



# MM Systems

## INSTALLATION GUIDE

### Insulated Vapor Barrier (IVB)

#### **Important**

#### **Read Entire Guide Prior to Installation**

Please note that the installation details on the following pages are for standard installations. They are not intended to supersede any specific details or drawings that have been submitted and approved or any as-built condition that differs from those depicted herein. Review every page of this Installation Guide prior to starting your installation. For any non-standard condition or to receive additional installation tips please call or email:

706.824.7500 or [fieldhelp@mm.systems](mailto:fieldhelp@mm.systems)

MM Systems reserves the right to amend or withdraw information contained herein, without notice and will not be liable for any inaccuracy or ambiguity of said information.

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INSTALLATION GUIDE

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# MM Installation Guide

## IVB Series

### \*PERMEABILITY OPTIONS

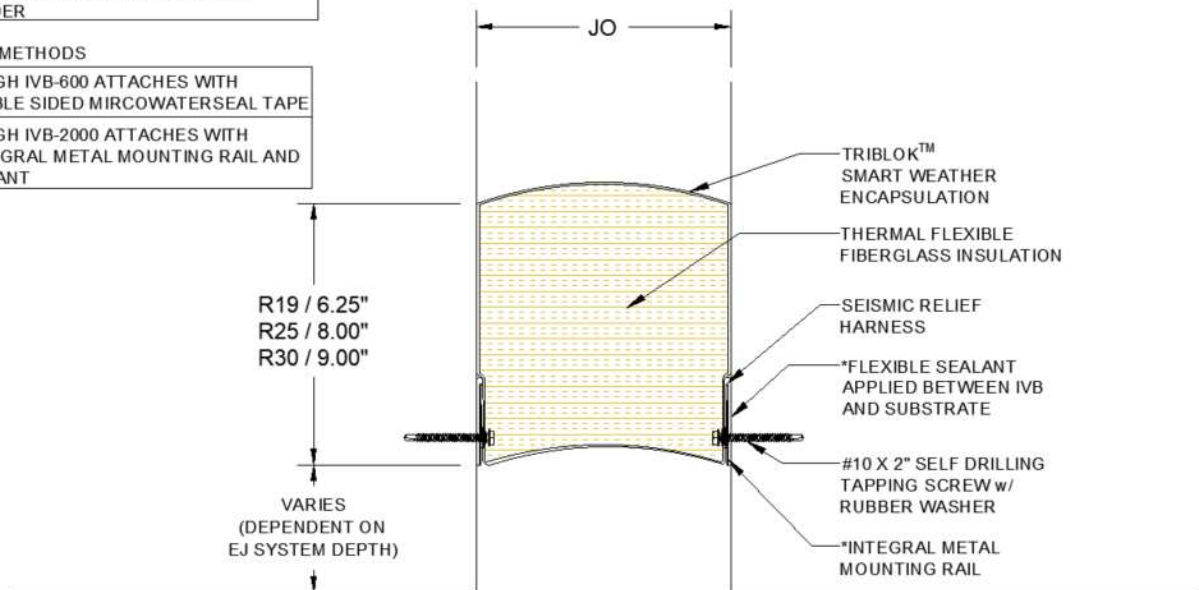
SEMI-IMPERMEABLE (SI) THE SUFFIX "SI" IS ADDED TO THE PRODUCT DESIGNATION TO CONVEY THE USE OF A SEMI-IMPERMEABLE TRIBLOK™ SMART WEATHER WRAP

NON-PERMEABLE (NP) THE SUFFIX "NP" IS ADDED TO THE PRODUCT DESIGNATION TO CONVEY THE USE OF A NON-PERMEABLE WEATHER WRAP VAPOR RETARDER

### \*ATTACHMENT METHODS

IVB-100 THROUGH IVB-600 ATTACHES WITH 30 mil X 2" DOUBLE SIDED MIRCOWATERSEAL TAPE

IVB-700 THROUGH IVB-2000 ATTACHES WITH ANCHOR + INTEGRAL METAL MOUNTING RAIL AND FLEXIBLE SEALANT



EXPANSION JOINT (EJ) COVER NOT SHOWN

### IVB SERIES INSULATED VAPOR BARRIER

100 through 2000  
(Vertical / Wall)

