



# SPECIALTY ROOFING PRODUCTS

One Manufacturer. One Easy Solution. One Solid Guarantee.



# Johns Manville

is a total roofing systems provider meeting the needs of the commercial and industrial roofing industry. JM can complement our renowned Peak Advantage® Guarantee with a full line of specialty roofing products that includes expansion joint covers, retrofit drains, tie-in flashing systems and fire barriers.

Johns Manville's specialty products support all low-slope commercial membrane systems. Make JM your single-source provider for all roofing components and accessories.



# Table of Contents

Expand-O-Joint Expansion Joints .....Pg 10

Expand-O-Flash.....Pg 14

Expand-O-Flash with Fire Barrier .....Pg 20

Expand-O-Gard Expansion Joints .....Pg 24

Expand-O-Gard For Styles WS & F .....Pg 28

Drains .....Pg 36

Technical and Customer Service Contact Information.....Pg 38

# PRODUCTS DEVELOPED TO ACCOMMODATE THREE TYPES OF MOVEMENT



## Seismic

Expertly fabricated joint covers are available on openings up to 24" (610 mm) to accommodate calculated multidirectional seismic movement.



## Expansion

Products that allow expansion along arches and curved surfaces, as well as accommodate movement between building components such as atriums and window walls.



## Thermal

Where extreme temperatures cause thermal movement, flexible closures are developed specifically to allow movement between building walls, roofs, pipes, ducts, tanks and bulk-carrying equipment.









# Custom product design support services available

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**The Specialty Roofing Products group has established its expert reputation by offering custom product design support services and specially fabricated systems for building movement and closure problems.**

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No matter how challenging or unusual the design situation, JM can turn rough sketches into custom-manufactured, code-compliant systems:

- Expand-O-Flash® and Expand-O-Gard®  
—Horizontal and vertical expansion joint covers









## EXPANSION JOINT COVERS

are effective, flexible, weatherproof exterior closures developed to accommodate openings between adjoining parts of a structure.

# Expand-O-Flash

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**Expand-O-Flash can be used for a variety of standard and special applications. The unique properties of Expand-O-Flash allows it to manage the movement of thermal expansion, settlement, new and existing junctions, differing roof deck materials and seismic movement.**

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- More than 60 years of proven support, fabrication and field performance
- Qualifies for Johns Manville Peak Advantage Guarantees
- Qualifies for 10-year repair/replacement warranty that covers labor and materials for replacement of expansion joint covers and factory-fabricated intersections (when installed in accordance with JM specifications and instructions)

## BENEFITS OF USING JM'S EXPAND-O-FLASH

Contains nonreinforced bellows for both geometric and elastomeric movement.

Available in 10' (3.1 m) lengths, some styles available in 50' and 100' (15.2 m and 30.5 m) rolls (custom-length rolls are available upon request).

Includes peel-and-stick splice tabs and splice kits for labor savings.

Compatible with built-up, modified bitumen (SBS and APP) and single ply membranes.

Available in a variety of flange styles for various application requirements.

Labor-saving factory-fabricated intersections to fit most needs or support for unique applications.

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## CONSIDERATIONS WHEN CHOOSING THE RIGHT MATERIALS FOR YOUR JOBS

### EPDM

Black EPDM is the most cost-effective solution and is recommended for installations where budget is a concern.

Black EPDM also offers the longest life expectancy and has a higher UV resistance.

### FLANGES

Galvanized steel is a cost-effective solution and is recommended for installations where budget is a concern.

Aluminum is recommended for areas where longer exposure to severe elements is required.

Stainless steel is effective on manufacturing facilities where corrosion could affect the metal's longevity. Stainless steel is recommended in coastal applications.

Copper is a long-lasting, durable and aesthetically pleasing metal generally used to match other copper metalwork.

Other available metals include, but are not limited to:

- Freedom Gray, Copper
- Kynar®\*-coated steel or aluminum

\* Kynar is a registered trademark of Arkema, Inc.



# EXPANSION JOINTS

## STYLE



**CF** CURB-TO-CURB



**CF/EJ** CURB-TO-WALL

### MEMBRANE COMPATIBILITY

Please refer to the relevant JM specification sheets for details.

**MULTI-PLY:** BUR APP SBS  
**SINGLE PLY:** TPO PVC EPDM

### FACTORY TRANSITIONS

YES

### BELLOWS MATERIALS

EPDM Black

### FLANGE MATERIALS

Galvanized, 26 ga (0.55 mm)  
Aluminum, 0.032" (0.81 mm)  
Stainless Steel, 0.018" (0.46 mm)  
Copper, 16 oz (453.59 g)  
Custom Metal

### BELLOWS SIZES\*

Standard

4" (102 mm)  
6" (152 mm)  
8" (203 mm)  
10" (254 mm)  
12" (305 mm)

Made-to-order

Curb-to-Curb  
Joint Opening  
(span)

1" - 2 5/8" (25 mm-67 mm)  
2 3/4" - 4" (70 mm-102 mm)  
4 1/8" - 5 1/4" (105 mm-133 mm)  
5 3/8" - 6 5/8" (136 mm-168 mm)  
6 3/4" - 8" (171 mm-152 mm)

Vertical  
Mounting  
Height

N/A  
N/A  
N/A  
N/A  
N/A

Foam  
Thickness

3/8" (10 mm)  
1/2" (13 mm)  
1/2" (13 mm)  
5/8" (16 mm)  
3/4" (19 mm)

Larger bellows sizes available upon request.

Curb-to-Wall  
Joint Opening  
(span)

1" - 2" (25 mm-51 mm)  
2 1/8" - 3" (54 mm-76 mm)  
3 1/8" - 4" (79 mm-102 mm)  
4 1/8" - 5" (105 mm-127 mm)  
5 1/8" - 6" (130 mm-152 mm)

Vertical  
Mounting  
Height

2 1/2" (64 mm)  
3 3/4" (95 mm)  
5 1/8" (130 mm)  
6 3/8" (162 mm)  
7 1/2" (191 mm)

Foam  
Thickness

3/8" (10 mm)  
1/2" (13 mm)  
1/2" (13 mm)  
5/8" (16 mm)  
3/4" (19 mm)

Larger bellows sizes available upon request.

### FLANGE

2" x 2"

Curb: 2" x 2"  
Wall: 4"

### ROLL LENGTHS

10' (3.05 m)

10' (3.05 m)

### MOUNTING SUBSTRATE

Single 2x Curb

Single 2x Curb

### CONSIDERATIONS

Refer to the Material Safety Data Sheet and product label prior to using this product. The Material Safety Data Sheet is available by calling (800) 922-5922 or on the Web at [www.jm.com/roofing](http://www.jm.com/roofing). For technical assistance, please call (800) 445-1500.

Joint opening plus curb widths must be considered for bellows sizing on Style CF for application to curbs.

Refer to JM applicator guides or detail drawings for instructions.

