.203	0.305	0.406	0.508	0.609	0.711	0.812	0.914	1.015	1.218	1.421	1.624	1.827	2.030

Note: The expansion factor is in inches per inch per degree F.

Temperature differential is 180 degree F.

The chart shows panel movement in inches based on a 180 degree temperature differential.

BEMO Load/Span Chart with Hook Clip

BEMO-Roof: Allowable Uplift Loads, PSF									
Panel Material	Panel Width	Panel GA./THK.	Span In Feet						
			2.0	2.5	3.0	3.5	4.0	4.5	5.0
Aluminum	305mm	0.032	81.2	75.0	68.8	62.6	56.3	50.1	43.9
		0.04	114.1	109.4	104.6	99.9	95.2	90.4	85.7
	400mm	0.032	50.6	49.6	48.6	47.6	46.5	45.5	44.5
		0.04	78.4	76.0	73.7	71.3	68.9	66.6	64.2
	500mm	0.032	28.2	27.5	26.8	26.2	25.5	24.8	24.1
		0.04	57.0	54.9	52.7	50.6	48.4	46.3	44.1
Steel	305mm	24 GA.	62.7	60.9	59.1	57.4	55.6	53.8	52.0
		22 GA.	117.2	111.6	106.1	100.5	94.9	89.4	83.8
	400mm	24 GA.	45.7	43.4	41.1	38.8	36.4	34.1	31.8
		22 GA.	75.8	72.7	69.5	66.4	63.2	60.1	56.9
	500mm	24 GA.	34.2	32.9	31.5	30.2	28.8	27.5	26.1
		22 GA.	47.6	45.6	43.6	41.7	39.7	37.7	35.7

BEMO Load/Span Chart with Halter Clip

BEMO-Roof: Allowable Uplift Loads, PSF									
Panel Material	Panel Width	Panel GA./THK.	Span In Feet						
			2.0	2.5	3.0	3.5	4.0	4.5	5.0
Aluminum	305mm	0.032	59.4	56.1	52.9	49.6	46.3	43.1	39.8
		0.04	102.4	96.9	91.5	86.0	80.5	75.1	69.6
	400mm	0.032	47.7	43.9	40.1	36.4	32.6	28.8	25.0
		0.04	74.9	69.9	64.8	59.8	54.7	49.7	44.6
	500mm	0.040	56.3	52.4	48.5	44.7	40.8	36.9	33.0

Notes:

1) These loads have a safety factor of 1.65.

2) The published allowable wind uplift values are derived from full-scale structural tests conducted by an independent test lab utilizing state-of-the-art ASTM E 1592 chamber procedures. Testing conducted on 2'-0" and 5'-0" multi-span configurations, with intermediate values arrived at via interpolation.

3) These values do not include clip-to-structure connection considerations.

General Material Handling Unloading / Storage

Pre-planning of the unloading operation is an important part of the erection procedure. This involves careful and orderly storage of all materials. Detailed planning is required at the job site where storage space is restricted. Here, a planned separation of materials in the order of the erection process is necessary to minimize the costly double handling of materials. While set procedures are not possible in all cases, special attention should be given to the following items.

1. **Location of Carrier Vehicle During Unloading**

   Trucks should be located where the different building parts can be unloaded near their usage points to minimize lifting, travel and re-handling during the building assembly.

2. **Lifting Equipment**

   The type and size of lifting equipment is determined by the size of the building and the site conditions. Length of boom, capacity and maneuverability of lifting equipment will determine its location for both unloading and erection.

3. **Consideration of Overhead Electric Wires**

   Overhead power lines are a continuing source of danger. Extreme care must be used in locating and using lifting equipment to avoid contract with power lines.

4. **Check Shipment**

   When shipments are received in the field, two inspections are necessary:

   A. When boxes, crates, bundles or other large components are received and unloaded from the carrier, these items should be checked off against the packing list for accuracy. Contact the factory immediately if any discrepancies are found. Bemo USA cannot be held liable for shortages or damages if not notified at once.

   B. When bundles, crates, cartons, boxes, etc. are opened during the erection of the building, another check must be performed to determine the quantity received and their condition.

   If during inspection of A – damages to or shortages of items are found, a report should be filed with the carrier immediately at the site. When damages are evident from the exterior of containers, they should be opened immediately and inspected thoroughly at the time of receiving shipments. Panel bundles should be opened and inspected for water damage.

If during inspection of B – damages to or shortages of items are found upon opening the crates or cartons, then a written claim should be sent to the carrier within five (5) working days of discovering the damage or shortage. If a shortage is discovered within a container, a written notice must be mailed to Bemo USA, the same time the claim is sent to the carrier.

Unless these two important inspections are made and any reports or claims are filed immediately, claims become very difficult to settle as time lapses, and usually the builder suffers the loss.

When filing claims either to the carrier or to Bemo USA Corporation, the claim should indicate the item in question, the bundle or container shipped with (if any), the actual quantity received, the quantity which should have been received, or that which was damaged. This is important for quickly retrieving all the necessary information. Also, other information such as numbers, names and addresses of co-signees and co-signors should be indicated on claims, as well as invoice numbers.

The procedures are primarily for your protection. A shortage discovered later, while real, can be caused by theft, misplacement, or other causes, and neither the carrier nor Bemo USA, can accept responsibility.

5. **Unloading**

Improper unloading and handling of bundles may cause bodily injury or material damage. The manufacturer is not responsible for any bodily injuries or material damages that may occur during unloading and handling.

6. **Handling**

Panel bundles less than 25 feet long may be unloaded with a forklift. The forklift should have at least five feet between forks, and panels should be picked up at their center of gravity. Extreme caution should be taken when moving panels with a forklift. Panel bundles longer than 25 feet in length must be lifted by crane with spreader bar.

7. **Storage**

Panel crates are not designed to support the weight of the panels. Do not use wire rope slings.

Panels are shipped in bundles – 24 panels per bundle.

Check to see that moisture has not formed inside the bundles during shipment. Un-band the bundles; if moisture is present the panels should be unpacked and wiped dry. Then re-stack and loosely cover so that air can circulate between the panels. Elevate one end of the bundle after re-stacking to allow a slope for water drainage.

BEMO-Roof System Roll Former Technology Comparison

Bemo USA's BEMO-Roof system provides the most advanced and versatile structural standing seam roof system available in today's architecturally demanding market. With its specialized German Engineered technology and tooling, the architectural capabilities of BEMO are not restricted to just simple or traditional roof configuration. The custom designed curving mills provide the unmatched capability of providing smoothly curved panels to radii as tight as twelve feet. No other structural standing seam system in the US can match the combined flexibility and structural properties into one system.

While the BEMO Mills are mobile they are light years beyond being "portable" roll formers. These unique mills are comprised of state-of-the-art roll forming technology, computer precision and twelve (12) independent rolling stations. These twenty ton mills utilize ocean-going containers as their platform for operation and would be equally at home on the manufacturing floor.

High-End "Factory" roll forming mills such as BEMO, Bradbury, Tishkin and Pro/Eco normally use between ten (10) and sixteen (16) "stands" or stages to gradually shape metal profiles. The principle behind this is the slower you work the metal, the better the ultimate shape and performance of the end product. Factory type mills like BEMO are powered by 440V three phase power sources, have hardened steel hydraulic profile shears (to preserve panel shape), and can handle coils up to 10,000#. In BEMO's case, our units have self-contained 50KW power plants, hardened profile shears and heavy coil capacity. Factory mills also have the flexibility of installing continuous sealant into the female joint of a profile. BEMO utilizes the latest in hot-melt technology. The BEMO mill has a production rate of over 150 feet per minute and the power to "push" panels on an incline to a roof area. Most factory type mills, including BEMO, are extremely expensive and range in price from $500,000 to well over $1,500,000.

Portable roll formers, on the other hand, like Knudsen, Zimmerman, Roll Former Corp., etc. average about eight (8) stands, use manual post-cutting non-profiled scissor shears, are powered by small 12 – 16hp gas generators, weigh approximately one ton and produce panels only at a rate of 40 feet per minute. Portable roll formers provide the market with low-cost, marginally acceptable metal panels with relatively poor performance characteristics and virtually no testing documentation. These types of mills range from $50,000 - $75,000 and are normally pulled around by a pickup truck. The low cost and easy availability of portable roll formers has unfortunately opened up the architectural metal market to virtually anyone regardless of manufacturing experience, technical capabilities or human and financial resources.

As anyone can clearly see, the BEMO mills are at the very highest end of the quality and performance spectrum for roll forming technology. The added benefit of having a mobile operating platform provides superior finished panels that are custom fit to a project's exact field conditions. This mobility also allows BEMO to manufacture continuous length panels, regularly in excess of 250 feet, eliminating the need for leak-prone endlaps.

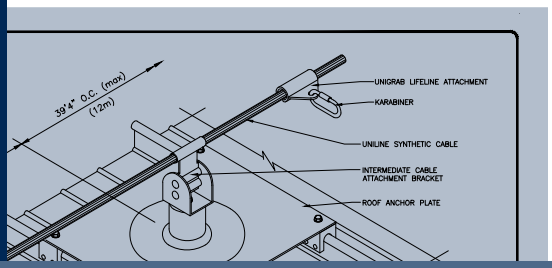
The BEMO-Roof System also is one of the only structural standing seam systems in the US that has the ability to use two distinctly different attachment methods. Since the metal industry has continued to evolve and mature, there has been an increase in the demand for more natural, higher quality, metals like copper, zinc and aluminum. These types of substrates however, bring with them a new set of engineering concerns that BEMO's exclusive aluminum halter and high capacity stainless steel hook clips are ideally suited to handle. By accommodating large amounts of thermally induced movement and at the same time providing excellent ASTM E-1592 uplift values, these systems offer truly high-performance applications.

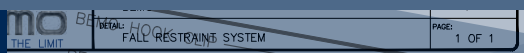
BEMO Mills – Vs - Portable Mills Summary

BEMO Mills	Portable Mills
1) Twelve Rolling Stands	Six rolling stands
2) 50 KW Power Source	12 – 16 HP generator
3) Mills Weigh 20 tons	Weighs 1 ton
4) Moved on special tractor rig	Moved with pickup truck
5) Costs $750,000.00 - $1,000,000	Costs $50,000 - $75,000.00
6) Rolls panels at 40 meters/minute	Rolls panels at 10 meters/min.
7) Profiled Hydraulic Post Shear	Non-profiled manual scissors
8) Coil capacity of 10,000#	Coil capacity 2,000#
9) Installs hot-melt seals into panels	Pumped butyl air compressor
10) Can push panels to roof from ground	Must be level to roll panels
11) Factory Mutual Annual Inspections	No factory mutual
12) UL quarterly inspections	Rarely inspected or certified
13) Factory Trained & Certified Operator	No formal training

Additional advantages of on-site manufacturing are the minimization of material handling. In a normal factory formed panel, it is handled seven (7) different times (roll-form, place in panel bucks, packaging, loading onto transport, off-load at project site, hoisting onto roof, shake-out to installation areas and then install) prior to its final installation on the roof not to mention the potential for road transit abrasion. The Mobile factory formed panels, however, are handled once during roll forming and once to install. That's seven (7) times less handling and seven (7) times less potential for damage.

DETAILS


39'-4" O.C. (max)
(12m)
UNIGRAB LIFELINE ATTACHMENT
KARABINER
UNILINE SYNTHETIC CABLE
INTERMEDIATE CABLE ATTACHMENT BRACKET
ROOF ANCHOR PLATE


DETAIL:
FALL RESTRAINT SYSTEM
PAGE:
1 OF 1

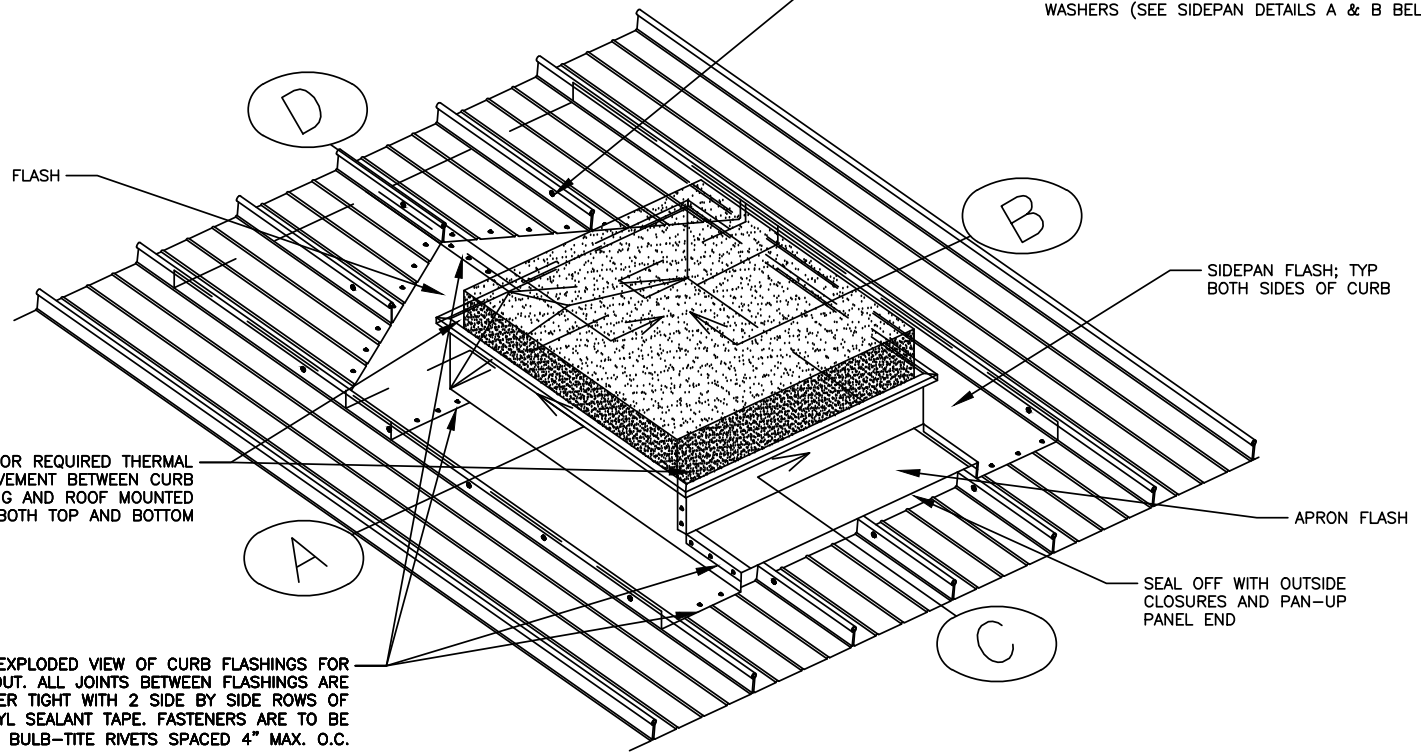
BEMO PANEL
39'-4" O.C. (max)
(12m)
#12 HEX WASHER HEAD FASTENERS W/ NEO. @ 16" O.C. MAX.
EXPANDING FOAM TAPE CLOSURE
PANEL CLAMPS @ EACH CORNER OF ANCHOR PLATE
UNDERLAYMENT (IF REQUIRED)
SUBSTRATE
3/16" DIA. S.S. POP RIVET @*6"-8" O.C.
DRIP ANGLE
ALTERNATE DETAIL
*6" O.C. FOR BEMO 305 PANEL
8" O.C. FOR BEMO 400 PANEL
PANEL:
BEMO

BEMO
THE SKY'S THE LIMIT
DETAIL:
FALL RESTRAINT SYSTEM
PANEL:
BEMO
DETAIL:
GABLE
REVISION:
1
PAGE:
1 OF 1
GABLE FLASH
FASTENER
SLOPE
LAP
GABLE HALTER CLIP @ 30" MAX. O.C.
NOTE:
WHEN INSTALLING THE GABLE HALTER
LAYOUT SPACING SO THAT A CLIP FA
THE UP SLOPE SIDE OF ALL GABLE
LAP JOINTS. DO NOT PLACE ANY F
IN THE FLASHING LAP ITSELF.

NOTE:
A COUNTER FLASHING (NOT SHOWN) MUST BE INSTALLED TO WEATHERTIGHT THE TOP OF THE CURB. SEE DETAILS A – D.

NOTES:
DO NOT FASTEN CURB FLASHINGS TO ROOF CURB; CURB FLASHINGS TO MOVE WITH PANEL SYSTEM DURING THERMAL EXPANSION & CONTRACTION.

SHORT PANELS ABOVE & BELOW CURB ARE TO BE BOLTED TOGETHER AND TO FULL LENGTH PANELS ON EITHER SIDE SO AS TO MOVE AS A UNIT DURING THERMAL EXPANSION & CONTRACTION. USE $\frac{5}{16}$" SS BOLT ASSEMBLIES WITH SS/NEOPRENE BONDED WASHERS (SEE SIDEPAN DETAILS A & B BELOW)



BACKPAN FLASH

SIDEPAN FLASH; TYP BOTH SIDES OF CURB

ALLOW FOR REQUIRED THERMAL MOVEMENT BETWEEN CURB FLASHING AND ROOF MOUNTED UNIT, AT BOTH TOP AND BOTTOM

APRON FLASH

SEAL OFF WITH OUTSIDE CLOSURES AND PAN–UP PANEL END

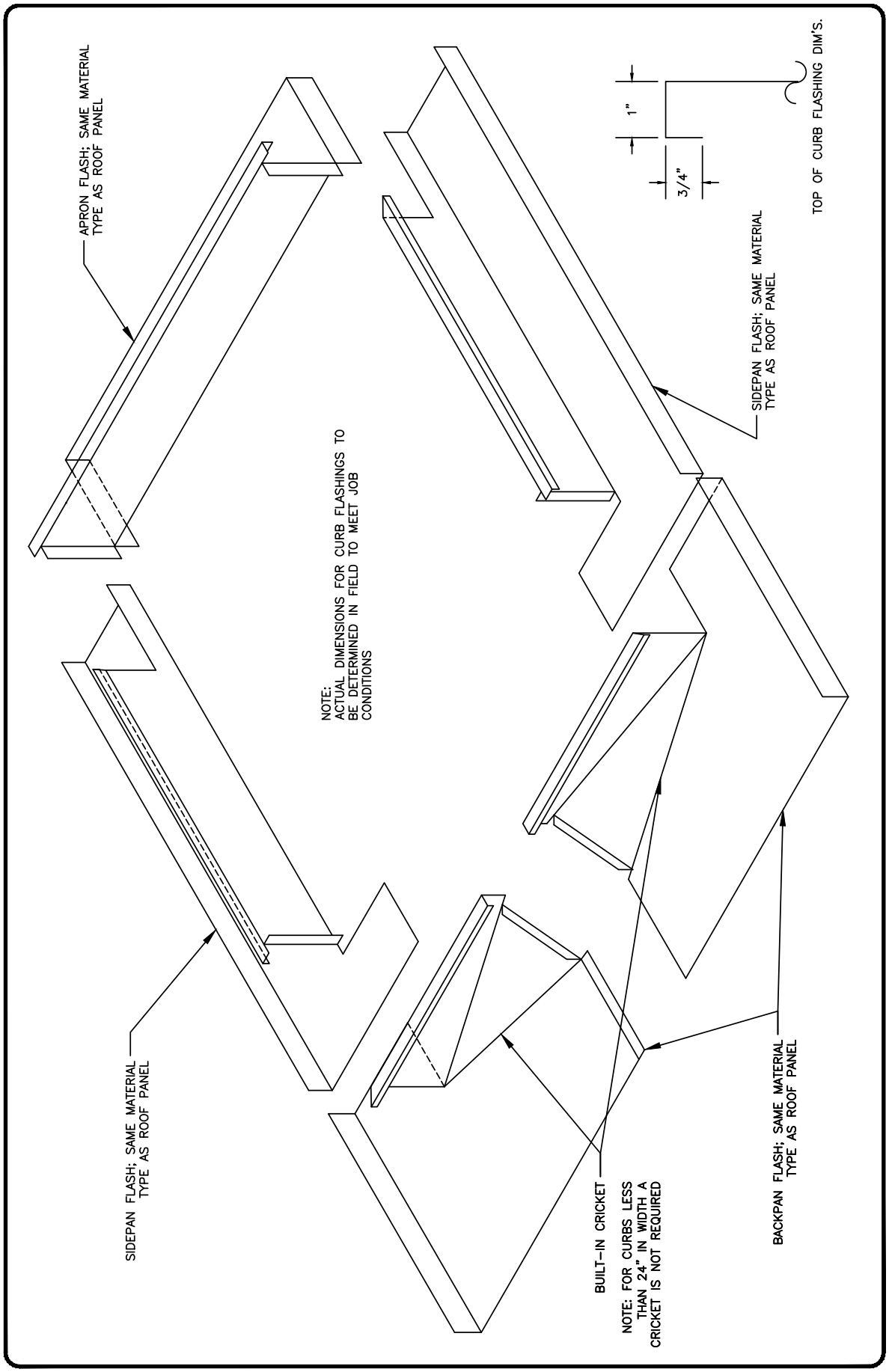
SEE ATTACHED EXPLODED VIEW OF CURB FLASHINGS FOR CONFIGURATION & LAYOUT. ALL JOINTS BETWEEN FLASHINGS ARE TO BE SEALED WATER TIGHT WITH 2 SIDE BY SIDE ROWS OF 3/32" x 1/2" BUTYL SEALANT TAPE. FASTENERS ARE TO BE 1/4" DIA SELF SEALING BULB–TITE RIVETS SPACED 4" MAX. O.C.