### Drawing #1

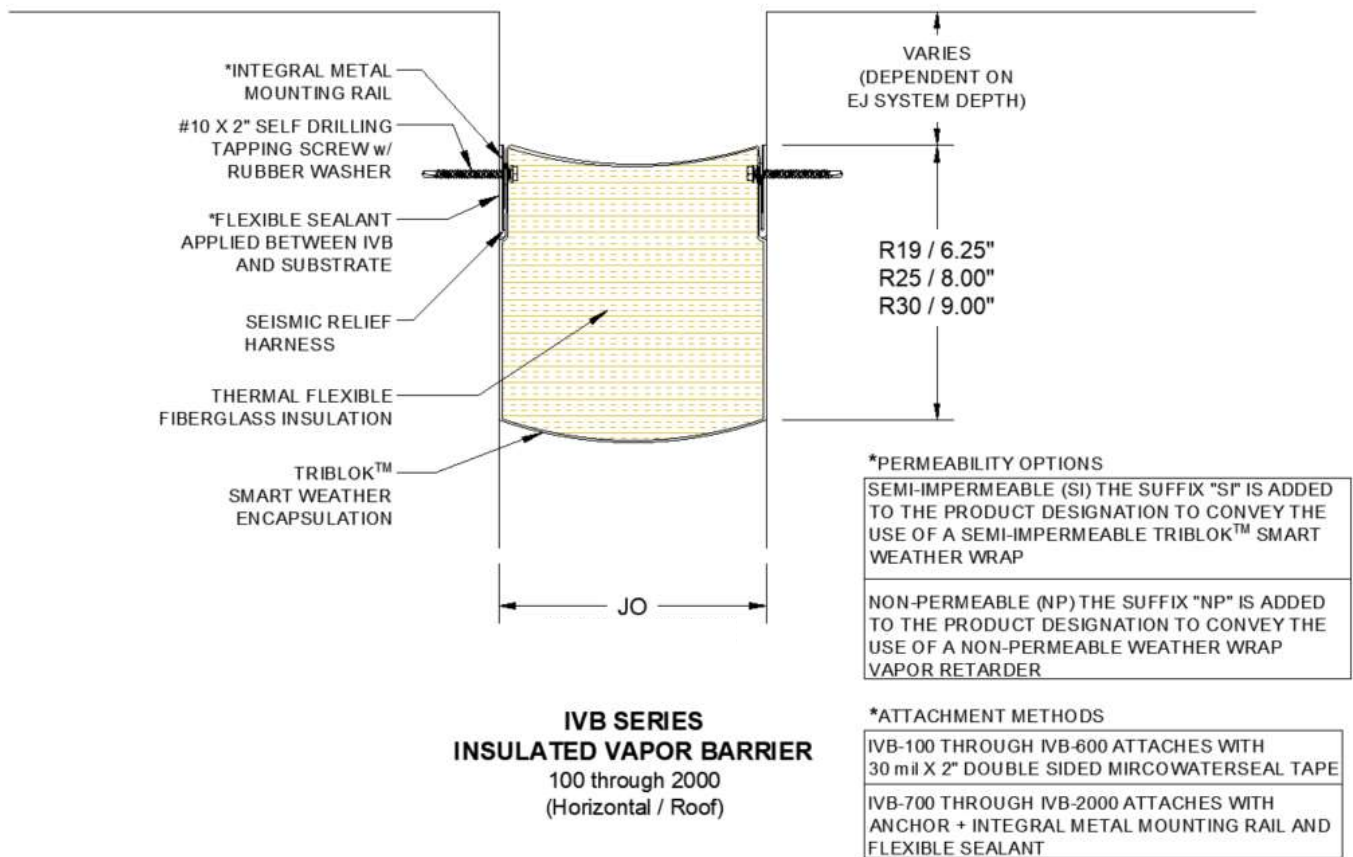
**JO** – the joint opening shown on the contract drawings is typically calculated as a nominal dimension when concrete temperature (not ambient air temperature) is at 65 degrees Fahrenheit. The joint opening dimension changes as the deck temperature changes. When the concrete deck gets cold the deck shrinks and the opening gets wider. When the deck temperature increases the concrete expands and the opening gets smaller.



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EXPANSION JOINT (EJ) COVER NOT SHOWN



**Drawing #2**

### Notes:

- Insulated Vapor Barrier must be kept dry and clean at all times.
- If TriBlok™ Encapsulation is cut or punctured, seal opening with suitable tape.
- IVB should not be used as a horizontal gutter. An EPDM cover/gutter must be used in conjunction with horizontal IVB systems.
- Due to narrow joint widths, IVB-100 through IVB-600 is supplied with factory installed Microwaterseal tape. Integral Mounting Rails are factory installed on larger IVB sizes.
- Compressing Batt Insulation will reduce products overall R-value.



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### General Preparation:

- A. Safety – As with any construction product, care shall be taken to protect all users. Gloves and safety glasses shall be worn at all times. The work area shall be well ventilated. Familiarize yourself with the MSDS information prior to installation.
- B. Tools Required:
  - Tape Measure, Marker, Chalk Line
  - Denatured Alcohol, white lint-free rags
  - Caulk Gun, Sharp Knife, Duct Tape
  - Hammer drill, 3/16" (4.5mm) Masonry Bit
  - Impact Driver/Screw Gun, 5/16" Hex Head Driver.
- C. Storage - All material should be stored in a cool, dry location 60°– 70° F (16°– 21° C)
- D. Pre-installation Inspection – the General Contractor, Engineer/Architect, MM Systems Representative and Installation Contractor, will conduct a pre-installation project site inspection. The General Contractor shall provide a field report that summarizes the project conditions and any remedial action necessary to correct field conditions (joint size, type of substrate, offsets, etc.) that may affect expansion joint system adhesion and/or performance.
- E. IVB Size Selection – the Project Engineer shall provide total anticipated movement of the expansion joint opening. The maximum and minimum joint opening size must be known to determine the appropriate IVB size.
- F. Fire Barrier - If a fire barrier is required see separate installation guideline before beginning installation of the IVB Series Expansion Joint System.
- G. Weather Conditions - Ambient temperatures must be 40° F (5° C) and rising during installation. Cease installation of IVB under adverse weather conditions.