#### Method for determining bellow widths for CF & CF/EJ styles:

##### To allow up to 50% movement:

**Curb-to-Curb:** (outside wood curb to outside wood curb) - 4" X 1.5 = Bellows Width

**Curb-to-Wall:** (outside wood curb to wall) - 2" X 2.0 = Bellows Width

##### To allow up to 100% movement:

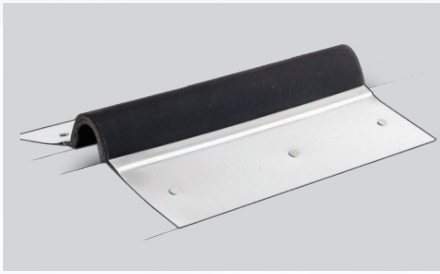
**Curb-to-Curb:** (outside wood curb to outside wood curb) - 4" X 2.0 = Bellows width

**Curb-to-Wall:** (outside wood curb to wall) - 2" X 3.0 = Bellows Width

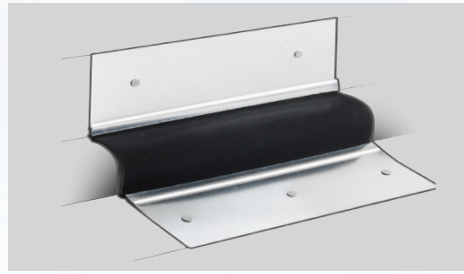
Always round up to the next even number.

Guidelines provided above represent the minimum recommended bellows size by Johns Manville, final bellows size must be reviewed and approved by the Architect and/or Engineer of Record.





**EJ CANT-TO-CANT**



**EJ CANT-TO-WALL**

**MULTI-PLY:** BUR APP SBS  
**SINGLE PLY:** TPO EPDM

YES

EPDM Black

Galvanized, 26 ga (0.55 mm)  
 Aluminum, 0.032" (0.81 mm)  
 Stainless Steel, 0.018" (0.46 mm)  
 Copper, 16 oz (453.59 g)  
 Custom Metal

Cant-to-Cant Joint Opening (span)	Vertical Mounting Height	Foam Thickness	Cant-to-Wall Joint Opening (span)	Vertical Mounting Height	Foam Thickness
1" - 2 5/8" (25 mm-67 mm)	N/A	3/8" (10 mm)	1" - 2" (25-51 mm)	2 1/2" (64 mm)	3/8" (10 mm)
2 3/4" - 4" (70 mm-102 mm)	N/A	1/2" (13 mm)	2 1/8" - 3" (54-76 mm)	3 3/4" (95 mm)	1/2" (13 mm)
4 1/8" - 5 1/4" (105 mm-133 mm)	N/A	1/2" (13 mm)	3 1/8" - 4" (79-102 mm)	5 1/8" (130 mm)	1/2" (13 mm)
5 3/8" - 6 5/8" (136 mm-168 mm)	N/A	5/8" (16 mm)	4 1/8" - 5" (105-127 mm)	6 3/8" (162 mm)	5/8" (16 mm)
6 3/4" - 8" (171 mm-152 mm)	N/A	3/4" (19 mm)	5 1/8" - 6" (130-152 mm)	7 1/2" (191 mm)	3/4" (19 mm)
Larger bellows sizes available upon request.			Larger bellows sizes available upon request.		
4"			4"		
<b>10' (3.05 m) — Bellows sizes 4" to 12"</b> (10.16 cm to 30.48 cm) only <b>50' (15.24 m) — Bellows sizes 4" to 8"</b> (10.16 cm to 20.32 cm) only <b>100' (30.48 m) — Bellows sizes 4" to 8"</b> (10.16 cm to 20.32 cm) only Custom lengths available upon request.			<b>10' (3.05 m) — Bellows sizes 4" to 12"</b> (10.16 cm to 30.48 cm) only <b>50' (15.24 m) — Bellows sizes 4" to 8"</b> (10.16 cm to 20.32 cm) only <b>100' (30.48 m) — Bellows sizes 4" to 8"</b> (10.16 cm to 20.32 cm) only Custom lengths available upon request.		
Cant Strip			Cant Strip		

Refer to JM applicator guides or detail drawings for instructions.

**Method for determining bellow width for EJ Styles:**

**To allow up to 50% movement:**

**Roof-to-Roof:** 1.5 x (the width of the joint) = Bellows Width

**Roof-to-Wall:** 2.0 x (the width of the joint) = Bellows Width

**To allow up to 100% Movement:**

**Roof-to-Roof:** 2 x (the width of the joint) = Bellows Width

**Roof-to-Wall:** 3 x (the width of the joint) = Bellows Width

**Always round up to the next even number.**

**Guidelines provided above represent the minimum recommended bellows size by Johns Manville, final bellows size must be reviewed and approved by the Architect and/or Engineer of Record.**

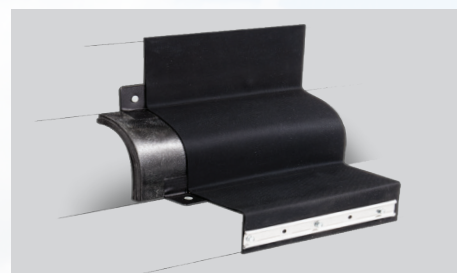


# EXPANSION JOINTS

## STYLE



**EJ/WC** CURB-TO-CURB COVER



**EJ/WC** CURB-TO-WALL COVER

### MEMBRANE COMPATIBILITY

Please refer to the relevant JM specification sheets for details.

**MULTI-PLY:** BUR APP SBS

**SINGLE PLY:** TPO PVC EPDM

### FACTORY TRANSITIONS

YES

### BELLOWS MATERIALS

EPDM, PVC, TPO

### NAIL STRIPS

1<sup>3/8</sup>" (35 mm) nail strips are concealed beneath the cover membrane, and a 1" (25 mm) wide aluminum termination bar may be provided to securely hold the cover in place.

### BELLOWS SIZES\*

Standard

4" (102 mm)

6" (152 mm)

8" (203 mm)

10" (254 mm)

12" (305 mm)

Made-to-order

Curb-to-Curb  
Joint Opening  
(span)

Vertical  
Mounting  
Height

Foam  
Thickness

Curb-to-Wall  
Joint Opening  
(span)

Vertical  
Mounting  
Height

Foam  
Thickness

1"-2 5/8" (25 mm-67 mm)

N/A

3/8" (10 mm)

1"-2" (25 mm-51 mm)

2 1/2" (64 mm)

3/8" (10 mm)

2 3/4" - 4" (70 mm-102 mm)

N/A

1/2" (13 mm)

2 1/8" - 3" (54 mm-76 mm)

3 3/4" (95 mm)

1/2" (13 mm)

4 1/8" - 5 1/4" (105 mm-133 mm)

N/A

1/2" (13 mm)

3 1/8" - 4" (79 mm-102 mm)

5 1/8" (130 mm)

1/2" (13 mm)

5 3/8" - 6 5/8" (136 mm-168 mm)

N/A

5/8" (16 mm)

4 1/8" - 5" (105 mm-127 mm)

6 3/8" (162 mm)

5/8" (16 mm)

6 3/4" - 8" (171 mm-152 mm)

N/A

3/4" (19 mm)

5 1/8" - 6" (130 mm-152 mm)

7 1/2" (191 mm)

3/4" (19 mm)

Larger bellows sizes available upon request.

