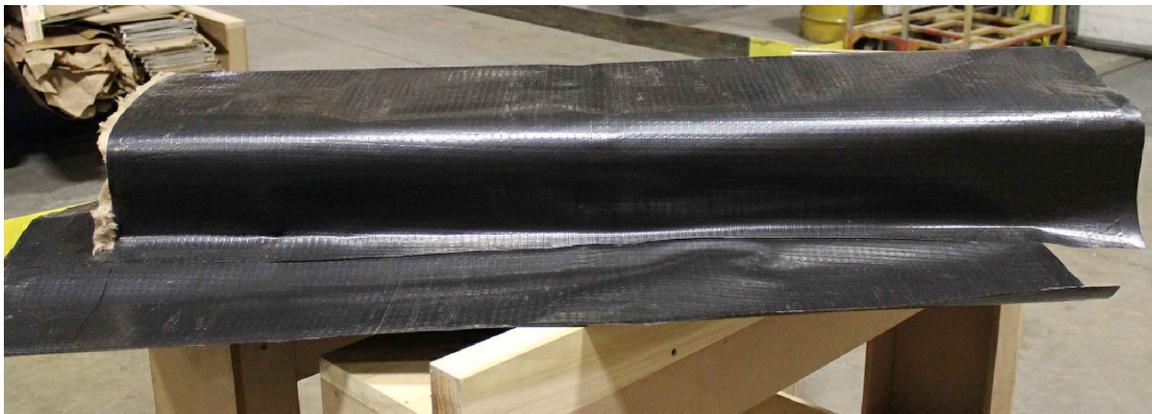
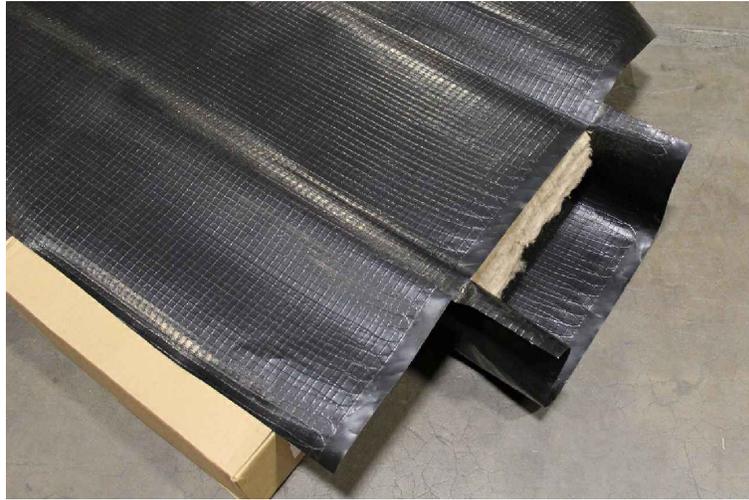


THERMAL VAPOR BARRIER (TVB) 1" - 40" INSTALLATION INSTRUCTIONS



IMPORTANT INFORMATION

Prior to the commencement of Installation all materials **MUST** be inspected for Damage. Any damage must be reported to Construction Specialties as soon as possible, so that replacement materials may be furnished without delay.

All work must be completed as per Architect's Approved "Shop Drawings", and in accordance with these Installation Instructions. When installation is complete, all materials must be protected from damage until the Architect's FINAL INSPECTION.

All materials should be arranged in the order that they are to be installed. All hardware required for each portion of the work should be placed with the appropriate materials.

Please review all Approved Shop Drawings and this Document to familiarize yourself with all the details and components of this assembly.

IMPORTANT:
READ THROUGH ALL INSTRUCTIONS PRIOR TO STARTING INSTALLATION

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Construction Specialties™

6696 Route 405 Highway, Muncy PA 17756
(800) 233-8493 , Fax (570) 546-5169 , www.c-sgroup.com

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GENERAL NOTES



General Instructions:

- * Thermal Vapor Barrier (TVB) must be installed in accordance with any installation instruction or details provided for the specific projects requirements.
- * These instructions are for use with installation of all horizontal and vertical applications.
- * Galvanized retainer clips and fasteners are provided and used only in applications where no expansion joint cover exists or the application does not utilize the frame to secure the TVB in place.
- * Two Splicing Methods, outside the joint on a flat surface (recommended splicing method) or splicing the TVB system in the joint.
- * Cutting a TVB section to fit in the joint run, apply CS supplied spray lock adhesive to the polyethylene cut end between the top and bottom layers of insulation blanket. Adhesive spray bonds the insulation blanket to the polyethylene holding it in place.
- * Transitioning one TVB section to another TVB in a horizontal application a second layer of vapor barrier is to be installed providing superior water protection to the elements.