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## IVB Series

### **IVB Design & Features**

The IVB is designed with many features which aid in smooth and simple installation. The 5-foot factory assembled IVB segments are constructed for easy handling while reducing shipping time & freight costs. Factory installed Splice Tape makes joining IVB segments together quick & easy while reducing labor time. IVB is decisively manufactured to be slightly wider than the specified joint opening to compensate for thermal joint movement and retain maximum insulation value. In addition, the wider design also helps hold the IVB system in place during installations thus eliminating the need for additional manpower or tools and reducing installation time. For 7" and larger joints, Integral Mounting Rails are factory installed to each IVB segment to assist with a less cumbersome and quicker mounting process.

### **Recess Depth Notice**

If the IVB is to be used in conjunction with an expansion joint system, prior to installing the IVB verify it has been properly sized to accommodate any additional space requirements. Some systems may have components which extend into the joint opening and may entangle with the IVB if the recess depth is not sufficient. Failure to provide proper clearance may negatively impact system performance. Review shop drawings for spacing requirements and joint movement in comparison to IVB Ear Wing length specified as custom lengths are available.

### **Run Length**

The IVB system is supplied in 5-foot segments. Where run lengths are greater than 5-foot, multiple IVB segments must be spliced together. We suggest using a dry, clean, and flat work surface for the splicing process. For ease of moving to the install area, it can be beneficial to splice together only a few segments at one time. Once at the installation area, final splicing of the smaller segments into one or more continuous pieces can be completed. Refer to section on Segment Splicing.

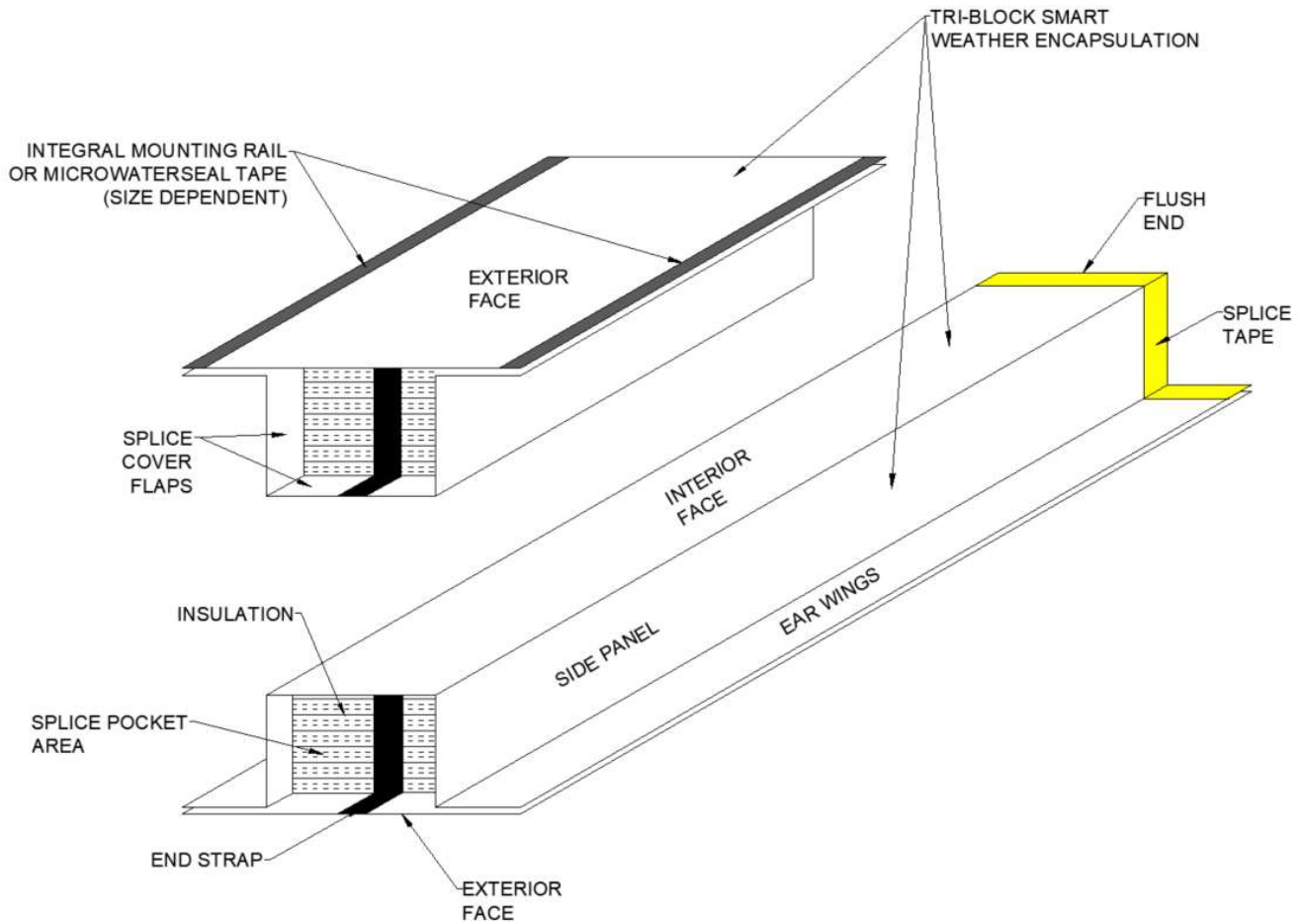


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**Note:** Due to narrow joint widths IVB-100 to IVB-600 are supplied with factory applied Microwaterseal tape for mounting instead of Integral Mounting Rails.

