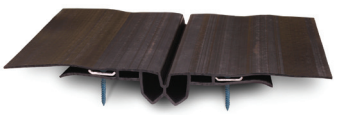
RoofJoint

Watertight by design©

Patent Pending

RoofJoint RJ-0400 Black

RoofJoint RJ-0400 Reflective White



RoofJoint RJ-0200 Black

RoofJoint RJ-0200 Reflective White

EMSEAL RoofJoint, roof expansion joint, is a dual-seal, double-flanged, extruded thermoplastic rubber system for sealing expansion joints in roofs. Watertightness is achieved through positive integration with the roofing membrane and a purpose-designed system for transitioning between the joint in the roof and joints in walls.

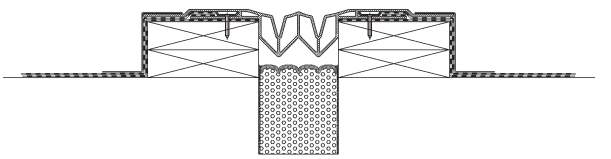
Unique to EMSEAL's RoofJoint is the double-level flange. This flange configuration facilitates multi-layered, watertight integration with the roofing membrane. The lower flange is welded or adhered to the roof membrane brought up to the joint. A termination bar and anchors mechanically lock the flange to the roof decking or blocking. The upper flange counterflashes the termination bar and underlying membrane ensuring that penetrations made by the attachment of the termination bar are completely sealed. The upper flange is further flashed to the roofing membrane by means of the roofing manufacturers' standard flashing tape or by over-welding a strip of roofing.

RJ-0200 for joint gaps of 1-2 inches (25-50mm) with movement capability of 2 1/2 inches (60mm).

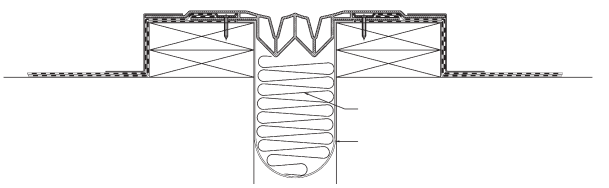
RJ-0400 for joint gaps of 2-4 inches (50-100mm) with movement capability of 5 inches (125mm).

- High movement
- Redundant sealing
- Double-level roof-membrane integration flange
- Redundant fastening—adhesion or welding & termination bar
- Heat welded transitions at tees, crosses, roof-to-wall, etc.
- Watertight transition to SEISMIC COLORSEAL wall joints
- Uniquely addresses wall joint to roof joint interface
- Available in TPV or PVC for broadest liquid and sheet membrane compatibility
- Available in black or reflective white color

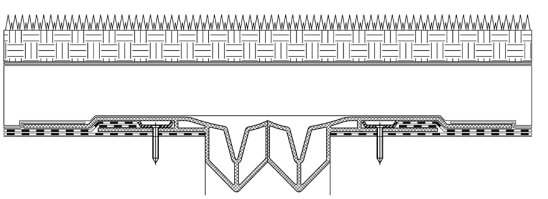
Typical RoofJoint Usage



HORIZONTAL COLORSEAL beneath RoofJoint ensures complete building envelope sealing, ensures thermal insulation, and adds a third water seal to the roof assembly.



RoofJoint installed over standard roofing material (by others) of fiberglass or mineral wool insulation batts. This solution provides no continuity or R-value with the wall expansion joint and is subject to insulation loss due to compression set and through moisture retention due to condensation accumulation in the batt insulation.



RoofJoint is ideally suited for use in sealing the structural slabs beneath green, vegetative roof assemblies.

Standard CAD details are available online at www.emseal.com. For application specific CAD details contact EMSEAL directly.