BEMO ROOF CURB DETAIL

NOTE:
A COMPLETELY WELDED CURB ASSEMBLY & INSTALLATION MAY BE REQUIRED FOR 20yr WARRANTY. CONSULT BEMO TECHNICAL DEPARTMENT

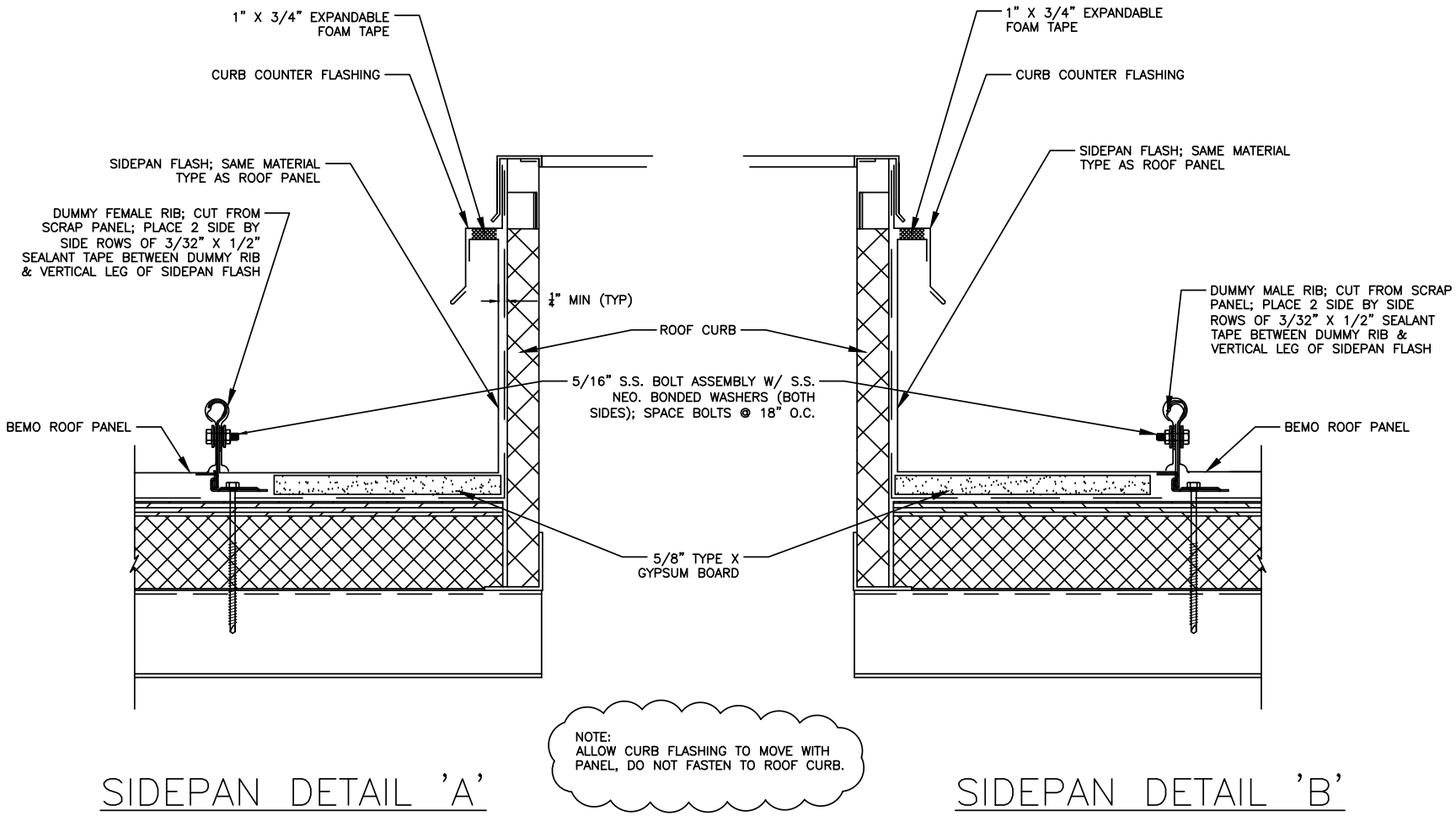
BEMO
Inspiring Metal Envelopes

PANEL: BEMO		REVISION: 0
DETAIL: ROOF CURB ASSEMBLY		PAGE: 1 OF 1



BEMO
Inspiring Metal Envelopes

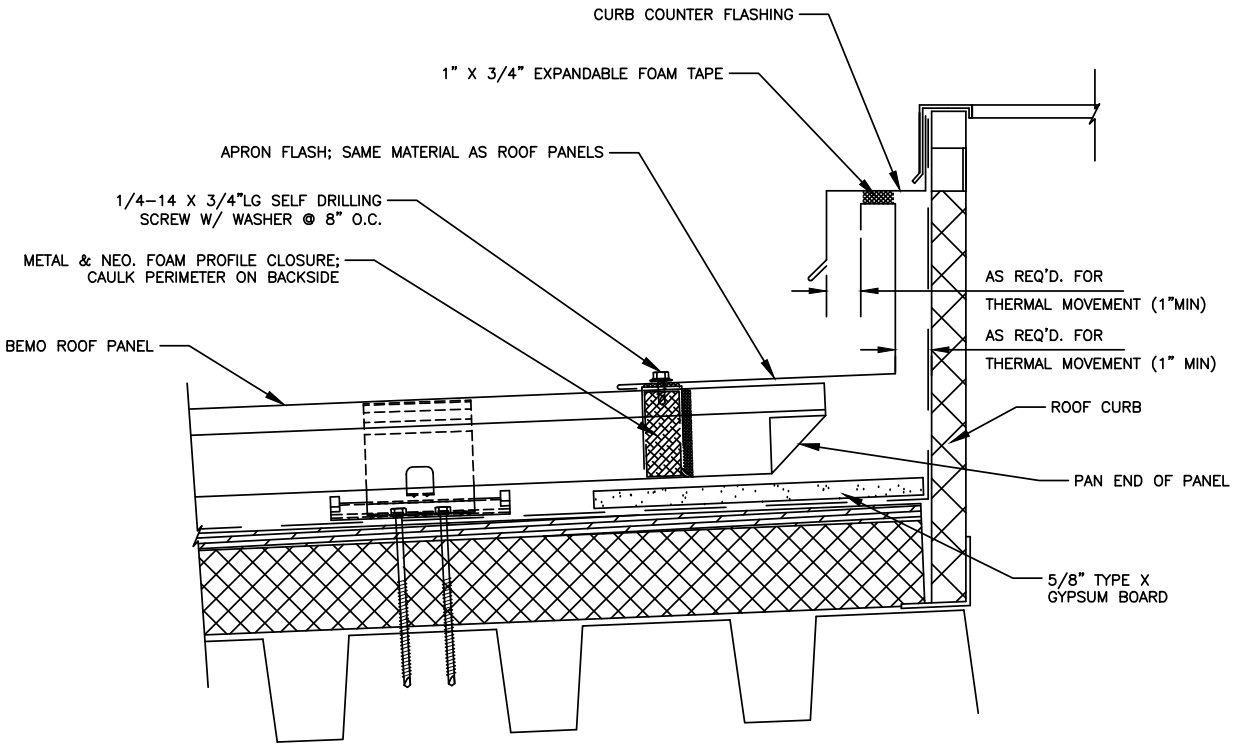
PANEL: BEMO	REVISION: 0
DETAIL: ROOF CURB FLASH EXPLODED VIEW	PAGE: 1 OF 1



SIDEPAN DETAIL 'A'

SIDEPAN DETAIL 'B'

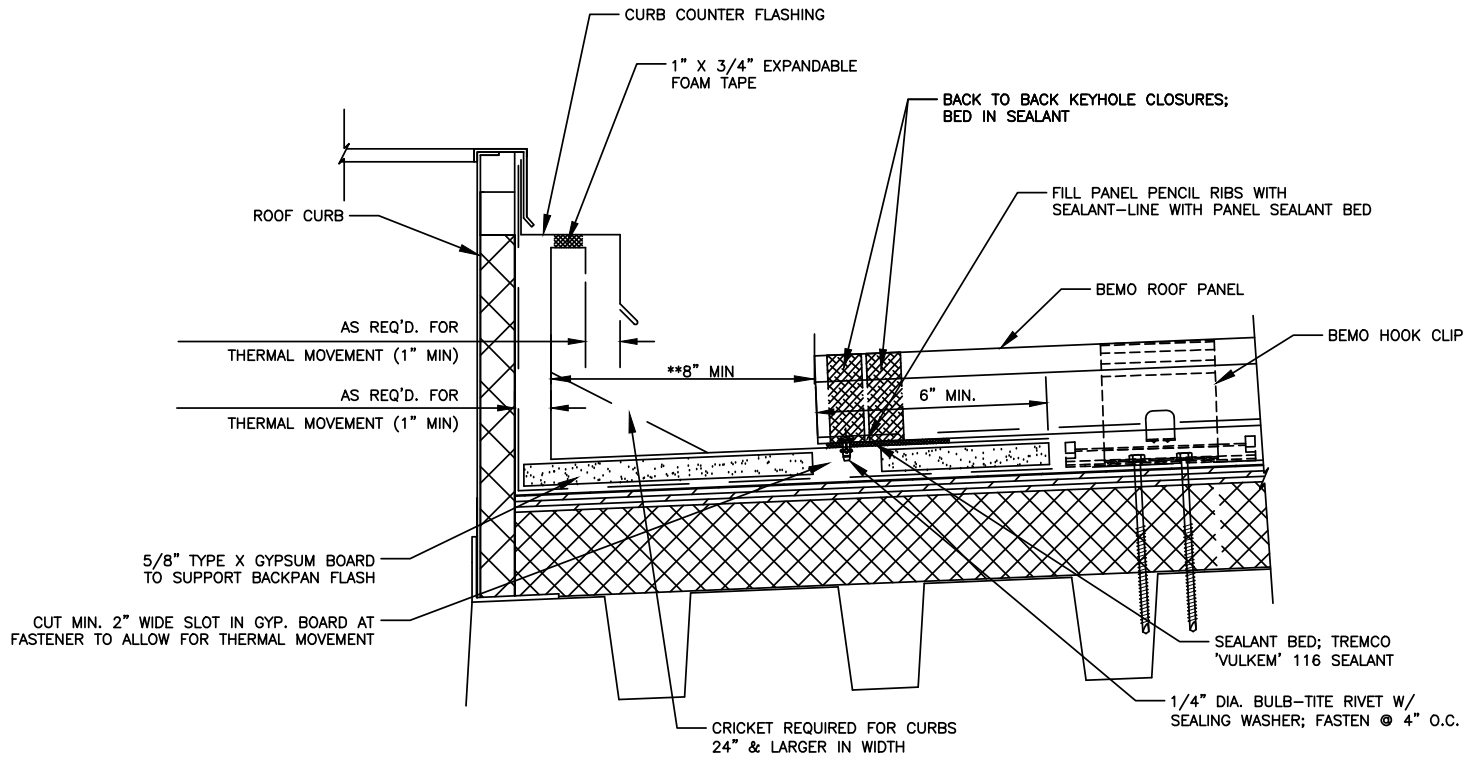
BEMO Inspiring Metal Envelopes	PANEL: BEMO	REVISION: 0
	DETAIL: ROOF CURB SIDEPAN DETAILS 'A' & 'B'	PAGE: 1 OF 1



CURB APRON; DETAIL 'C'

NOTE:
ALLOW CURB FLASHING TO MOVE WITH PANEL; DO NOT FASTEN TO ROOF CURB.

BEMO Inspiring Metal Envelopes	PANEL: BEMO	REVISION: 0
	DETAIL: ROOF CURB APRON DETAIL 'C'	PAGE: 1 OF 1

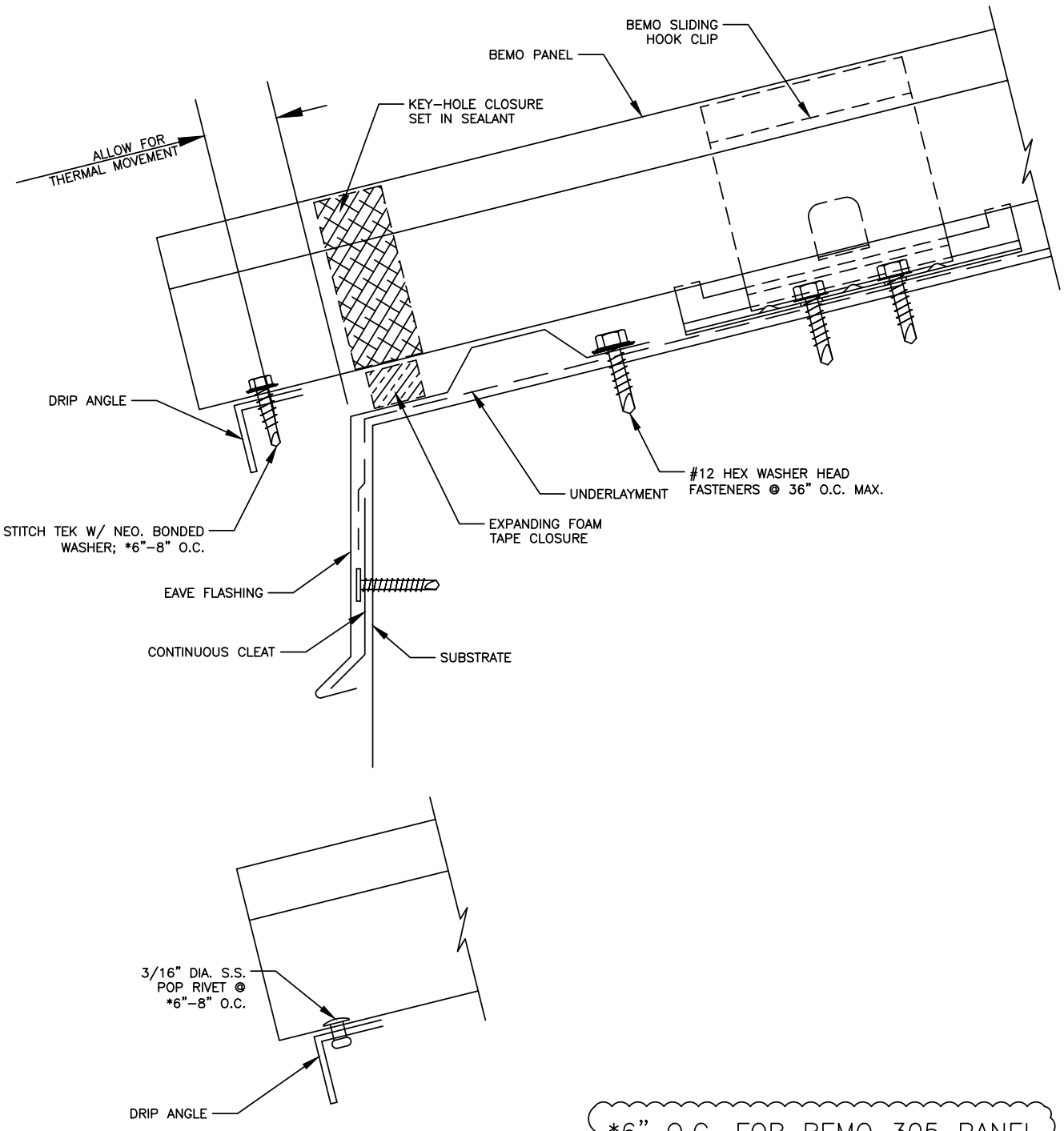


**IN HEAVY SNOW REGIONS (GREATER THAN 20PSF GROUND SNOW LOAD) THIS DIMENSION IS TO BE 18" MIN.

CURB BACKPAN; DETAIL 'D'

NOTE:
ALLOW CURB FLASHING TO MOVE WITH PANEL; DO NOT FASTEN TO ROOF CURB.

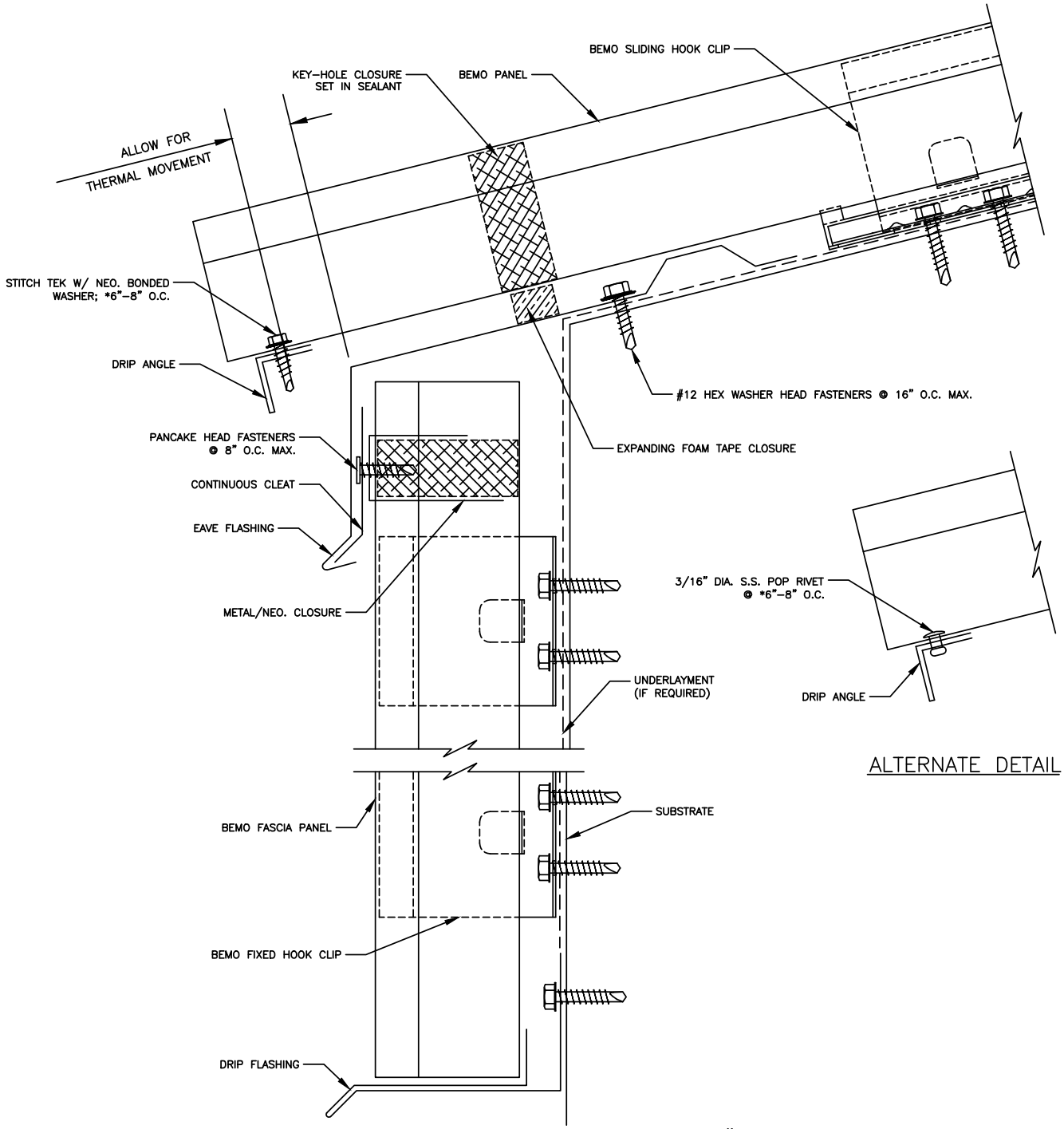
BEMO Inspiring Metal Envelopes	PANEL: BEMO	REVISION: 0
	DETAIL: ROOF CURB BACKPAN DETAIL 'D'	PAGE: 1 OF 1



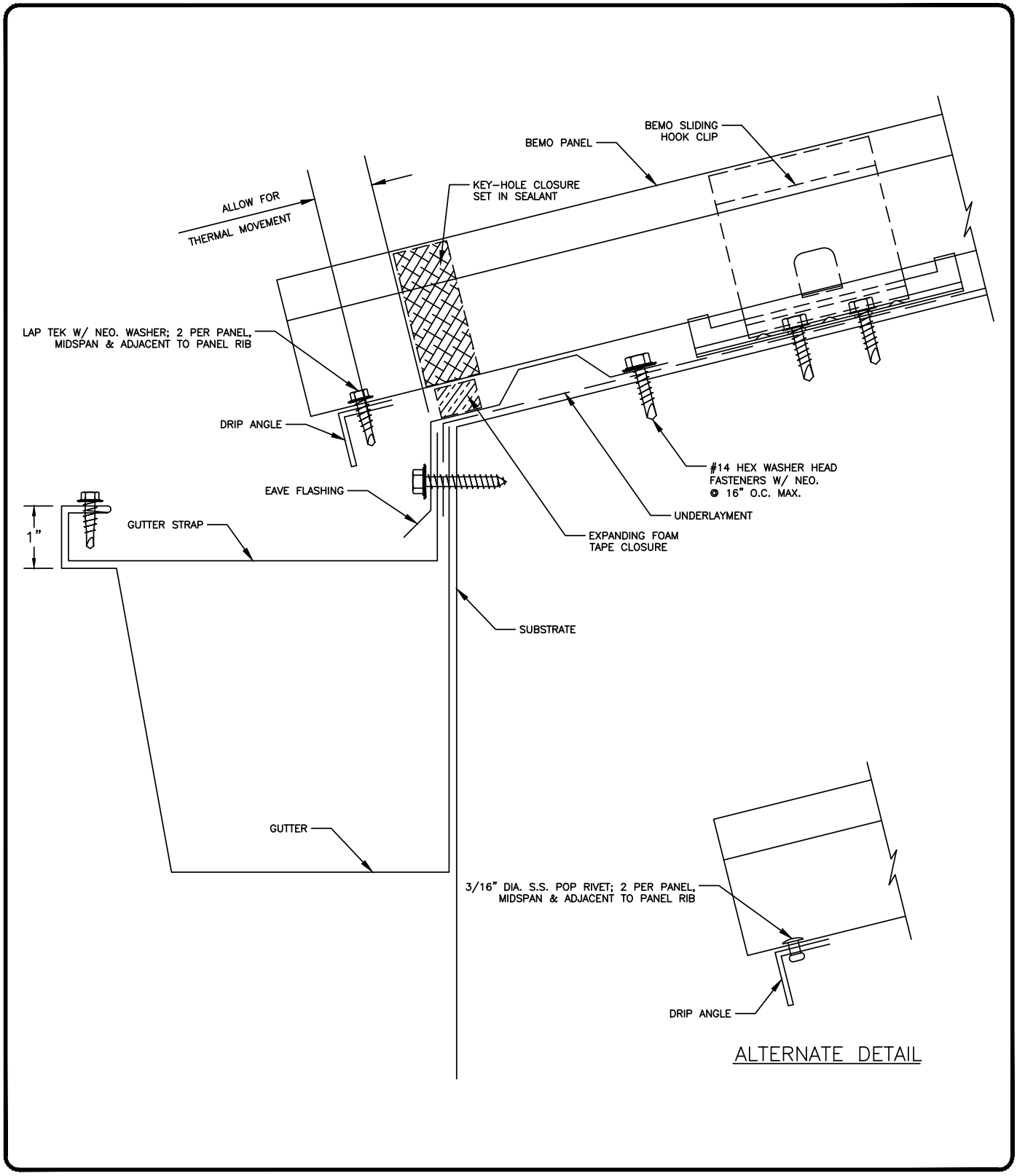
ALTERNATE DETAIL

*6" O.C. FOR BEMO 305 PANEL
8" O.C. FOR BEMO 400 PANEL

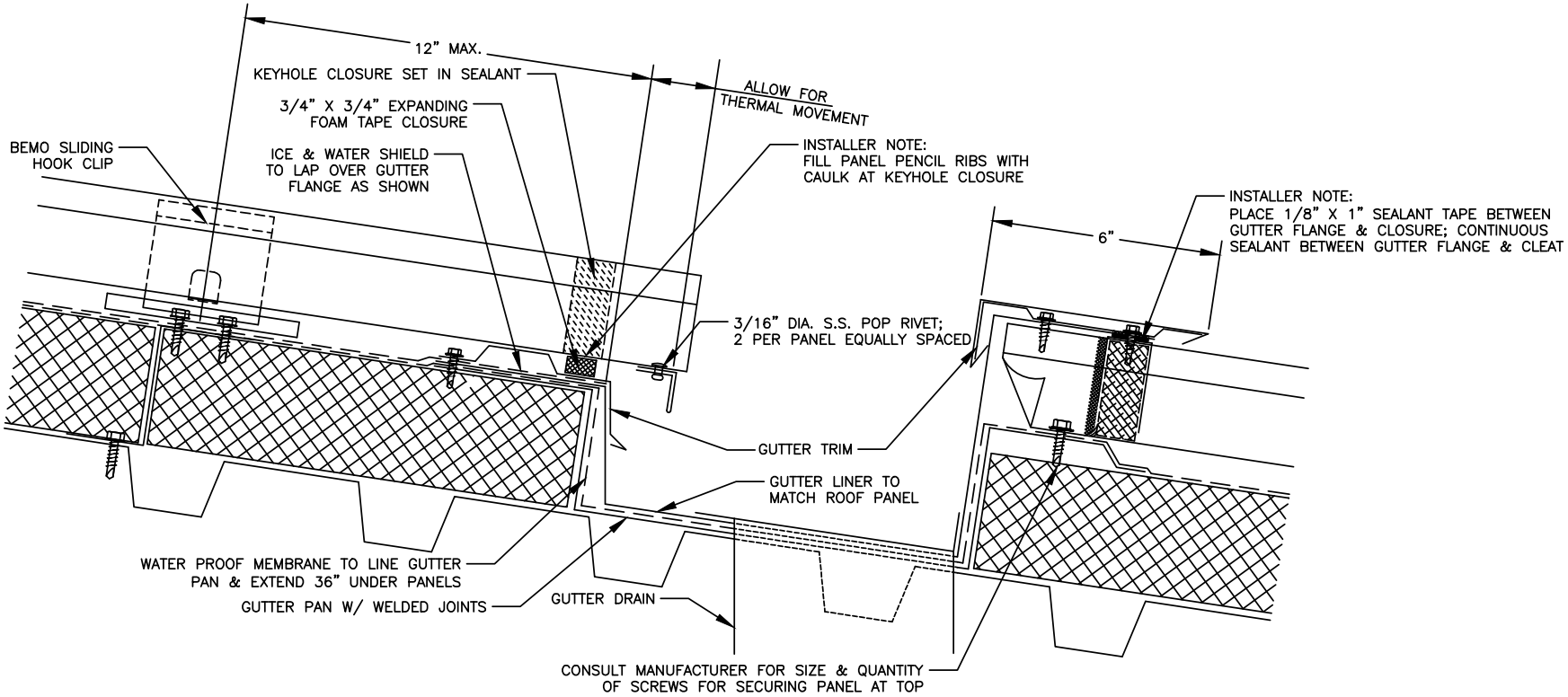
BEMO Inspiring Metal Envelopes	PANEL: BEMO	REVISION: 0
	DETAIL: EAVE (FLOATING)	PAGE: 1 OF 1