Packaging:

- * Materials R13 & R19 shipped in 25'-6" rolls for joint widths 1"-4" and 10'-6" straight sections for joint widths 5" and up. R30 shipped in 13'-0" sections for all joint sizes.

Material Preparation:

- * All sections should be removed from the shipping containers and laid out to allow material to relax and flatten prior to installation.

SPLICING INSTRUCTION METHODS

The following instructions are to be used to splice together two pieces of TVB sections. Recommended procedure is to splice together on a flat surface prior to installation but, splicing can be done with the TVB installed in the joint. It is recommended not to assemble too many sections together at one time, these may become too large or cumbersome to handle. Assemble a couple of sections together and determine the difficulty of handling before assembling longer runs of material. The splicing procedure remains the same for any size of TVB material.

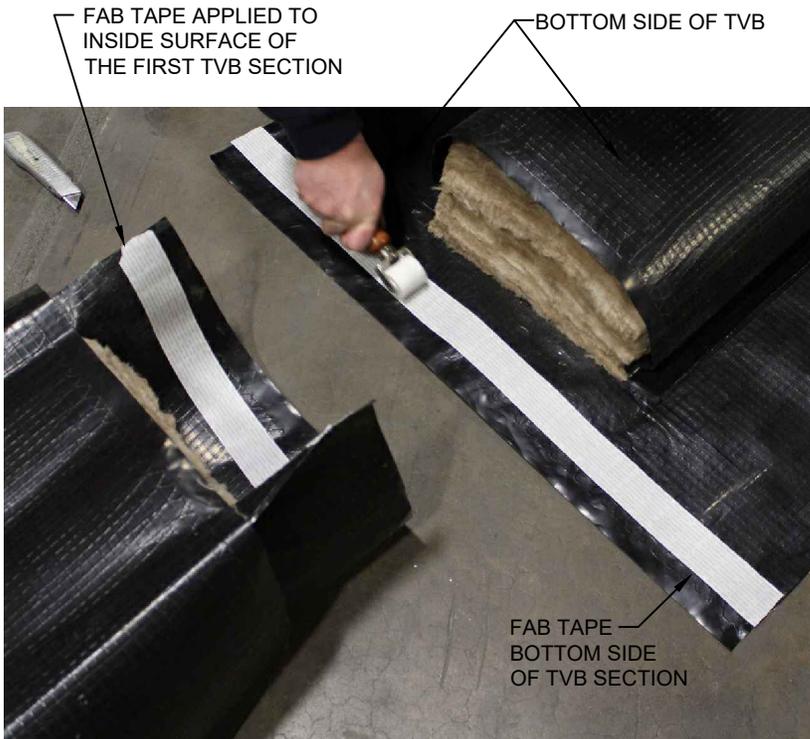


Fig. 1



Fig.2

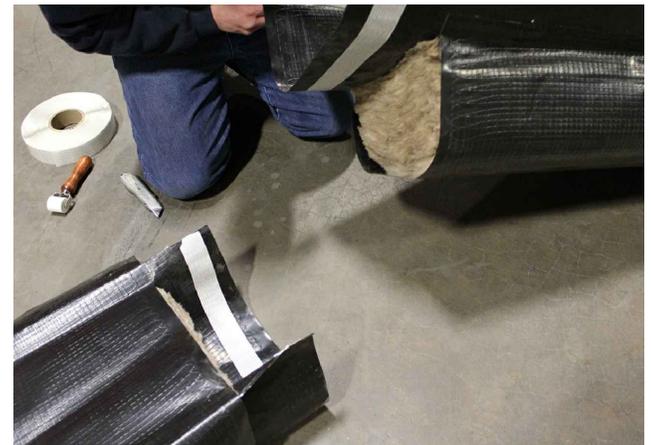


Fig. 3

SPLICING INSTRUCTIONS ON A FLAT SURFACE

Step 1

Lay the first TVB section on a flat surface with the 6" of vapor barrier material extending beyond the insulation barrier. Lay the next section bottom side up with the 6" vapor barrier extension material laying flat. Apply the supplied CS fab tape to the inside surface of the first section of TVB and the bottom side of the top section approximately 1" from the splicing end. Do not remove the tape backing from the fab tape. Use a roller to apply pressure to seat the tape to the vapor barrier. * (See figure 1 above.) To increase the bond strength of the fab tape use a non-flaming or sparking heat gun and heat the fab tape area.

