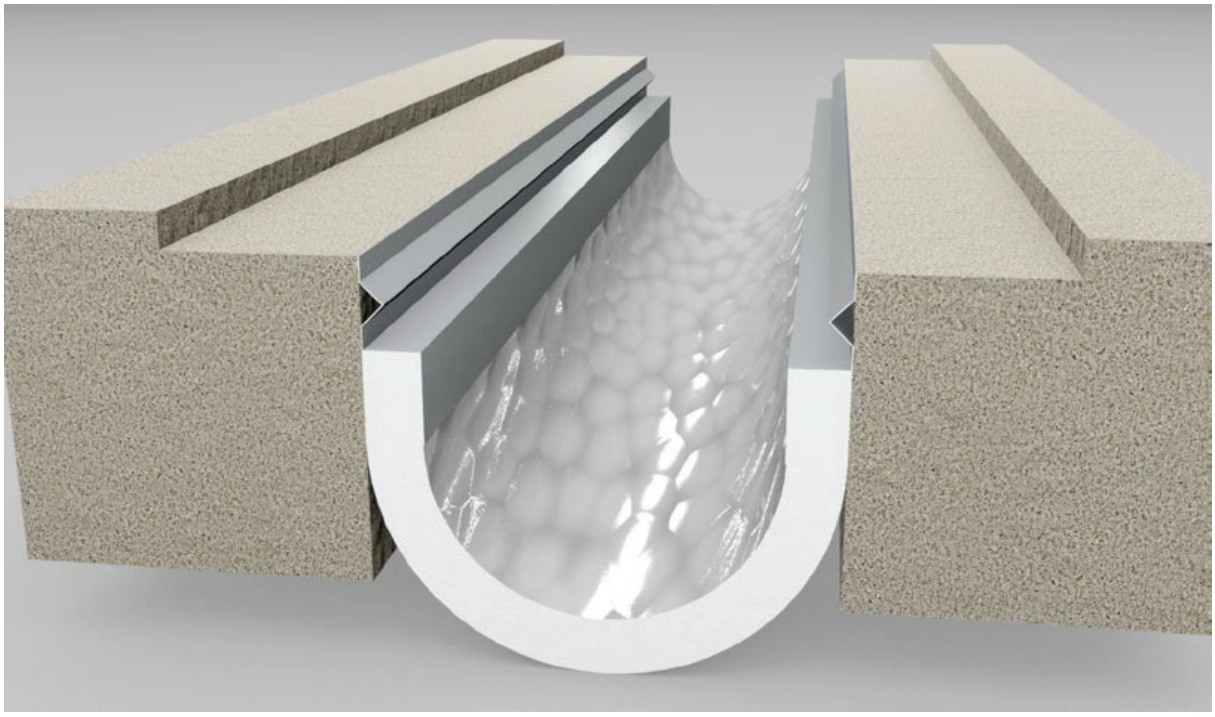
EMSEAL

BUILDING TRUST

Sika

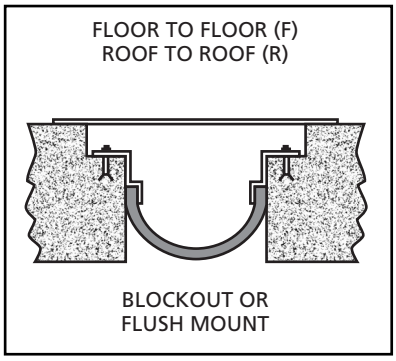
Installation Procedure

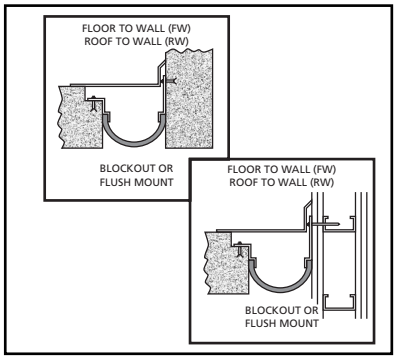


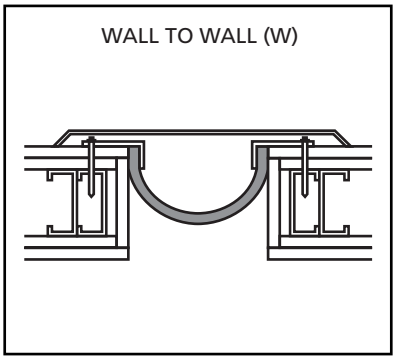
Wabo®FireFlex

For technical information contact Sika *Emseal (508) 836-0280*

WABO®FIREFLEX
EXPANSION JOINT –EJ– FIRE BARRIER*
Installation Instructions







Horizontal:	Horizontal:	Vertical:
HFF-01-2	HFW-01-2	VFF-01-2
HFF-02-2	HFW-02-2	VFF-02-2
HFF-03-2	HFW-03-2	VFF-03-2
HFF-04-2	HFW-04-2	VFF-04-2
HFF-05-2	HFW-05-2	VFF-05-2
HFF-06-2	HFW-06-2	VFF-06-2

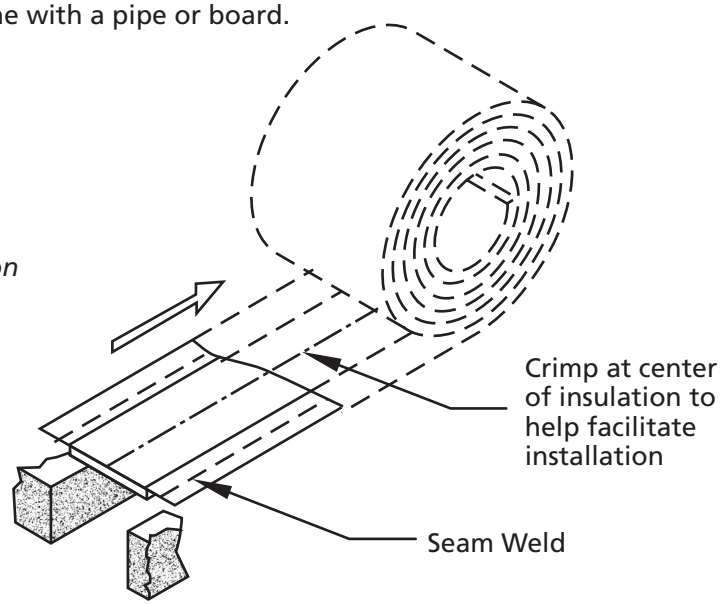
General Instructions:

- Fire Barriers must be installed in accordance with installation instructions to maintain UL® Rating.
- These instructions are for all horizontal and vertical FireFlex installations for 1" - 6" nominal joint widths
- If splicing is required, see the separate splicing instructions.
- The galvanized flanges are always required for installation
- Appropriate fasteners supplied by others are required for all the horizontal and vertical installations.
- Typically, the same fasteners can be used to fasten the cover plate mechanism and the fire barriers.
- Wear heavy duty work gloves and eye protection during the entire installation process.

Packaging:
Each carton contains one 25 foot roll of FireFlex EJ Fire Barrier, one kit with the necessary material for splicing, the installation instructions and the splicing instructions.
The galvanized flanges necessary for installation are packaged separately

Material Preparation:
Roll out product face up (the side with the UL® label) and cut to length. The insulation portion of the product can be formed into a "U" or "V" shape to help it fit into the expansion joint. This can be done by crimping the insulation along the center line with a pipe or board.

Fig. A
Material Preparation



*U.S. Patent No. 6,125,601

Step 1

After completing material preparation described on page 1 and as shown in Fig. A, place the fire barrier in the expansion joint. The foil flanges can be folded along the seam weld line onto the exposed face of the concrete slab. (See Fig. B). With the low profile (LP) galvanized flange, the foil flanges can be folded along the seam weld line down inside the expansion joint void so that no part of the barrier is on the exposed surface of the floor (See Fig. C)

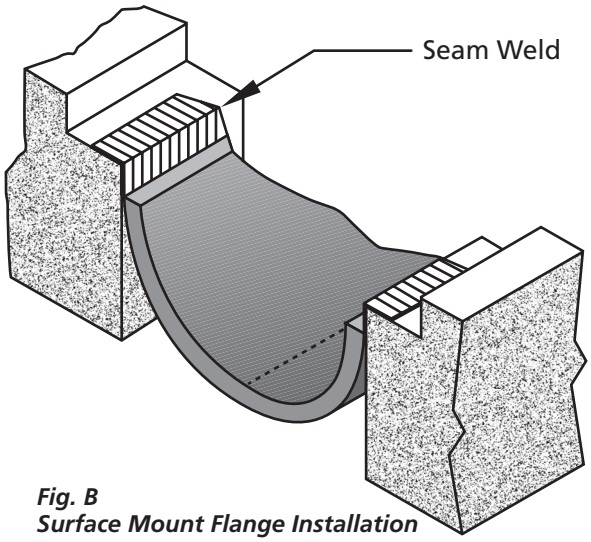


Fig. B
Surface Mount Flange Installation

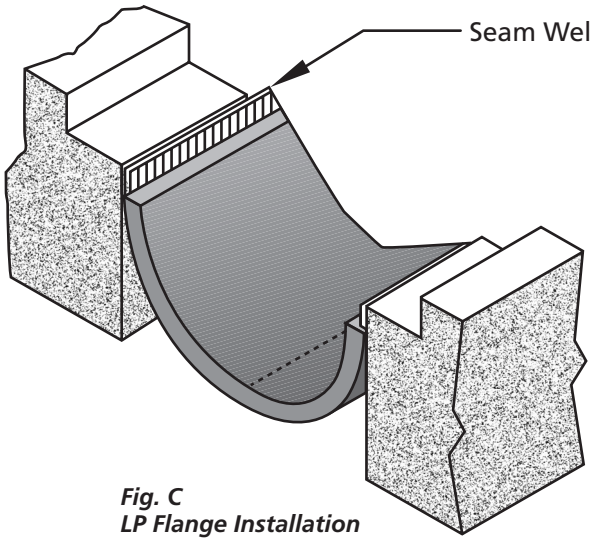


Fig. C
LP Flange Installation

Step 2

Cut the galvanized flanges to length and drill appropriate size holes with maximum spacing of 18". Install the flanges with appropriate fasteners (by others) as shown (See Figs. D & E)