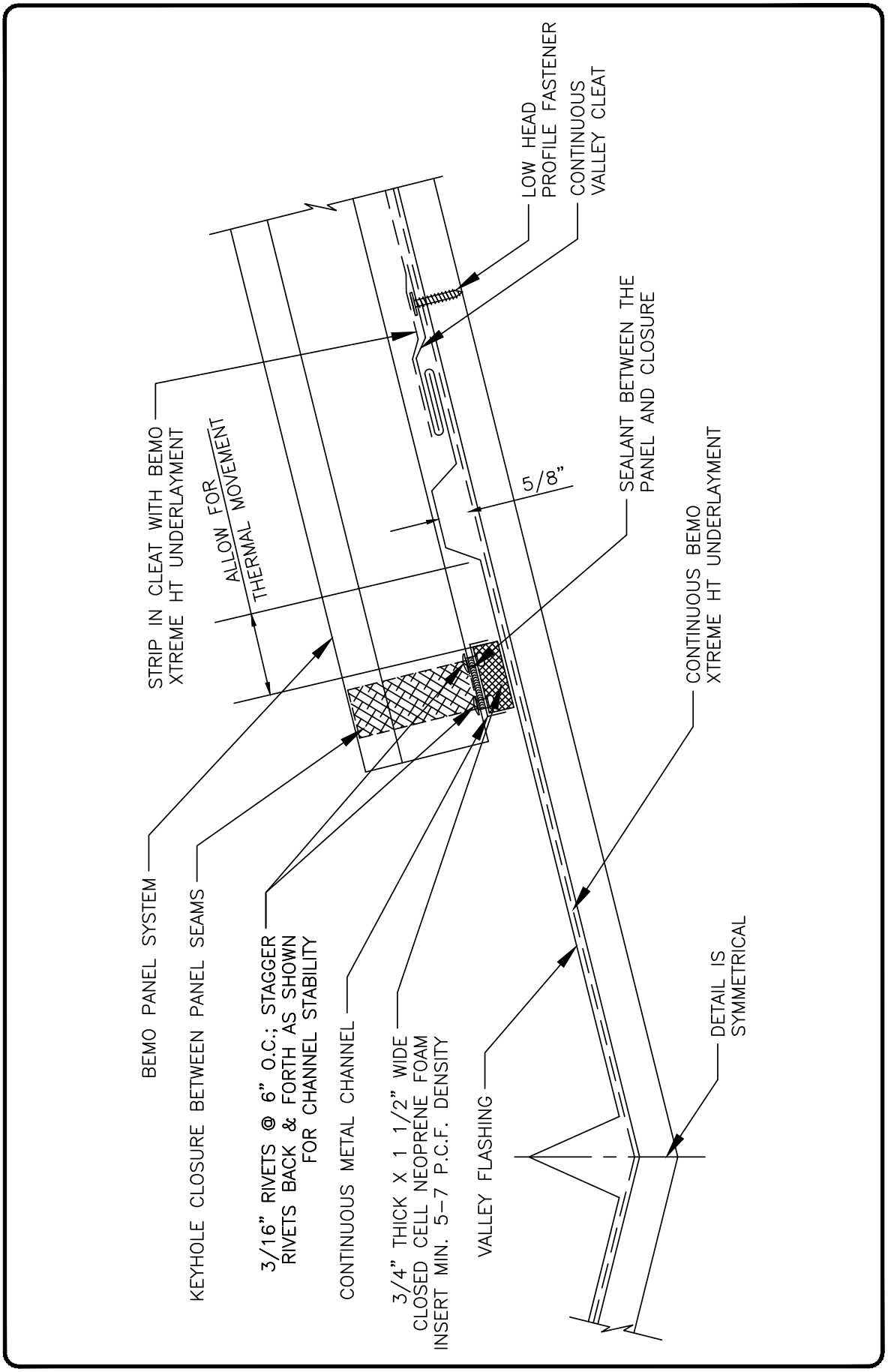
BEMO Inspiring Metal Envelopes	PANEL: BEMO	REVISION: 0
	DETAIL: EAVE W/ FASCIA PANEL	PAGE: 1 OF 1



BEMO Inspiring Metal Envelopes	PANEL: BEMO	REVISION: 0
	DETAIL: EXTERNAL GUTTER	PAGE: 1 OF 1

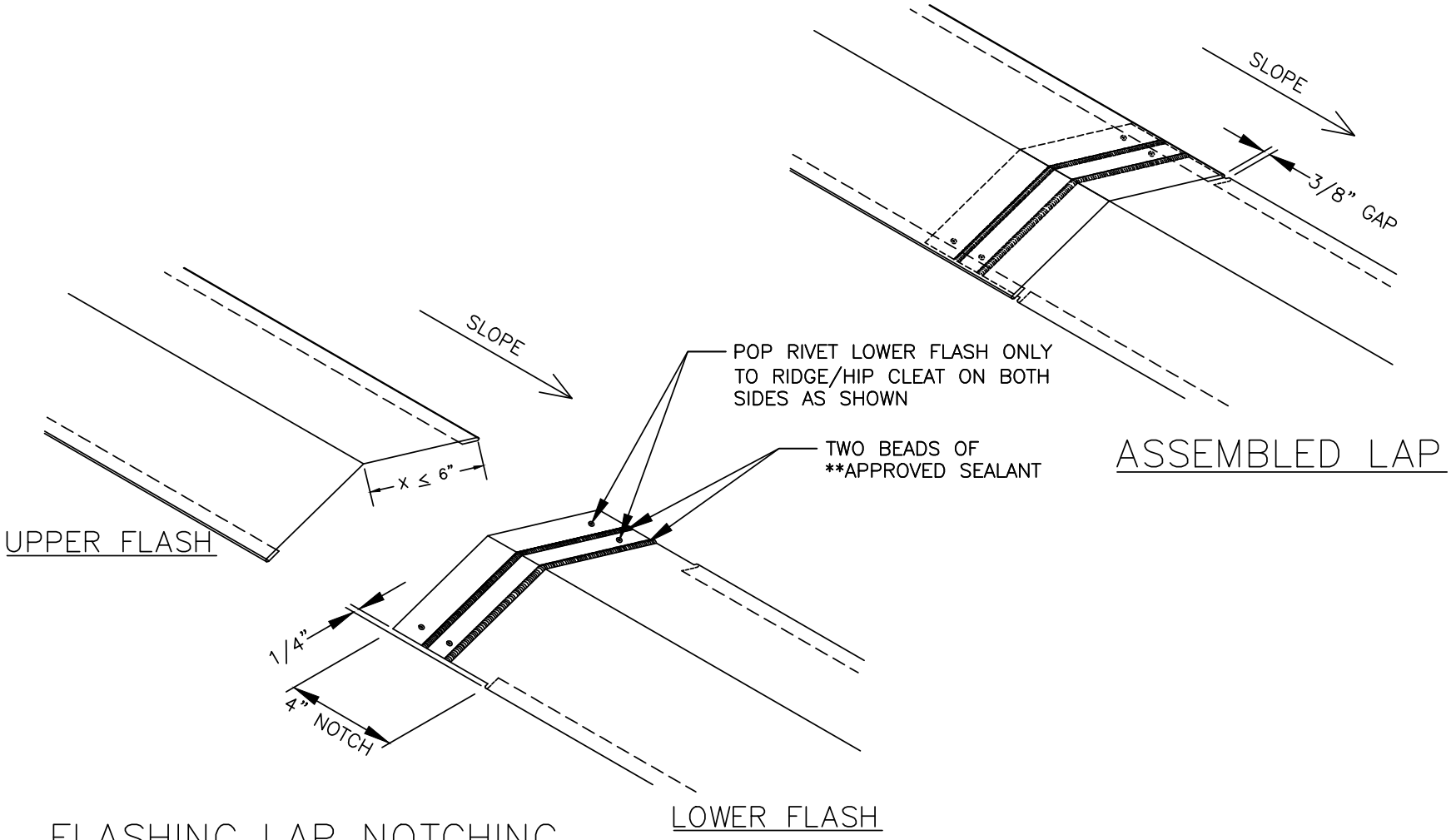


BEMO Inspiring Metal Envelopes	PANEL: BEMO	REVISION: 0
	DETAIL: INTERNAL GUTTER	PAGE: 1 OF 1



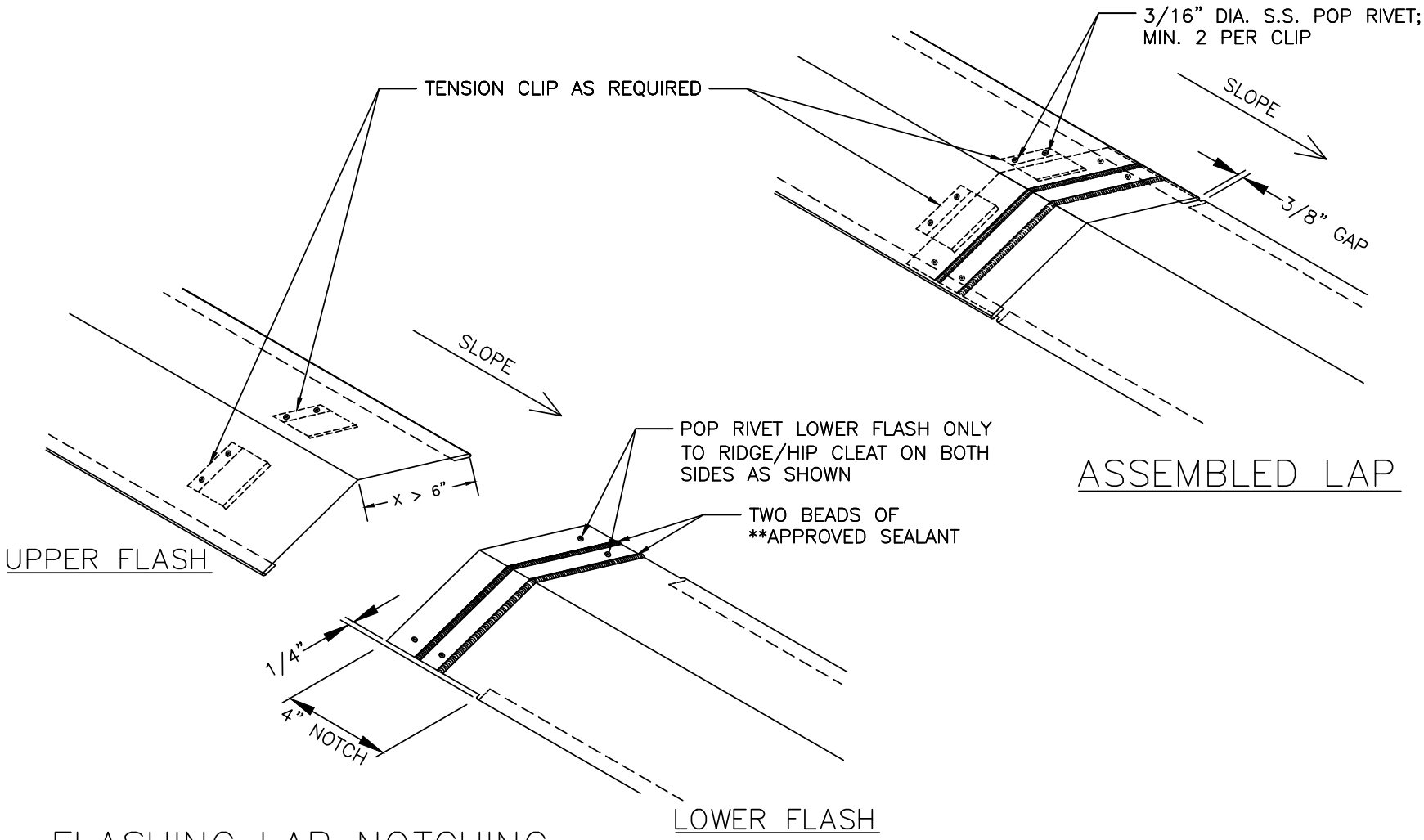
BEMO
Inspiring Metal Envelopes

PANEL: BEMO	REVISION: 0
DETAIL: VALLEY	PAGE: 1 OF 1



**HIGH PERFORMANCE POLYURETHANE BASED ELASTOMERIC SEALANT

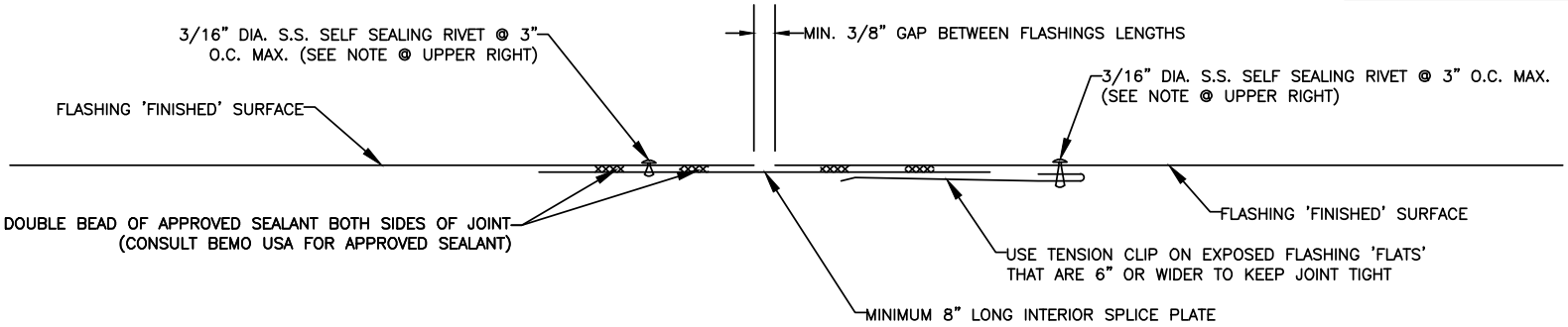
BEMO Inspiring Metal Envelopes	PANEL: BEMO	REVISION: 0
	DETAIL: SMALL FLASHING LAP JOINT	PAGE: 1 OF 1



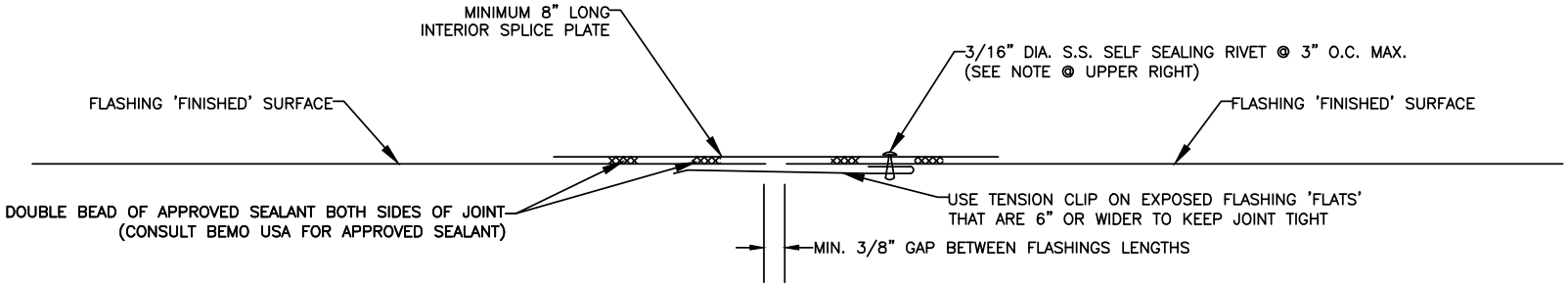
**HIGH PERFORMANCE POLYURETHANE BASED ELASTOMERIC SEALANT

BEMO Inspiring Metal Envelopes	PANEL: BEMO	REVISION: 0
	DETAIL: LARGE FLASHING LAP JOINT	PAGE: 1 OF 1

NOTE:
DO NOT FASTEN BOTH LENGTHS OF FLASHING TO SPLICE PLATE; FASTEN ONE SIDE ONLY TO ALLOW FOR THERMAL MOVEMENT



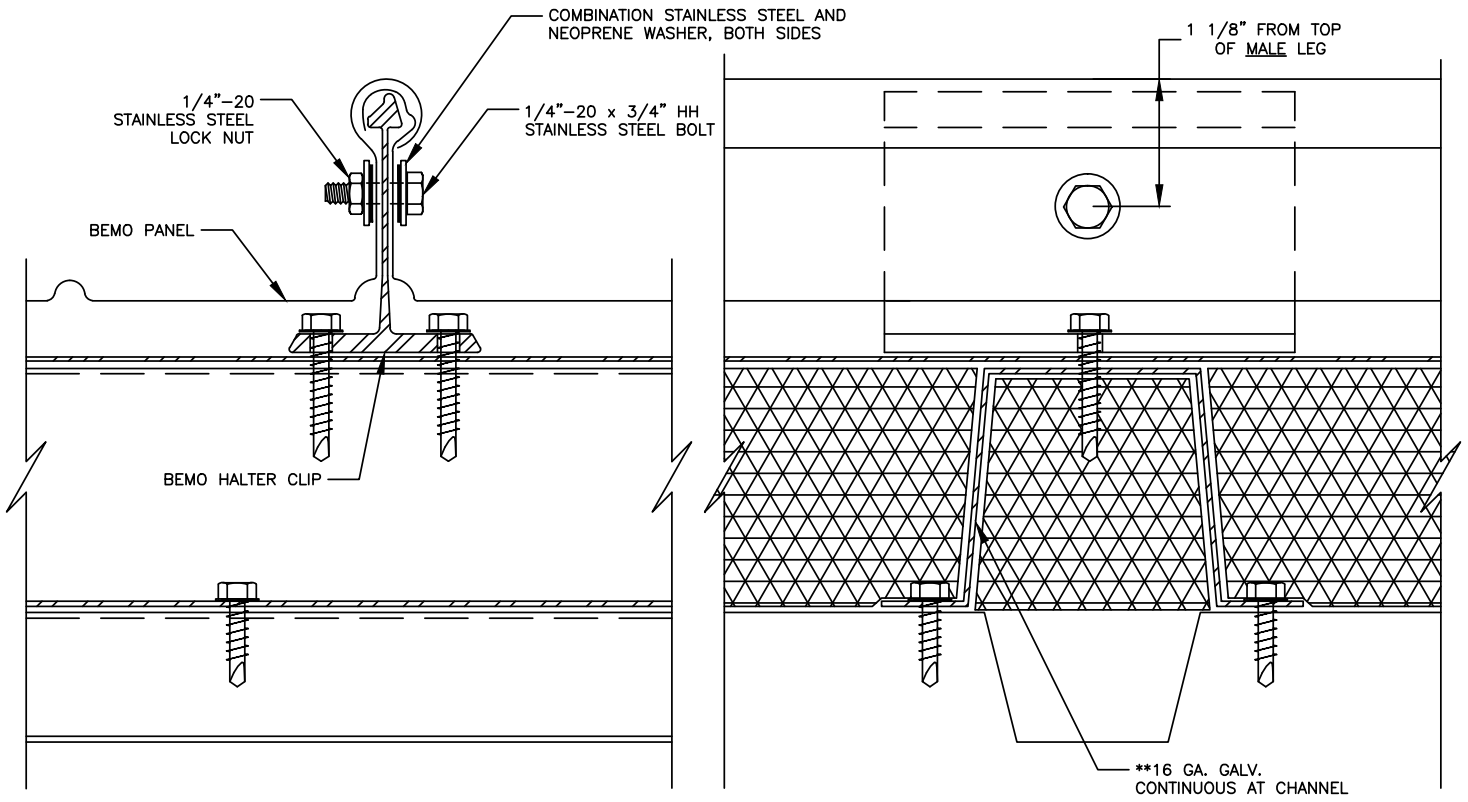
INTERIOR SPLICE PLATE



EXTERIOR SPLICE PLATE

ALTERNATE FLASHING LAP JOINTS

BEMO Inspiring Metal Envelopes	PANEL: BEMO	REVISION: 0
	DETAIL: ALTERNATIVE FLASHING LAPS	PAGE: 1 OF 1

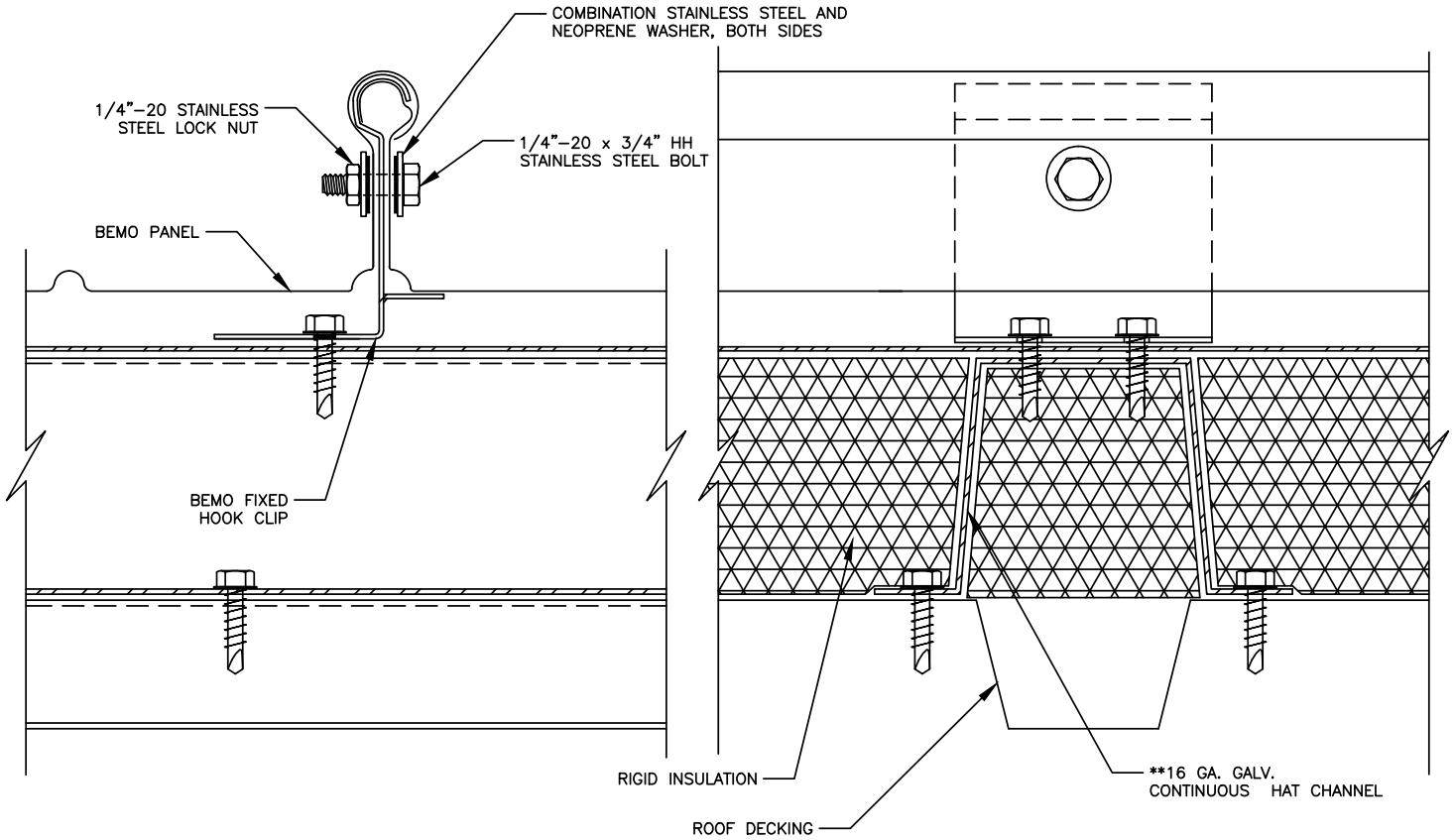


BEMO PANEL 'FIXING' DETAIL; HALTER CLIP

LOCATION OF 'FIXING' POINT TO BE SHOWN ON ROOF PLAN; CONSULT MANUFACTURER FOR LOCATION & REQUIRED NUMBER OF ROWS OF 'FIXING' CLIPS
**16 GA. GALV. CONTINUOUS HAT CHANNEL IS REQUIRED IN SNOW AREAS; IN NON–SNOW AREAS THE HAT MAY NOT BE REQUIRED (CONSULT MANUFACTURER).

BEMO Inspiring Metal Envelopes	PANEL: BEMO	REVISION: 0
	DETAIL: PANEL FIXING POINT (HALTER CLIP)	PAGE: 1 OF 1

*BOLT LOCATION IS DETERMINED BY PRE–PUNCHED HOLE IN FIXED CLIP STEM; DRILL 1/4" DIA. HOLE IN MALE PANEL RIB AT PRE–PUNCHED HOLE IN CLIP AS PANELS ARE BEING INSTALLED.