### COVER MEMBRANE WIDTH

11"-55" (28 cm-1.40 m) for EPDM; up to 78" (1.9 m) for PVC; up to 48" (1.2 m) for TPO

### ROLL LENGTHS

EPDM: Made-to-order sizes up to 100 lin ft (30.48 lin m).  
Max roll length may vary based on cover width.

PVC + TPO: Made-to-order sizes up to 50 lin ft (15 lin m).

### CONSIDERATIONS

Refer to the Material Safety Data Sheet and product label prior to using this product. The Material Safety Data Sheet is available by calling (800) 922-5922 or on the Web at [www.jm.com/roofing](http://www.jm.com/roofing).

For technical assistance, please call (800) 445-1500.

Custom lengths are available upon request.

Refer to JM applicator guides or detail drawings for instructions.

#### Method for determining bellow widths for EJ/WC styles:

##### To allow up to 50% movement:

**Roof-to-Roof:** 1.5 x (the width of the joint) = Bellows Width

**Roof-to-Wall:** 2.0 x (the width of the joint) = Bellows Width

##### To allow up to 100% movement:

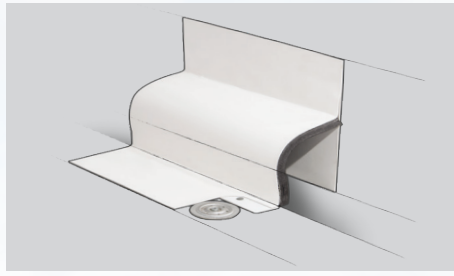
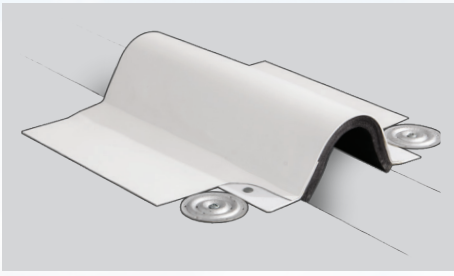
**Roof-to-Roof:** 2.0 x (the width of the joint) = Bellows Width

**Roof-to-Wall:** 3.0 x (the width of the joint) = Bellows Width

Always round up to the next even number.

Guidelines provided above represent the minimum recommended bellows size by Johns Manville, final bellows size must be reviewed and approved by the Architect and/or Engineer of Record.





EJ/WC ROOF-TO-ROOF (PVC + TPO)

EJ/WC ROOF-TO-WALL (PVC + TPO)

SINGLE PLY: PVC + TPO

YES

JM PVC White, Grey, Grey ES, Sandstone, Sandstone ES. JMTPO White, Grey, Tan

1 3⁄8" (35 mm) nail strips are concealed beneath the cover membrane, and a 1" (25 mm) wide aluminum termination bar may be provided to securely hold the cover in place.

Curb-to-Curb Joint Opening (span)	Vertical Mounting Height	Foam Thickness	Curb-to-Wall Joint Opening (span)	Vertical Mounting Height	Foam Thickness
1'-2 5⁄8" (25 mm-67 mm)	N/A	3⁄8" (10 mm)	1'-2" (25 mm-51 mm)	2 1⁄2" (64 mm)	3⁄8" (10 mm)
2 3⁄4" - 4" (70 mm-102 mm)	N/A	1⁄2" (13 mm)	2 1⁄8" - 3" (54 mm-76 mm)	3 3⁄4" (95 mm)	1⁄2" (13 mm)
4 1⁄8" - 5 1⁄4" (105 mm-133 mm)	N/A	1⁄2" (13 mm)	3 1⁄8" - 4" (79 mm-102 mm)	5 1⁄8" (130 mm)	1⁄2" (13 mm)
5 3⁄8" - 6 5⁄8" (136 mm-168 mm)	N/A	5⁄8" (16 mm)	4 1⁄8" - 5" (105 mm-127 mm)	6 3⁄8" (162 mm)	5⁄8" (16 mm)
6 3⁄4" - 8" (171 mm-152 mm)	N/A	3⁄4" (19 mm)	5 1⁄8" - 6" (130 mm-152 mm)	7 1⁄2" (191 mm)	3⁄4" (19 mm)

Larger bellows sizes available upon request.

PVC 11"–78" (28 cm–1.9 m) TPO 11"–48" (28 cm–1.2 m) depending on flashing and welding to the membrane requirements

Maximum roll length may vary based on cover width.

Do not install in direct contact with asphalt or coal tar pitch.

Refer to JM applicator guides or detail drawings for instructions. Heat weldable directly to JM PVC or TPO membrane.

Method for determining bellow widths for EJ/WC styles:

To allow up to 50% movement:

Roof-to-Roof: 1.5 x (the width of the joint) = Bellows Width

Roof-to-Wall: 2.0 x (the width of the joint) = Bellows Width

To allow up to 100% movement:

Roof-to-Roof: 2.0 x (the width of the joint) = Bellows Width

Roof-to-Wall: 3.0 x (the width of the joint) = Bellows Width

Always round up to the next even number.

Guidelines provided above represent the minimum recommended bellows size by Johns Manville, final bellows size must be reviewed and approved by the Architect and/or Engineer of Record.



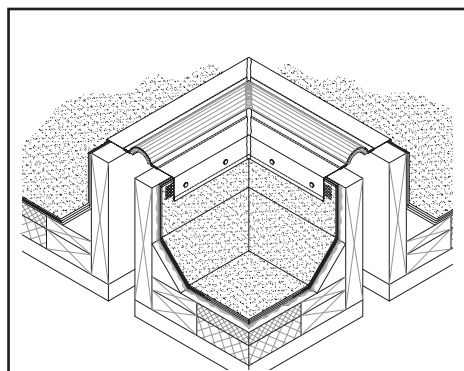
## EXPAND-O-FLASH Roof-to-Roof

The Specialty Roofing Products group has established its expert reputation by working with designers of record to provide support for custom designs and specially fabricated systems for building movement and closure problems.

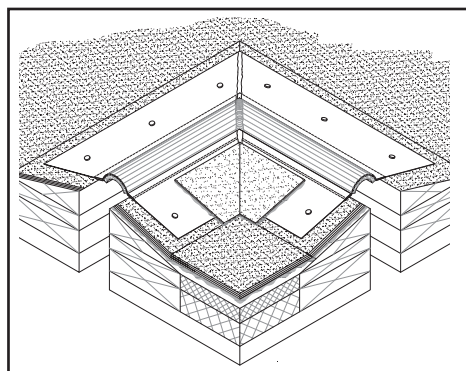
No matter how challenging or unusual the design situation, JM can work with the designer of record to turn rough sketches into custom-manufactured systems.

These systems can be included in the Johns Manville Peak Advantage Guarantee, one of the most comprehensive performance guarantees in the roofing industry. Here are a few examples of expansion joint transitions.