### IVB Identification





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### STEP 1 - Segment Splicing:

IVB segments are supplied with factory applied double-sided Splice Tape in place for quick and easy linking of segments.



Note: For strong bonding, all splicing surfaces must be cleaned with Denatured Alcohol and dry prior to adhering to double-sided Splice Tape.

- 1) Remove IVB segment from the packaging, take hold by Ear Wings and lightly shake segment to allow the internal insulation to fully expand.
- 2) On a clean flat work surface lay out two IVB segments with their Interior Face downward. (Fig 1)
- 3) Locate the Splice Pocket end of the first segment and fold back its overhanging splice material to expose the inner white Splice Pocket and Insulation. (Fig 2)
- 4) Align the second segment (Interior Face downward) with its Flush End towards the Splice Pocket of the first segment. (Fig 3)
- 5) Insert Flush End fully into the Splice Pocket. The insulation from both segments must butt up tightly with each other. It may be helpful to briefly fold the side Ear Wings of the second segment up and out of the way while inserting the Flush End into the Splice Pocket. (Fig 4 & 5)
- 6) Fold down Splice Cover Overhang. It should cover the second segment's Splice Tape seam. Align the TriBlok™ Encapsulation material from both segments. It should lay flat, smooth, and even. (Fig 6)
- 7) Locate a corner of the Splice Tape from either Ear Wing. Slowly remove the white release liner from the Splice Tape. There is no need to lift the overhanging cover when removing the liner. (Fig 9 & 10)
- 8) With your hands press the Splice Cover into the tape to ensure good adhesion on all surfaces and edges. (Fig 11)



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## IVB Series

- 9) Now, while holding both segments together rotate them, so the Interior Face is upwards. Make sure both segments remain tightly together. (Fig 12)
- 10) Align the TriBlok™ Encapsulation material from both segments. It should lay flat, smooth, and even.
- 11) Locate a corner of the Splice Tape from either Ear Wing. Slowly remove the white release liner from the Splice Tape. There is no need to lift the overhanging cover when removing the liner. (Fig 13)
- 12) With your hands press the Splice Cover into the tape to ensure good adhesion on all surfaces and edges. (Fig 14)
- 13) Repeat these steps with additional IVB segments as needed.

Vertical Segments Note: It is suggested that spliced lengths of 30-feet or less be lifted into place and secured at one time. Then additional lengths can be lifted and attached.



**Vertical Splicing Note:** For easy of lifting, splice together segments totaling 30-feet or less. Lift into place and secure. Additional lengths can then be spliced in and mounted.





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**Fig 1 - SPLICE POCKET**



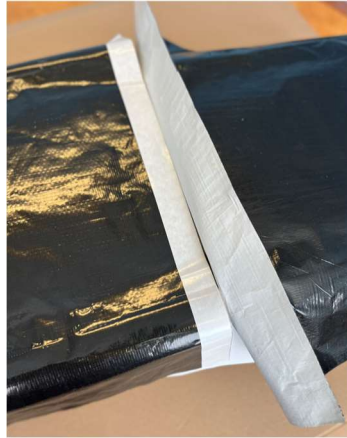
**Fig 2 - SPLICE COVER OVERHANG**



**Fig 3 - SEGMENT ALIGNMENT**



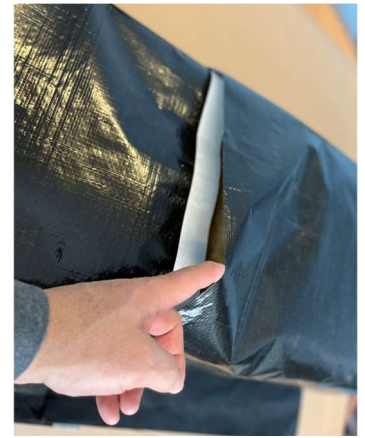
**Fig 4 - SEGMENT INSERTION**



**Fig 5 - SPLICE TAPE SEAM**



**Fig 6 - SPLICE COVER**



**Fig 7 - TAPE RELEASE LINER**



**Fig 8 - LOCATE LINER**



**Fig 9 - REMOVE LINER**



**Fig 10 - REMOVE LINER**



**Fig 11 - ADHERE COVER**



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Fig 12 - INTERIOR FACE UP



Fig 13 - REMOVER LINER



Fig 14 - ADHERE COVER



**NOTE:** Prior to adhering tape, always clean TriBlok Encapsulation surface with Denatured Alcohol where tape is to be applied.