More Info @ Website

EMSEAL JOINT SYSTEMS, LTD 25 Bridle Lane, Westborough, MA 01581
EMSEAL, LLC 120 Carrier Drive, Toronto, ON, Canada M9W 5R1

Toll Free
800-526-8365

PH: 508.836.0280
PH: 416.740.2090

FX: 508.836.0281
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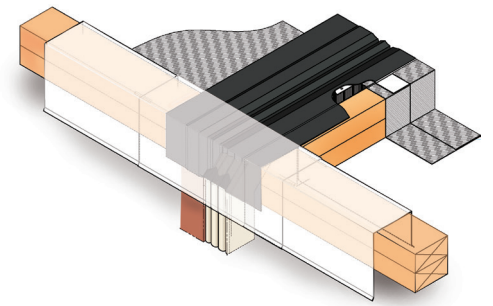
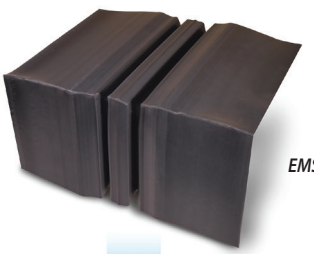
RoofJoint Wall Closure

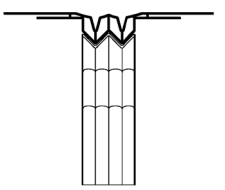


RoofJoint solves the problem of a watertight transition from the roof to the wall expansion joint. The solution lies in the EMSEAL RoofJoint seated in the joint-gap, a factory welded downturn transition in the RoofJoint gland that is sealed at a ship-lapped 45-degree angle to mate with an interlocking factory-fabricated RoofJoint Wall Closure transition piece. The result is an integrated wall and roof expansion joint system that is watertight.



EMSEAL RoofJoint

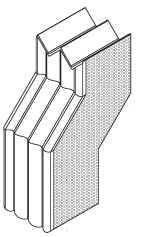
EMSEAL Cavity Wall RoofJoint Closure

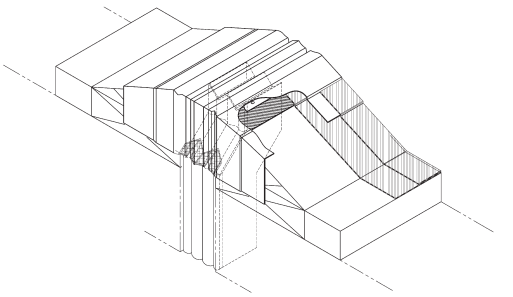


Cross section of Roof Joint seated on top of wall closure transition

EMSEAL RoofJoint placed onto Cavity Wall RoofJoint Closure to complete roof-to-wall transition.

Two Options: Solid-Wall RoofJoint Closure or Cavity-Wall RoofJoint Closure

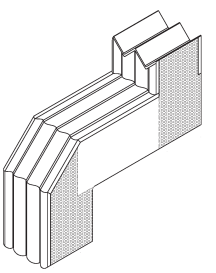


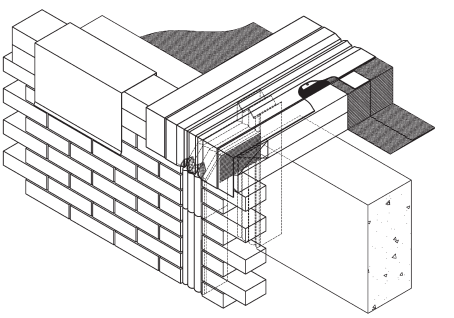


Solid-Wall RoofJoint Closure

This factory-fabricated transition piece is manufactured from EMSEAL's SEISMIC COLORSEAL wall-expansion joint material. This single unit piece has factory-coated silicone bellows on the top and upper-back face for integration with SEISMIC COLORSEAL in the wall and HORIZONTAL COLORSEAL as a secondary seal and insulator across the roof. The silicone-coated top side of the closure is shaped to match the underside of the RoofJoint extrusion.

The Solid-Wall RoofJoint Closure is installed before installing the RoofJoint. It is installed ¾" down from the roof deck or wood blocking surface. A sealant band of silicone is applied across the upper mating surface of the closure. The RoofJoint is then installed. The underside of the RoofJoint will mate with the top of the already installed closure.