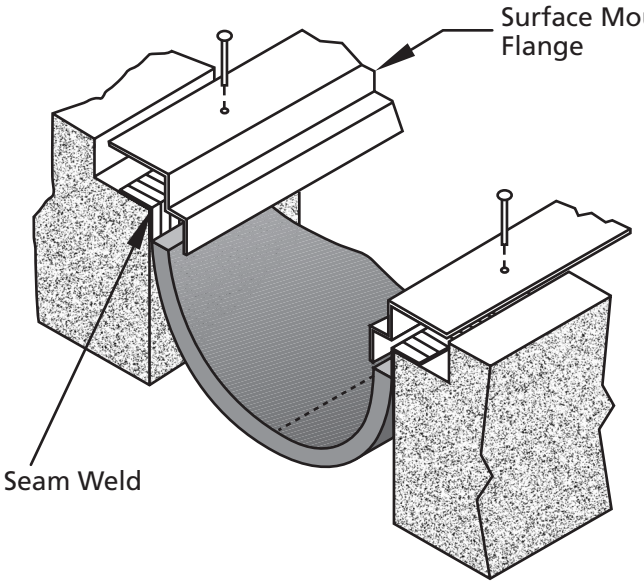


Fig. D
Surface Mount Flange Installation

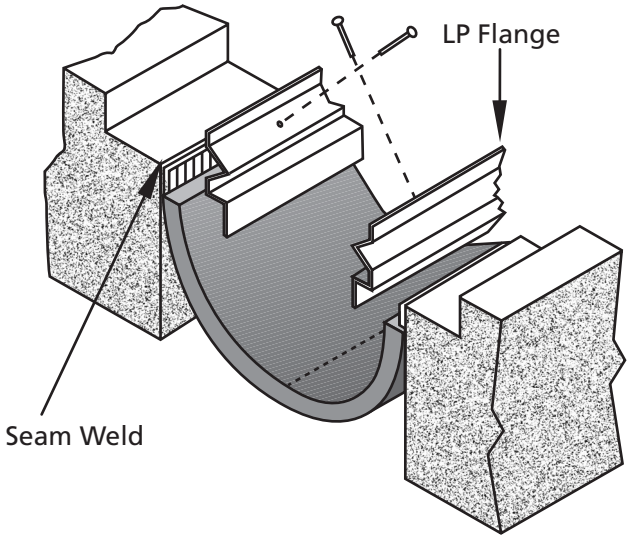


Fig. E
LP Flange Installation

Step 3

Install the expansion joint covers (by others) over the joint or in the blockout with appropriate fasteners (by others).

*U.S. Patent No. 6,125,601

Installation Instructions
Floor to Wall
Roof to Wall

Step 1

After completing material preparation described on page 1 and as shown in Fig. A, place the fire barrier in the expansion joint. The foil flanges can be folded along the seam weld line onto the exposed face of the floor slab. The foil flange can be run up the wall on the other side of the joint. (See Fig. B2). With the Low Profile (LP) galvanized flange configuration on the wall side, the foil flange can be folded over itself before the galvanized flange is fastened into place. (See Fig. C2).

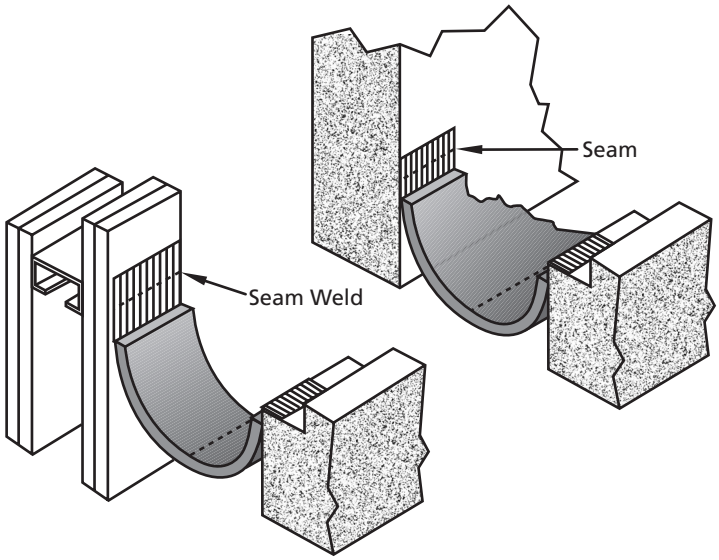


Fig. B2
Surface Mount Flange Installation

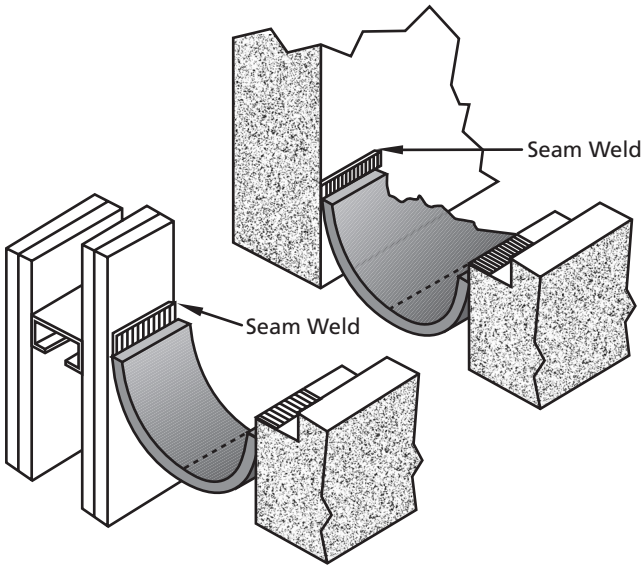


Fig. C2
LP Flange Installation

Step 2

Cut the galvanized flanges to length and drill appropriate size holes with maximum spacing of 18". Install the flanges with appropriate fasteners (by others) as shown. (See Fig. D2 & E2)

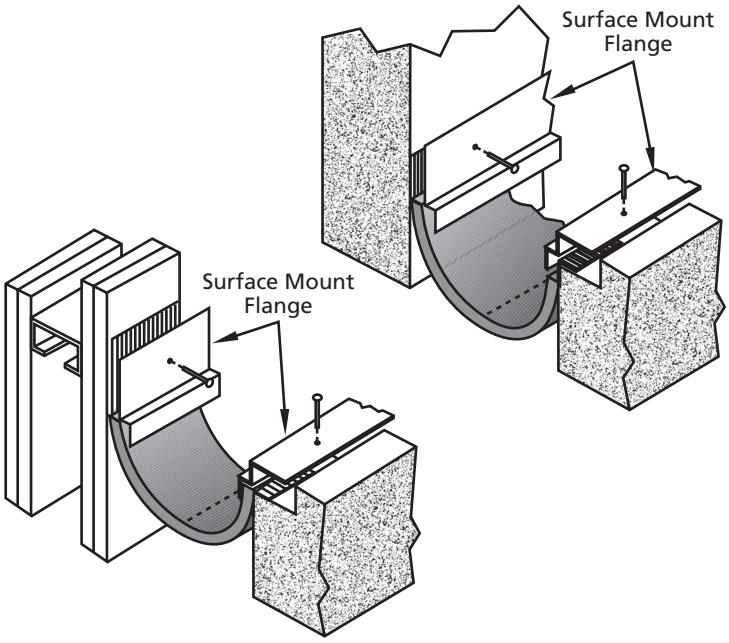


Fig. D2
Surface Mount Flange Installation

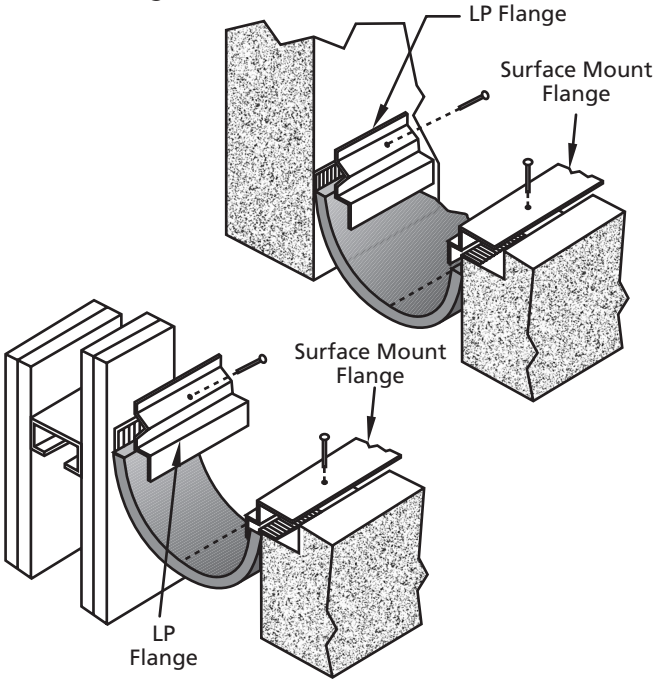


Fig. E2
LP Flange Installation

Step 3

Install the expansion joint covers (by others) over the joint or in the blockout with appropriate fasteners (by others).