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### STEP 2 – MM Supplied End Terminations:

At the beginning and end of each IVB run, ends must be capped and sealed (unless they transition to another IVB run).

Due to the complexity of configuring encapsulated End Terminations, it is highly recommended that MM System factory-built End Termination be installed. Contact MM Systems for more information.

Installation of End Terminations is very similar to standard segment splicing. Referencing STEP 1 can be helpful. Note that factory-built end terminations are provided with a Splice Pocket opposing the capped end and have factory applied internal Splice Tape.

Test fit all IVB End Termination segments to verify their proper length and alignment.

Remove IVB End Termination segment from the packaging, take hold by Ear Wings and lightly shake segment to allow the internal insulation to fully expand.

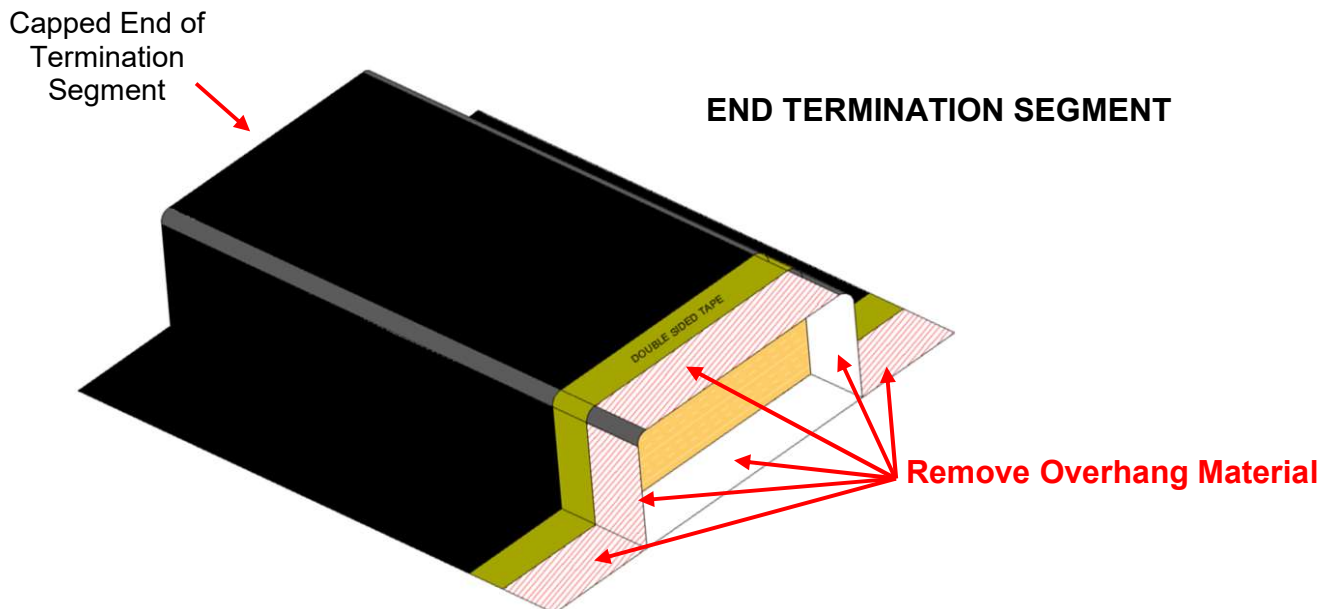
- 1) On a clean flat work surface lay out the End Termination segment and the standard IVB segment with both Interior Faces downward.
- 2) If splicing an End Termination segment to the Splice Pocket end of a standard IVB segment, the overhanging pocket of the End Termination segment must be trimmed off prior to splicing (the Splice pocket from the standard segment will be used for this splice). Trim off the overhanging TriBlok™ Encapsulation material from the End Termination segment along the outside edge of the double-sided tape (see Fig 15). If splicing an End Termination segment to a standard IVB segment at the Flush End, the Splice Pocket of the End Termination segment will be used to make the splice.
- 3) Locate the Splice Pocket end of the End Termination segment and fold back its overhanging splice material to expose the inner white Splice Pocket and Insulation. (See Fig. 2)
- 4) Align the standard segment (Interior Face downward) with its Flush End towards the Splice Pocket of the End Transition. Note: If applying the End Termination to a Standard IVB section at its Splice Pocket end, you must cut off the 3” overhanging and Ear Wing material from the End Termination IVB segment to give it a flush face.
- 5) Insert the Flush End fully into the Splice Pocket of the End Termination. The insulation from both segments must butt up tightly to each other. It may be helpful to briefly fold the side Ear Wings of the standard segment up and out of the way while inserting the Flush End into the Splice Pocket.
- 6) Fold down the Splice Cover Overhang. It should cover the standard segment’s Splice Tape seam. Align the TriBlok™ Encapsulation material from both segments. It should lay flat, smooth, and even.
- 7) Locate a corner of the Splice Tape from either Ear Wing of the standard segment. Slowly remove the white release liner from the Splice Tape. There is no need to lift the overhanging cover when removing the liner.