Cavity-Wall RoofJoint Closure

Like the solid-wall closure, the cavity-wall RoofJoint closure is a factory-fabricated transition piece made from SEISMIC COLORSEAL. The difference is an extended, horizontal setback portion of foam to bridge the cavity from facade to structural backup wall. The sides of the "bridge" are additionally coated with silicone to seal them against moisture in the cavity and to constrain the lateral expansion of the foam into the cavity.

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EMSEAL®
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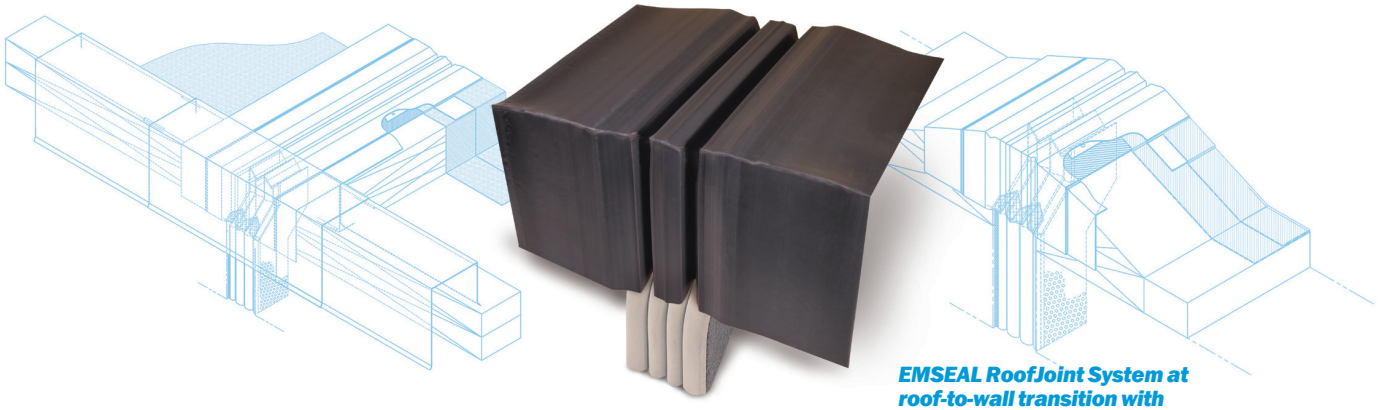
EMSEAL RoofJoint

Watertight, high-movement, weldable roof expansion joint

TECH DATA



EMSEAL RoofJoint System at roof-to-wall transition with EMSEAL SEISMIC COLORSEAL.

Product Description

EMSEAL RoofJoint is a dual-seal, double-flanged, extruded thermoplastic rubber system for sealing expansion joints in roofs. Watertightness is achieved through positive integration with the roofing membrane and a purpose-designed system for transitioning between the joint in the roof and joints in walls.

Features

- High movement
- Redundant sealing
- Double-level roof-membrane integration flanges
- Redundant fastening—adhesion or welding & termination bar
- Heat welded transitions at tees, crosses, roof-to-wall, etc.
- Watertight transition to SEISMIC COLORSEAL wall joints
- Uniquely addresses wall joint to roof joint interface
- UV-stable
- TPV or PVC for broadest liquid and sheet membrane compatibility

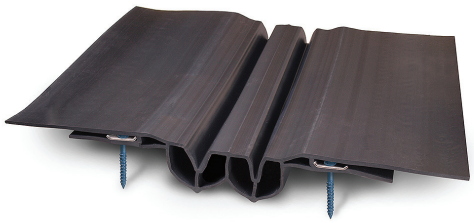
What's Different?

The waterproofing elements of roof expansion joints currently are looped membranes. The loops either hang down into the joint in the case of metal-cover systems, or are humped up by means of a foam backing. Either way, while they look good in cross-section, looped membranes don't work well at the transition from the roof joint to wall joints.

EMSEAL's decades of experience lies in sealing parking and plaza deck joints with systems that sit in the joint.