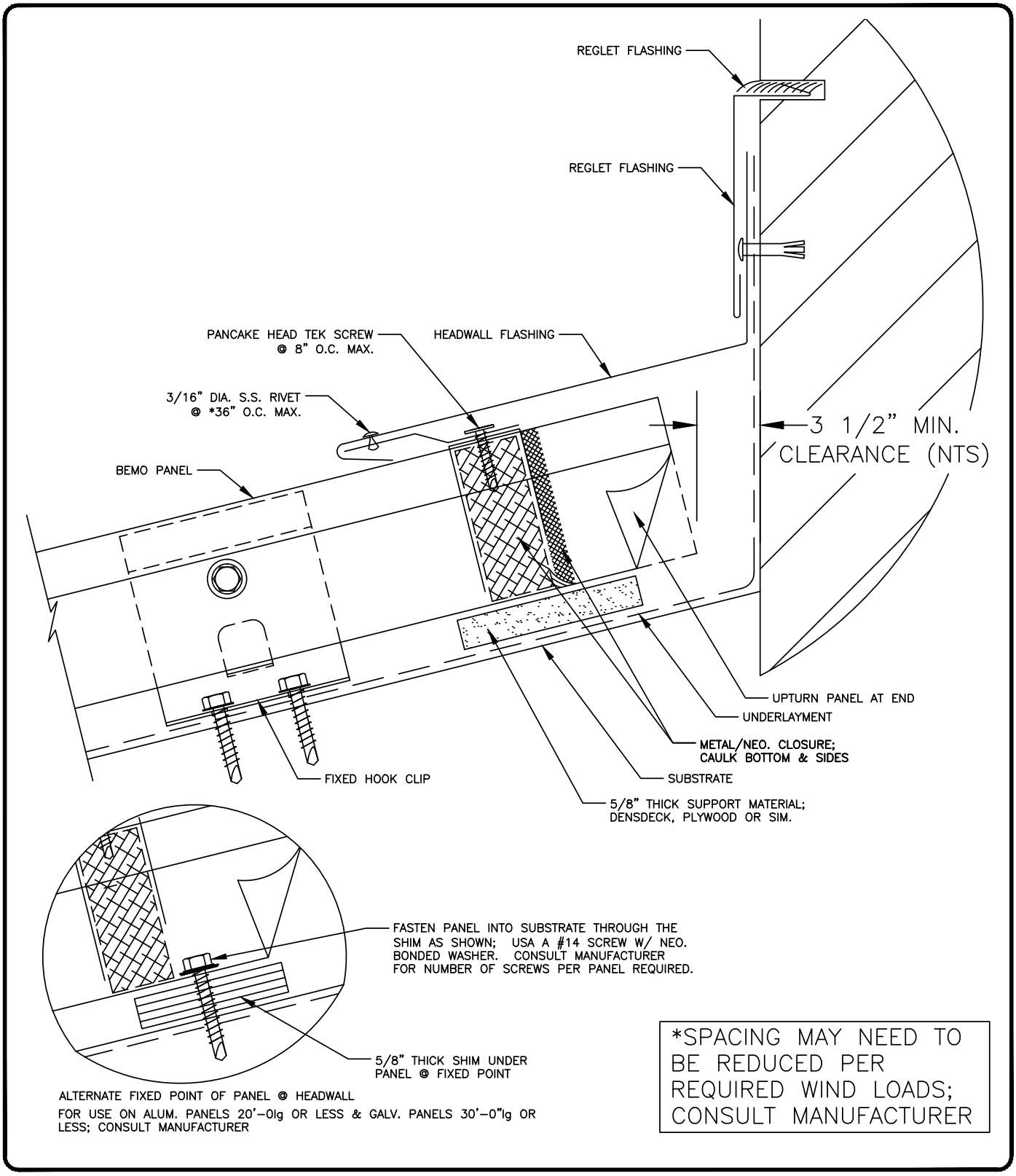


BEMO PANEL 'FIXING' DETAIL; HOOK CLIP

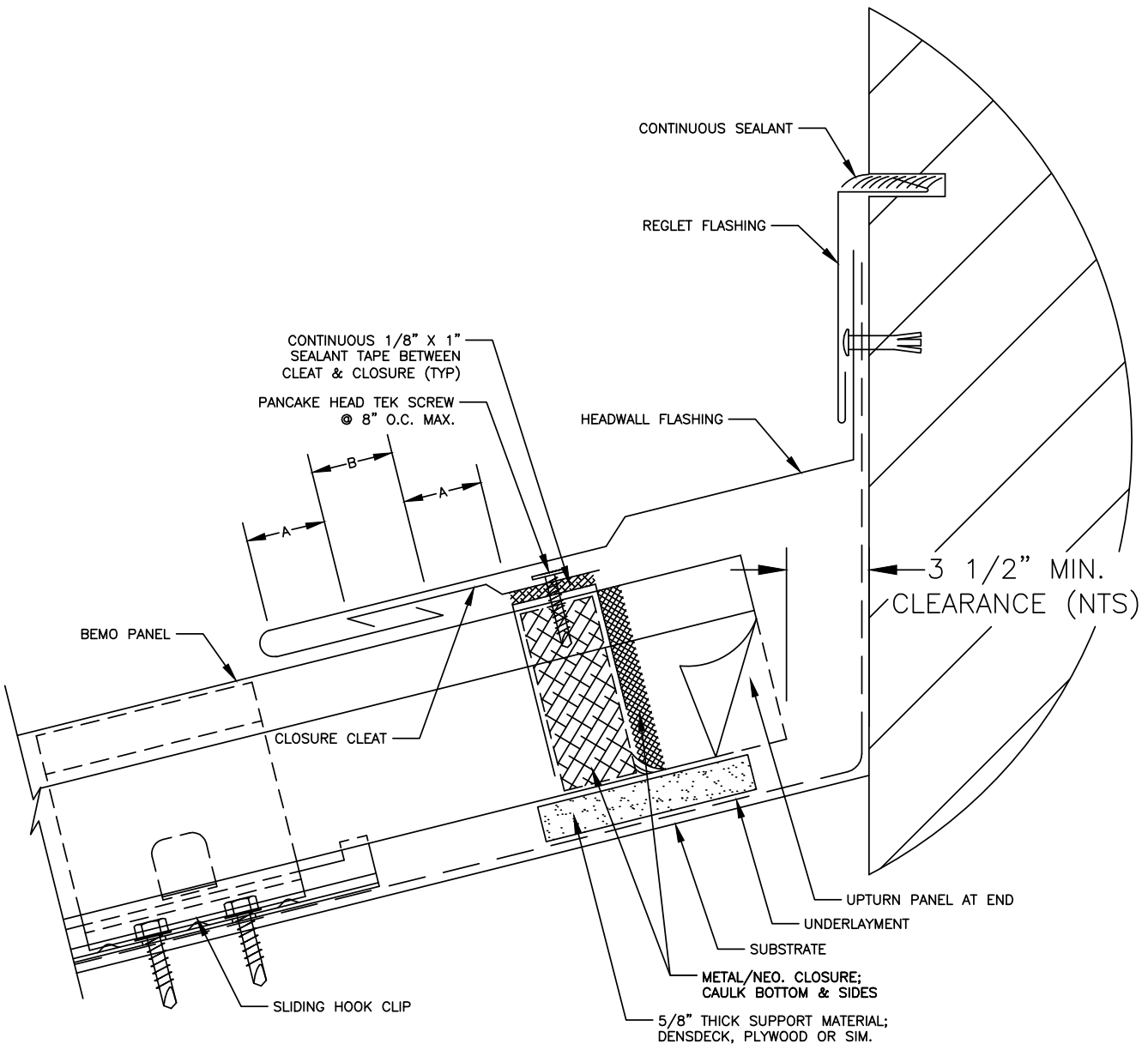
LOCATION OF 'FIXING' POINT TO BE SHOWN ON ROOF PLAN; CONSULT MANUFACTURER FOR LOCATION & REQUIRED NUMBER OF ROWS OF 'FIXING' CLIPS
**16 GA. GALV. CONTINUOUS HAT CHANNEL IS REQUIRED IN SNOW AREAS; IN NON–SNOW AREAS THE HAT MAY NOT BE REQUIRED (CONSULT MANUFACTURER).

BEMO
Inspiring Metal Envelopes

PANEL: BEMO		REVISION: 0
DETAIL: PANEL FIXING POINT (FIXED HOOK CLIP)		PAGE: 1 OF 1

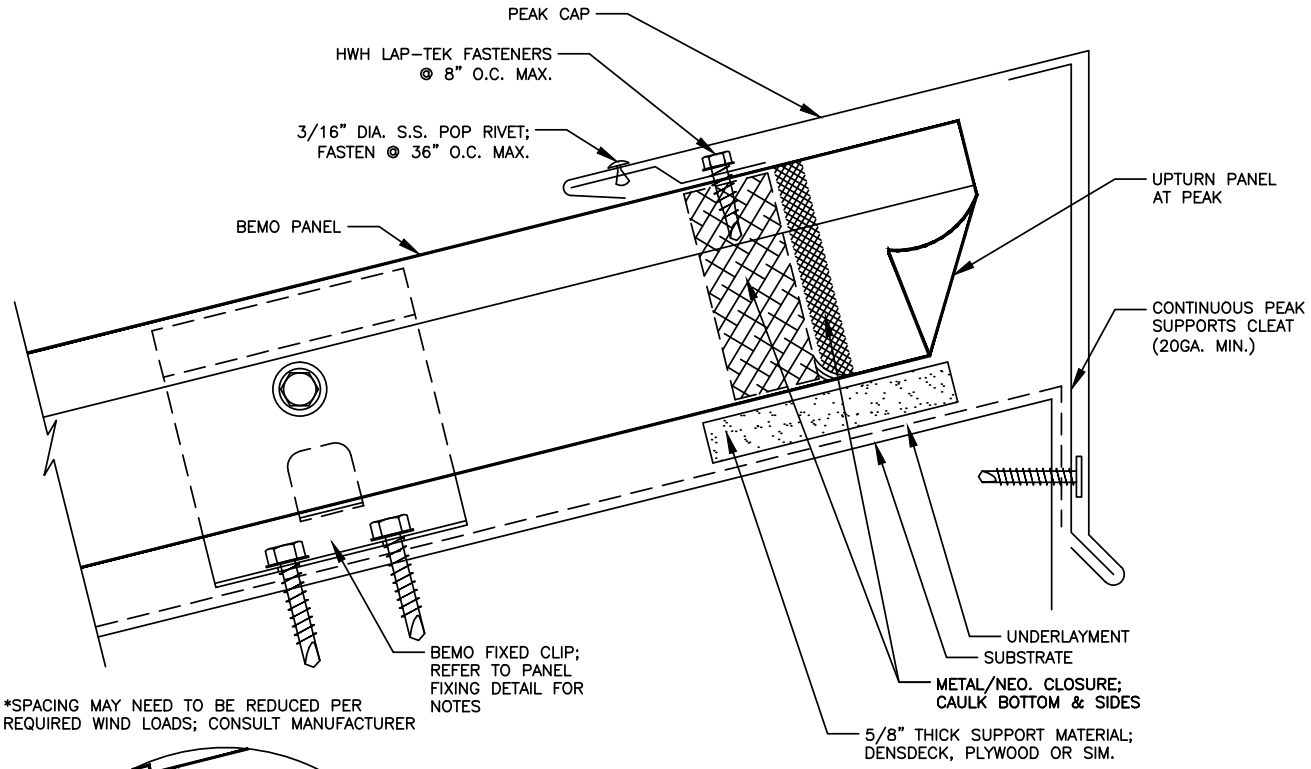


BEMO Inspiring Metal Envelopes	PANEL: BEMO	REVISION: 0
	DETAIL: HEADWALL (FIXED)	PAGE: 1 OF 1

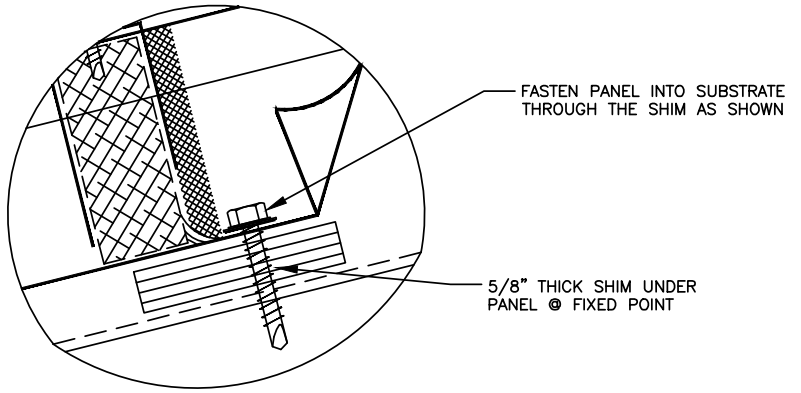


A = AS REQ'D FOR THERMAL MOVEMENT
B = A + 1/4"

BEMO Inspiring Metal Envelopes	PANEL: BEMO	REVISION: 0
	DETAIL: HEADWALL (FLOATING)	PAGE: 1 OF 1

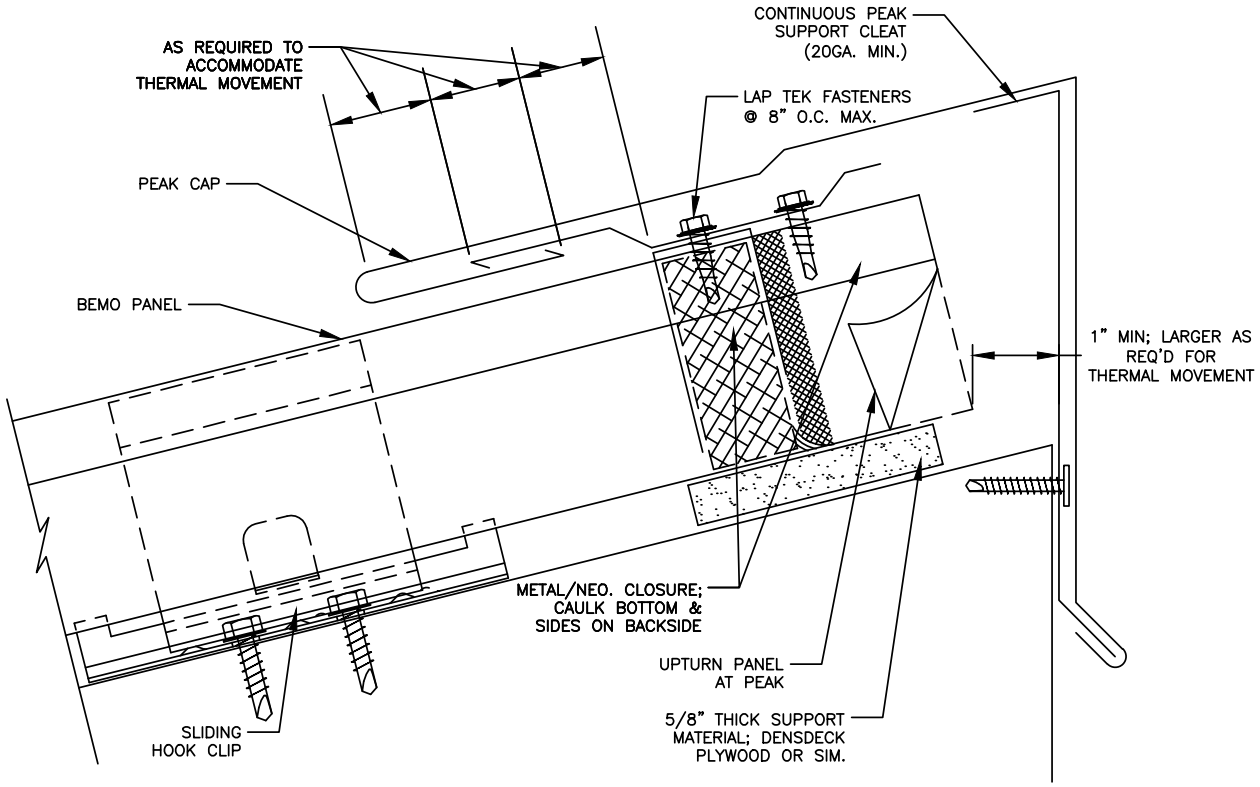


*SPACING MAY NEED TO BE REDUCED PER REQUIRED WIND LOADS; CONSULT MANUFACTURER

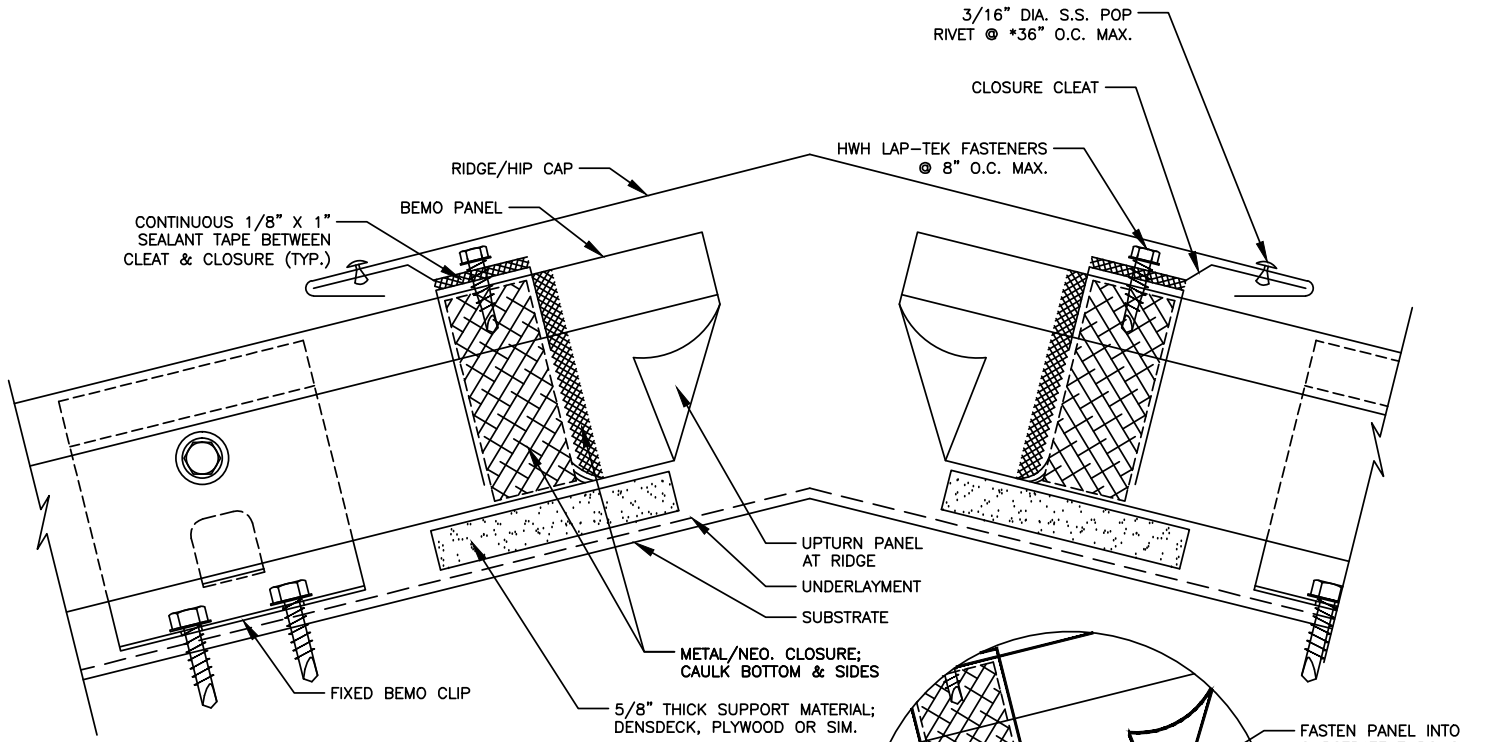


ALTERNATE FIXED POINT OF PANEL @ PEAK
FOR USE ON ALUM. PANELS 20'-0lg OR LESS & GALV. PANELS 30'-0"lg OR LESS; CONSULT MANUFACTURER

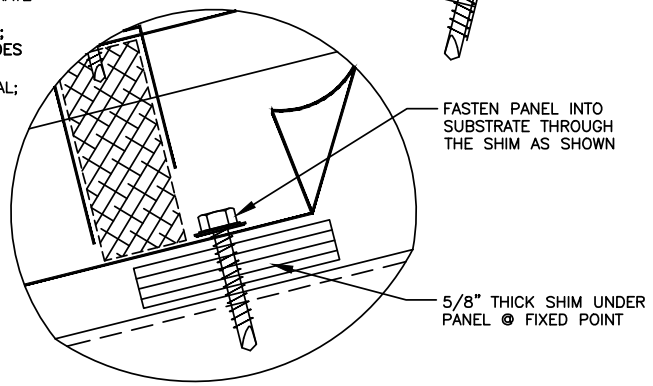
BEMO Inspiring Metal Envelopes	PANEL: BEMO	REVISION: 0
	DETAIL: PEAK (FIXED)	PAGE: 1 OF 1



BEMO Inspiring Metal Envelopes	PANEL: BEMO	REVISION: 0
	DETAIL: PEAK (FLOATING)	PAGE: 1 OF 1



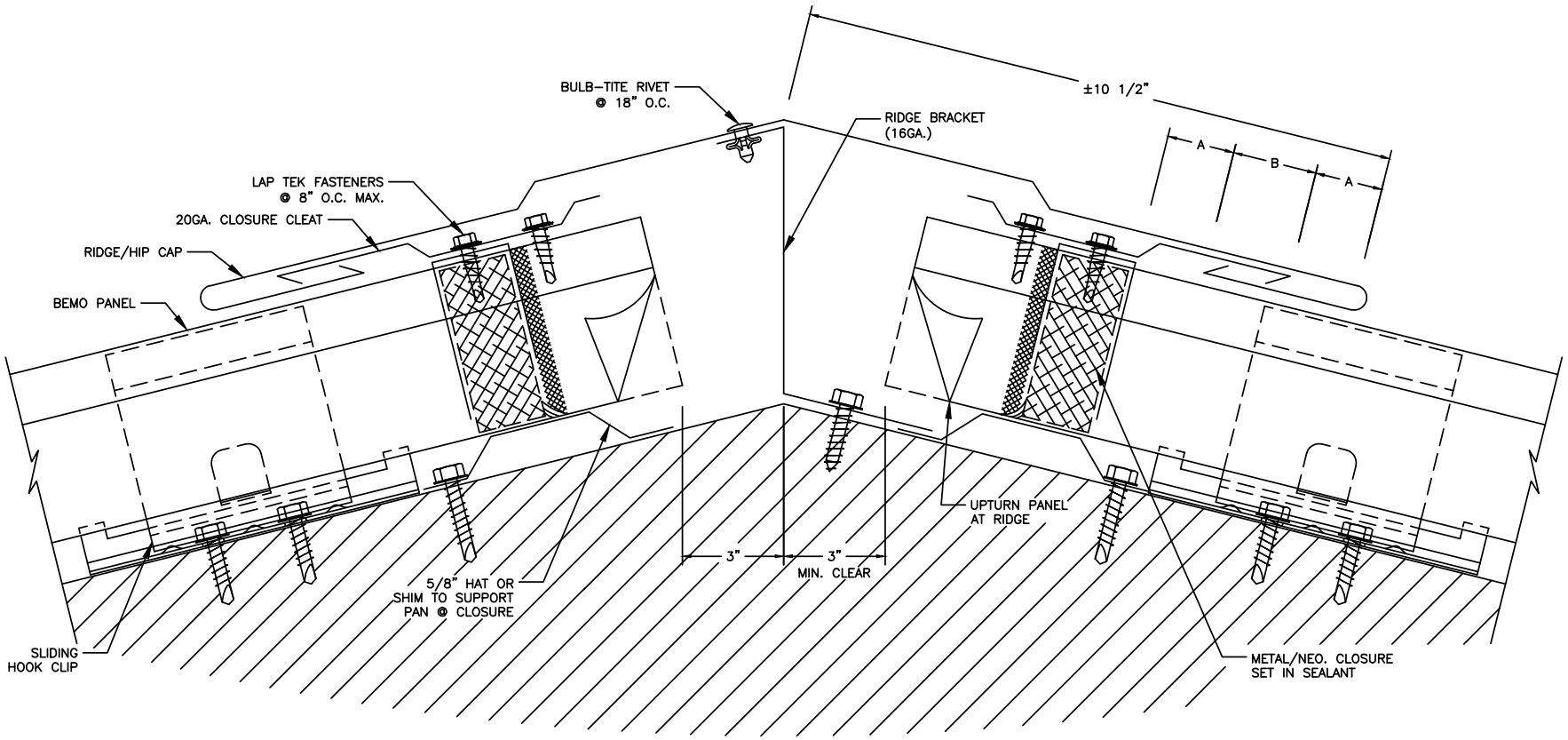
*SPACING MAY NEED TO BE REDUCED PER REQUIRED WIND LOADS; CONSULT MANUFACTURER



ALTERNATE FIXED POINT OF PANEL @ RIDGE/HIP

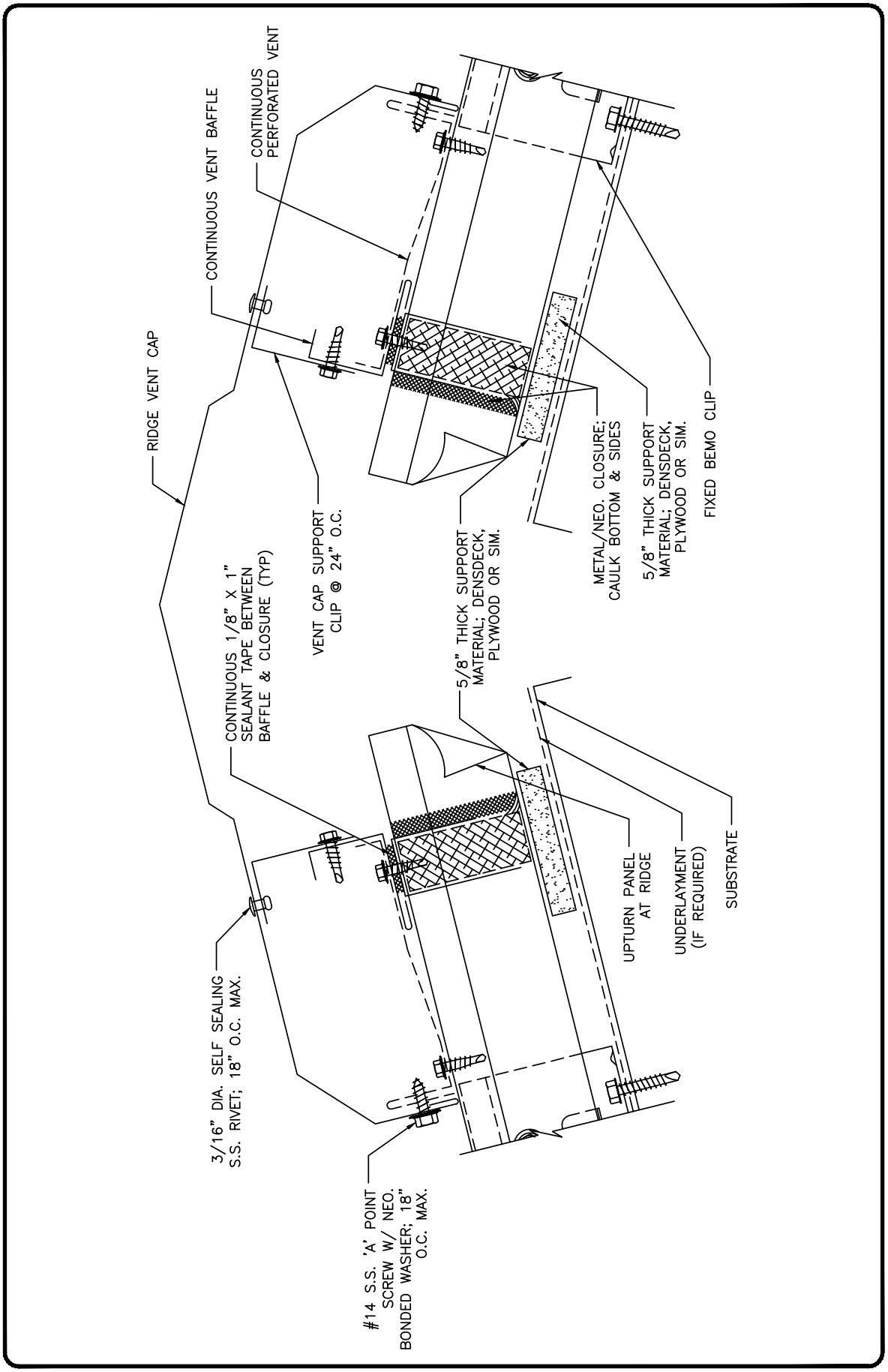
FOR USE ON ALUM. PANEL 20'-0lg OR LESS & GALV. PANELS 30'-0"lg OR LESS; CONSULT MANUFACTURER