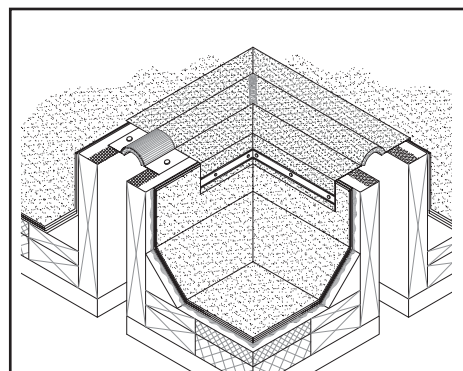
**All styles are available with insulated bellows upon request.**



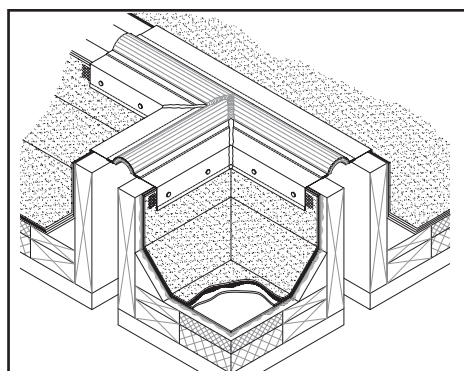
STYLE **CF PF-1**  
TRANSITION **CORNER**



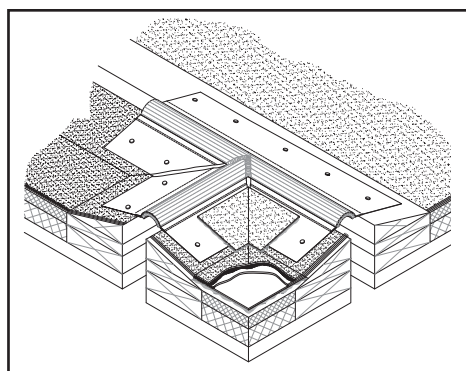
STYLE **EJ PF-11**  
TRANSITION **CORNER**



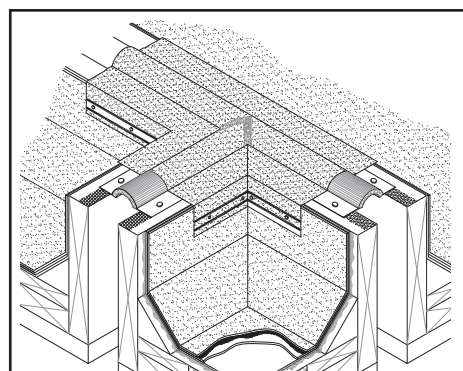
STYLE **EJ/WC PF-21**  
TRANSITION **CORNER**



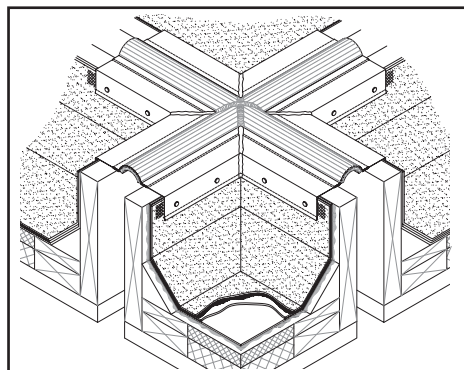
STYLE **CF PF-2**  
TRANSITION **TEE**



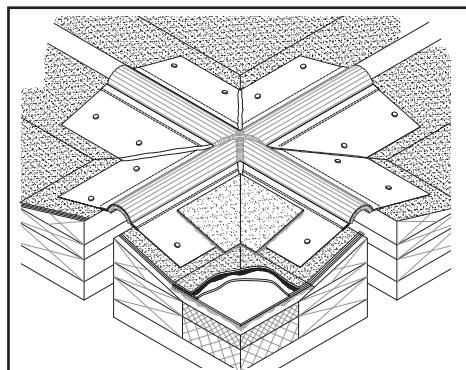
STYLE **EJ PF-12**  
TRANSITION **TEE**



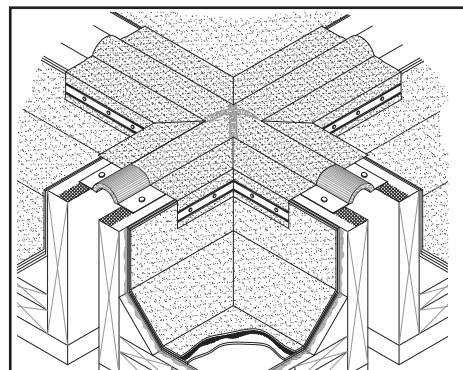
STYLE **EJ/WC PF-22**  
TRANSITION **TEE**



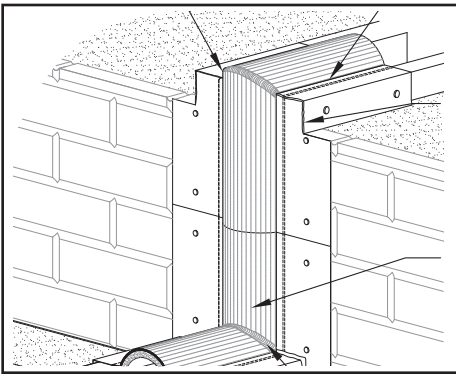
STYLE **CF PF-3**  
TRANSITION **CROSS-OVER**



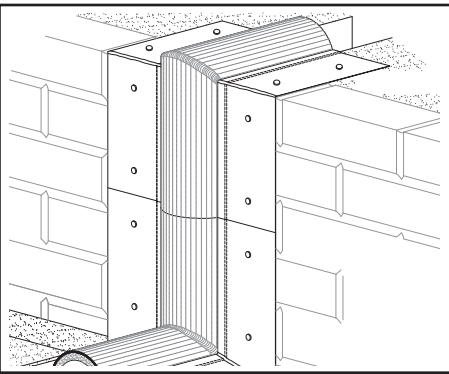
STYLE **EJ PF-13**  
TRANSITION **CROSS-OVER**



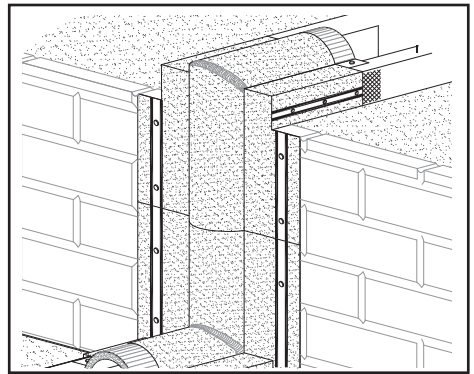
STYLE **EJ/WC PF-23**  
TRANSITION **CROSS-OVER**



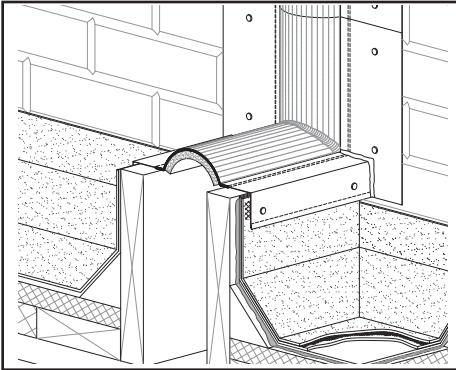
STYLE **CF PF-9**  
TRANSITION VERTICAL OUTSIDE CORNER