*U.S. Patent No. 6,125,601

Installation Instructions
Wall Joints

Step 1

After completing material preparation described on page 1 and as shown in Fig. A, place the fire barrier in the expansion joint. The foil flanges can be entirely on the exposed surface of the wall for the Surface Mount galvanized flange (See Fig. B1).

With the Low Profile (LP) galvanized flanges, the foil flanges can be inside the joint cavity so that no part of the barrier is on the exposed surface of the wall. (See Fig. C1).

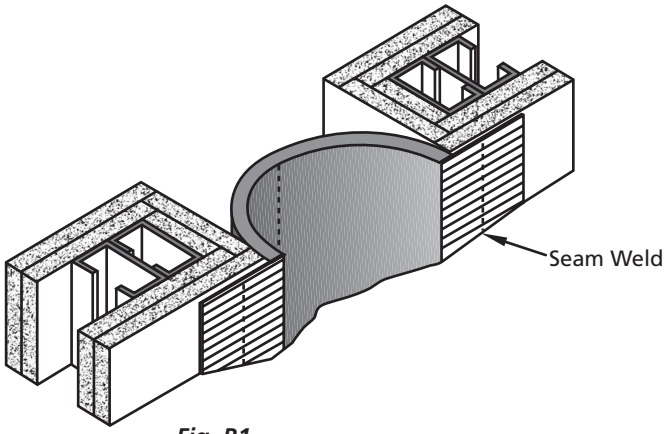


Fig. B1
Surface Mount Flange Installation

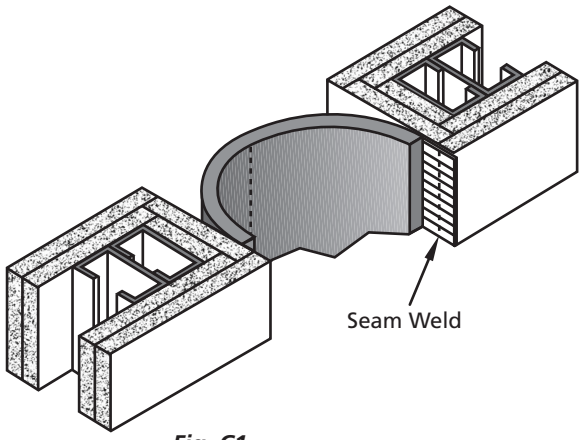


Fig. C1
LP Flange Installation

Step 2

Cut the galvanized flanges to length and drill appropriate size holes with maximum spacing of 18".
Install the flanges with appropriate fasteners (by others) as shown. (See Fig. D1 & E1).

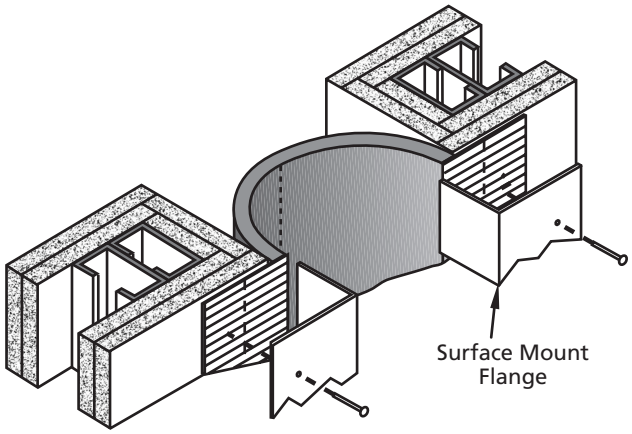


Fig. D1
Surface Mount Flange Installation

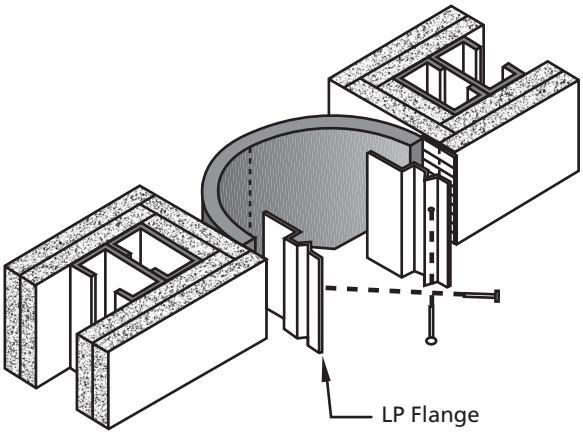


Fig. E1
LP Flange Installation

Step 3

Install the expansion joint covers (by others) to either side or both sides of the wall when accessible with appropriate fasteners (by others).

*U.S. Patent No. 6,125,601

Installation Instructions
Corner Wall

Step 1

After completing material preparation described on page 1 and as shown in Fig. A, place the fire barrier in the expansion joint. The foil flanges can be folded along the seam weld line onto the exposed face of the wall. The foil flange can be run out the wall on the other side of the joint. (See Fig. B3).
With the Low Profile (LP) galvanized flange configuration on the wall side, the foil flange can be folded over itself before the galvanized flange is fastened into place (See Fig. C3).

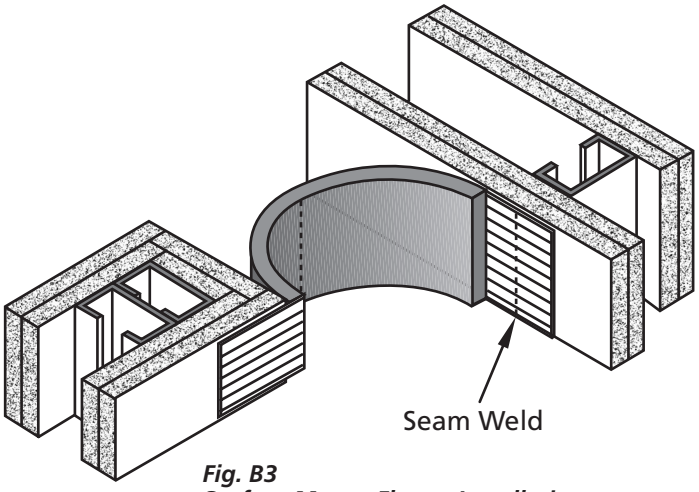


Fig. B3
Surface Mount Flange Installation

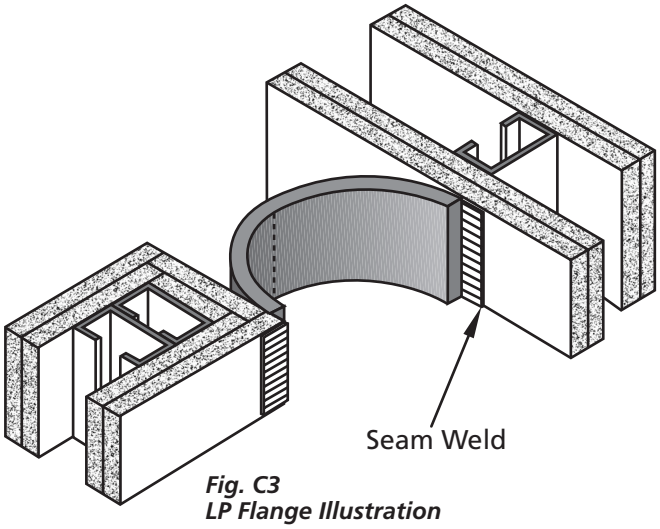


Fig. C3
LP Flange Illustration

Step 2

Cut the galvanized flanges to length and drill appropriate size holes with maximum spacing of 18".
Install the flanges with appropriate fasteners (by others) as shown. (See Fig. D3 & E3).

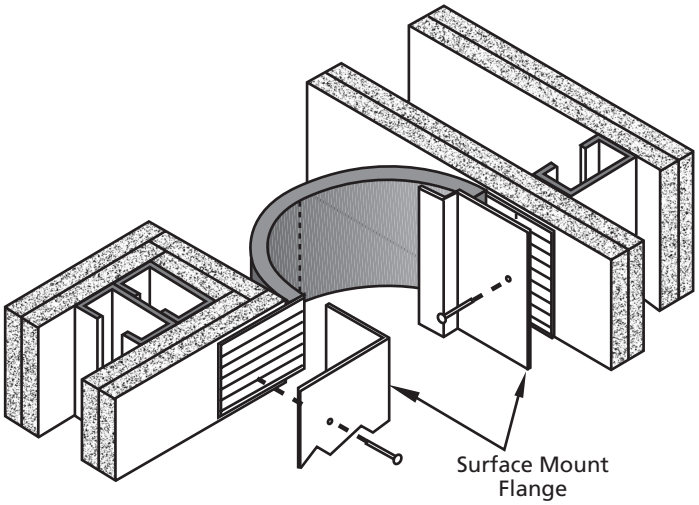


Fig. D3
Surface Mount Flange Installation

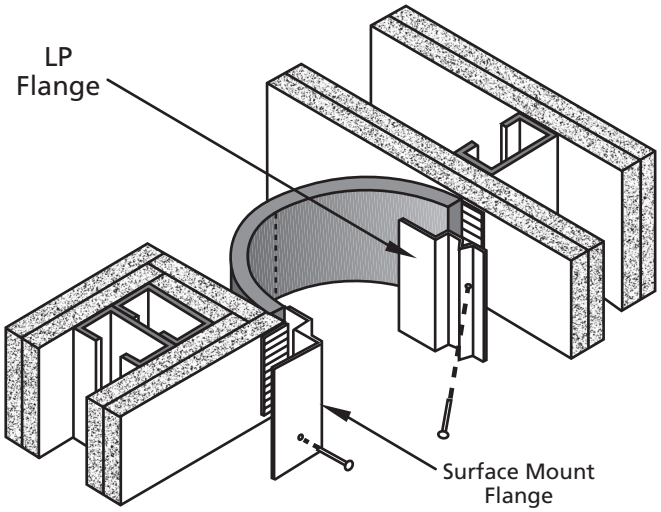


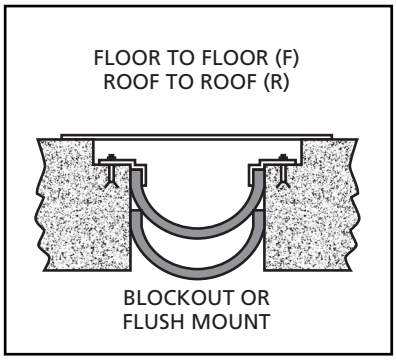
Fig. E3
LP Flange Installation

Step 3

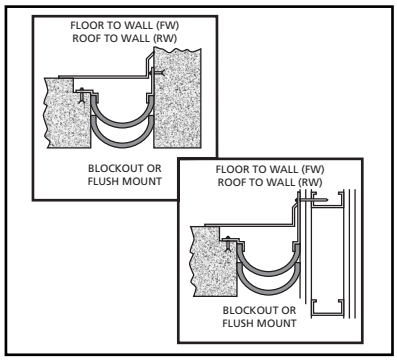
Install the expansion joint covers (by others) to either side or both sides of the wall when accessible with appropriate fasteners (by others).