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- 8) With your hands press the Splice Cover and Splice Tape into the barrier material below it to ensure good adhesion on all surfaces and edges.
- 9) Now, while holding both segments together rotate them so Interior Face is upwards. Ensure that both segments remain tightly together.
- 10) Align the TriBlok™ Encapsulation material from both segments so its flat, smooth, and even.
- 11) Locate a corner of the Splice Tape from either Ear Wing. Slowly remove the white release liner from the Splice Tape. There is no need to lift the overhanging cover when removing the liner.
- 12) With your hands press the Splice Cover and Splice Tape into the barrier material below it to ensure good adhesion on all surfaces and edges.
- 13) Repeat this process at all End Termination locations.



**Fig. 15**  
When splicing an End Termination to a standard segment with a splice pocket, remove overhang material from End Termination segment.





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## IVB Series

### STEP 3 – MM Supplied Joint to Joint Transitions:

Due to the complexity of manufacturing encapsulated transitions, it is highly recommended that MM System factory-built Transition Segments be installed. Contact MM Systems for more information.

Transition Segment installation is similar to standard segment splicing. However, factory-built transitions are provided with Splice Pockets at all transition ends along with factory applied internal Splice Tape.

Test fit all IVB Transition Segments in the correct joint location to verify their proper alignment fitment.

For ease of connection, Transition Segments should be spliced onto one section of a joint run prior to run installation. Then additional segments should be attached (if required).



**NOTE:** Prior to applying tape, always clean TriBlok Weather Wrap Barrier surface with Denatured Alcohol where tape is to be applied and let dry.

- 1) Remove IVB Transition Segment from the packaging, take hold by Ear Wings and shake segment to allow the internal insulation to fully expand.
- 2) Locate the Splice Pocket end of the Transition Segment and fold back its overhanging splice material to expose the inner white Splice Pocket and Insulation. (Fig 2)
- 3) Align the standard segment with its Flush End towards the Splice Pocket of the Transition Segment. Note: If applying a Transition Segment to a Standard IVB section with a Splice Pocket end, you must cut off the 3" overhanging and Ear Wing material from the standard IVB segment (therefore making a flush face).
- 4) Insert the Flush End fully into the Splice Pocket of the Transition Segment so the insulation from both segments butt up tightly to each other. (It may be helpful to briefly fold the side Ear Wings of the standard segment up and out of the way while inserting its Flush End into the Splice Pocket).
- 5) Fold down the Splice Cover overhanging material and cover the seam of the nested segment. Align the TriBlok™ Encapsulation material from both segments so it is flat, and even.
- 6) Locate a corner of the Splice Tape from either Ear Wing. Slowly remove the white release liner from the Splice Tape. There is no need to lift the overhanging material when removing the liner.
- 7) Press the Splice Cover and Splice Tape into the mating barrier material and ensure good adhesion on all surfaces and edges.
- 8) Repeat steps 5, 6, & 7 to opposite side.
- 9) If needed, repeat this process to other Transition legs.



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### STEP 4 - IVB-100 thru IVB-600 INSTALLATIONS:

Due to narrow joint width access, IVB-100 through IVB-600 use factory applied Microwaterseal tape for their attachment method. In these sizes Microwaterseal tape is adhered to the outer edge of each Ear Wing. Integral Mounting Rails and screw anchors are used to attach the larger IVB sizes.

- 1) Review shop drawings for proper IVB joint placement.
- 2) Mark IVB Ear Wing edge placement location along the joint surface (both sides).
- 3) Insert IVB assembly into joint with the Interior Face inward.
- 4) The IVB assembly should be snug against the joint surfaces and ought to hold itself temporarily in place. If needed, tape can also be used to assist.
- 5) Align the Ear Wing edge with the surface markings made previously.
- 6) Position Ear Wing and Microwaterseal tape towards joint surface.
- 7) Prior to applying Microwaterseal tape clean joint surface with Denatured Alcohol and dry surface.
- 8) Remove clear release liner from Microwaterseal tape and apply to joint surface.
- 9) Force Microwaterseal tape to joint surface by firmly pressing on Ear Wing covering. Using a flat roller to apply pressure to the tape is recommended.
- 10) Repeat above process to opposite side.

**Note:** The bulk of the IVB assembly can be pushed further into the joint to allow added room while mounting the system. However, once mounted, the Exterior Face should be positioned even with the outside edge of the Microwaterseal Tape (Ref. Drawings 1 & 2).



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## IVB Series

### STEP 5 - HORIZONTAL INSTALLATIONS IVB-700 and LARGER:

#### 5A - Surface Mounting:

- 1) Review shop drawings for proper IVB joint placement.
- 2) Mark IVB Ear Wing edge placement location along the joint surface (both sides).
- 3) Insert IVB assembly into joint with the Interior Face inward.
- 4) The IVB assembly should be snug against the joint surfaces and ought to hold itself temporarily in place. If needed, tape can also be used to assist.
- 5) Align one edge of the side Ear Wing with the surface markings made previously.
- 6) Apply a 1/4" bead of supplied Flexible Seal sealant along the joint surface (under the Ear Wings) approximately 3/4" into the joint from the Ear Wing edge (both sides).
- 7) Align the Integral Mounting Rails (over the sealant) and secure to joint surface with supplied anchors. If needed, predrill anchor holes.
- 8) Repeat above process to opposite side.