Step 2

Take the second section of TVB and flip it over so that insulation material will mate together *(See figure 2 & 3 above). Peel off the fab tape paper backing from the inside surface of TVB. Bring together the two TVB insulation sections making sure the insulation material butts tightly together. *(See Figure 4 & 5 below)



Fig. 4



Fig. 5



Fig. 6



Fig. 7

Step 2 Con't.

Remove the paper backing from the fab tape of the 6" overlapping flange of the mating section. Apply pressure to the fab taped area to seal. Use a roller to ensure a secure bond at the taped area. Repeat this installation procedure for additional lengths of Thermal Vapor Barrier (TVB). *(See figure 6 -8 above).



Fig. 8

SPLICING INSTRUCTIONS FOR TVB IN THE JOINT

Step 1

Follow **Splicing Instructions on a Flat Surface** to apply the CS supplied fab tape prior to installing in the joint. *(See page 3 and figure 9 below)

Note: To install TVB system spliced or TVB sections to splice in the joint area you will need to determine the required recess depth of the TVB drape. Review the shop drawings and the expansion joint cover anchor frame. The recommended minimum recess depth is 1 1/2" for most applications.

Take the first length of TVB material to be installed and fold the insulation into a "U" shape to place into the joint area. Tape the TVB flanges to the substrate to hold in place. *(See figure 10) Remove the paper backing to the fab tape.

Take the second section of TVB folding the insulation into a "U" shape. Care must be taken in mating to the first section of TVB making sure the material is centered before seating into the joint. The fab tape is unforgiving when the materials bond together. The two sections should tightly butt together. *(See figure 11)



Fig. 9

FAB TAPE APPLIED TO INSIDE SURFACE OF THE FIRST TVB SECTION

FAB TAPE BOTTOM SIDE OF TVB SECTION



Fig. 10



Fig. 11

SPLICING INSTRUCTIONS FOR TVB INSTALLED IN THE JOINT CON'T.

Step 2

Tape the second section of TVB to the substrate to hold in place.

Remove the paper backing from the fab tape of the 6" overlapping flange of the mating section, apply pressure to seal the area together.

*(See figure 12 &13) Repeat the splicing procedure for additional sections of Thermal Vapor Barrier (TVB).



Fig. 12



Fig. 13

SPLICING INTO EXTERIOR MEMBRANE INSTRUCTIONS

The top layer of Thermal Vapor Barrier (TVB) has 9" wide flanges to tie into the main exterior waterproofing membrane. It will be necessary to test the water proofing membrane sealant compound to the TVB membrane to ensure good sealing between materials. Dow Corning 758 Silicone Weather Barrier Sealant has been tested with the TVB vapor barrier and has proven to provide an acceptable water seal to the TVB material and other common waterproofing membranes.

Once applied, roll the overlapping area between the waterproofing membrane and the wing of the TVB to ensure proper sealing and coverage.

VERTICAL INSTALLATION

Vertical Installation of the Thermal Vapor Barrier (TVB) applications start at the bottom of the run.

At each section of vertical TVB adhere a 2 1/2" long piece of fab tape to both sides of the TVB system, 12" down from the top and centered on the TVB system (See Fig. 13A). Remove the paper backing from the fab tape on the bottom side and install the tie pin pushing through the fab tape, through insulation and fab tape on the top side (See Fig. 13B). Flip over the TVB system, remove the paper backing from the fab tape (See Fig. 13C).