As with the products used for these other critical waterproofing applications, an extruded joint profile that incorporates redundant levels of sealing, low-strain compression and extension capability, and a broad cross-section that can be welded to ensure continuity of seal in changes in plane and direction, are the hallmarks of EMSEAL's RoofJoint system.

Unique to EMSEAL's RoofJoint is the double-level flange. This flange configuration facilitates multi-layered, watertight integration with the roofing membrane.



The lower flange is welded or adhered to the roof membrane brought up to the joint. A termination bar and anchors mechanically locks the flange to the roof decking or blocking.

The upper flange counterflashes the termination bar and underlying membrane ensuring that penetrations made by the attachment of the termination bar are completely sealed. The upper flange is further flashed to the roofing membrane by means of the roofing manufacturers' standard flashing tape or by over-welding a strip of roofing.

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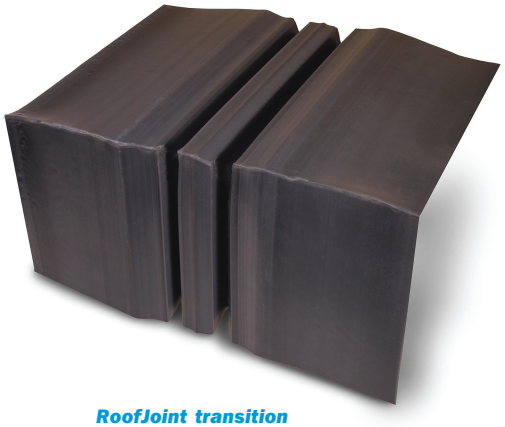
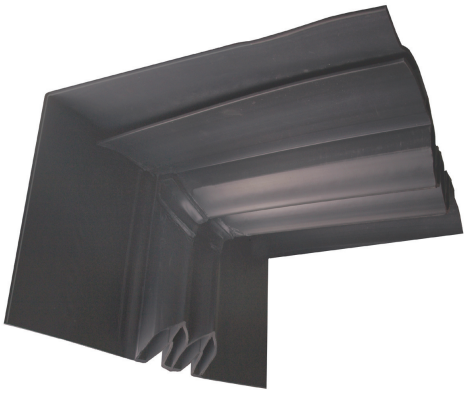




RoofJoint transition shown from topview and underside (with reinforced weld).

Movement at the joint is accommodated by the folding design of the gland. The double-cell configuration ensures redundancy in sealing. The geometric shape is purpose-designed for the lowest strain during movement to ensure longevity.

RoofJoint Composition - PVC or TPV

RoofJoint is available in two thermoplastic formulations, PVC flexible alloy and TPV.

PVC Thermoplastic Alloy

Manufactured for direct welding to PVC-based roof membranes and for adhesion into hot or cold-applied asphaltic, or thermoset-rubber roof membranes (EPDM, Neoprene, etc.).

The PVC version of RoofJoint is extruded from a thermoplastic PVC alloy. Unlike typical PVC's this flexible alloy is recyclable. While other PVC's can be down-cycled (made into something lesser than the original part) the RoofJoint, during die balancing for example, can be ground up and put directly back into the extrusion stream. This assures virtually no waste in its processing.

The compounds are based on ultra-high molecular weight PVC resins. This family extends the performance of flexible PVC by providing improved toughness, abrasion resistance, compression set resistance and low-temperature properties.

A PVC thermoplastic blend was chosen for this product for its compatibility with most known roofing systems. It can be heat-welded to PVC roofs, and subject to the recommended procedures of the particular roofing membrane manufacture in respect to preparation, cleaning, priming, etc, adheres well to the accessories of all glued systems.

TPV *(Thermoplastic Vulcanizate)*

Manufactured for welding to TPO (Thermoplastic Olefin)-based roof membranes.

The TPV version of RoofJoint, is offered for its ability to be welded to TPO membranes.