**Note:** The bulk of the IVB assembly can be pushed further into the joint to allow added room while anchoring the Mounting Rails. However, once mounted, the Exterior Face should be positioned even with Integral Mounting Rails (Ref. Drawings 1 & 2).

#### STEP 5B - Under Frame Mounting:

Note: Integral Mounting Rails should be removed (peeled off TriBlok™).

- 1) Review shop drawings for proper IVB joint placement.
- 2) Mark IVB Ear Wing edge placement location along the joint surface (both sides).
- 3) Insert IVB assembly into joint with the Interior Face inward.
- 4) The IVB assembly should be snug against the joint surfaces and should hold itself temporarily in place. If needed, tape can also be used to assist.
- 5) Align one edge of the side Ear Wing with the surface markings made previously.
- 6) Apply a 1/4" bead of supplied Flexible Seal sealant along the joint surface (under the Ear Wings) approximately 3/4" into the joint from the Ear Wing edge (both sides).

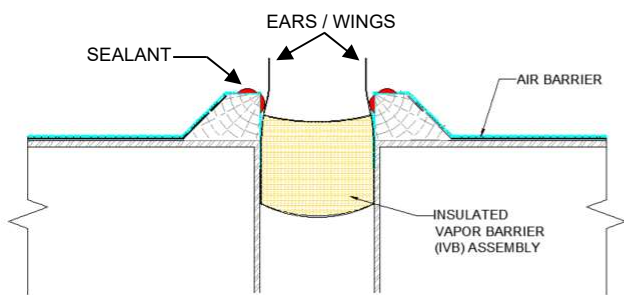


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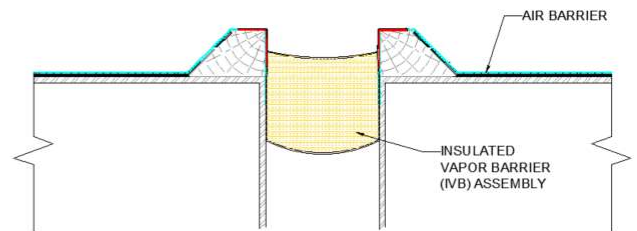
## IVB Series

- 7) Align the Ear Wing over the sealant. Tape can also be used to assist. Secure to frame per joint cover instructions.
- 8) Repeat above process to opposite side.

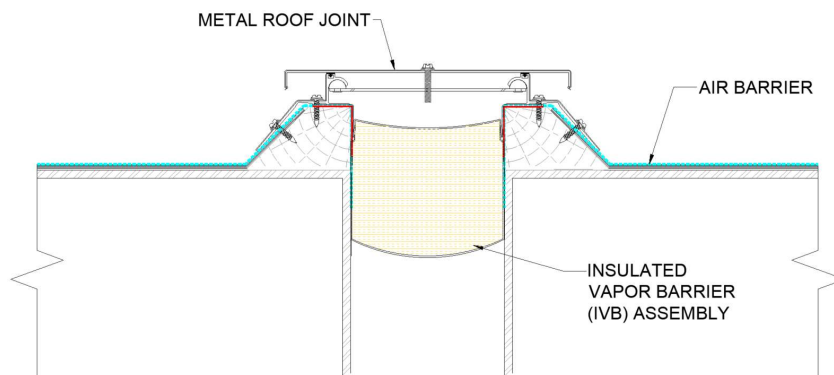
**Note:** The bulk of the IVB assembly can be pushed further into the joint to allow added room while anchoring the IVB system. However, once mounted, the Exterior Face should be positioned even with the edge placement location (see Drawing 3a-c).



Drawing 3a



Drawing 3b



Drawing 3c





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## IVB Series

### **STEP 6 - VERTICAL INSTALLATIONS IVB-700 and LARGER:**

#### **6A - Surface Mounting:**

- 1) Review shop drawings for proper IVB joint placement.
- 2) Mark IVB Ear Wing edge placement location along the joint surface (both sides).
- 3) Insert IVB assembly into joint with the Interior Face inward.
- 4) The Splice Pocket (overlapping material) must be located at the bottom end of vertical splices and extend downward.
- 5) The IVB assembly should be snug against the joint surfaces and ought to hold itself temporarily in place. If needed, tape can also be used to assist.
- 6) Align one edge of the side Ear Wing with the surface markings made previously.
- 7) Apply a 1/4" bead of supplied Flexible Seal sealant along the joint surface (under the Ear Wings) approximately 3/4" into the joint from the Ear Wing edge (both sides).
- 8) Align the Integral Mounting Rails (over the sealant) and secure to joint surface with supplied anchors. If needed, predrill anchor holes.

**Note:** The bulk of the IVB assembly can be pushed further into the joint to allow added room while anchoring the Mounting Rails. However, once mounted, the Exterior Face should be positioned even with Integral Mounting Rails (see Drawing 3a-c above).