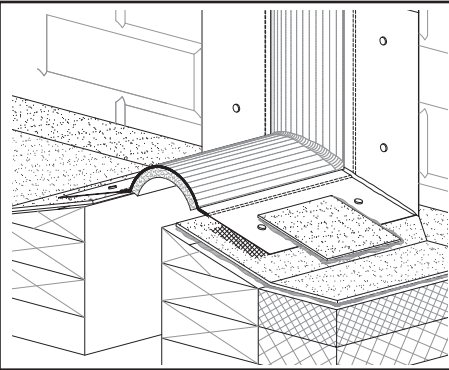
STYLE **EJ PF-19**  
TRANSITION VERTICAL OUTSIDE CORNER



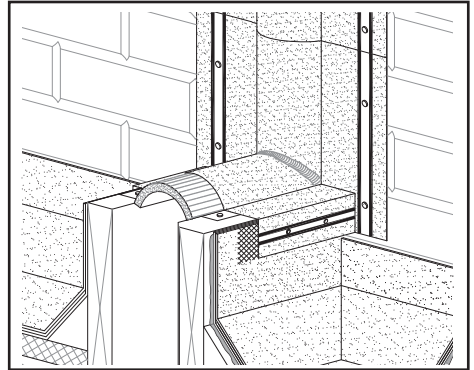
STYLE **EJ/WC PF-29**  
TRANSITION VERTICAL OUTSIDE CORNER



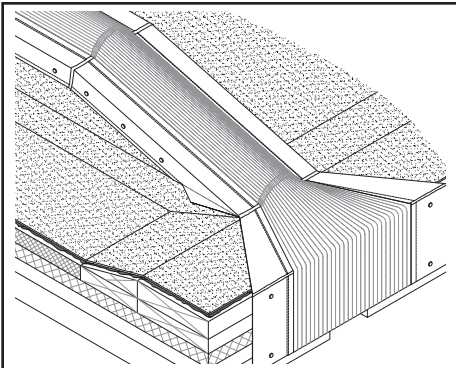
STYLE **CF PF-9**  
TRANSITION VERTICAL INSIDE CORNER



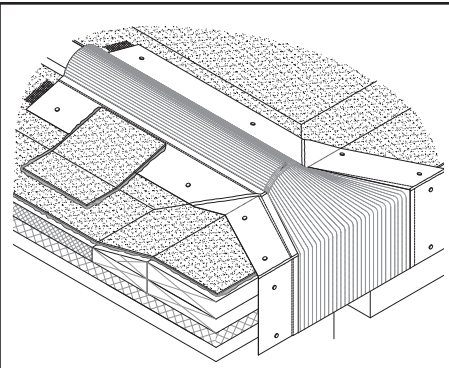
STYLE **EJ PF-19**  
TRANSITION VERTICAL INSIDE CORNER



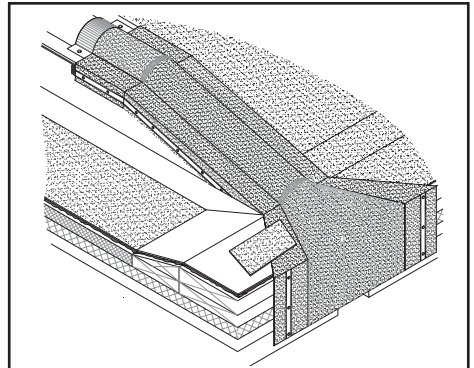
STYLE **EJ/WC PF-29**  
TRANSITION VERTICAL INSIDE CORNER



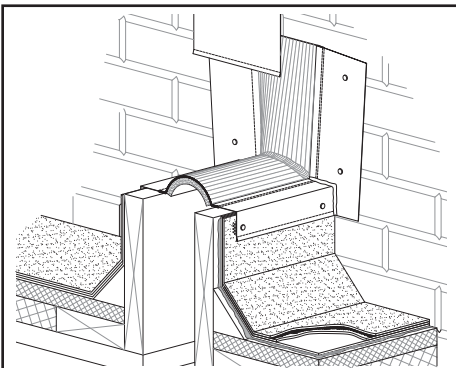
STYLE **CF FF-7**  
TRANSITION GRAVEL STOP



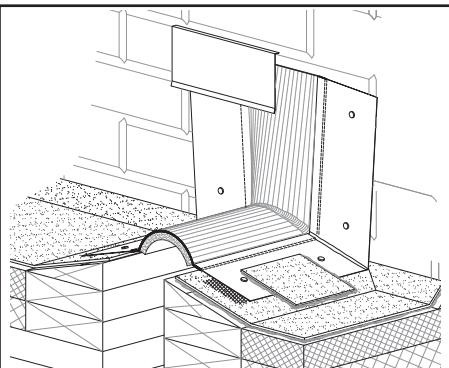
STYLE **EJ FF-17**  
TRANSITION GRAVEL STOP



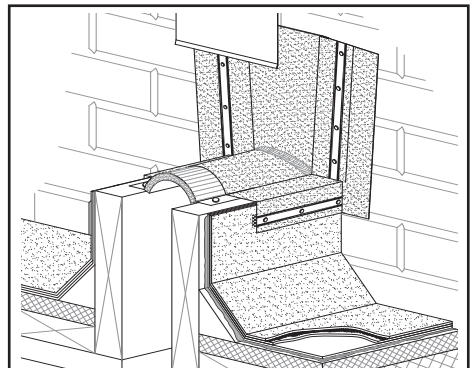
STYLE **EJ/WC FF-27**  
TRANSITION GRAVEL STOP



STYLE **CF FF-8**  
TRANSITION TERMINATION



STYLE **EJ FF-18**  
TRANSITION TERMINATION



STYLE **EJ/WC FF-28**  
TRANSITION TERMINATION



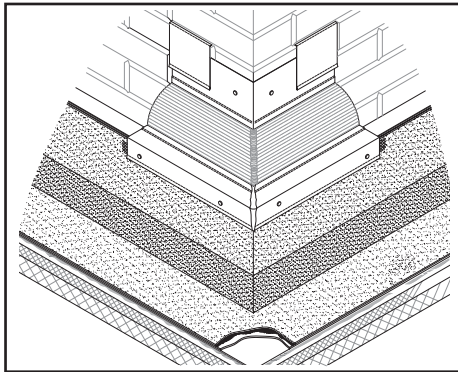
## EXPAND-O-FLASH Roof-to-Wall

The Specialty Roofing Products group has established its expert reputation by working with designers of record to provide support for custom designs and specially fabricated systems for building movement and closure problems.