Performance

Joint Sizes:

RoofJoint can be installed into joints from
1 – 4 inches wide (25 - 100mm).
RJ-0200 fits gaps from 1 to 2-inches (25mm - 50mm)
RJ-0400 fits gaps from 2 to 4-inches (50mm - 100mm)

Movement capability:

At least 100% (+50%; -50%) of nominal joint size at mean temperature for joints from 1 to 4 inches (50 - 100mm) wide.

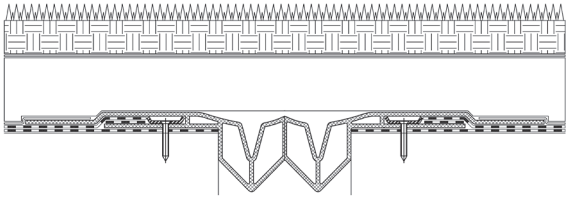
Continuity of Seal

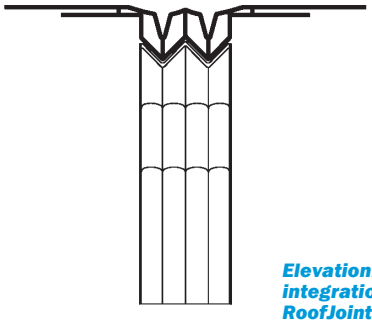
As with all EMSEAL expansion joint systems, continuity of seal is extended to crosses, tees, upturns, downturns, roof-to-wall, and other compound conditions typically found in construction projects.

Factory-fabricated transition pieces can be welded to straight lengths in our plant wherever field measurements are provided or can be butt-welded to straight lengths in the field using simple equipment and training available from EMSEAL. All welds are strengthened with reinforcing strips.

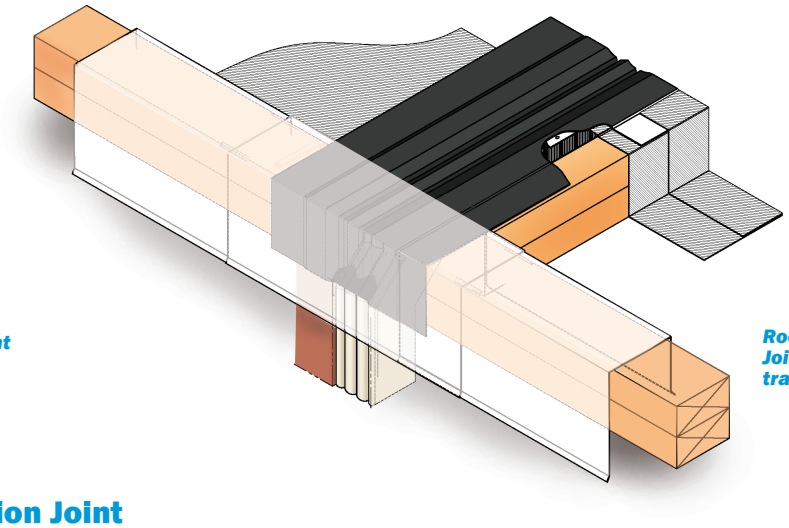
Green/Garden/Vegetative Roofs

RoofJoint is ideally suited for use in sealing the structural slabs beneath green, vegetative roof assemblies. Because the growing medium is loose, compressible and granular, movement that occurs at the structural slab can be absorbed without detrimental effect in the green roof overburden.





Elevation: RoofJoint integration with RoofJoint Closure



RoofJoint Wall Expansion Joint in roof and wall at transition

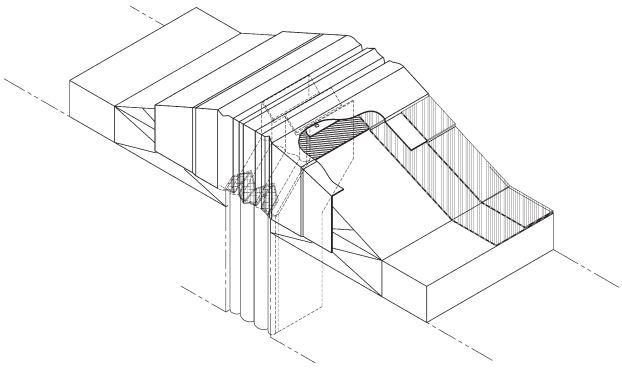
RoofJoint to Wall Expansion Joint Transition