BEMO Inspiring Metal Envelopes	PANEL: BEMO	REVISION: 0
	DETAIL: RIDGE/HIP (FIXED)	PAGE: 1 OF 1



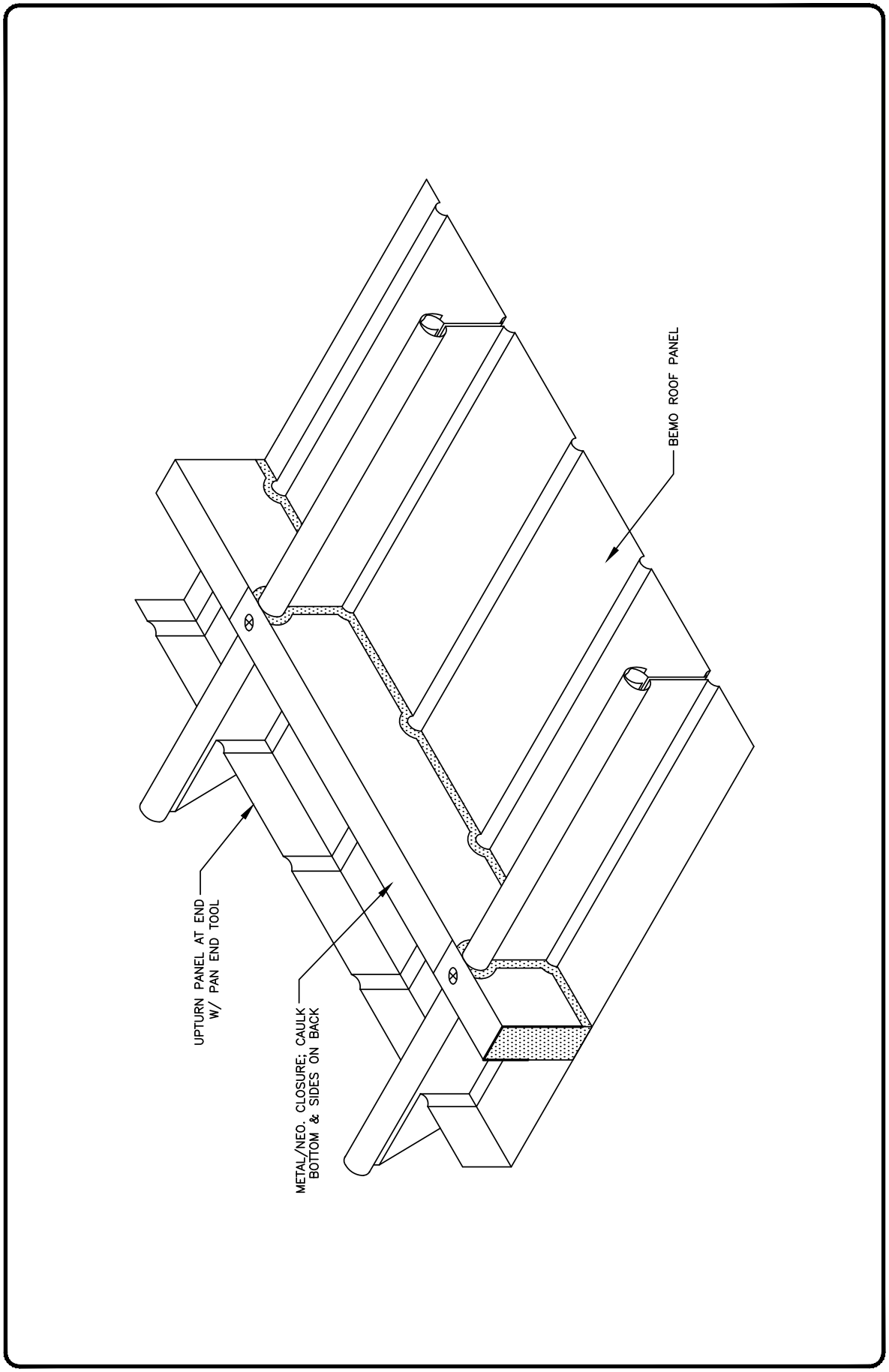
A = AS REQ'D FOR THERMAL MOVEMENT
B = A + 1/4"

BEMO Inspiring Metal Envelopes	PANEL: BEMO	REVISION: 0
	DETAIL: RIDGE/HIP (FLOATING)	PAGE: 1 OF 1



BEMO
Inspiring Metal Envelopes

PANEL: BEMO	REVISION: 0
DETAIL: VENTED RIDGE (FIXED PANEL)	PAGE: 1 OF 1



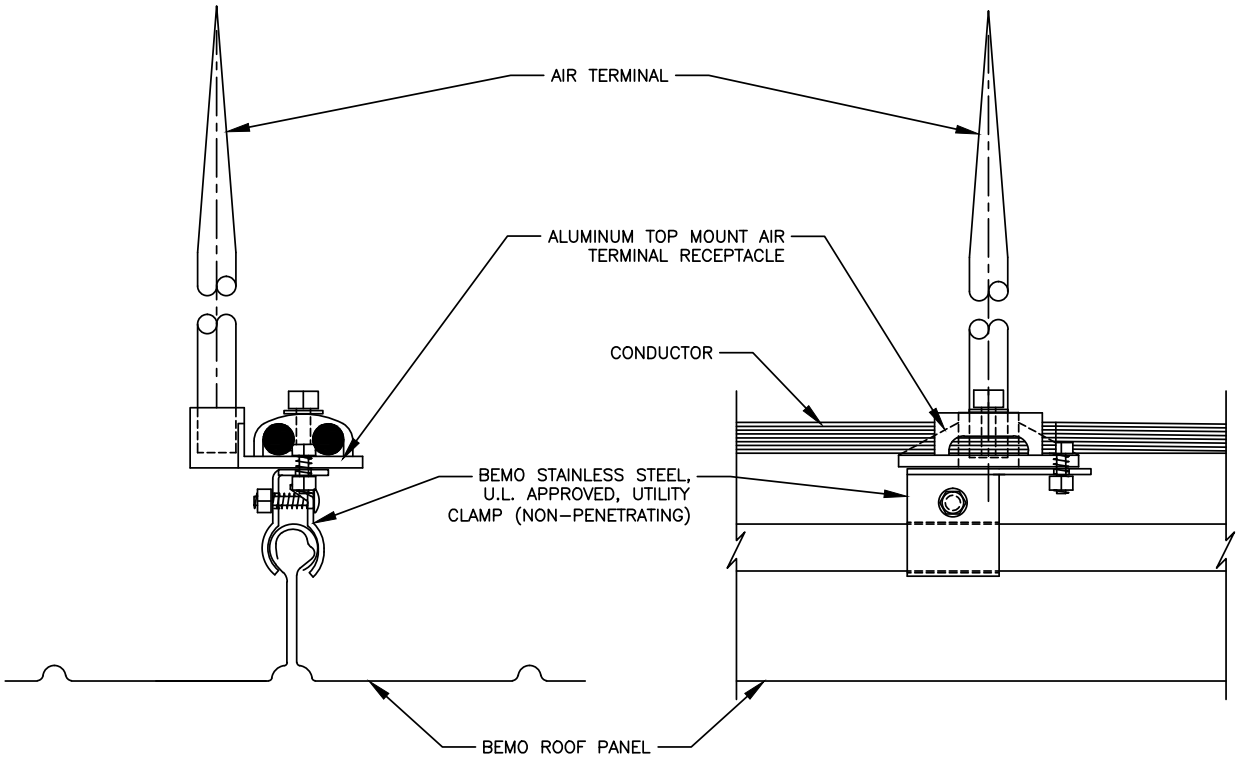
PANEL: BEMO

DETAIL: METAL/NEO. CLOSURE & PAN END

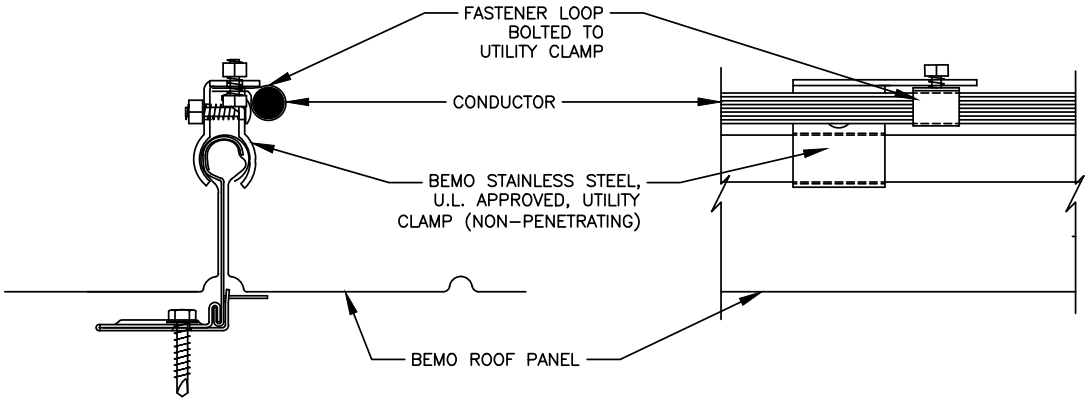
REVISION: 0

PAGE: 1 OF 1

BEMO Inspiring Metal Envelopes

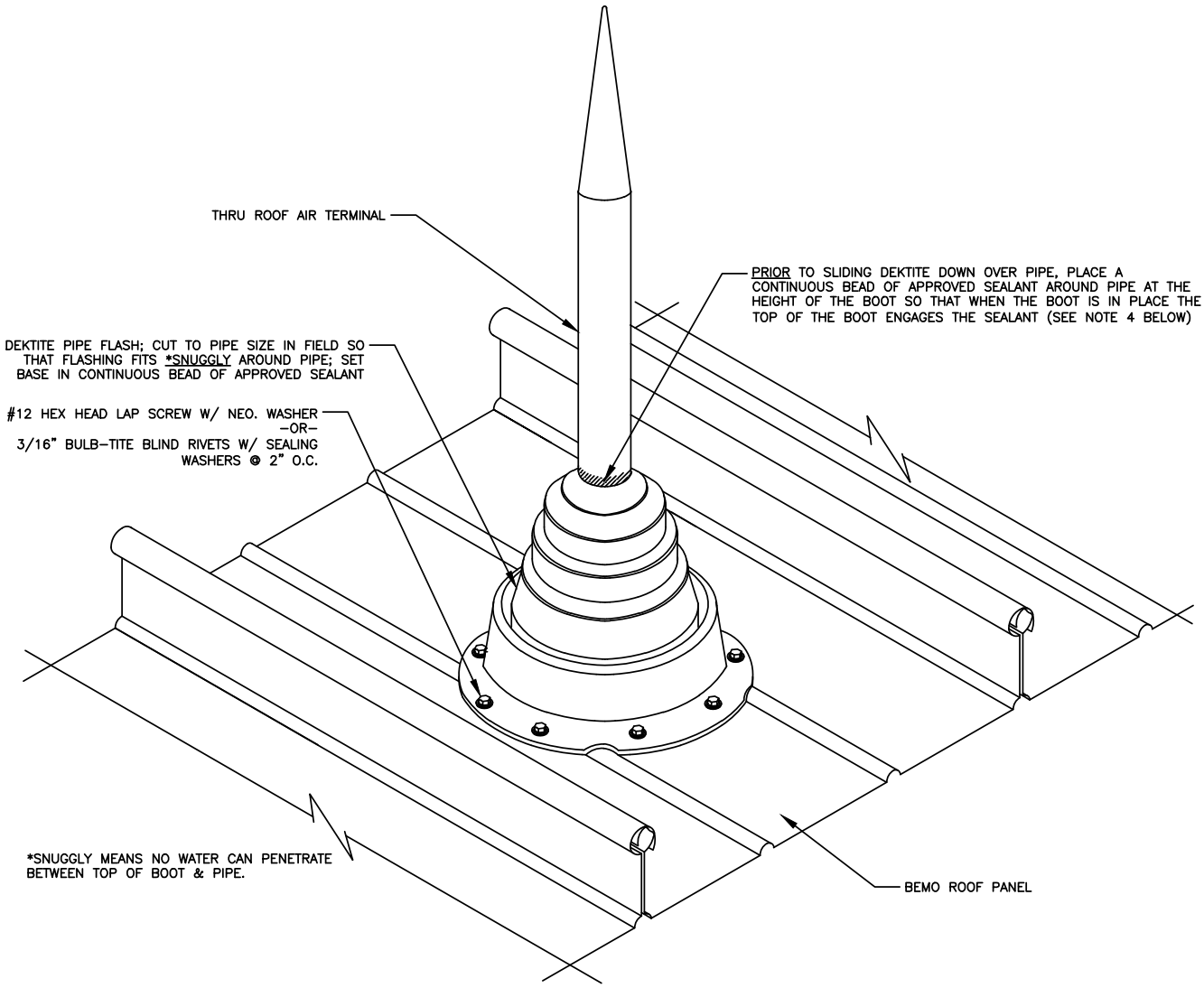


LIGHTNING PROTECTION ATTACHMENT TO BEMO ROOF PANELS.



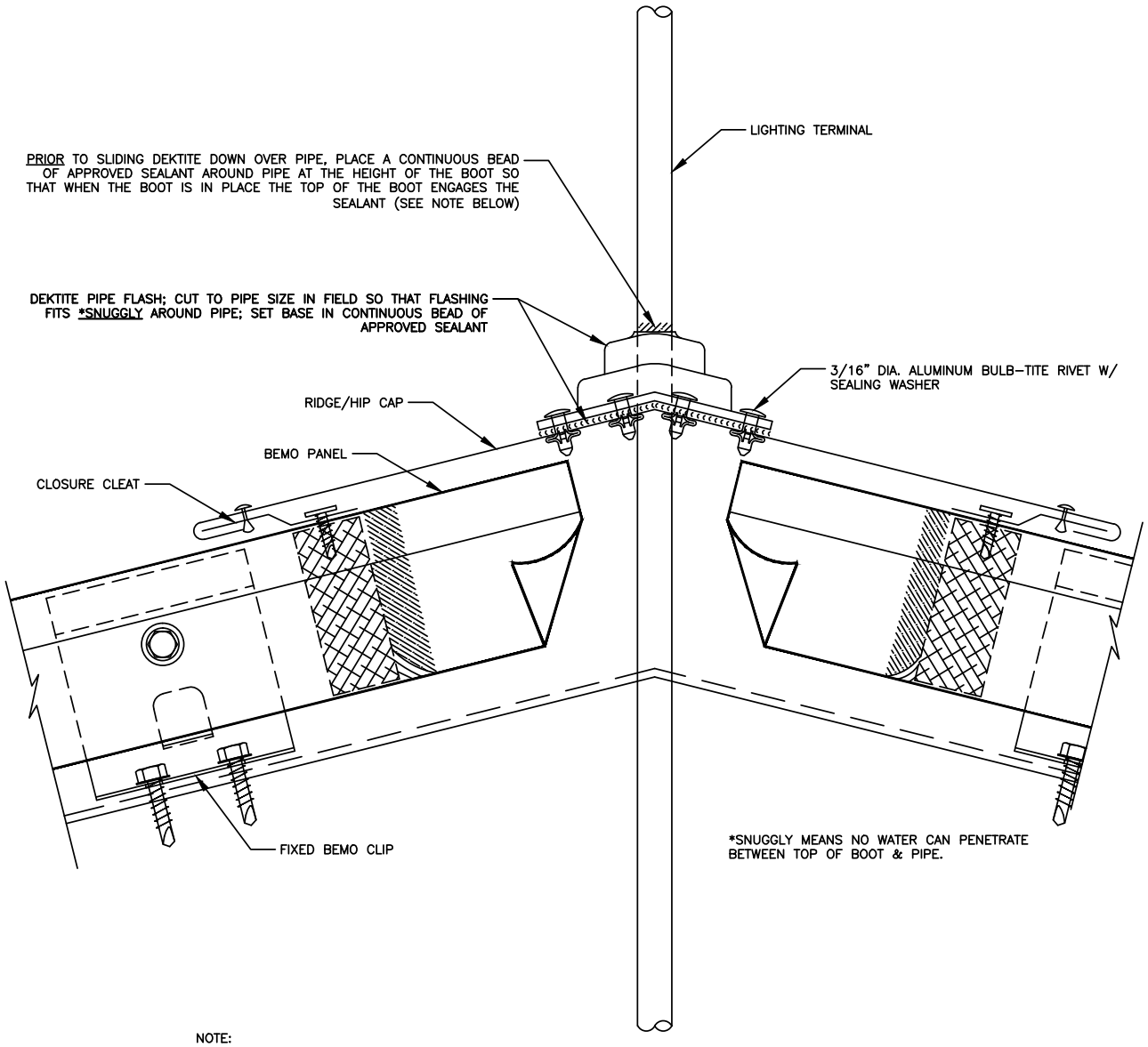
LIGHTNING PROTECTION CABLING CONNECTION TO BEMO ROOF PANELS.

BEMO Inspiring Metal Envelopes	PANEL: BEMO	REVISION: 0
	DETAIL: LIGHTNING PROTECTION DETAILS	PAGE: 1 OF 1



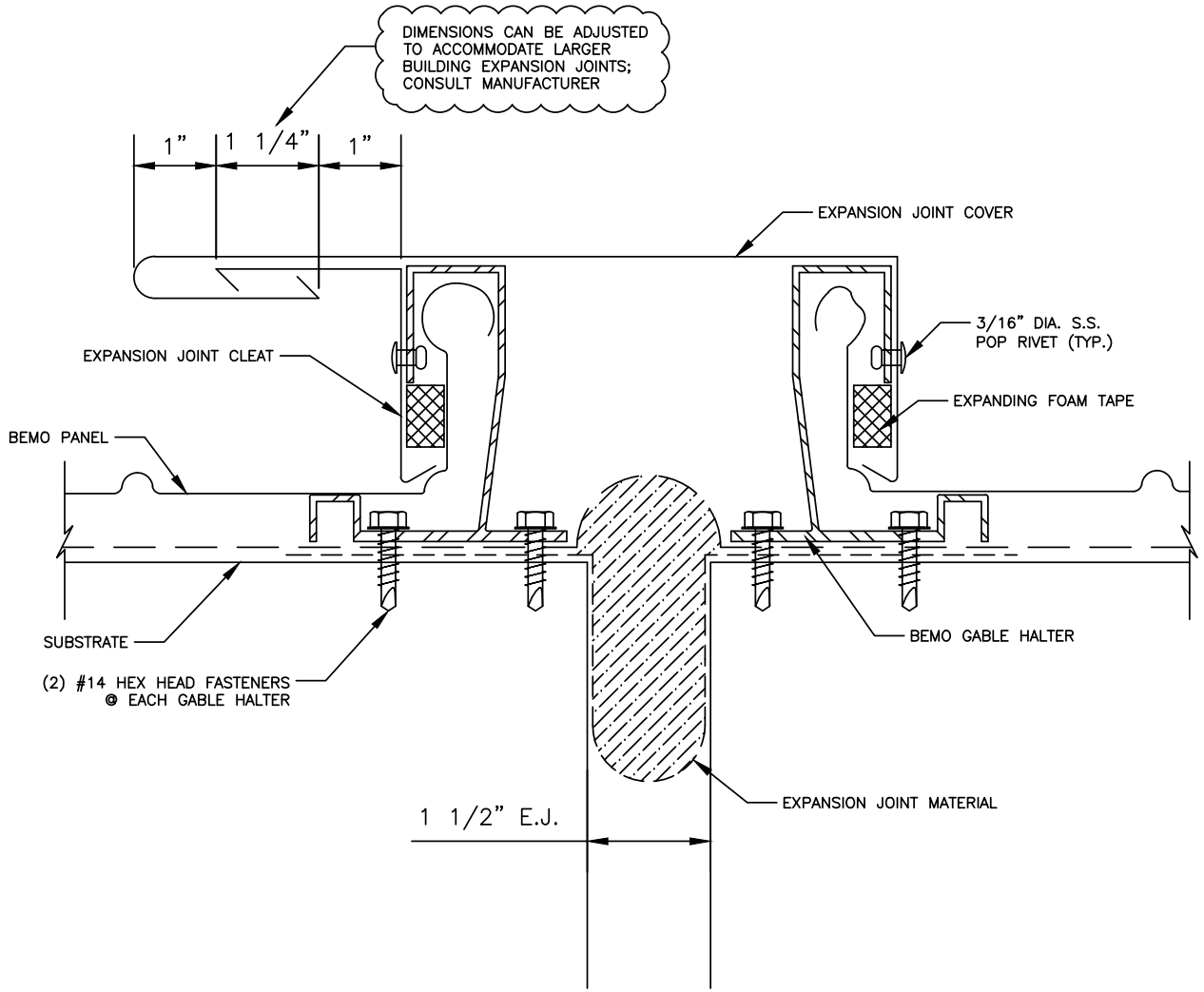
NOTES:
1) THE DEKTITE PIPE FLASHING MUST BE FASTENED TO THE PANEL ONLY AND NOT INTO THE ROOF SUBSTRATE TO ALLOW THE PANEL TO MOVE THERMALLY.
2) ADEQUATE CLEARANCE MUST BE LEFT BETWEEN THE PIPE AND THE PANEL TO ALLOW FOR THERMAL MOVEMENT WITHOUT INTERFERENCE.
3) THIS DETAIL IS NOT ALLOWED IN AREAS WITH SNOW AND ICE
4) DO NOT ATTEMPT TO SEAL DEKTITE BOOT TO THREADED AREA OF AIR TERMINAL. APPLY A SEALED, SMOOTH COLLAR ON AIR TERMINAL, IF NECESSARY, AT DEKTITE INTERFACE TO INSURE PROPER SEAL

BEMO Inspiring Metal Envelopes	PANEL: BEMO	REVISION: 0
	DETAIL: AIR TERMINAL PENETRATION	PAGE: 1 OF 1