Fig. 13A

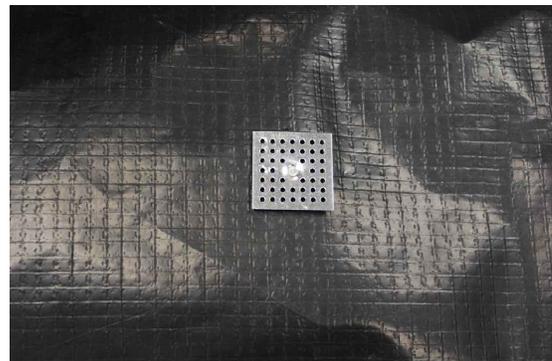


Fig. 13B



Fig. 13C

VERTICAL INSTALLATION

Place a locking washer over the tie pin compressing the insulation barrier slightly (See Fig. 13D). Bend the tie pin over and cut off the tie pin so that it does not extend past the locking washer (See Fig. 13E & 13F). Splice together TVB sections by one of the splicing methods (Recommended method is to splice the TVB system outside the joint).

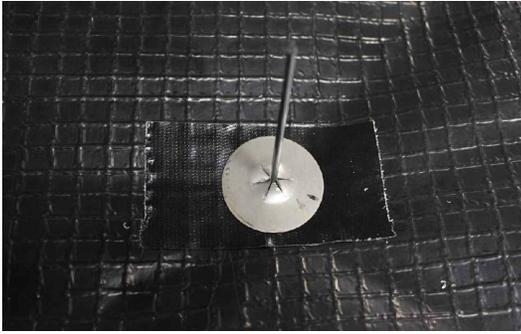


Fig. 13D



Fig. 13E

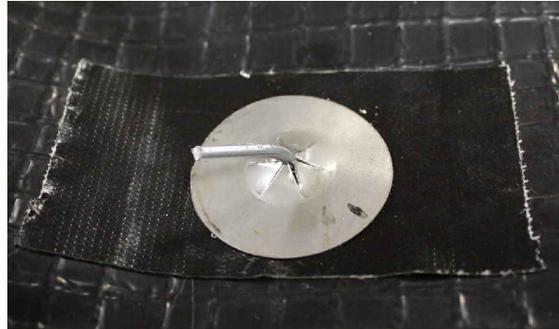


Fig. 13F

HORIZONTAL INSTALLATION

Horizontal Installation of the Thermal Vapor Barrier (TVB) system start at one end of the run.

Install the TVB system by splicing together TVB sections by one of the splicing methods (Recommended method is to splice the TVB system outside the joint).

VERTICAL/ HORIZONTAL TVB INSTALLATION

To install the TVB system in the joint you will need to determine the required recess depth of the TVB drape. Install according to one of the splicing methods. Review the shop drawings for the location of the expansion joint cover anchor frame. The recommended minimum recess depth is 1 1/2" for most applications.

Note: Expansion Joint Covers having a center pin or bolt extending into the joint space require the TVB system to be recessed deeper into the joint space. Install the top layer of the TVB blanket parallel to the extending center pin or bolt. *(See figure 14)

With the run of TVB in place tape the flanges to the vertical or horizontal face to hold in place. *(See figure 14A)

Fig. 14



Fig. 14A

In Horizontal applications of TVB system, a layer of Vapor Barrier (7 ply.) material is installed over top the Thermal Vapor Barrier providing added protection to the elements.



Fig. 15



Fig. 16

If using expansion joint cover frame to anchor the TVB system and 7 ply vapor barrier follow the installation instructions of the expansion joint cover, securing through the overlapping flange of the TVB. If no expansion joint cover is installed, use a galvanized washer strip and anchors provided, located 1" from the joint edge, securing TVB system to the surface of the substrate. Drilling through the membrane place silicone at the fastener locations to prevent water penetration. Repeat for any remaining sections of TVB.
*(See figure 17 & 18)



Fig. 17



Fig. 18

TVB TOP LAYER WIDTH

Note: The TVB chart below shows top layer width dimensions for 100% and 200% movements.

TVB		
NOMINAL JOINT WIDTH	TOP LAYER WIDTH 100% MOVEMENT	TOP LAYER WIDTH 200% MOVEMENT
1"	22 1/2"	23"
2"	24"	25"
3"	25 1/2"	27"
4"	27"	29"
6"	30"	33"
8"	33"	37"
10"	36"	41"
12"	39"	45"
14"	42"	49"
16"	45"	53"
18"	48"	57"
20"	51"	61"
22"	54"	65"
24"	57"	69"
26"	60"	73"
28"	63"	77"
30"	66"	81"
32"	69"	85"
34"	72"	89"
36"	75"	93"
38"	78"	97"
40"	81"	101"

TRANSITIONS / MITERS

In Transitions it is important to minimize the cutting of the top layer of vapor barrier material on the TVB system. The vapor barrier material is flexible and easily transitions with minimal penetrations.