*U.S. Patent No. 6,125,601

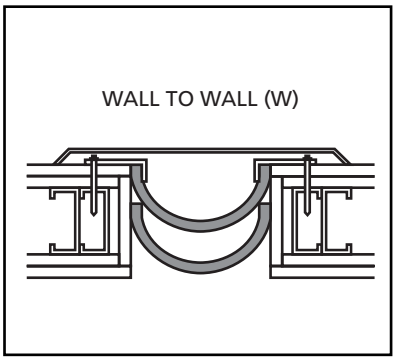
WABO®FIREFLEX
EXPANSION JOINT –EJ– FIRE BARRIER*
Installation Instructions
Attached Flange & Double Barrier System



Horizontal:
HFF-08-2
HFF-10-2
HFF-12-2
HFF-14-2
HFF-16-2
HFF-18-2
HFF-20-2



Horizontal:
HFW-08-2
HFW-10-2
HFW-12-2
HFW-14-2
HFW-16-2
HFW-18-2
HFW-20-2



Vertical:
VFF-08-2
VFF-10-2
VFF-12-2
VFF-14-2
VFF-16-2
VFF-18-2
VFF-20-2

General Instructions:

- Fire Barriers must be installed in accordance with installation instructions to maintain UL® Rating.
- These instructions are for all horizontal and vertical FireFlex installations for 8" - 20" nominal joint widths.
- The 8" - 12" nominal joint width barriers are a single draped system.
- The 14" - 20" nominal joint width barriers are a double draped system as shown.
- The galvanized flanges are welded to the fire barriers and are always required for installation.
- Appropriate fasteners supplied by others are required for all the horizontal and vertical installations.
- Typically, the same fasteners can be used to fasten the cover plate mechanism and the fire barriers.
- If splicing is required, see the separate splicing instructions.
- Wear heavy duty work gloves and eye protection during the entire installation process.

Packaging:

Each carton contains: 10 foot lengths (custom lengths are also available) of FireFlex EJ Fire Barrier with the galvanized flanges attached.
One kit with the necessary material for splicing
The installation and splicing instructions

Material Preparation:

Roll out product face up (the side with the UL® label) and cut to length. The insulation portion of the product can be formed into a "U" or "V" shape to help it fit into the expansion joint. This can be done by crimping the insulation along the center line with a pipe or board. (optional) (Fig. A)

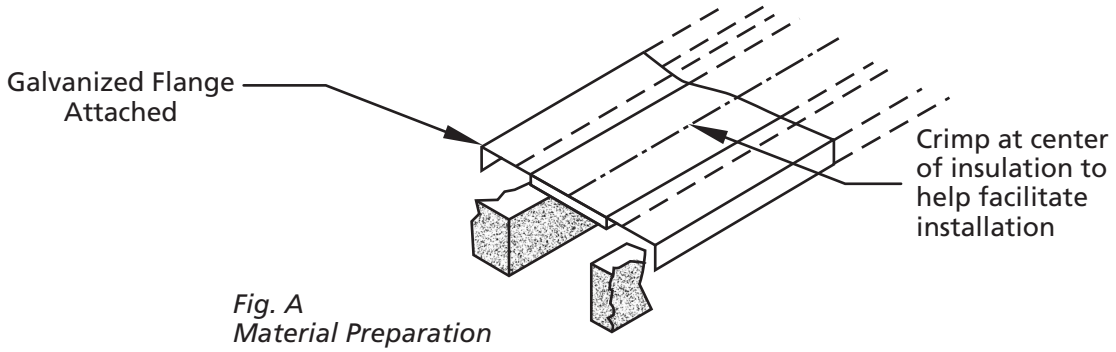


Fig. A
Material Preparation

*U.S. Patent No. 6,125,601

Installation Instructions
Horizontal or Floor and Roof Joints

Single Fire Barrier Installation: 8" - 12" Nominal Joint Widths

Step 1

After completing material preparation described on page 1 and as shown in Fig. A, place the barrier into the expansion joint cavity. Drill the appropriate size holes and secure the flanges with fasteners (by others) with a maximum spacing of 18" (See Figs. B & C)

Step 2

Cut the expansion joint covers (by others) over the joint, or in the blockout with appropriate fasteners. (by others)

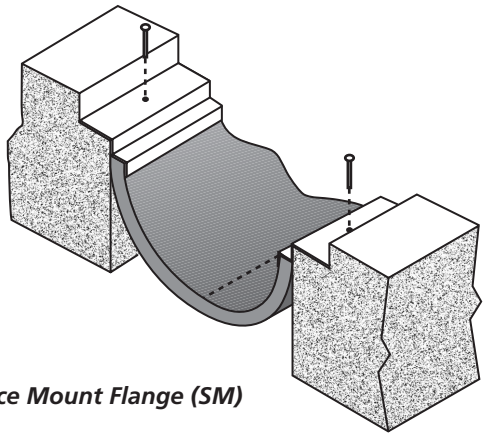


Fig. B
Surface Mount Flange (SM)

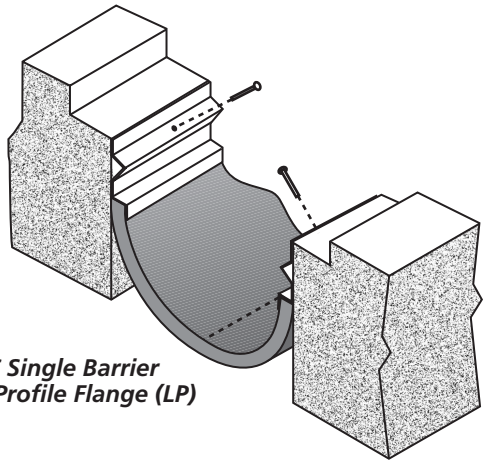


Fig. C Single Barrier
Low Profile Flange (LP)

Double Barrier Installation: 14" - 20" Nominal Joint Widths

Step 1

After completing material preparation described on page 1 and as shown in Fig. A, place the lower fire barrier into the expansion joint cavity. (See Figs. D & E).

Optional: Prior to installing the upper fire barrier, if the lower fire barrier requires fastening to hold it in place, drill appropriate size holes to the flanges and secure with fasteners (by others).

Step 2

Install the upper fire barrier and drill the appropriate size holes as shown in Fig. D. The fasteners (by others) need to be installed with a maximum spacing of 18". The same fasteners used to install the cover mechanism can generally be used to install the fire barriers.

Fire barriers with Low Profile flanges are secured with fasteners inside the joint cavity. (See Fig. E).

Note: Fire barriers with Surface Mount flanges can also be secured with fasteners inside the joint cavity.

Step 3

Install the expansion joint covers (by others) over the joint or in the blockout with appropriate fasteners (by others).

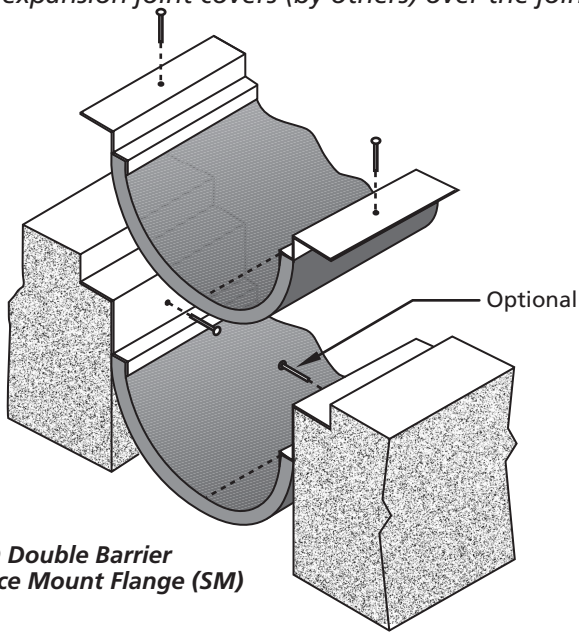


Fig. D Double Barrier
Surface Mount Flange (SM)