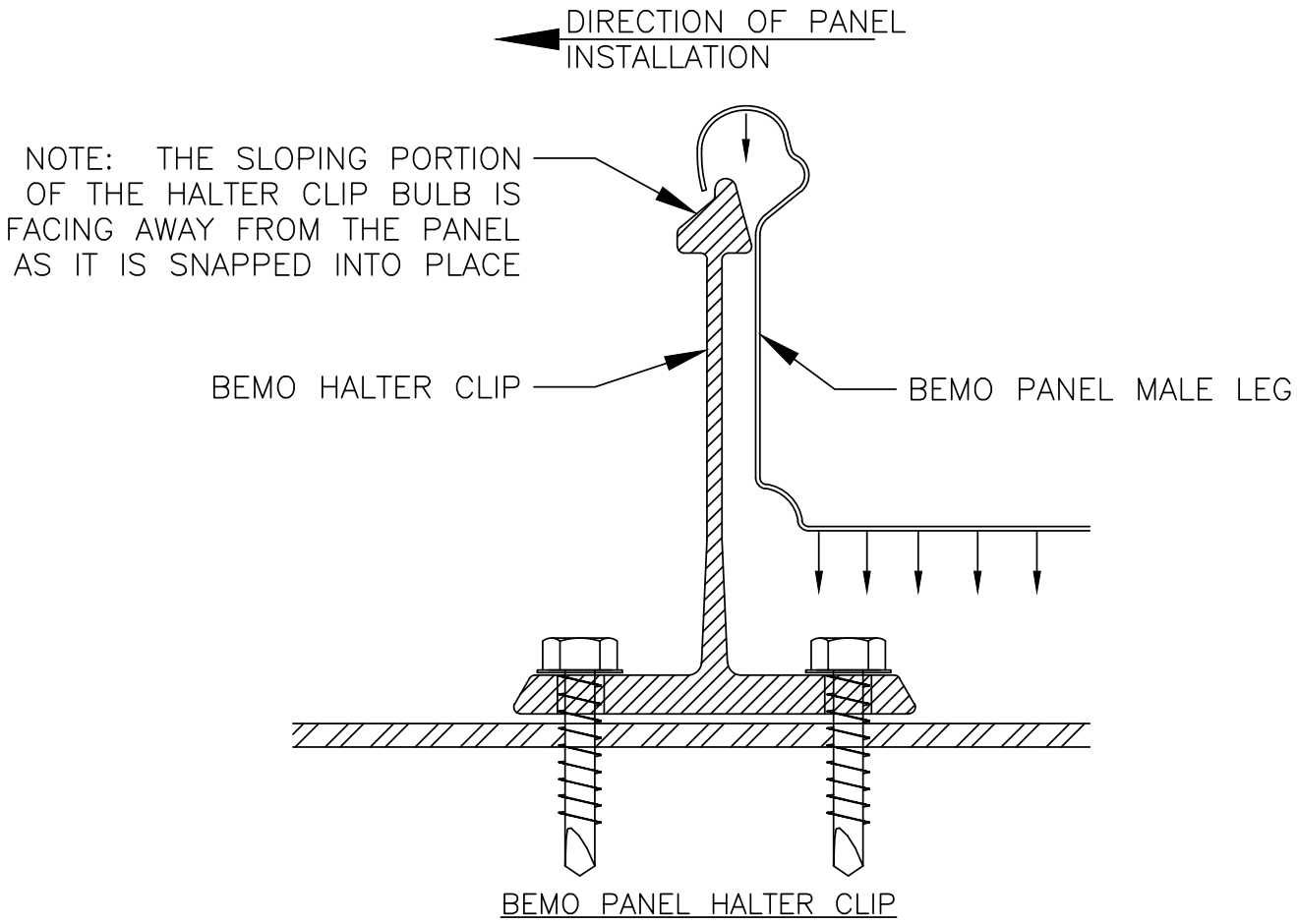


NOTE:
DO NOT ATTEMPT TO SEAL DEKTITE BOOT TO THREADED AREA OF AIR TERMINAL. APPLY A SEALED, SMOOTH COLLAR ON AIR TERMINAL, IF NECESSARY, AT DEKTITE INTERFACE TO INSURE PROPER SEAL

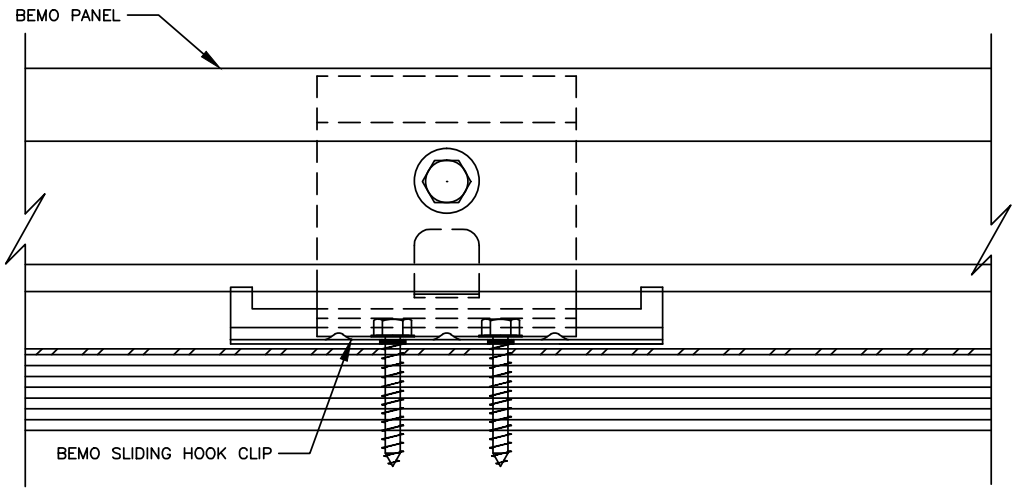
BEMO Inspiring Metal Envelopes	PANEL: BEMO	REVISION: 0
	DETAIL: LIGHTNING PROTECTION AT RIDGE	PAGE: 1 OF 1



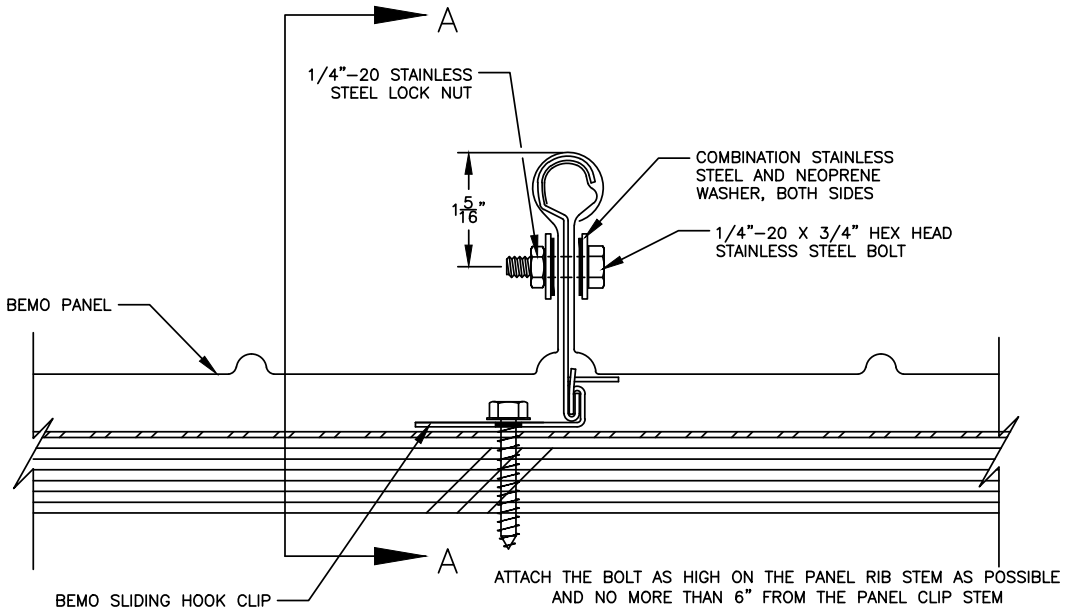
BEMO Inspiring Metal Envelopes	PANEL: BEMO	REVISION: 0
	DETAIL: EXPANSION JOINT	PAGE: 1 OF 1



Inspiring Metal Envelopes	PANEL: BEMO	REVISION: 0
	DETAIL: HALTER CLIP INSTALLATION DIRECTION	PAGE: 1 OF 1



SECTION A–A



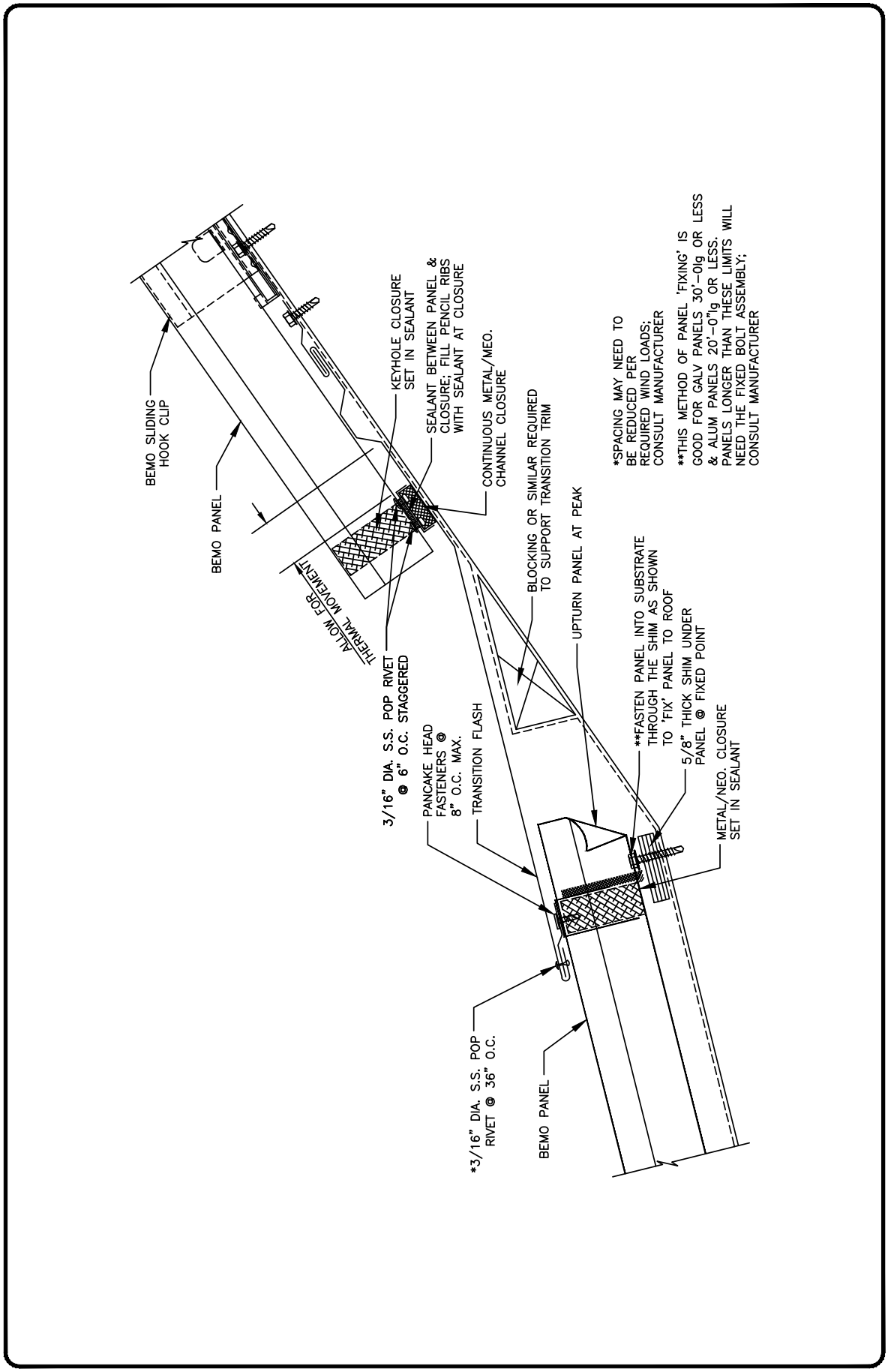
BEMO DEFLECTION LIMITING BOLT

FOR HIGH WIND UPLIFT AREAS

NOTE: THIS DETAIL IS NOT A PANEL FIXING POINT FOR THERMAL CONSIDERATIONS, A PANEL FIXING POINT MUST ALSO BE USED, SEE BEMO USA PANEL FIXING POINT DETAILS FOR PANEL FIXING APPLICATIONS

THIS DETAIL IS ONLY FOR SPECIAL UPLIFT CONDITIONS, CONTACT BEMO USE FOR SPECIFIC APPLICATIONS

BEMO Inspiring Metal Envelopes	PANEL: BEMO	REVISION: 0
	DETAIL: HIGH UPLIFT DETAIL	PAGE: 1 OF 1



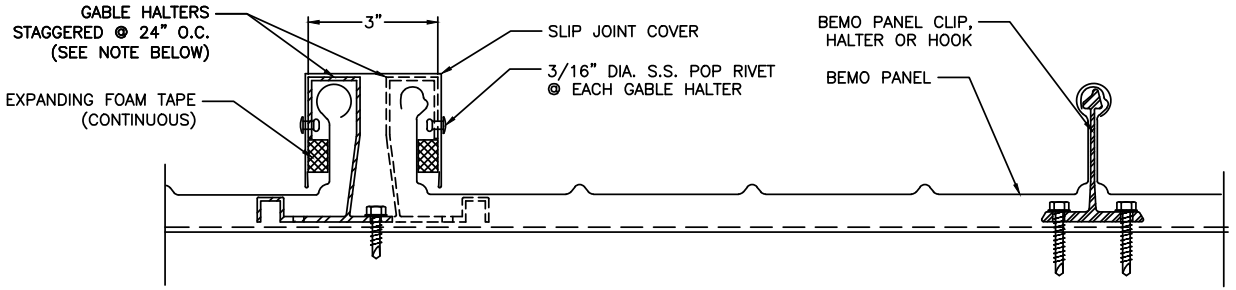
PANEL: BEMO

DETAIL: PANEL TRANSITION

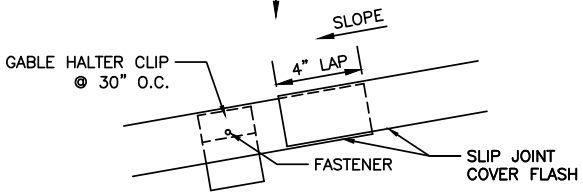
REVISION: 0

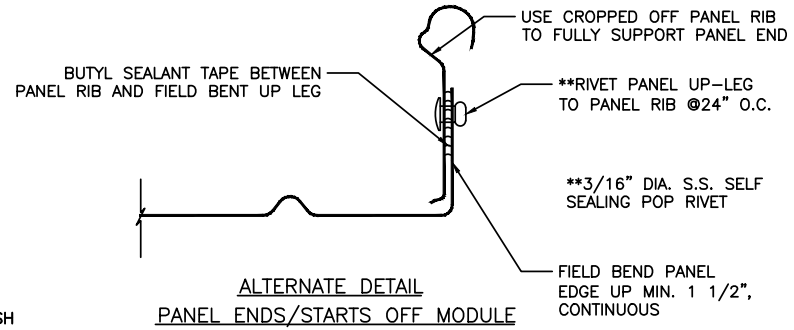
PAGE: 1 OF 1

BEMO Inspiring Metal Envelopes



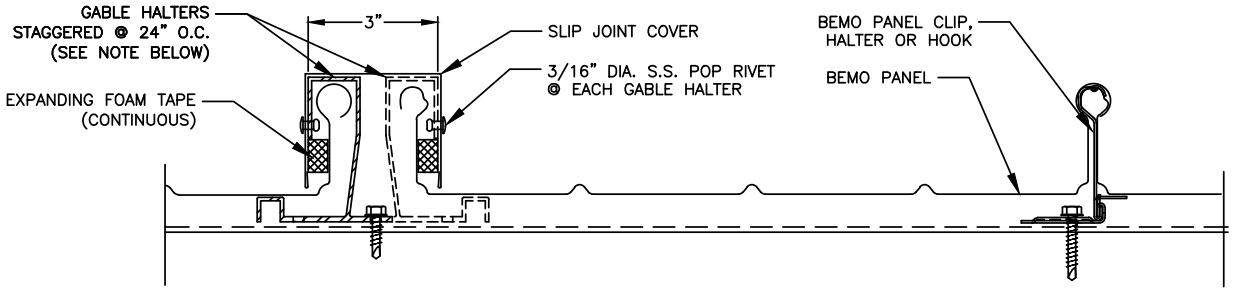
NOTE:
WHEN INSTALLING THE GABLE HALTER CLIPS LAYOUT SPACING SO THAT A CLIP FALLS ON THE DOWN SLOPE SIDE OF ALL SLIP JOINT COVER FLASHING LAP JOINTS. DO NOT PLACE ANY FASTENERS IN THE FLASHING LAP ITSELF.



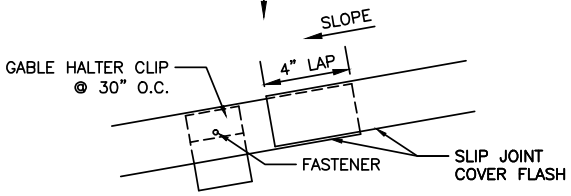


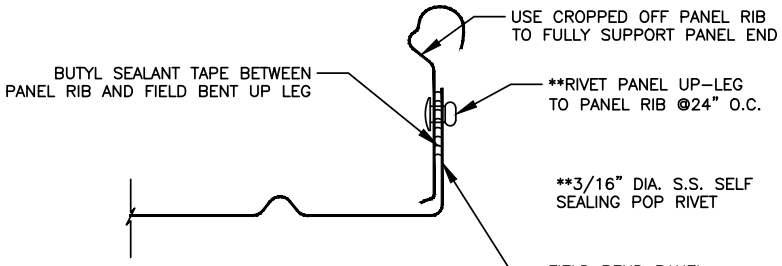
ALTERNATE DETAIL
PANEL ENDS/STARTS OFF MODULE

BEMO Inspiring Metal Envelopes	PANEL: BEMO	REVISION: 0
	DETAIL: SLIP JOINT (HALTER CLIP)	PAGE: 1 OF 1



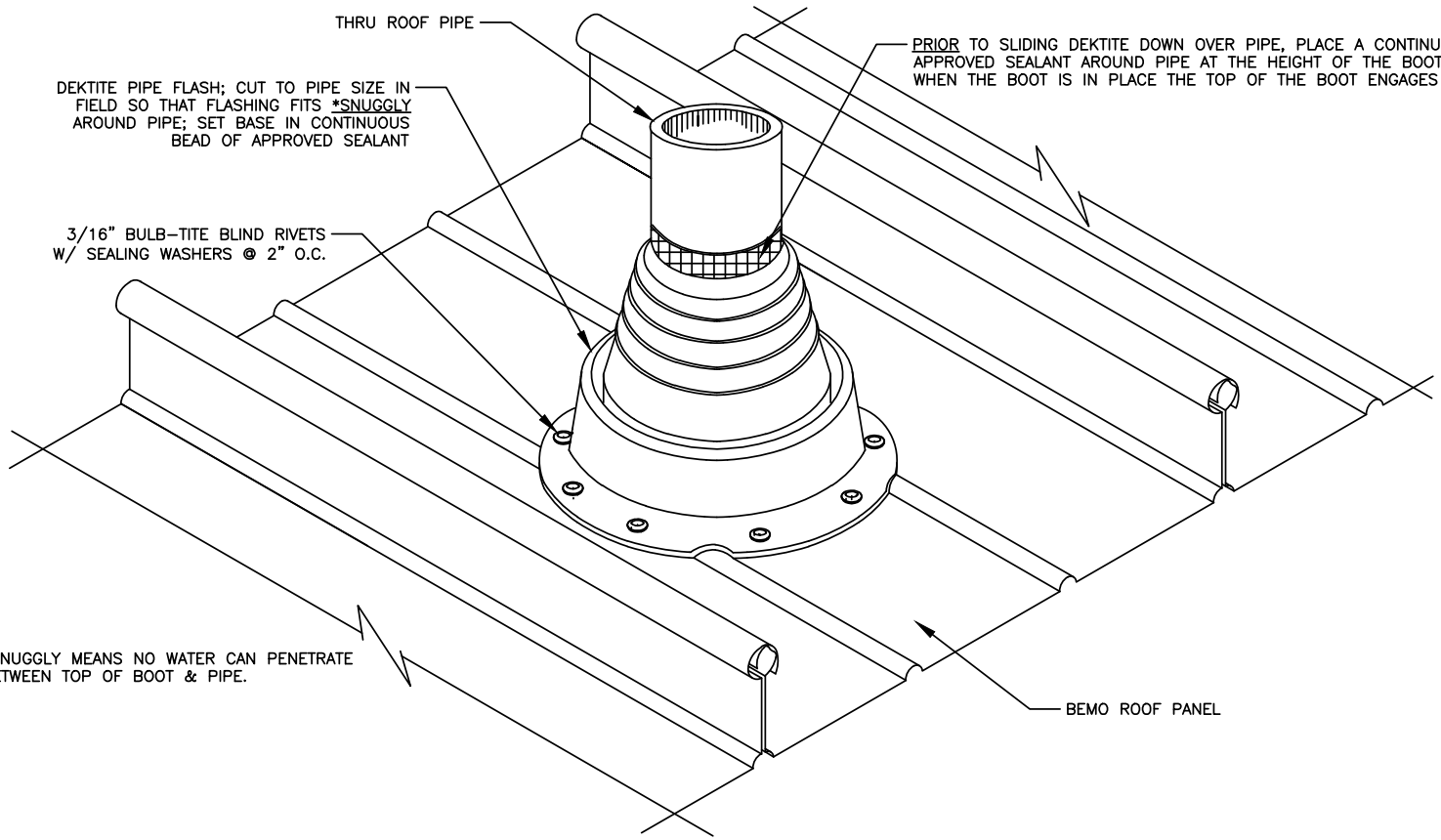
NOTE:
WHEN INSTALLING THE GABLE HALTER CLIPS LAYOUT SPACING SO THAT A CLIP FALLS ON THE DOWN SLOPE SIDE OF ALL SLIP JOINT COVER FLASHING LAP JOINTS. DO NOT PLACE ANY FASTENERS IN THE FLASHING LAP ITSELF.