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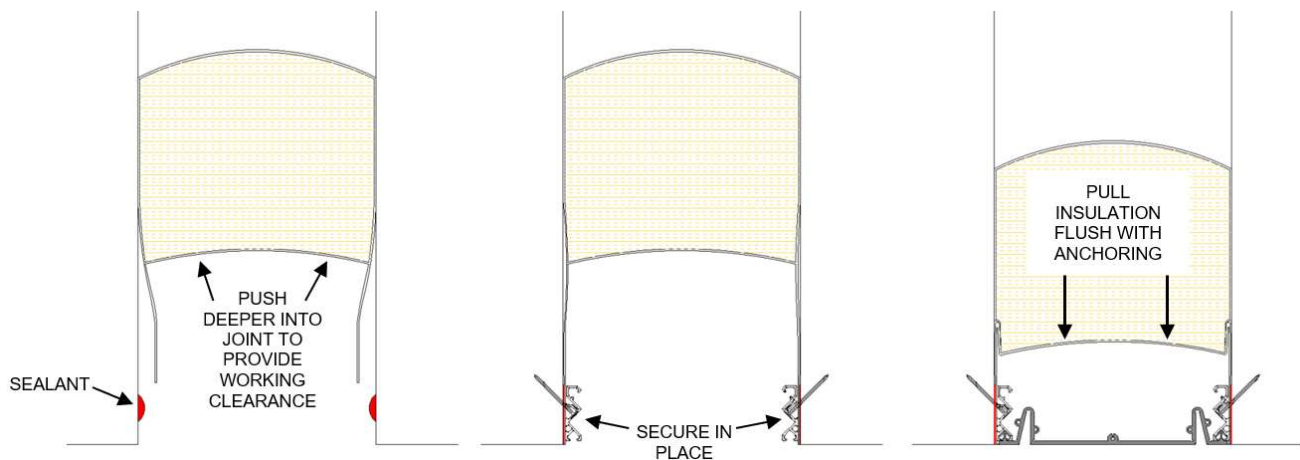
## IVB Series

### 6A - Under Frame Mounting

Note: Integral Mounting Rails should be removed (peeled off TriBlok™).

- 1) Review shop drawings for proper IVB joint placement.
- 2) Mark IVB Ear Wing edge placement location along the joint surface (both sides).
- 3) Insert IVB assembly into joint with the Interior Face inward.
- 4) The Splice Pocket (overlapping material) must be located at the bottom end of vertical splices and extend downward.
- 5) The IVB assembly should be snug against the joint surfaces and should hold itself temporarily in place. If needed, tape can also be used to assist.
- 6) Align one edge of the side Ear Wing with the surface markings made previously.
- 7) Apply a 1/4" bead of supplied Flexible Seal sealant along the joint surface (under the Ear Wings) approximately 3/4" into the joint from the Ear Wing edge (both sides).
- 8) Align the Ear Wing over the sealant. Tape can also be used to assist. Secure to frame per joint cover instructions.
- 9) Repeat above process to opposite side.

**Note:** The bulk of the IVB assembly can be pushed further into the joint to allow added room while anchoring the IVB system. However, once mounted, the Exterior Face should be positioned even with the edge placement location (see Drawing 4).



Drawing 4



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### STEP 7 – End Termination to End Termination Transition:

In some cases, an End Termination to End intersection overlap may be desired.

At transitions where end capped vertical and horizontal runs terminate, the horizontal segment should extend past (over) the vertical segment.

Layout TriBlok™ End Transition Sheet over the exterior side of the vertical and horizontal intersection for fit and alignment. With Denatured Alcohol, clean TriBlok™ surface under the End Termination Sheet cover.



**NOTE:** Prior to applying tape, always clean TriBlok Weather Wrap Barrier surface where tape is to be applied with Denatured Alcohol and let dry.

- 1) Align the standard segment (Interior Face downward) with its Flush End towards the Splice Pocket of the Transition Segment. Note: If applying a Transition Segment to a Standard IVB section with a Splice Pocket end, you must cut off the 3" overhanging and Ear Wing material from the standard IVB segment (therefore making a flush face).
- 2) Insert the Flush End fully into the Splice Pocket of the Transition Segment so the insulation from both segments butt up tightly to each other. (It may be helpful to briefly fold the side Ear Wings of the standard segment up and out of the way while inserting the Flush End into the Splice Pocket).
- 3) Fold down the Splice Cover overhanging material and cover the seam of the nested segment. Align the TriBlok™ Encapsulation material from both segments so it is flat, smooth, and even.
- 4) Locate a corner of the Splice Tape from either Ear Wing. Slowly remove the white release liner from the Splice Tape. There is no need to lift the overhanging material when removing the liner.
- 5) Press the Splice Cover and Splice Tape into the barrier material and ensure good adhesion on all surfaces and edges.
- 6) Now holding both segments together and rotate them so Interior Face is upwards. Ensure that both segments remain tightly together.
- 7) Align the TriBlok™ Encapsulation material from both segments so it is flat, smooth, and even.
- 8) Locate a corner of the Splice Tape from either Ear Wing. Slowly remove the white release liner from the Splice Tape. There is no need to lift the overhanging material when removing the liner.
- 9) Press the Splice Cover and Splice Tape into the barrier material and ensure good adhesion on all surfaces and edges.
- 10) If needed, repeat this process to other Transition locations.