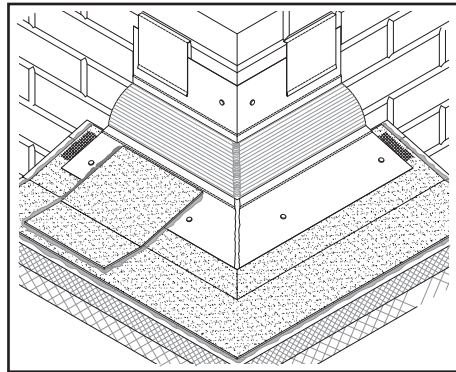
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These systems can be included in the Johns Manville Peak Advantage Guarantee, one of the most comprehensive performance guarantees in the roofing industry. Here are a few examples of expansion joint transitions.

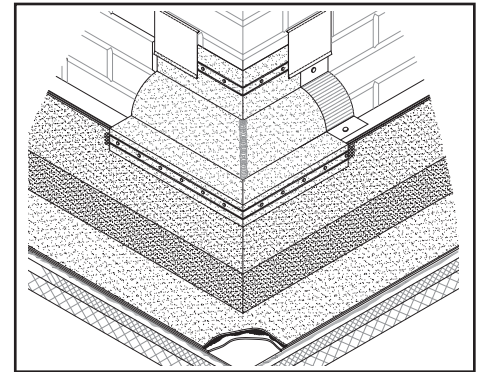
**All styles are available with insulated bellows upon request.**



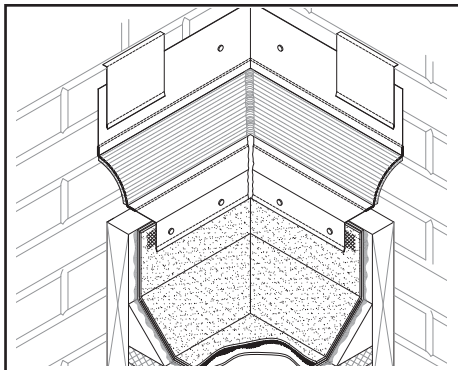
STYLE **CF/EJ PF-4**  
TRANSITION **OUTSIDE CORNER**



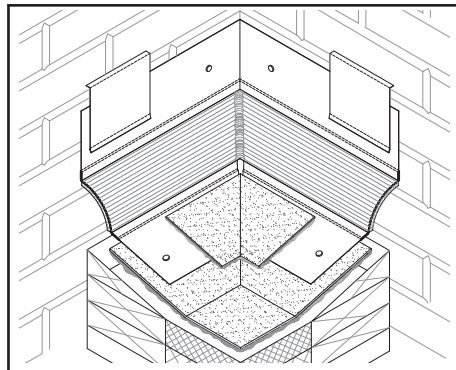
STYLE **EJ PF-14**  
TRANSITION **OUTSIDE CORNER**



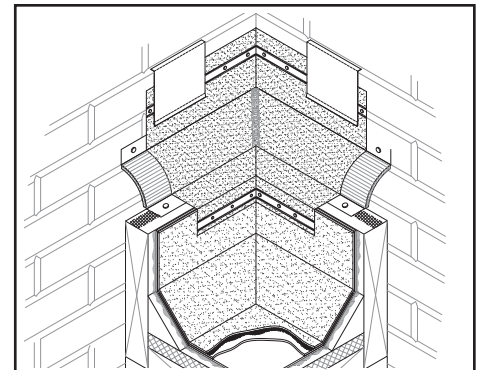
STYLE **EJ/WC PF-24**  
TRANSITION **OUTSIDE CORNER**



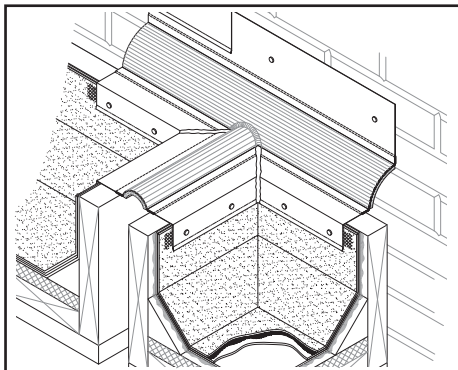
STYLE **CF/EJ PF-5**  
TRANSITION **INSIDE CORNER**



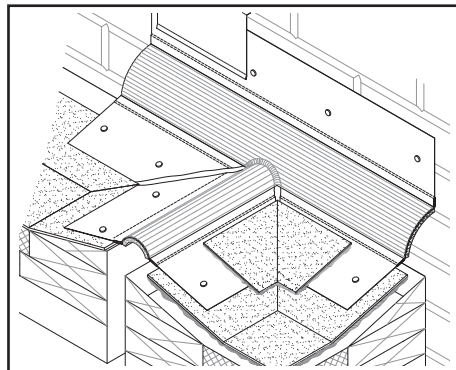
STYLE **EJ PF-15**  
TRANSITION **INSIDE CORNER**



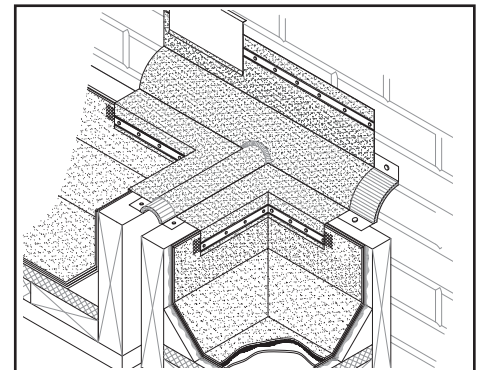
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TRANSITION **INSIDE CORNER**



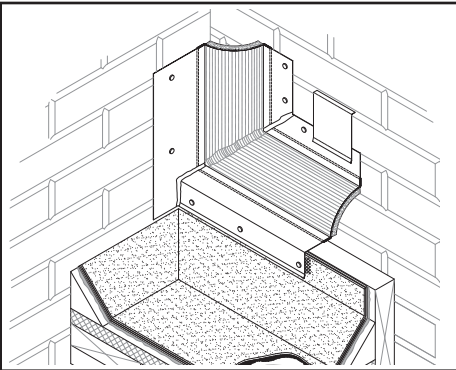
STYLE **CF/EJ PF-6**  
TRANSITION **TEE**



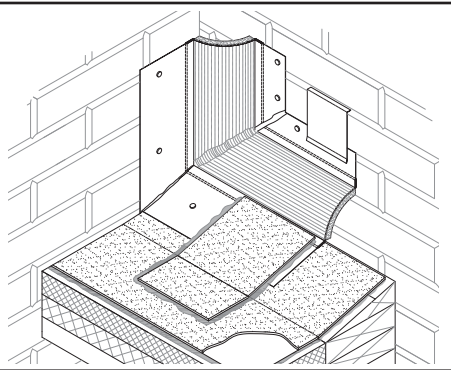
STYLE **EJ PF-16**  
TRANSITION **TEE**



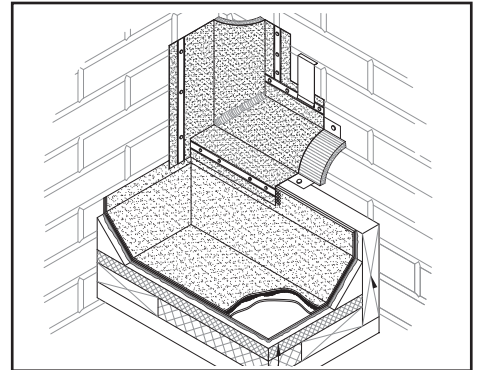
STYLE **EJ/WC PF-26**  
TRANSITION **TEE**