ALTERNATE DETAIL
PANEL ENDS/STARTS OFF MODULE

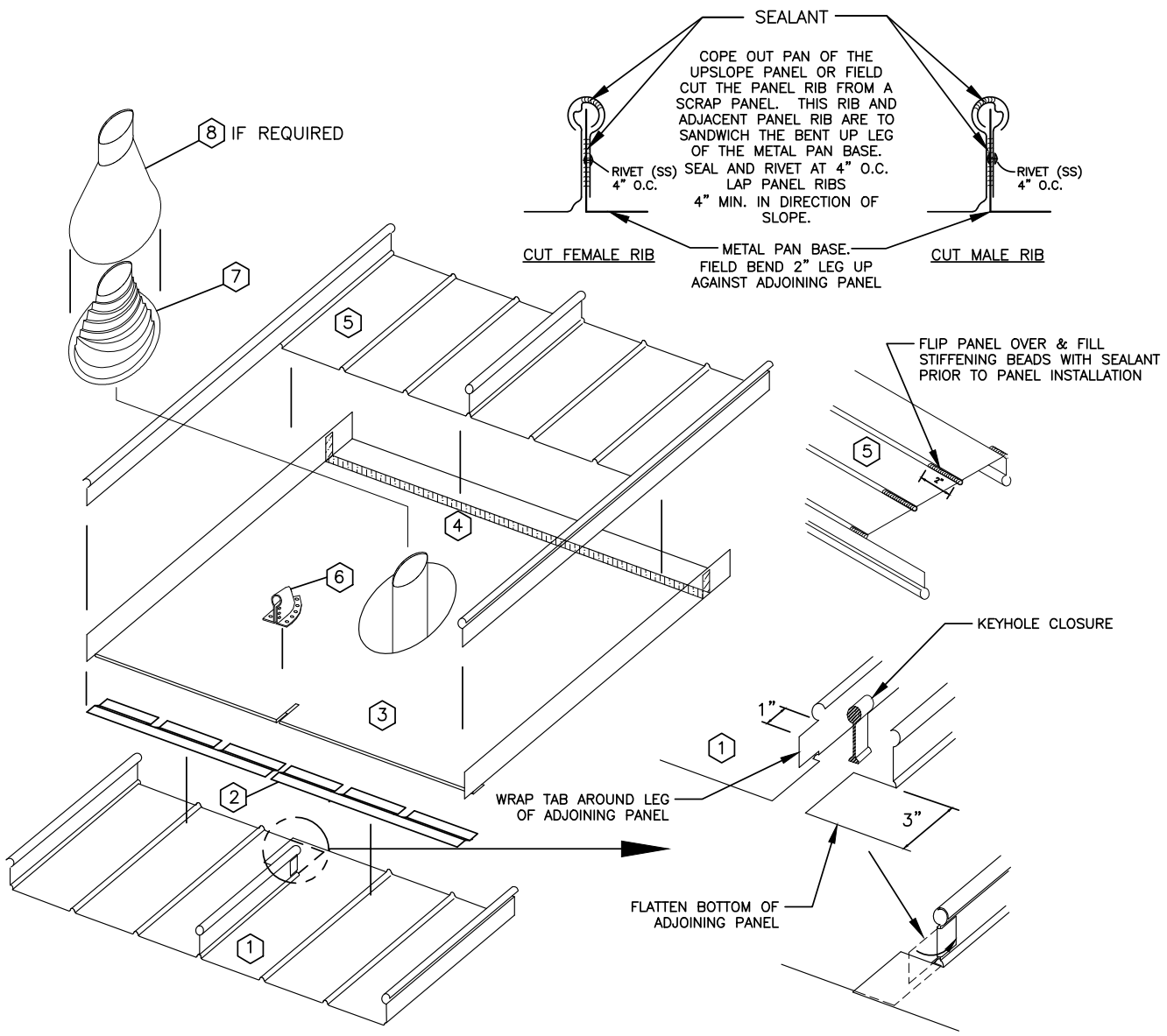
BEMO Inspiring Metal Envelopes	PANEL: BEMO	REVISION: 0
	DETAIL: SLIP JOINT (HOOK CLIP)	PAGE: 1 OF 1



NOTES:
1) THE DEKTITE PIPE FLASHING MUST BE FASTENED TO THE PANEL ONLY AND NOT INTO THE ROOF SUBSTRATE TO ALLOW THE PANEL TO MOVE THERMALLY.
2) ADEQUATE CLEARANCE MUST BE LEFT BETWEEN THE PIPE AND THE PANEL TO ALLOW FOR THERMAL MOVEMENT WITHOUT INTERFERENCE.
3) THE PIPE MUST BE CENTERED IN THE PANEL TO ALLOW ADEQUATE CLEARANCE FOR INSTALLATION OF THE DEKTITE WITHOUT INTERFERENCE WITH THE PANEL RIBS.
4) FOR REGIONS WITH SNOW & ICE, A ROW OF SNOW GUARDS MUST BE INSTALLED NO GREATER THAN 3' IN FRONT OF THE PIPE PENETRATION FOR PROTECTION.
5) PIPES LARGER THAN 6" IN DIAMETER MAY REQUIRE A CURB DEPENDING ON PANEL WIDTH & PIPE LOCATION. THIS IS TO BE VERIFIED IN FIELD

BEMO
Inspiring Metal Envelopes

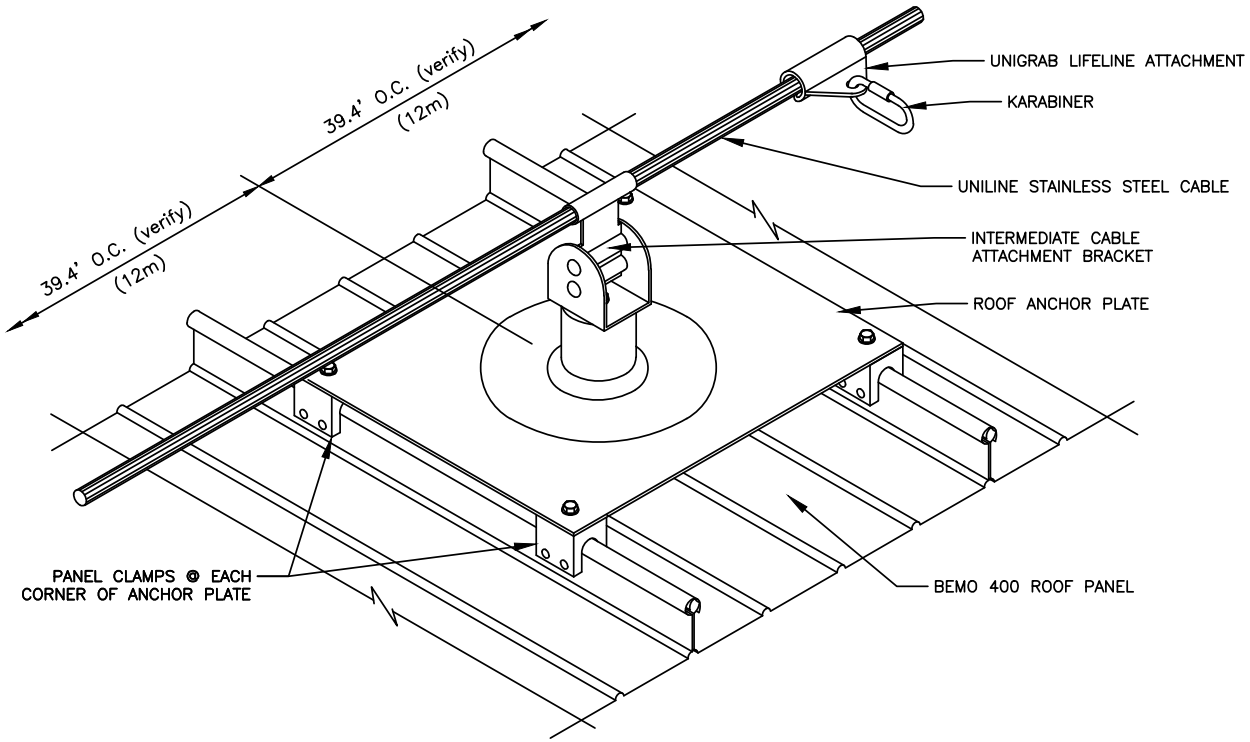
PANEL: BEMO		REVISION: 0
DETAIL: PIPE PENETRATION		PAGE: 1 OF 1



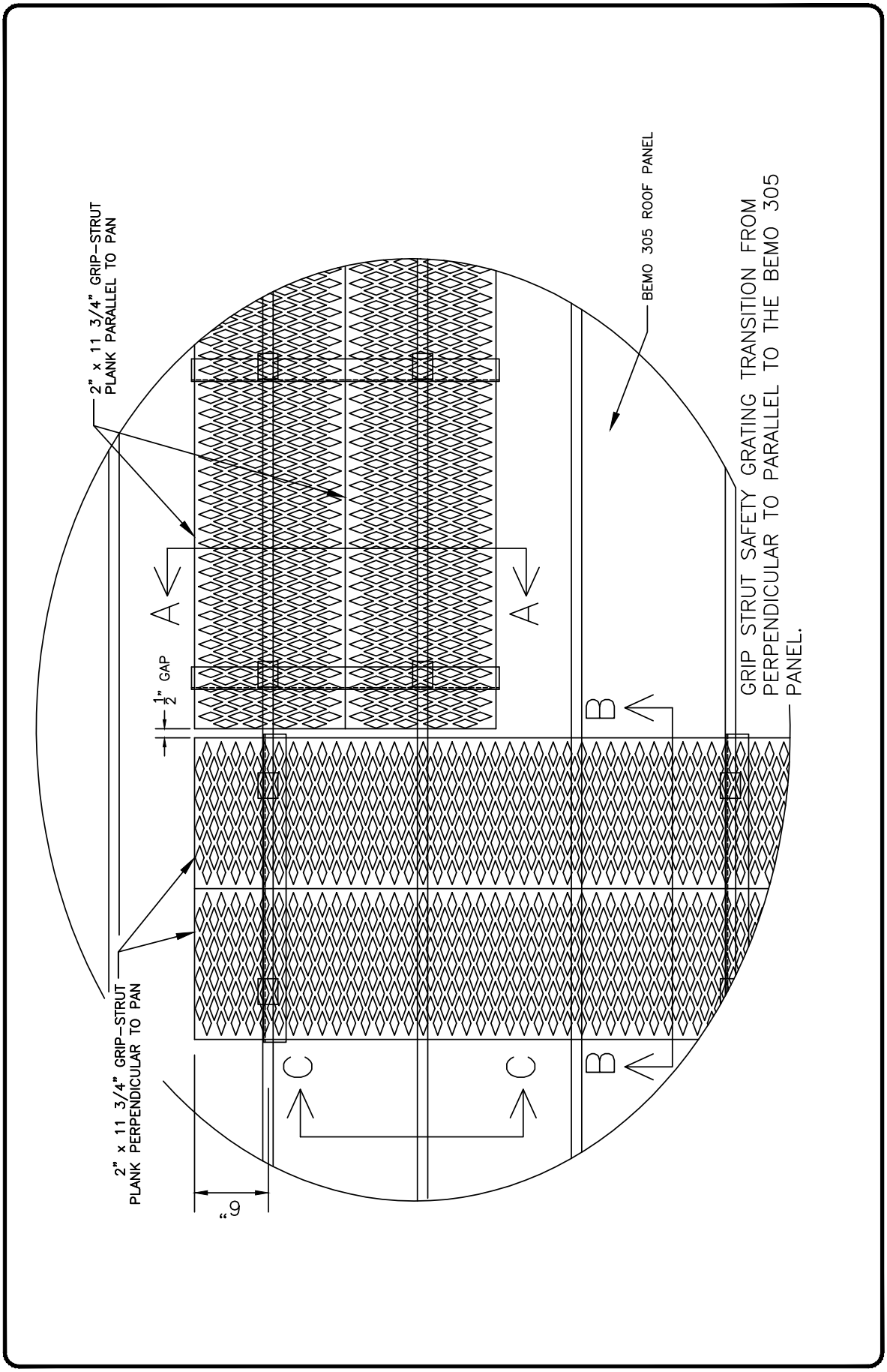
ORDER OF INSTALLATION

① DOWNSLOPE PANELS: a) FIELD CUT & BEND TOP 3" OF RIB AS SHOWN ABOVE. b) INSERT KEYHOLE CLOSURE.
② CLEAT ON DOWNSLOPE PANELS: a) NOTCH OUT FOR PENCIL RIBS. b) RIVET 2" O.C. WITH 1" TAPE SEALANT BETWEEN.
③ METAL BASE: a) CUT HOLE IN BASE AND SET OVER PIPE. b) BEND 2" LEGS TO SUIT ADJACENT PANELS. c) CUT 3" SLIT TO LAP DOWNSLOPE PANELS 6". d) FIELD BEND A 3/4" HEM AND HOOK TO CLEAT.
④ 1" TAPE SEALANT BETWEEN PANEL & FLASH; FASTEN PANEL TO FLASH THRU SEALANT TAPE w/ SELF SEALING RIVET 3" O.C.
⑤ UPSLOPE PANELS: a) COPE OUT PAN LEAVING THE RIB ONLY. b) FILL BOTTOM 2" OF PENCIL RIBS WITH SEALANT. c) RIVET RIB TO BENT LEG OF BASE AT 4" O.C. WITH SEALANT BETWEEN. d) INSERT KEYHOLE CLOSURE. e) RIVET TO CLEAT 3" O.C.1" TAPE SEALANT BETWEEN.
⑥ STANDING SEAM END CAP: (DEK-CAP BY ITW BUILDEX OR APPROVED EQUAL) RIVET TO PAN & BASE 2" O.C. WITH SEALANT BETWEEN.
⑦ RUBBER BOOT: (DEKTITE BY ITW BUILDEX OR APPROVED EQUAL) RIVET TO PAN & BASE 2" O.C. WITH SEALANT
⑧ STORM COLLAR (IF REQUIRED): (SAME MATERIAL AS ROOF) a) FIELD CUT AS REQUIRED FOR SLOPE. b) ATTACH WITH STAINLESS STEEL DRAW BAND.

BEMO Inspiring Metal Envelopes	PANEL: BEMO	REVISION: 0
	DETAIL: PIPE PENETRATION AT BEMO SEAM	PAGE: 1 OF 1



BEMO Inspiring Metal Envelopes	PANEL: BEMO	REVISION: 0
	DETAIL: FALL RESTRAINT SYSTEM	PAGE: 1 OF 1



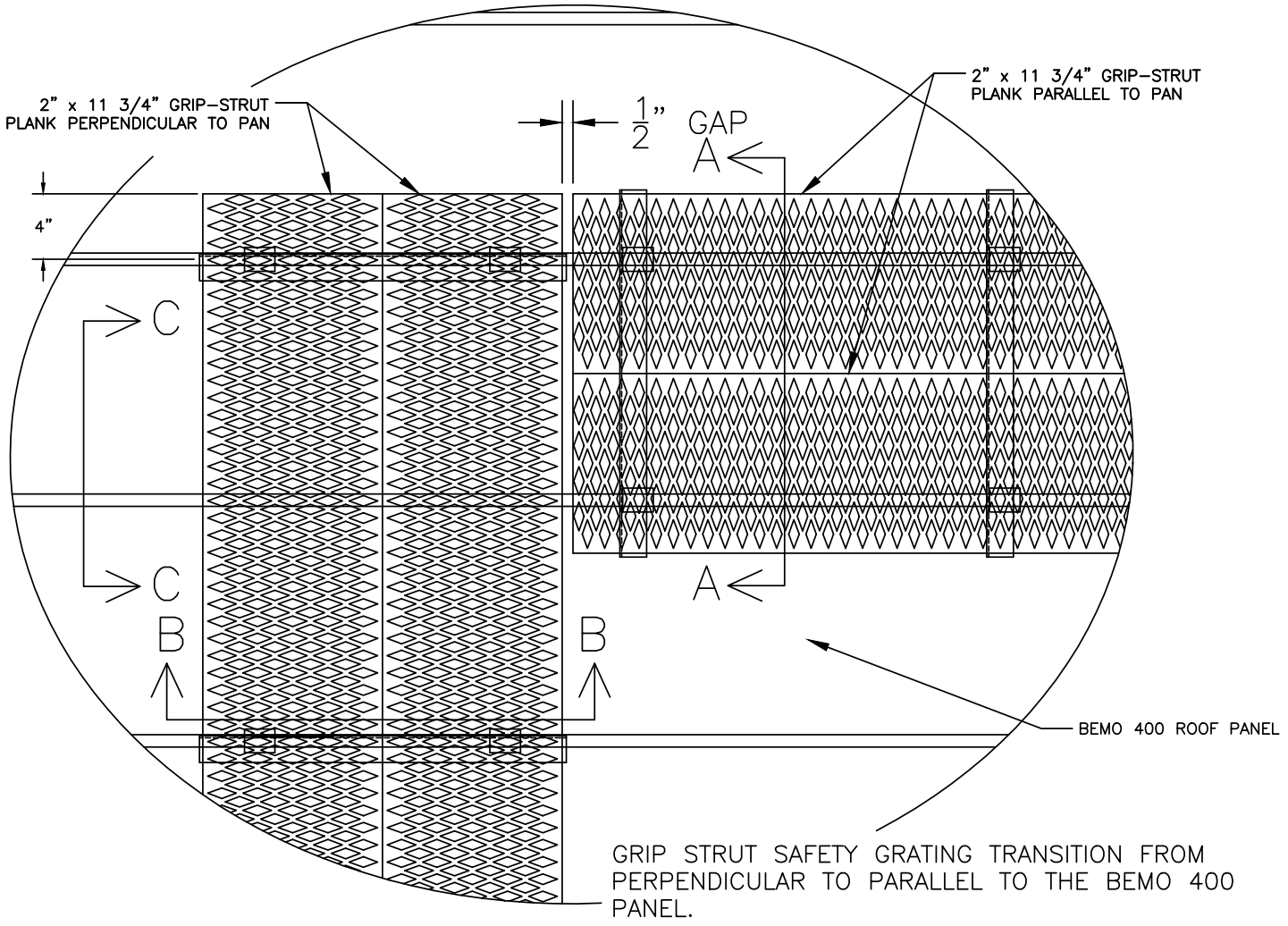
PANEL: BEMO 305

REVISION: 0

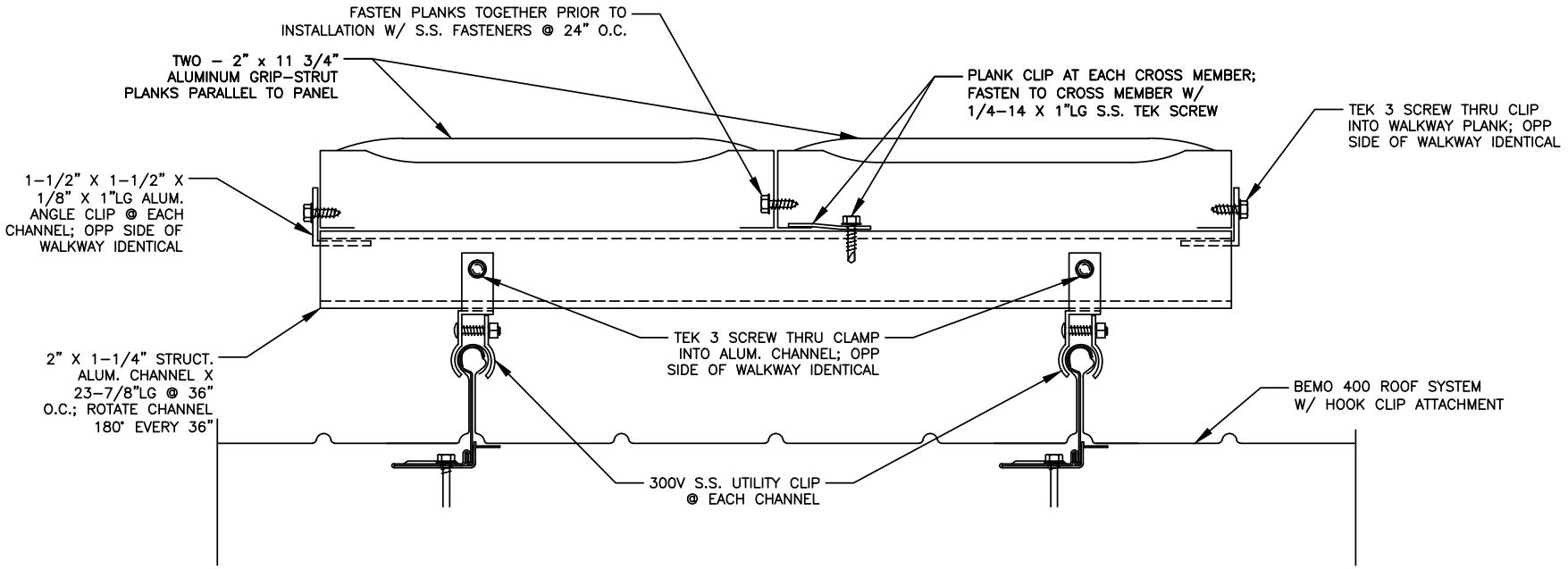
DETAIL: WALKWAY GRATING TRANSITION (305 PANEL)

PAGE: 1 OF 1

BEMO Inspiring Metal Envelopes

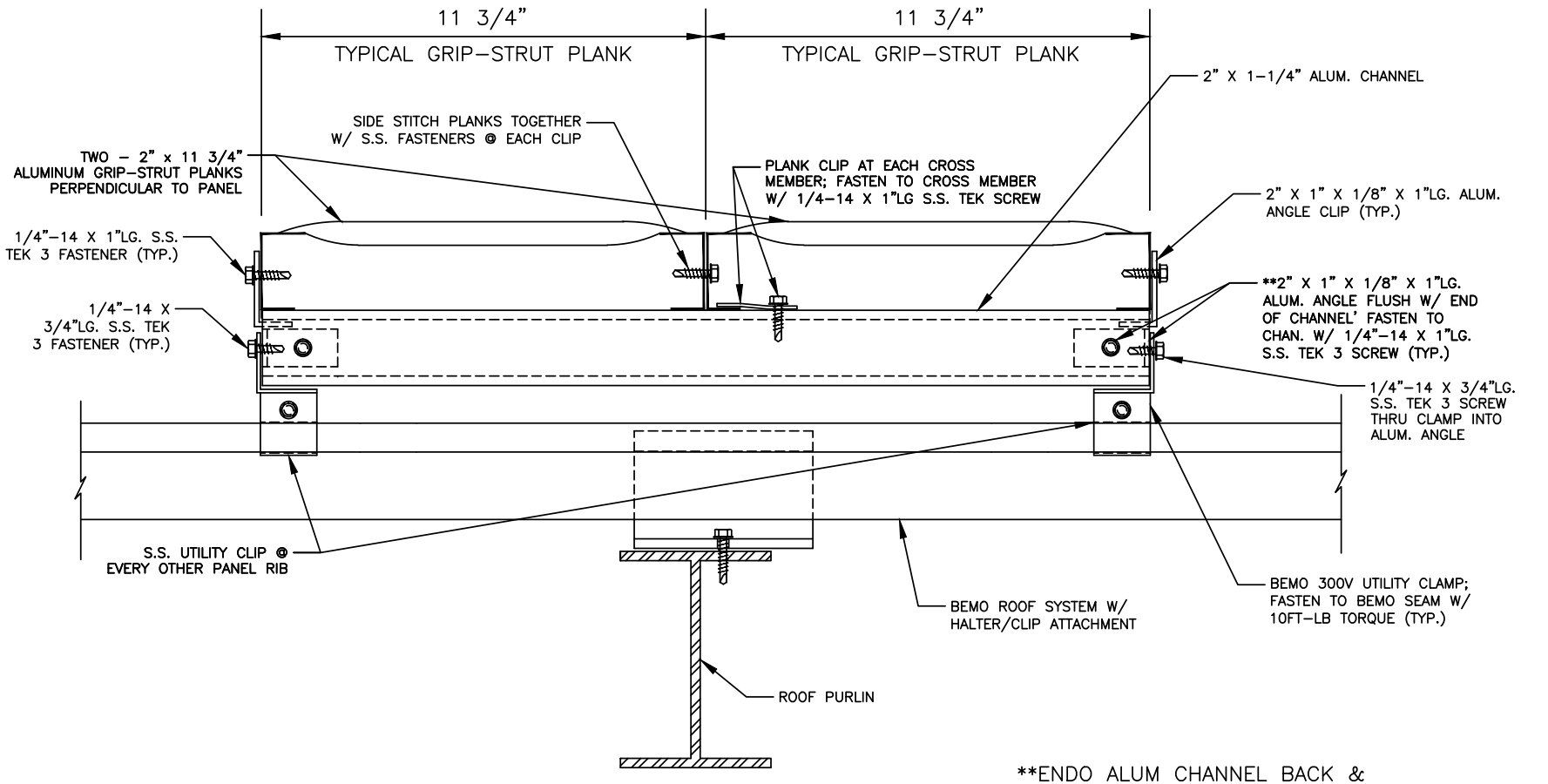


BEMO Inspiring Metal Envelopes	PANEL: BEMO 400	REVISION: 0
	DETAIL: WALKWAY GRATING TRANSITION (400 PANEL)	PAGE: 1 OF 1



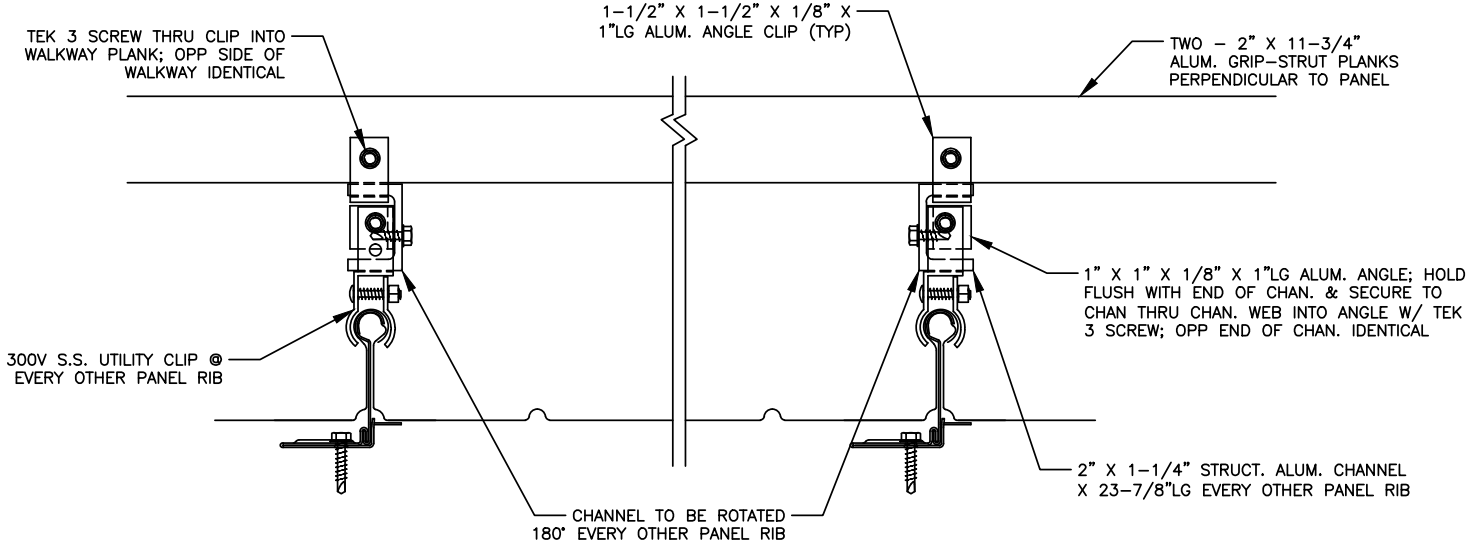
SECT A–A

BEMO Inspiring Metal Envelopes	PANEL: BEMO	REVISION: 0
	DETAIL: GRIP STRUT SAFETY GRATING, PARALLEL TO PANEL	PAGE: 1 OF 1