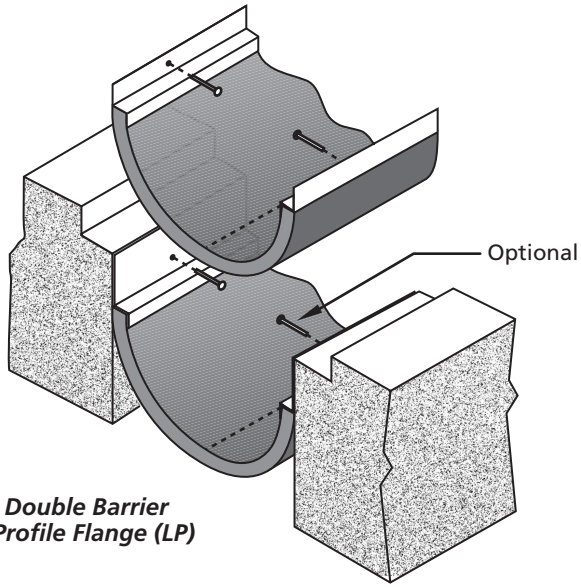


Fig. E Double Barrier
Low Profile Flange (LP)

*U.S. Patent No. 6,125,601

Installation Instructions
Floor to Wall
Roof to Wall

Single Fire Barrier Installation: 8" - 12" Nominal Joint Widths

Step 1

After completing material preparation described on page 1 and as shown in Fig. A, place the barrier into the expansion joint cavity. Drill the appropriate size holes and secure the flanges with fasteners (by others) with a maximum spacing of 18" (See Figs. F & G)

Step 2

Cut the expansion joint covers (by others) over the joint, or in the blockout with appropriate fasteners. (by others)

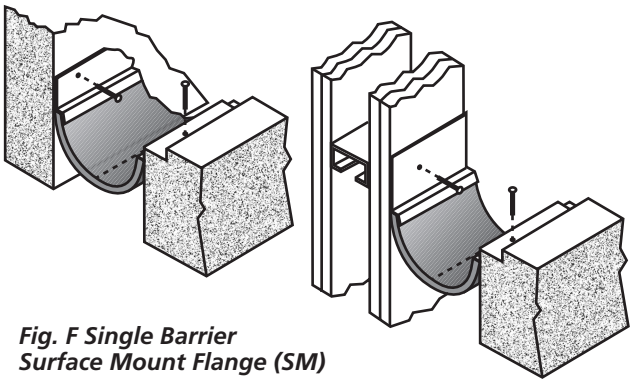


Fig. F Single Barrier
Surface Mount Flange (SM)

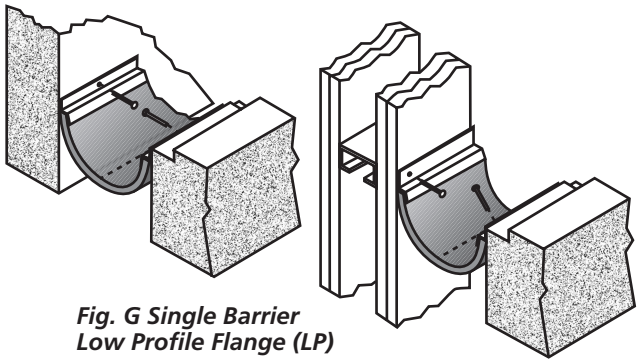


Fig. G Single Barrier
Low Profile Flange (LP)

Double Barrier Installation: 14" - 20" Nominal Joint Widths

Step 1

After completing material preparation described on page 1 and as shown in Fig. A, place the lower fire barrier into the expansion joint cavity. (See Figs. H & I).

Optional: Prior to installing the upper fire barrier, if the lower fire barrier requires fastening to hold it in place, drill appropriate size holes to the flanges and secure with fasteners (by others).

Step 2

Install the upper fire barrier and drill the appropriate size holes as shown in Fig. H. The fasteners (by others) need to be installed with a maximum spacing of 18". The same fasteners used to install the cover mechanism can generally be used to install the fire barriers.

Fire barriers with Low Profile flanges are secured with fasteners inside the joint cavity. (See Fig. I).

Note: Fire barriers with Surface Mount flanges can also be secured with fasteners inside the joint cavity.

Step 3

Install the expansion joint covers (by others) over the joint or in the blockout with appropriate fasteners (by others).

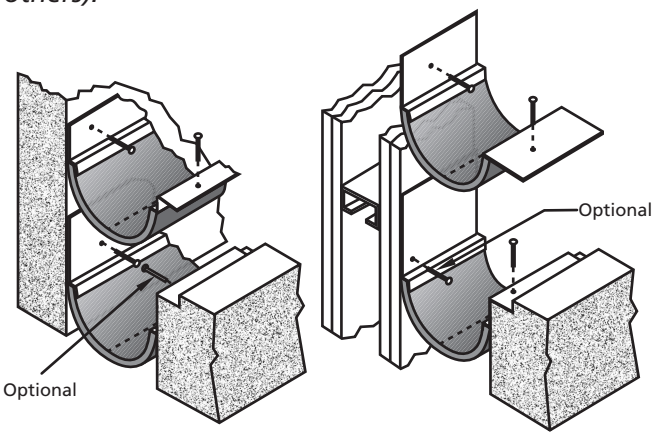


Fig. H Double Barrier
Surface Mount Flange (SM)

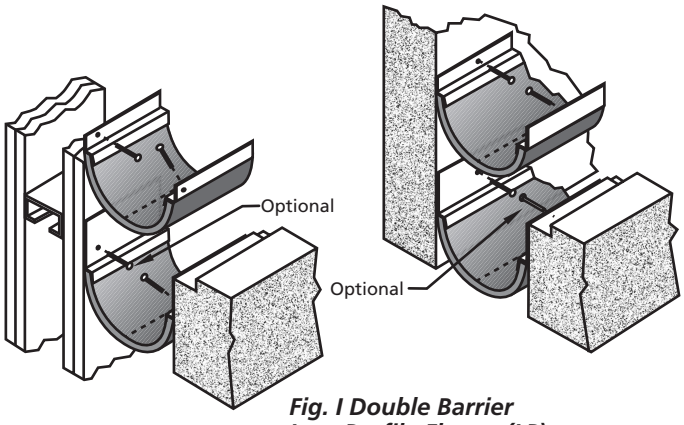


Fig. I Double Barrier
Low Profile Flange (LP)

*U.S. Patent No. 6,125,601

Installation Instructions
Wall Joints

Single Fire Barrier Installation: 8" - 12" Nominal Joint Widths

Step 1

After completing material preparation described on page 1 and as shown in Fig. A, place the barrier into the expansion joint cavity. Drill the appropriate size holes and secure the flanges with fasteners (by others) with a maximum spacing of 18" (See Figs. J & K)

Step 2

Install the expansion joint covers (by others) tp either side or both sides of the wall when accessible with appropriate fasteners (by others).

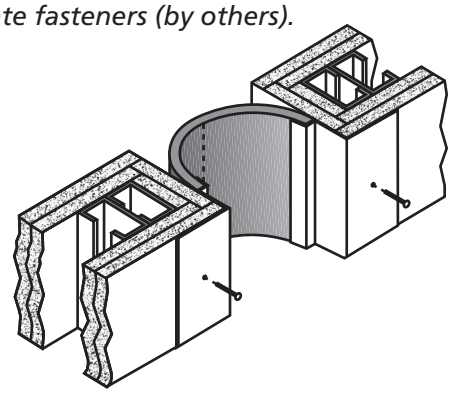


Fig. J Single Barrier
Surface Mount Flange (SM)

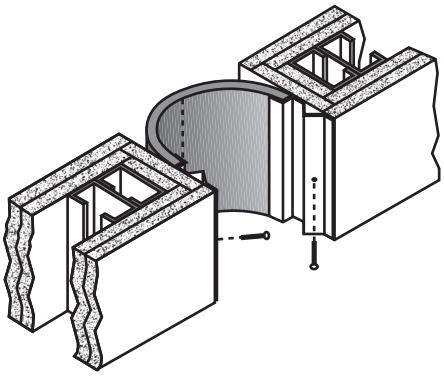


Fig. K Single Barrier
Low Profile Flange (LP)

Double Barrier Installation: 14" - 20" Nominal Joint Widths

Step 1

After completing material preparation described on page 1 and as shown in Fig. A, place the inner fire barrier into the expansion joint cavity. (See Figs. L & M).

Optional: Prior to installing the outer fire barrier, if the inner fire barrier requires fastening to hold it in place, drill appropriate size holes to the flanges and secure with fasteners (by others).

Step 2

Install the outer fire barrier and drill the appropriate size holes as shown in Fig. L. The fasteners (by others) need to be installed with a maximum spacing of 18". The same fasteners used to install the cover mechanism can generally be used to install the fire barriers.

Fire barriers with Low Profile flanges are secured with fasteners inside the joint cavity. (See Fig. M).

Note: Fire barriers with Surface Mount flanges can also be secured with fasteners inside the joint cavity.

Step 3

Install the expansion joint covers (by others) to either side or both sides of the wall when accessible with appropriate fasteners (by others).