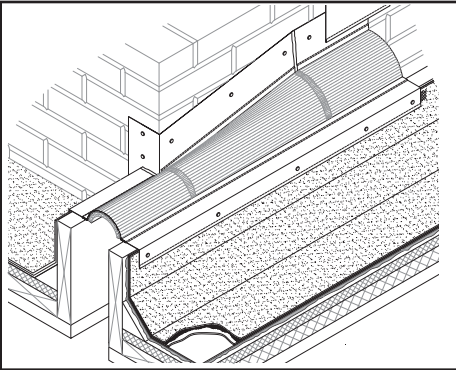
STYLE **CF/EJ PF-8**  
TRANSITION VERTICAL INSIDE CORNER



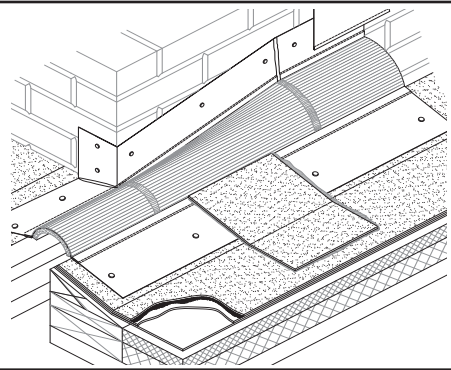
STYLE **EJ PF-18**  
TRANSITION VERTICAL INSIDE CORNER



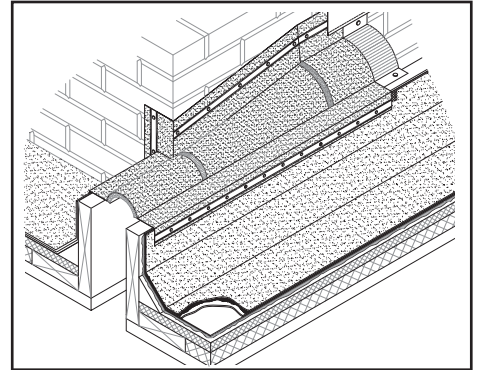
STYLE **EJ/WC PF-28**  
TRANSITION VERTICAL INSIDE CORNER



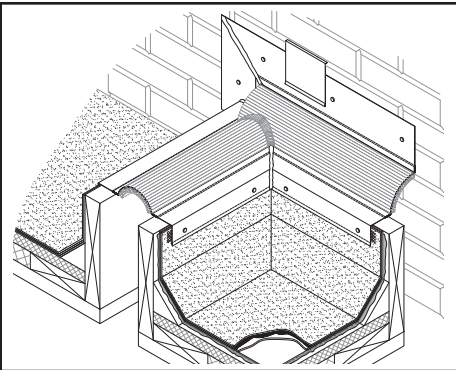
STYLE **CF/EJ FF-5**  
TRANSITION ROOF/WALL TO ROOF/ROOF



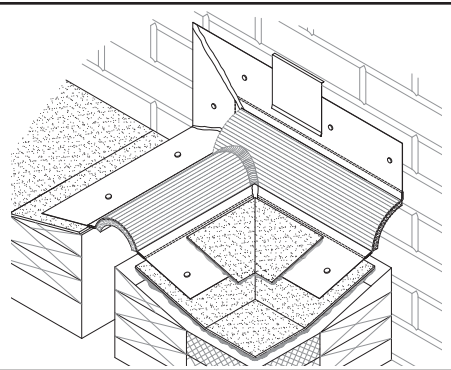
STYLE **EJ FF-15**  
TRANSITION ROOF/WALL TO ROOF/ROOF



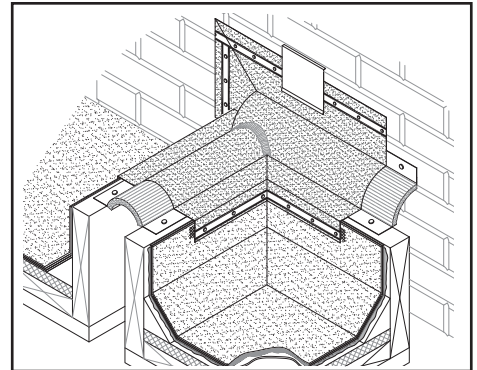
STYLE **EJ/WC FF-25**  
TRANSITION ROOF/WALL TO ROOF/ROOF



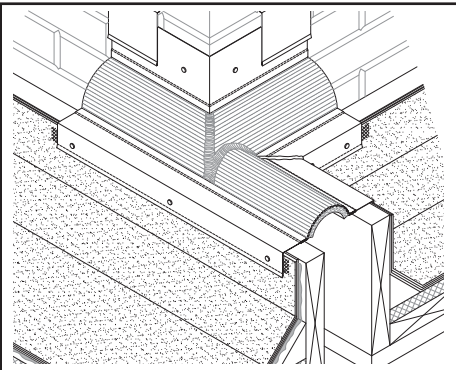
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TRANSITION ROOF/WALL TO ROOF/ROOF



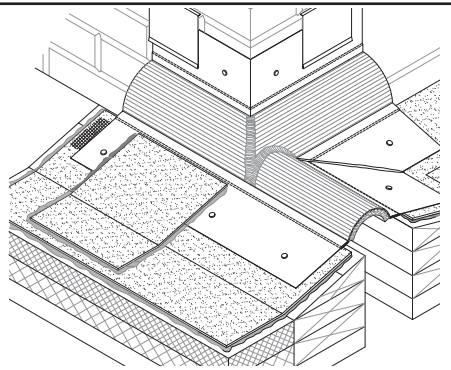
STYLE **EJ PF-11/15**  
TRANSITION ROOF/WALL TO ROOF/ROOF



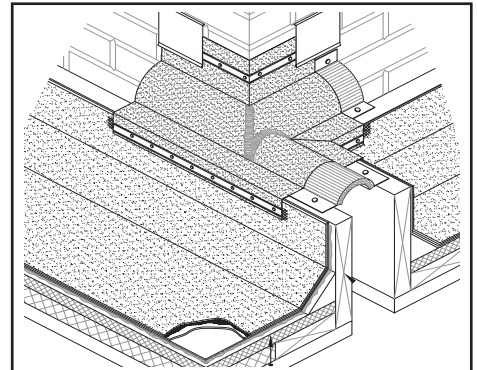
STYLE **EJ/WC PF-21/25**  
TRANSITION ROOF/WALL TO ROOF/ROOF



STYLE **CF/EJ PF-4/6**  
TRANSITION ROOF/WALL TO ROOF/ROOF



STYLE **EJ PF-14/16**  
TRANSITION ROOF/WALL TO ROOF/ROOF



STYLE **EJ/WC PF-24/26**  
TRANSITION ROOF/WALL TO ROOF/ROOF







A close-up photograph of a fire hose nozzle and the hose itself. The hose is made of a thick, woven material and is coiled. The nozzle is metallic and has a trigger handle. The image is split diagonally, with the left side showing the hose and nozzle and the right side being a solid dark grey background.