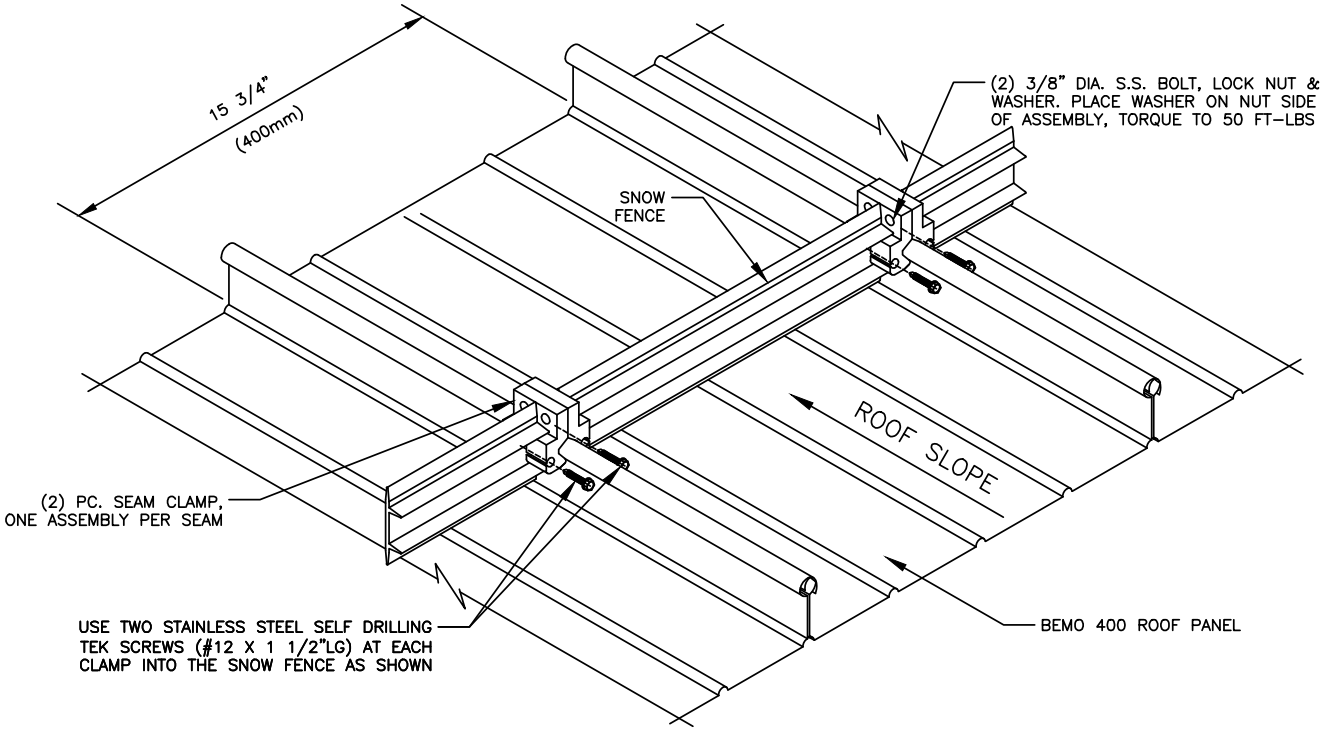
SECT B–B

BEMO Inspiring Metal Envelopes	PANEL: BEMO	REVISION: 0
	DETAIL: GRIP STRUT SAFETY GRATING, PERPENDICULAR TO PANEL	PAGE: 1 OF 1



SECT C-C

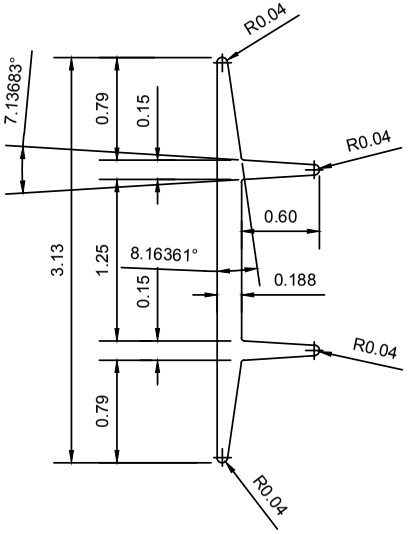
BEMO Inspiring Metal Envelopes	PANEL: BEMO	REVISION: 0
	DETAIL: GRIP STRUT SAFETY GRATING, PERPENDICULAR TO PANEL	PAGE: 1 OF 1

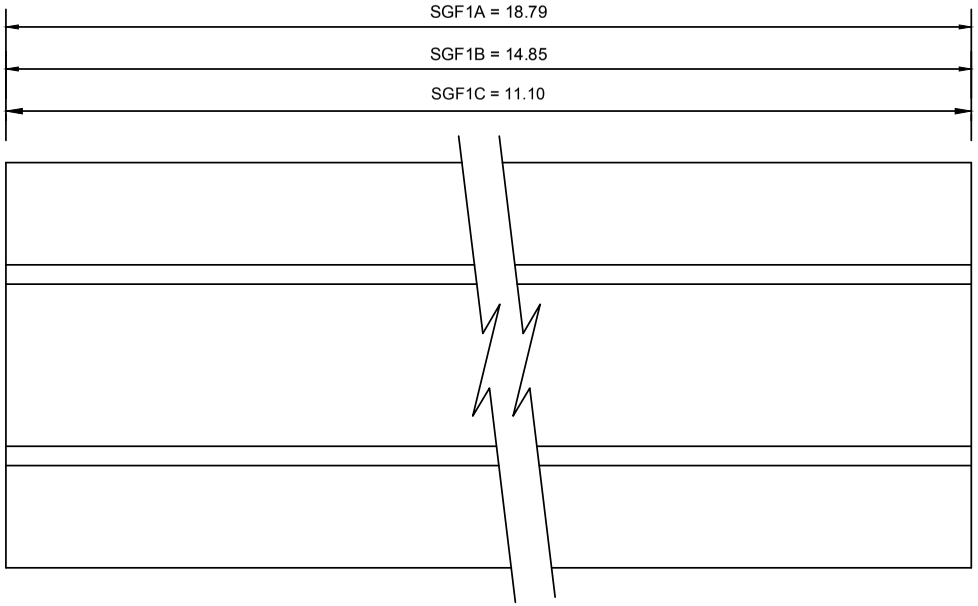


LOCATE AS SHOWN ON THE PLANS.

NOTE: ALL SNOWSTOP COMPONENTS ARE MIL FINISHED ALUMINUM (6061 T6 ALUMINUM) AND ALL BOLTS ARE STAINLESS STEEL (18-8 STAINLESS) UNLESS SPECIFIED OTHERWISE.

BEMO Inspiring Metal Envelopes	PANEL: BEMO	REVISION: 3
	DETAIL: SNOW RETENTION SYSTEM	PAGE: 1 OF 1





NOTES: MAT'L.: 6061 T6 ALUMINUM

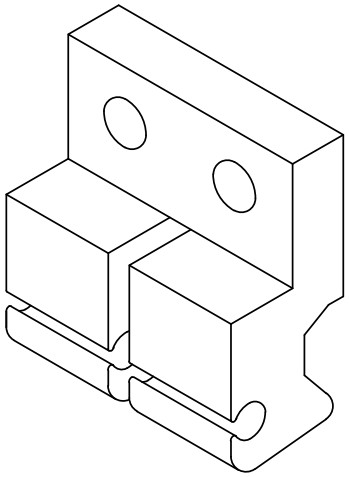
ALL R = .025 (U.N.O.)

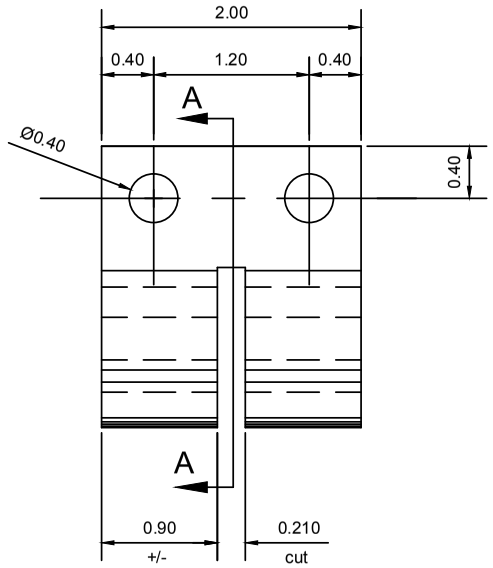
TOL.: .XX = + .03
.XXX = + .005
ANGLES = + 2°

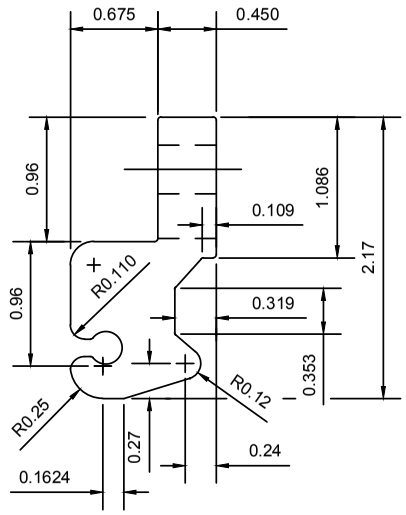
SGF1A --- BEMO 500 PANEL
SGF1B --- BEMO 400 PANEL
SGF1C --- BEMO 305 PANEL

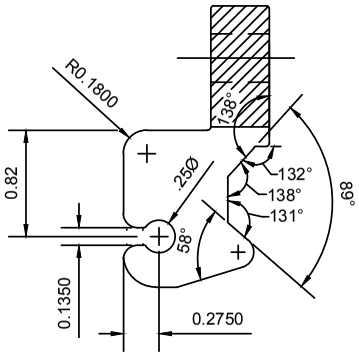
REVISION 2: 3/22/04
REVISION 1: 3/9/04

BEMO Inspiring Metal Envelopes	PANEL: BEMO	REVISION: 2
	DETAIL: 1 PC. SNOW FENCE	PAGE: 1 OF 1









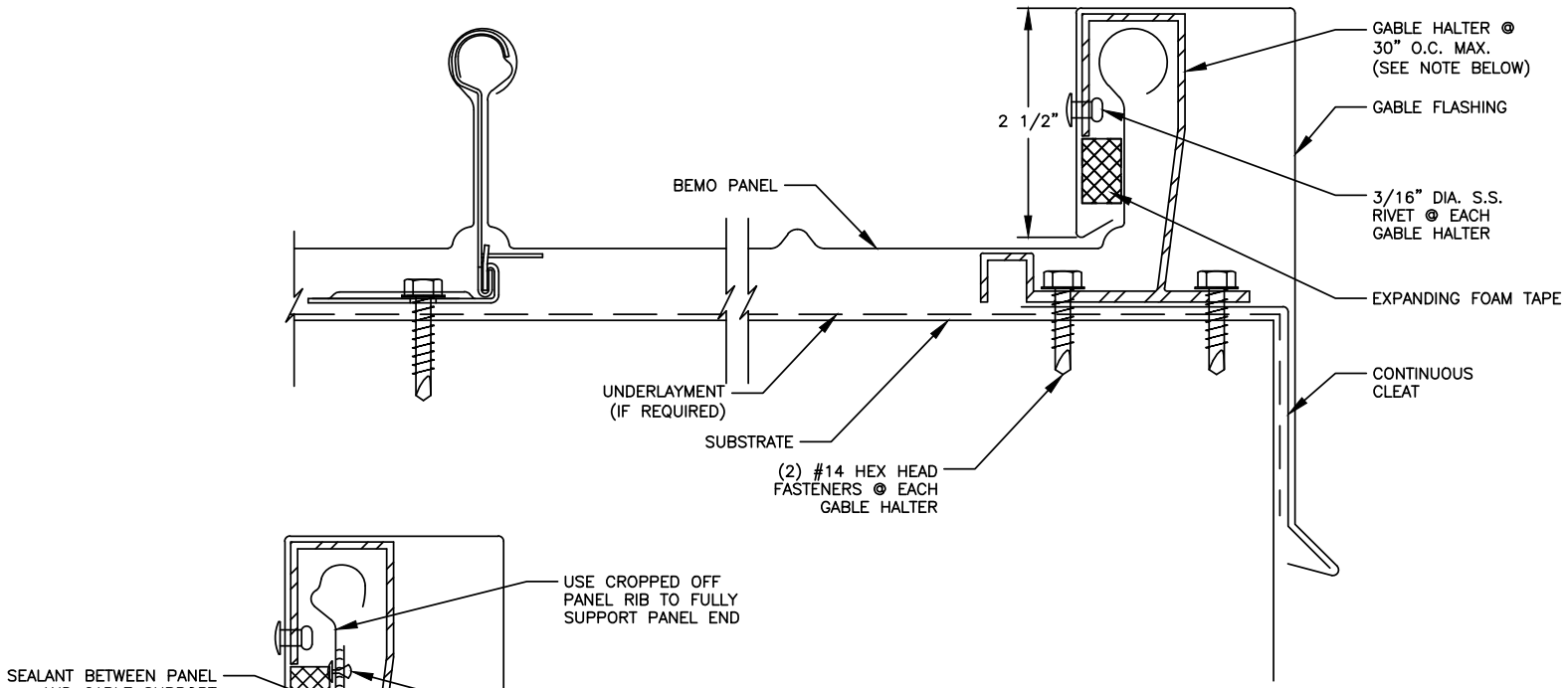
SECTION A-A

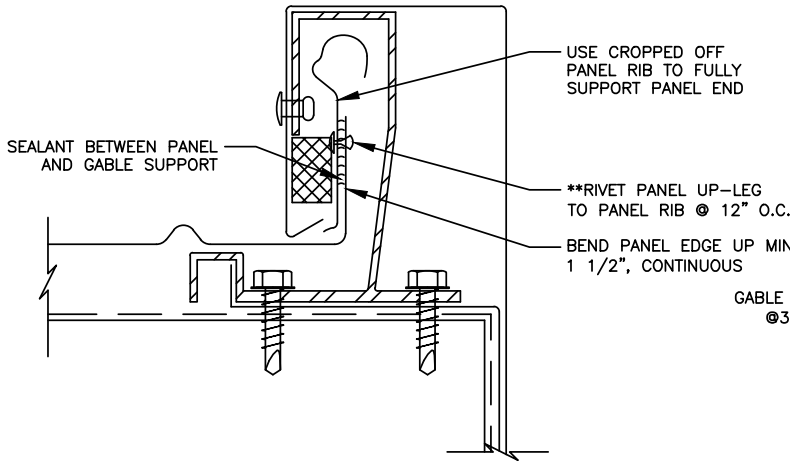
NOTES: MAT'L.: 6061 T6 ALUMINUM
ULTIMATE TESTED CLAMPING FORCE: 1340 lbs

ALL R = .025 (U.N.O.)
TOL.: .XX = + .03
.XXX = + .005
ANGLES = + 1°

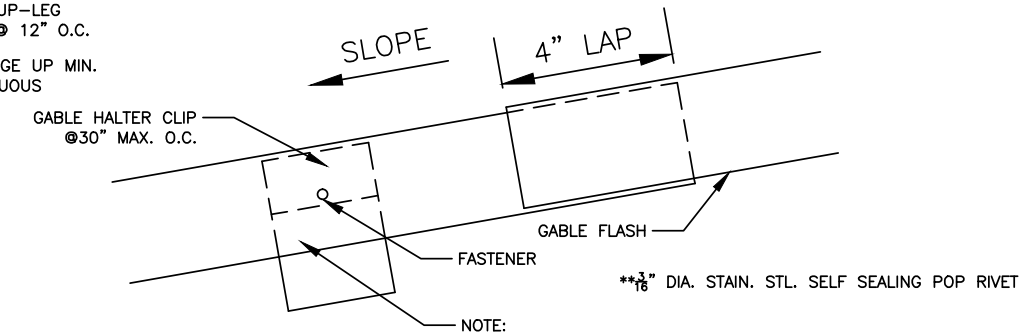
REVISION 3A: 5/24/05
REVISION 2: 3/22/04
REVISION 1: 3/9/04

BEMO Inspiring Metal Envelopes	PANEL: BEMO	REVISION: 0
	DETAIL: 2 PC. SNOW GUARD CLAMP	PAGE: 1 OF 1



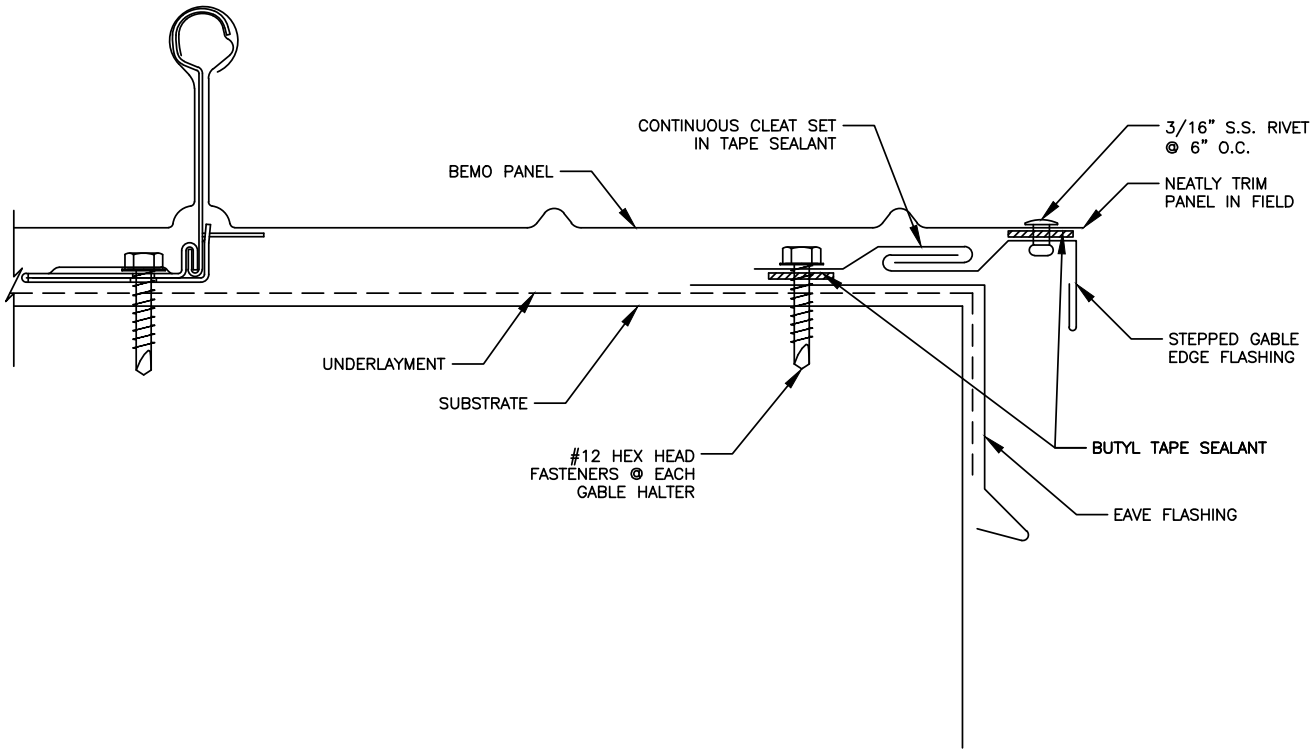


ALTERNATE DETAIL
PANEL ENDS OFF MODULE

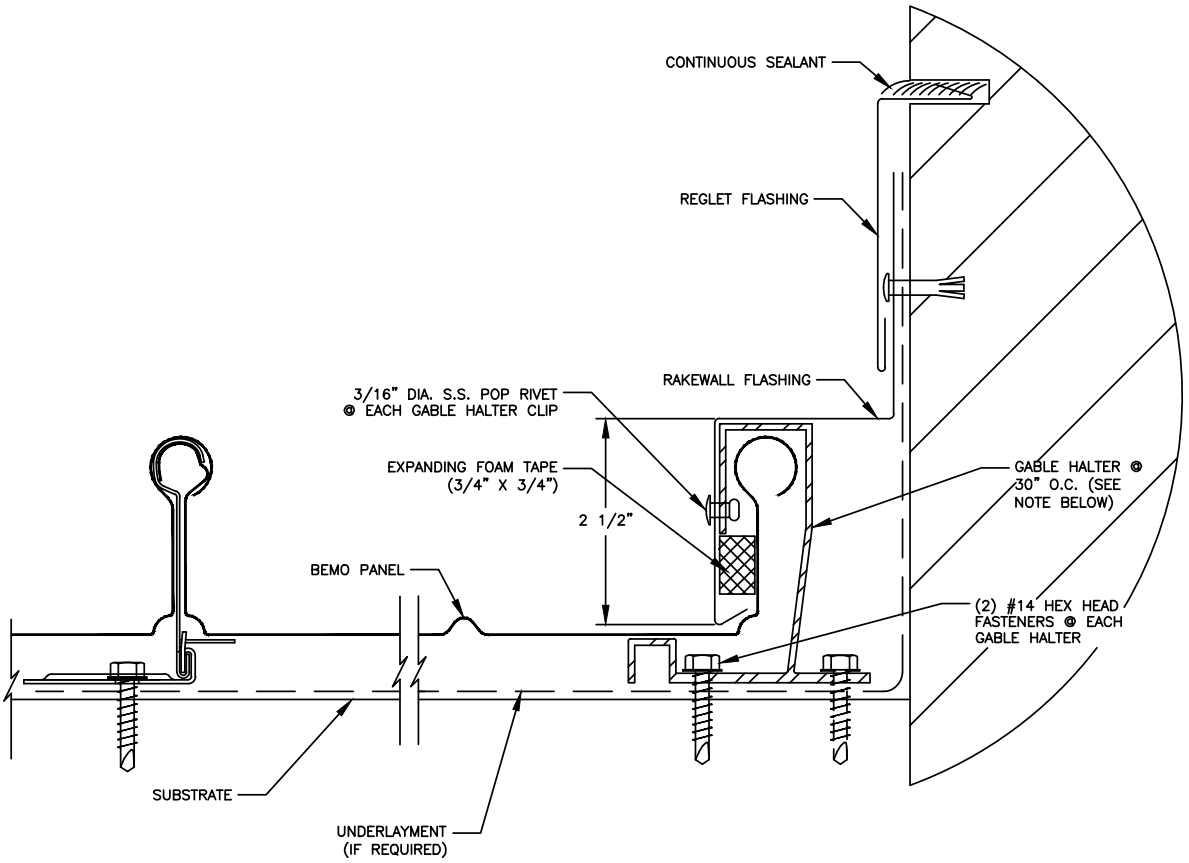


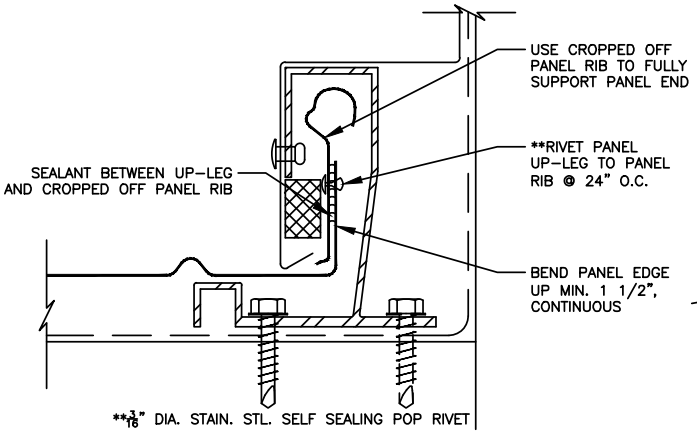
NOTE:
WHEN INSTALLING THE GABLE HALTER CLIPS LAYOUT SPACING SO THAT A CLIP FALLS ON THE DOWN SLOPE SIDE OF ALL GABLE FLASHING LAP JOINTS. DO NOT PLACE ANY FASTENERS IN THE FLASHING LAP ITSELF.

BEMO Inspiring Metal Envelopes	PANEL: BEMO	REVISION: 0
	DETAIL: GABLE	PAGE: 1 OF 1

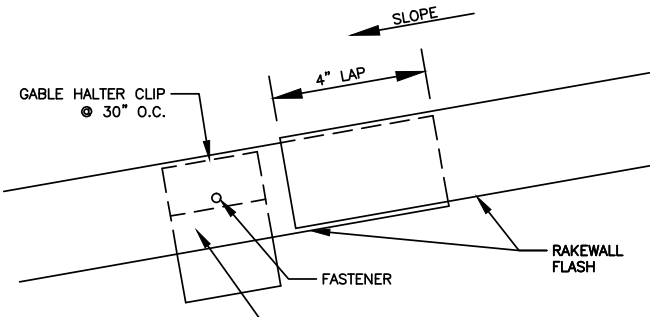


BEMO Inspiring Metal Envelopes	PANEL: BEMO	REVISION: 0
	DETAIL: GABLE AT STEPPED EAVE	PAGE: 1 OF 1





ALTERNATE DETAIL
PANEL ENDS OFF MODULE



NOTE:
WHEN INSTALLING THE GABLE HALTER CLIPS LAYOUT SPACING SO THAT A CLIP FALLS ON THE DOWN SLOPE SIDE OF ALL RAKEWALL FLASHING LAP JOINTS. DO NOT PLACE ANY FASTENERS IN THE FLASHING LAP ITSELF.

BEMO Inspiring Metal Envelopes	PANEL: BEMO	REVISION: 0
	DETAIL: RAKEWALL	PAGE: 1 OF 1

NOTES

BEMO Mobile Factory Mills Deliver High-Performance BEMO Roofing Systems Directly to Roof Areas

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