In particular, EMSEAL has focused the development of RoofJoint on solving the problem of a watertight transition from the roof to the wall expansion joint. The solution lies in the EMSEAL RoofJoint seated in the joint-gap, a factory welded downturn transition in the RoofJoint gland that is sealed at a ship-lapped 45-degree angle to mate with an interlocking factory-fabricated RoofJoint/SEISMIC COLORSEAL transition piece.

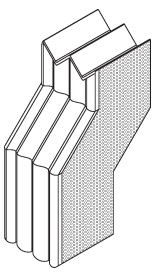
The result is an integrated wall and roof expansion joint system that is watertight.

Two Options: Solid-Wall RoofJoint Closure or Cavity-Wall RoofJoint Closure

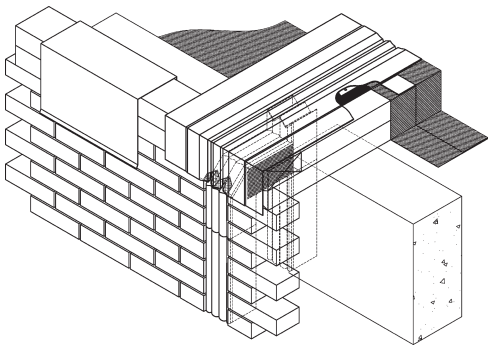
1. Solid-Wall RoofJoint Closure



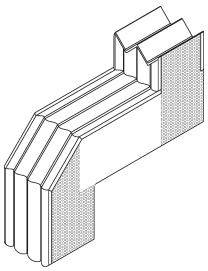
This factory-fabricated transition piece is manufactured from SEISMIC COLORSEAL wall-expansion joint material from EMSEAL. This single unit piece has factory-coated silicone bellows on the top and upper-back faces for integration with SEISMIC COLORSEAL in the wall and HORIZONTAL COLORSEAL as a secondary seal and insulator across the roof. The silicone-coated top side of the closure is shaped to match the underside of the RoofJoint extrusion. The Solid-Wall RoofJoint Closure is installed before installing the RoofJoint. It is installed ¾" down from the roof deck or wood blocking surface. A sealant band of silicone is applied across the upper mating surface of the closure. The RoofJoint is then installed. The underside of the RoofJoint will mate with the top of the already installed closure.



2. Cavity-Wall RoofJoint Closure



Like the solid-wall closure, the cavity-wall RoofJoint closure, is a factory-fabricated transition piece made from SEISMIC COLORSEAL. The difference is an extended, horizontal setback portion of coated foam to bridge the cavity from facade to structural backup wall. The sides of the "bridge" are additionally coated with silicone to seal them against moisture in the cavity and to constrain the lateral expansion of the foam into the cavity.



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EMSEAL, LLC 120 Carrier Drive, Toronto, ON, Canada M9W 5R1

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Colors

The TPV version is available in reflective white. The PVC version is available in both black and reflective white. Consult EMSEAL for color variations to coordinate with traditional or reflective roofing membranes.

Limitations--Not for Plazas

RoofJoint is for use in roof decks only. It is not intended for use in split-slab, podium, or plaza deck design.

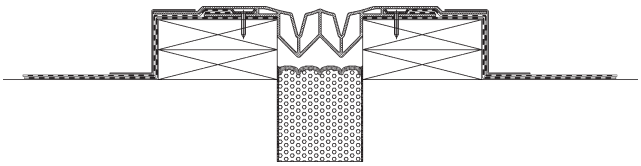
This is because there is no inherent capability within RoofJoint to separate--topping slab, pavers or other rigid wear course materials from one another at the deck surface to properly accommodate movement in the wear course.