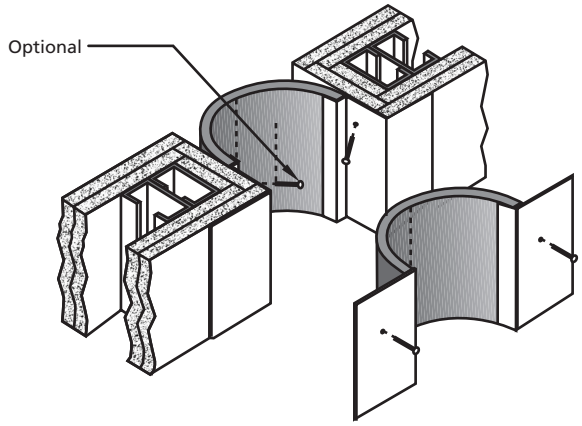


Fig. L Double Barrier
Surface Mount Flange (SM)

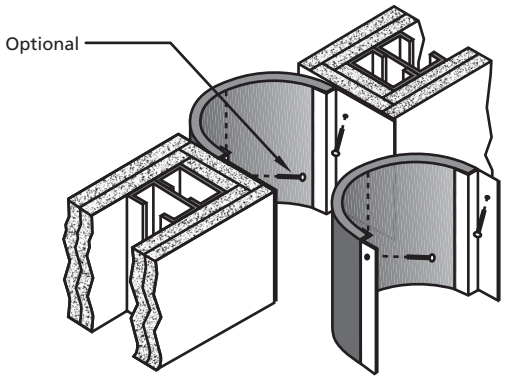


Fig. M Double Barrier
Low Profile Flange (LP)

*U.S. Patent No. 6,125,601

Installation Instructions
Corner Wall

Single Fire Barrier Installation: 8" - 12" Nominal Joint Widths

Step 1

After completing material preparation described on page 1 and as shown in Fig. A, place the barrier into the expansion joint cavity. Drill the appropriate size holes and secure the flanges with fasteners (by others) with a maximum spacing of 18" (See Figs. N & O)

Step 2

Install the expansion joint covers (by others) tp either side or both sides of the wall when accessible with appropriate fasteners (by others).

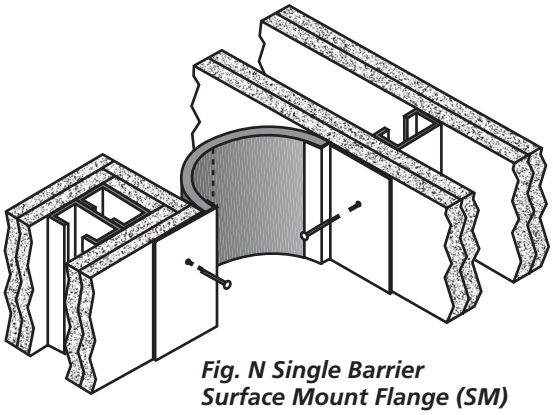


Fig. N Single Barrier
Surface Mount Flange (SM)

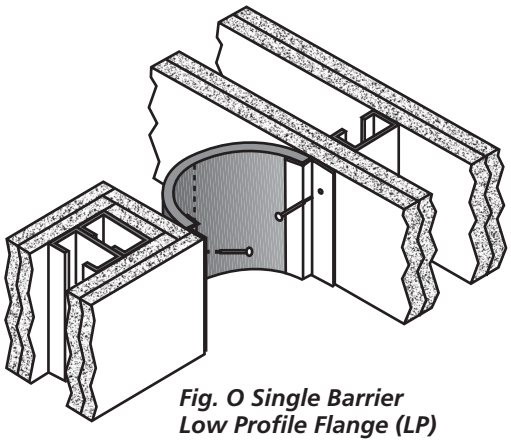


Fig. O Single Barrier
Low Profile Flange (LP)

Double Barrier Installation: 14" - 20" Nominal Joint Widths

Step 1

After completing material preparation described on page 1 and as shown in Fig. A, place the inner fire barrier into the expansion joint cavity. (See Figs. P & O).

Optional: Prior to installing the outer fire barrier, if the inner fire barrier requires fastening to hold it in place, drill appropriate size holes to the flanges and secure with fasteners (by others).

Step 2

Install the outer fire barrier and drill the appropriate size holes as shown in Fig. P. The fasteners (by others) need to be installed with a maximum spacing of 18". The same fasteners used to install the cover mechanism can generally be used to install the fire barriers.

Fire barriers with Low Profile flanges are secured with fasteners inside the joint cavity. (See Fig. Q).

Note: Fire barriers with Surface Mount flanges can also be secured with fasteners inside the joint cavity.

Step 3

Install the expansion joint covers (by others) to either side or both sides of the wall when accessible with appropriate fasteners (by others).

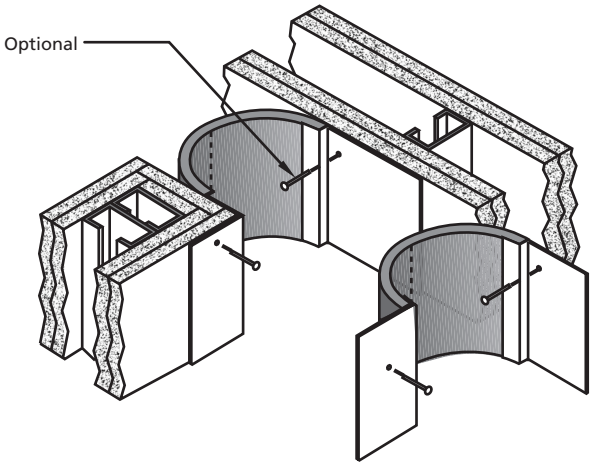


Fig. P Double Barrier
Surface Mount Flange (SM)

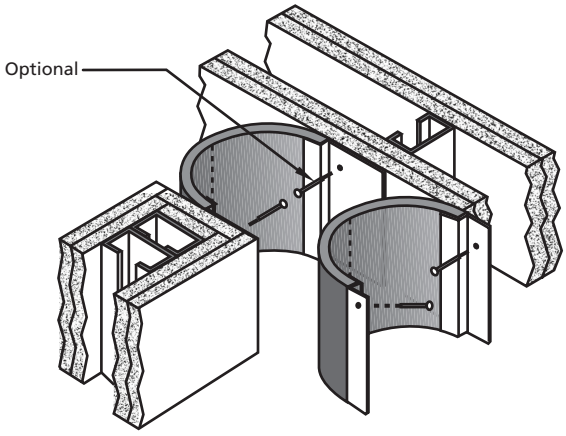


Fig. Q Double Barrier
Low Profile Flange (LP)

*U.S. Patent No. 6,125,601

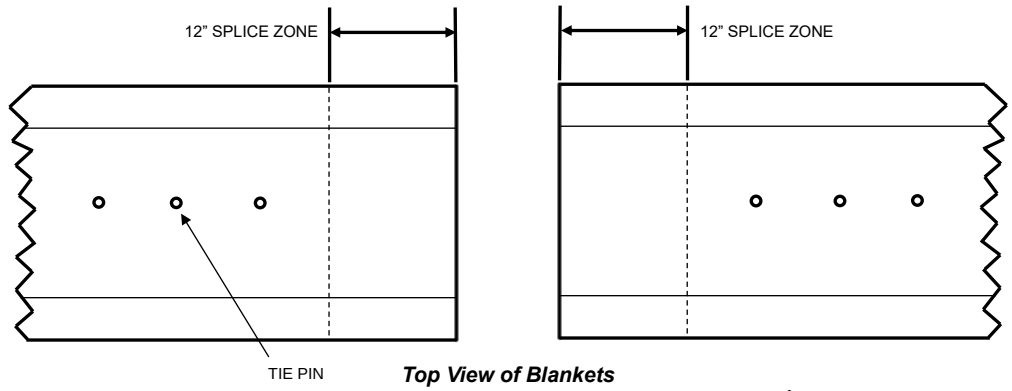
SPLICING INSTRUCTIONS

In some cases it will be necessary to make longer sections of expansion joint blankets out of smallerpieces. In these cases the following instructions are to be used to splice two or more pieces together. It is highly recommended that this procedure be performed prior to installation in the wall or floor, as this procedure is much less time consuming when performed on a flat surface. After the splicing is completed, the installation procedure remains the same as described in the installation instructions.
Note: Fire Barriers must be spliced in accordance with splicing instructions to maintain UL Rating.

Splice-Ready blankets: If the product has been delivered with the “Splice-Ready” option, Step 1 and Step 2 have already been completed. Begin at Step 3. If either end of the blanket will not be spliced with another blanket (such as when a blanket terminates into a structure) the 12” splice ready portion(s) must be cut off to ensure full thickness of insulation.

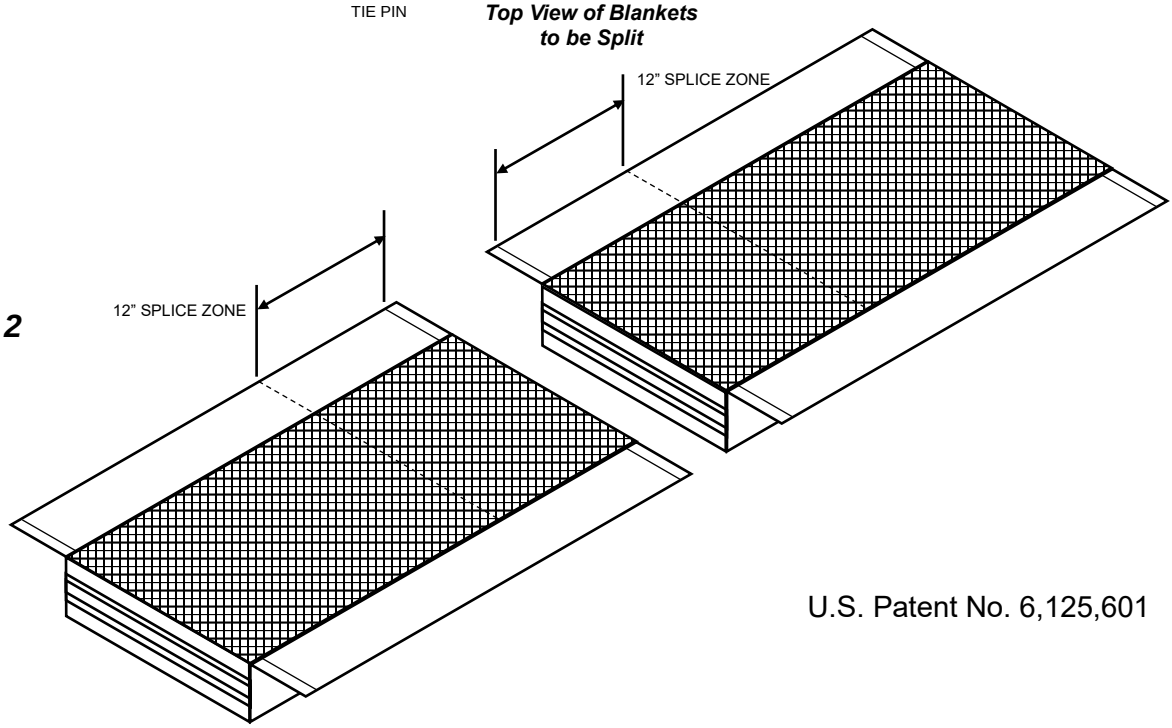
Step 1
Lay each blanket segment on a flat surface. Measure out 12" from the ends of each blanket to be spliced. Draw a line directly across each package at the 12" mark. This will be the splice zone. Remove all of the tie pins from within the splice zone of each blanket (See Figs. 1 & 2).