VERTICAL TO HORIZONTAL TRANSITION

It is recommended to use one continuous section of TVB to transition from a vertical to a horizontal condition. Without cutting the material, fold TVB material into a "U" shape and install in the expansion joint area. If using a spliced piece of material make sure the splice area is not at the 90° corner of the transition. (See figure 19)



Fig. 19

90° HORIZONTAL TRANSITION

It is recommended to cut the 9" flanges back to the seamed insulation blanket and to only cut the bottom layer of vapor barrier and insulation material. These cuts will allow the product to fold into the cavity at the transition without cutting the outer vapor barrier layer. (See figure 20 & 21)



Fig. 20



Fig. 21

Fold the TVB insulation blanket into a "U" shape and install into the joint area, installing to the recessed depth of the straight run of material. Tape the 9" TVB flanges to the substrate to hold in place. At the outside corner surface splice in a 12" x 12" vapor barrier piece, notching to allow installation in corner. Apply CS supplied fab tape to splice edges, remove paper backing and apply pressure to ensure a secure bond. *(See figure 22 & 23)

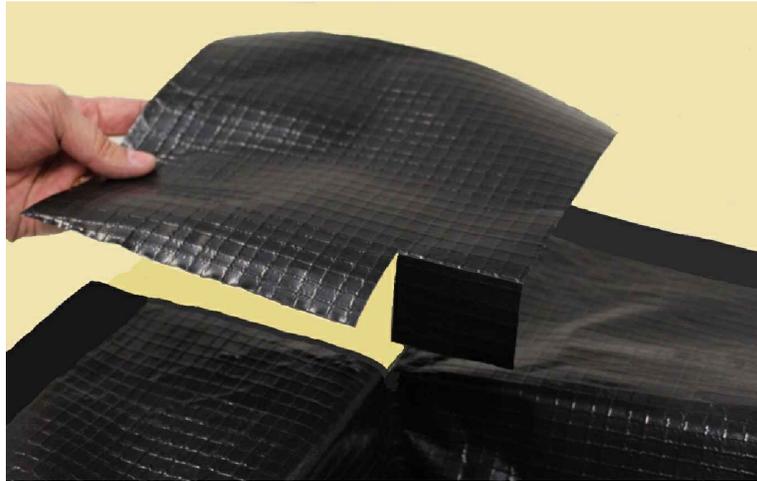


Fig. 22



Fig. 23

"T" Transition:

It is recommended to have one section run continuous through the "T" transition butting /splicing in TVB leg creating the "T" transition.



Fig. 24

Cut the bottom layer of vapor barrier back 12" on each side of the insulation material folding back to expose insulation material. Cut and remove 12" of insulation material leaving the vapor barrier on the top and bottom of the TVB system. *(See figure 24,25 & 26)



Fig. 25



Fig. 26

Fold the bottom layer of vapor barrier material up tucking in over the top of the insulation material. *(See figure 27)
Fold 1" of the top layer of vapor barrier down over and crease. *(See figure 28)



Fig. 27



Fig. 28

"T" Transition Con't:



Fig. 29



Fig. 30

Apply CS supplied fab tape to the 1" folded over / creased tab. Fold the 1" fab taped area up over the top layer of vapor barrier. Remove the paper backing from the fab tape and apply pressure to seal. Use a roller to ensure a secure bond to the taped area. *(See figure 29 & 30)



Fig. 31

Fold the insulation of the leg "T" transition into a "U" shape to install in the joint area at the required recess depth of the TVB drape. Review the shop drawings and the expansion joint cover anchor frame to determine the recess depth required. The recommended minimum recess depth is 1 1/2" for most applications. Tape the TVB section to the substrate to hold in place. *(See figure 31)

Butt the "T" leg of the transition into the continuous run of TVB material creating the "T" transition. *(See figure 32)



Fig. 32

"T" Transition Con't:



Fig. 33

Cut the 9" flange of the continuous run of TVB material at the center of the intersecting leg down to the seamed insulation blanket but not cut into the insulation material. Fold the cut flange to fit into the joint area of the intersecting leg. Apply CS supplied fab tape to the backside of the cut flanges, apply pressure to seal cut flanges into place.
*(See figure 33 & 34)



Fig. 34