For split-slab, podium and plaza deck design see the FP (For Plaza) series of expansion joints from EMSEAL: Migutan FP-Series, DSM-FP Series, SJS-FP series or SJS-FP-FR Fire Rated Series. If designed for installation into the structural slab of a split-slab or plaza deck design, EMSEAL takes no responsibility for buckling pavers or cracking topping slabs that will occur as movement from the structural slab is referred through the wear course.

Insulation

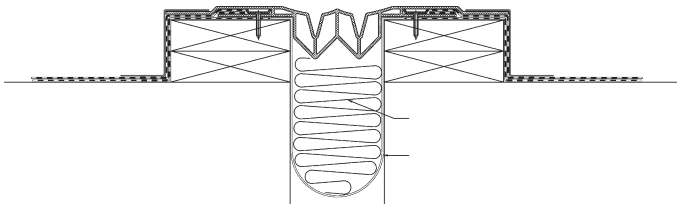
Insulation in the joint opening beneath a roof expansion joint is critical in maintaining energy efficiency in the structure. Insulation under EMSEAL's RoofJoint can be achieved in two ways:

Insulation Method 1
(Specifying and Installing HORIZONTAL COLORSEAL Beneath the RoofJoint)



The advantage of this solution is that in addition to insulating, the HORIZONTAL COLORSEAL will create an additional watertight barrier beneath RoofJoint that ties into the SEISMIC COLORSEAL RoofJoint closure and further ensures continuity of seal with the wall joint. The R-Value of HORIZONTAL COLORSEAL is 2.15 per inch of depth. Therefore in 4-inch joint, HORIZONTAL COLORSEAL has a depth of 4.5 inches and an R-Value of 9.675. To increase the R-Value using HORIZONTAL COLORSEAL, specify an increased custom depth.

Insulation Method 2
(Loopend Membrane & Batt)



By installing a looped membrane of standard roofing material (by others) to support fiberglass insulation batts before installing EMSEAL's RoofJoint.

Installation

The unique dual-level flange provides numerous options for integration and flashing into roof membranes. The ultimate sequence of integration and decisions regarding integration method (welding, adhesive, adhesion strip, priming etc.) is at the discretion of the specifier and/or roofing membrane manufacturer.

In principle, the EMSEAL RoofJoint should be installed over the properly secured membrane either by welding or adhering the bottom side of the lower flap to the in-place roof membrane. The lower flap of the EMSEAL RoofJoint should then be mechanically fastened with the supplied termination-bar and anchors.

STEP 1: Install and secure the roof membrane

STEP 2: Install RoofJoint Closure into wall joints

STEP 3: Install RoofJoint starting at roof-to-wall factory–fabricated downturn

STEP 4: Adhere or weld lower RoofJoint flange to in-place roof membrane

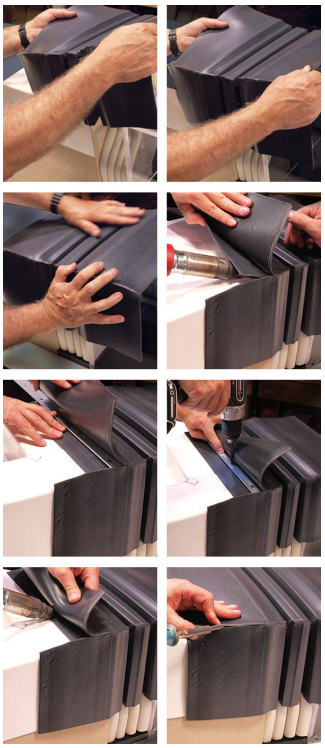
STEP 5: Install termination bars and anchors

STEP 6*: Install another layer of roof membrane

STEP 7: Weld or adhere upper RoofJoint flap to upper roof membrane

STEP 8*:: Counterflash upper RoofJoint flap with more roof membrane

STEP 9: Install coping flashing sheet metal cap in overlapped configuration to accommodate movement at the structural joint



*(*Note: STEPS 6 & 8 at the discretion and direction of the specifier and/or roofing membrane manufacturer.)*