Fig. 1



Top View of Blankets to be Split

Fig. 2



Step 2
Make a "tongue and groove" type splice by cutting away every other layer of insulation in the splice zone on each blanket segment and save the scraps for future use. Make the opposite cuts on the other half of the splice. Trim the metallic septum layers the same length as the insulation adjacent to them (See Figs. 3 & 4).

Note: If flanges are pre-welded to the blanket segments, the flanges must be cut back in one of the splice zones.

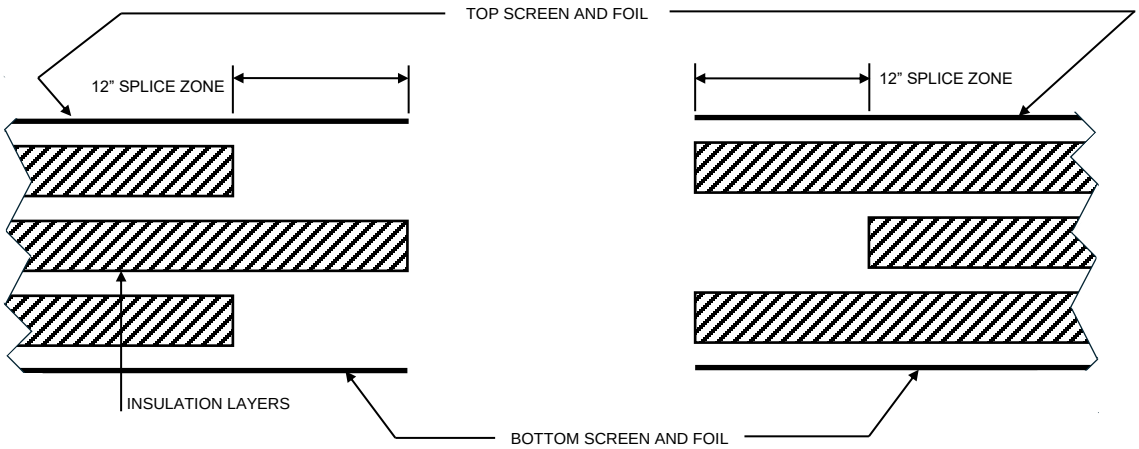


Fig. 3
Cross Section of Splice Zone

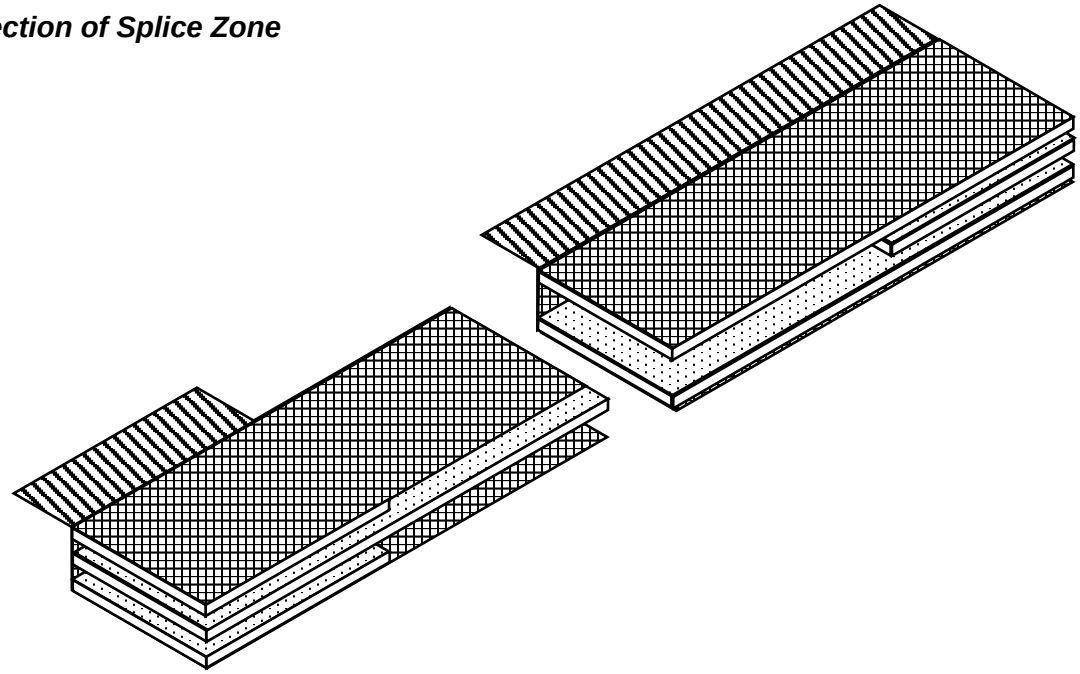


Fig. 4

SPLICING INSTRUCTIONS

Step 3
Assemble the two blanket segments, overlapping the bottom screen and foil, interweaving the insulation layers (See Figs. 5 & 6).

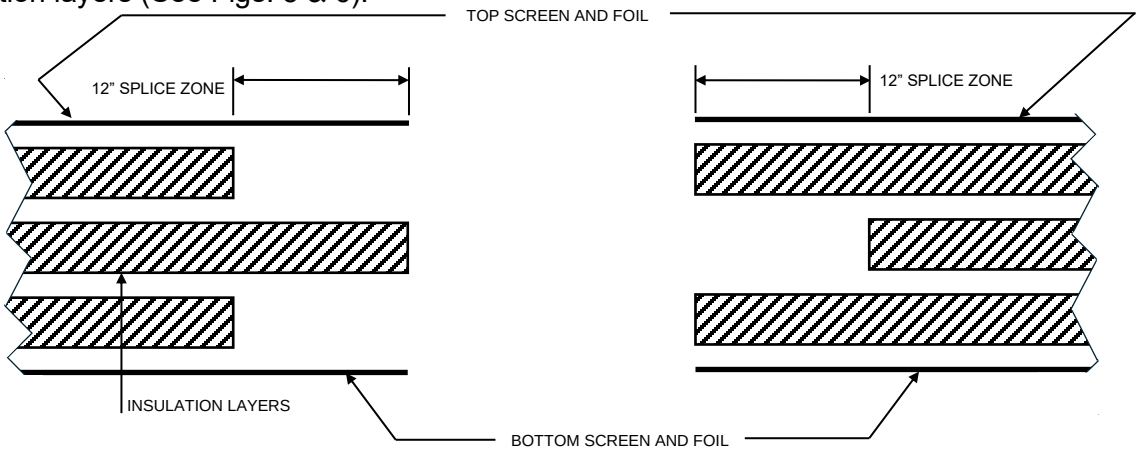


Fig. 5
Cross Section of Splice Zone

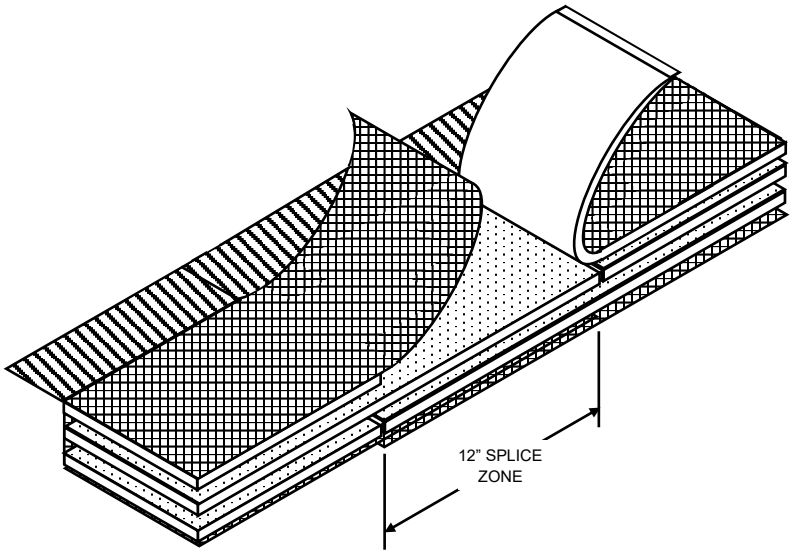


Fig. 6

SPLICING INSTRUCTIONS

Step 4

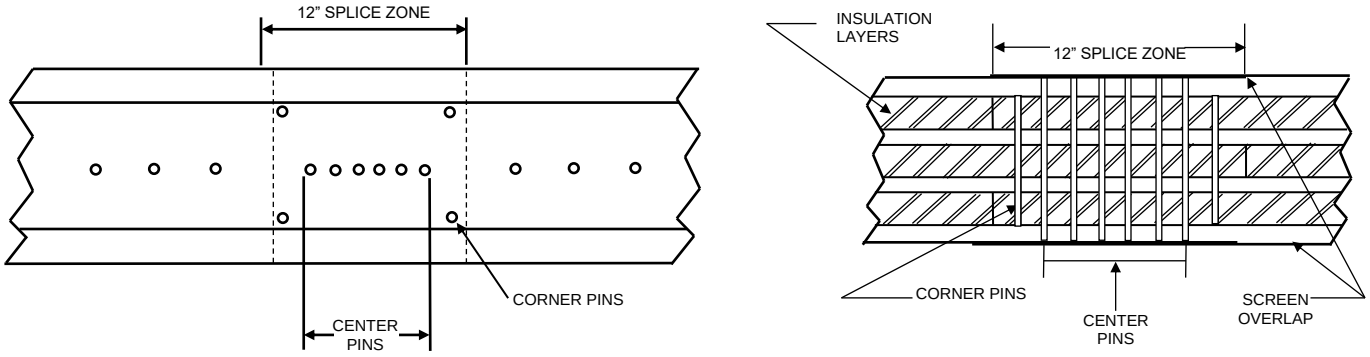
Pin the four corners of the splice zone together, through the insulation, and the foils, but not through the outer screen. (See Figs. 7 & 8). Place six equally spaced pins down the center of the splice zone, through the insulation, through all foil layers and both of the outer screen layers (See Figs. 7 & 9).

Inspect the splice to ensure:

a. The splice does not have any gaps.

b. The splice is tied together with pins, down the center line, through the screen.

c. The four corner pins of the splice do not go through the screen.



Top View of Splice ***Side View of Splice***

Fig. 7
Assembly of the Splice

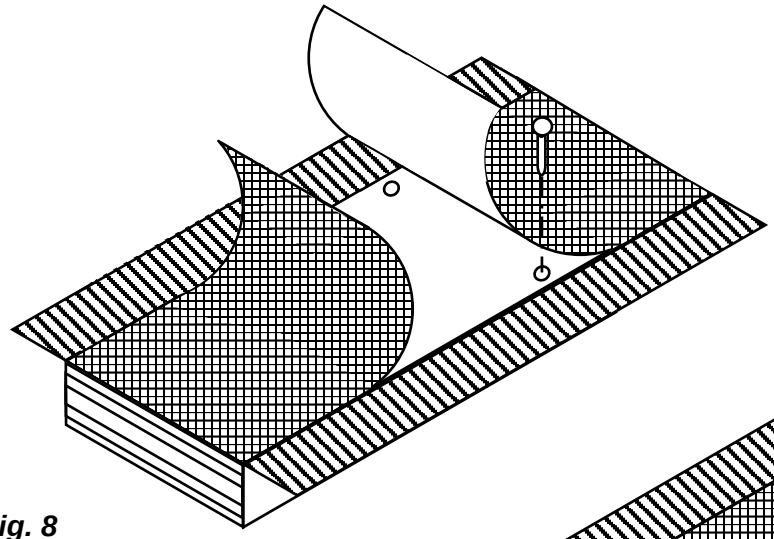


Fig. 8

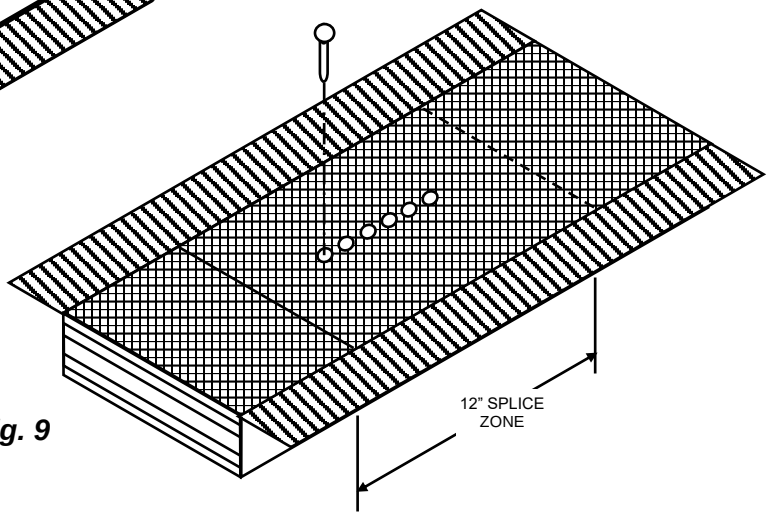


Fig. 9

FireFlex Expansion Joint Fire Barrier Installation Instructions

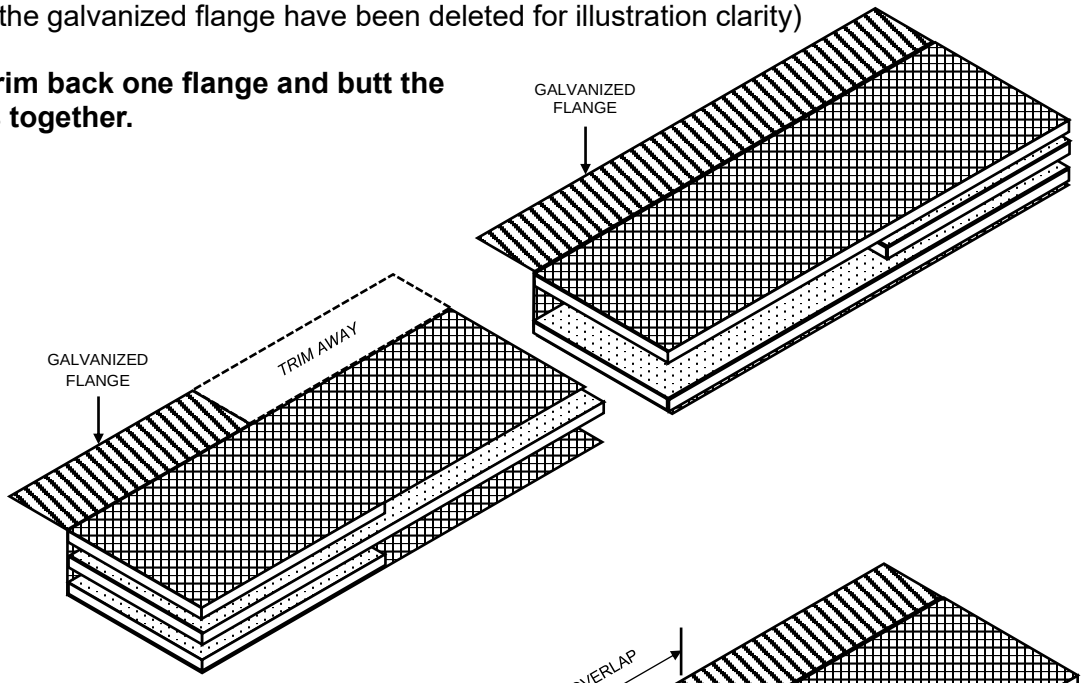
Addendum: Splicing of Factory Attached Galvanized Flanges

The splicing of the interior insulation materials, screen and interleafed metallic foils are to be performed in the same manner as the rolled version of FireFlex.

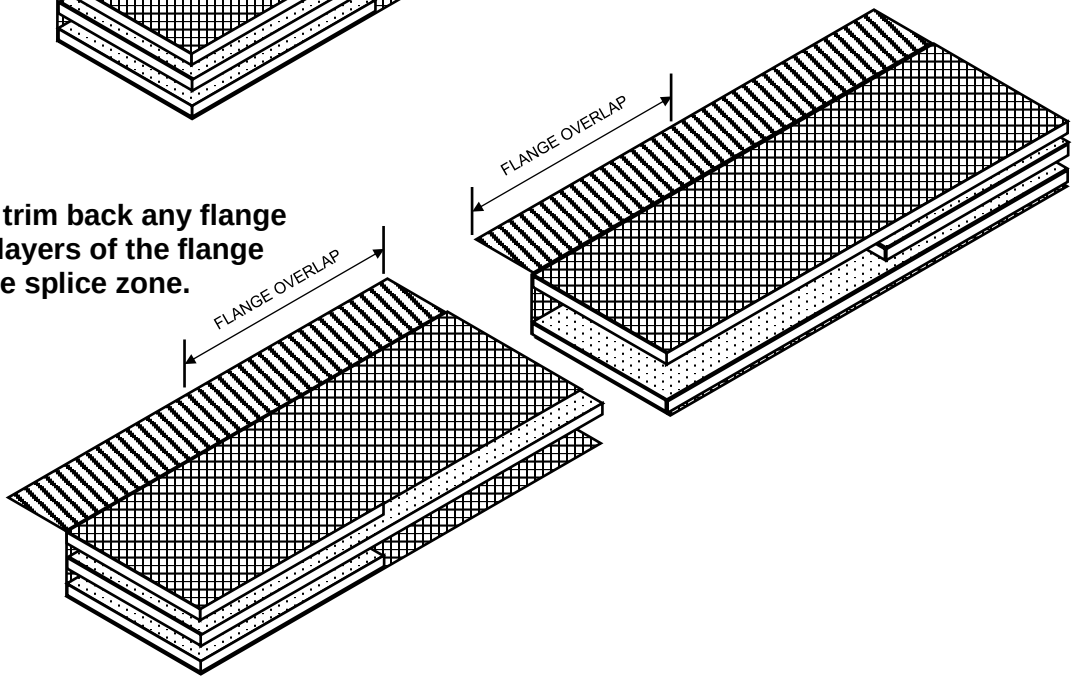
Pre-attached flanges used on fire barrier for 8" wide expansion joints and larger require an additional splicing operation. You have two choices in dealing with the pre-attached flanges:

(Portions of the galvanized flange have been deleted for illustration clarity)

Option 1: Trim back one flange and butt the two flanges together.



Option 2: Do not trim back any flange and overlap two layers of the flange through the entire splice zone.



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