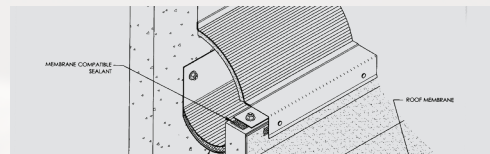
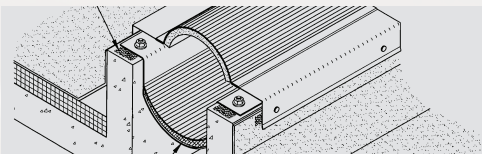
## EXPAND-O-FLASH WITH FIRE BARRIER

Where building codes require hourly fire ratings, any style Expand-O-Flash installed as part of a fire-rated assembly and protected by a Fireline® fire barrier can provide a one-hour, two-hour or three-hour fire rating.

# EXPAND-O-FLASH

## Fire Barrier

### STYLE



### HORIZONTAL-MOUNTED JOINTS

**MEMBRANE COMPATIBILITY**  
Please refer to the relevant JM specification sheets for details.

**MULTI-PLY:** BUR APP SBS  
**SINGLE PLY:** TPO PVC EPDM

### MOUNTING POSITIONS

Available in top, inside and bottom mount.

### SIZES

Fireline 140 openings from 2" to 4" (5.08 cm to 10.16 cm)  
Fireline 520 openings from 6" to 24" (10.16 cm to 60.96 cm)

### MOVEMENT

25%, 50% and 100% movement.

### RATINGS

One-, two- or three-hour fire ratings.

UL 2079, EN1366, BS476 and ULC S-115.

### INSTALLATION

Factory-made and ready to install out of the box,  
reducing installation time.

Standard male/female joint system ensures fire barrier integrity.

### CONSIDERATIONS

Refer to the Material Safety Data Sheet and product label prior to using this product. The Material Safety Data Sheet is available by calling (800) 922-5922 or on the Web at [www.jm.com/roofing](http://www.jm.com/roofing). For technical assistance, please call (800) 445-1500.

Testing listed by Warnock Hersey, Intertek + Exova Warrington Testing Laboratories.

Downloads available at [www.inprocorp.com](http://www.inprocorp.com).

Listed Product	Standard	COC#	Design Document
InPro Corp. - Fireline F140 Series Fire Barrier - Horizontal	ASTM E1399/ E1399M-97 (2017); CAN / ULC S115 (2011); UL 2079 (2015)	WHI18-22252202	INC/EC 120-01 INC/EC 120-02
InPro Corp. - Fireline F520 Series Fire Barrier - Horizontal	ASTM E1399/ E1399M-97 (2017); CAN / ULC S115 (2011); UL 2079 (2015)	WHI23-22252208	INC/EJCA 180-03
		WHI23-22252207	INC/EJCA 180-02
		WHI18-22252204	INC/EC 120-01 INC/EC 120-02





## VERTICAL-MOUNTED JOINTS

**MULTI-PLY:** BUR APP SBS  
**SINGLE PLY:** TPO PVC EPDM

Available in top, inside and bottom mount.

Fireline 140 openings from 2" to 4" (5.08 cm to 10.16 cm)  
 Fireline 520 openings from 4" to 24" (10.16 cm to 60.96 cm)

25%, 50% and 100% movement.

One-, two- or three-hour fire ratings.

UL 2079, EN1366, BS476 and ULC S-115.

Factory-made and ready to install out of the box,  
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Standard male/female joint system ensures fire barrier integrity.

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 Laboratories.

Downloads available at [www.inprocorp.com](http://www.inprocorp.com).

Listed Product	Standard	COC#	Design Document
InPro Corp. – Fireline F140 Series Fire Barrier - Vertical	ASTM E1399/ E1399M-97 (2017); CAN / ULC S115 (2011); UL 2079 (2015)	WHI18-22252203	INC/EJCA 120-05 INC/EJCA 120-06 INC/EJCA 120-07
InPro Corp. - Fireline F520 Series Fire Barrier – Vertical	ASTM E1399/ E1399M-97 (2017); CAN / ULC S115 (2011); UL 2079 (2015)	WHI18-22252205	INC/EJCA 120-08
		WHI23-22252206	INC/EJCA 180-01







## EXPAND-O-GARD

Expansion joints are flexible waterproof closures for building walls designed to accommodate movement between building components caused by thermal expansion, settlement, wind and seismic forces.

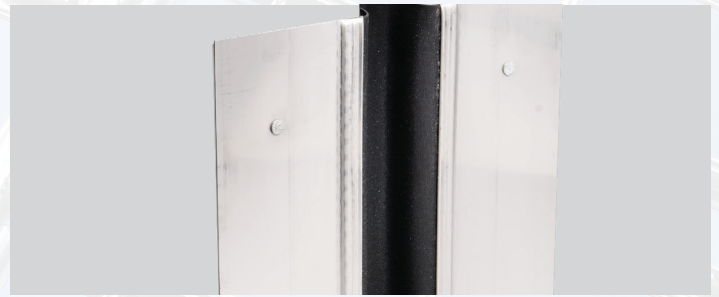
Expand-O-Gard is a combination of a durable elastomeric bellows attached to two metal flanges, both mechanically and chemically, by a patented bifurcation process.

It is available in two styles, style WS and style F. Factory-fabricated transitions are available to accommodate intersections between vertical Expand-O-Gard and horizontal Expand-O-Flash expansion joints.



# EXPANSION JOINTS

## STYLE



## WS VERTICAL – CONCEALED FLANGES

**MATERIAL COMPATIBILITY**  
Please refer to the relevant JM specification sheets for details.

Masonry construction, metal buildings and panel wall systems where flanges are concealed within the wall system.

### FACTORY TRANSITIONS

Available to accommodate intersections between vertical Expand-O-Gard and horizontal Expand-O-Flash expansion joints.

### BELLOWS MATERIALS

EPDM Black – Standard  
White EPDM available upon request.

### FLANGE MATERIALS

Galvanized, 26 ga (0.55 mm)  
Aluminum, 0.032" (0.81 mm)  
Stainless Steel, 0.018" (0.46 mm)  
Copper, 16 oz (453.59 g)

Available with punched flanges (3/4") (1.91 cm) holes at 4" (10.16 cm) o.c. for masonry construction or unpunched.

### AVAILABLE COATINGS

Freedom Gray Copper™ or Kynar®-colored finish upon request

### BELLOWS SIZES\* Standard

4" (102 mm)  
6" (152 mm)  
8" (203 mm)  
10" (254 mm)  
12" (305 mm)

Made-to-order

### Joint Opening (span)

1" - 2 5/8" (25 mm - 67 mm)  
2 3/4" - 4" (70 mm - 102 mm)  
4 1/8" - 5 1/4" (105 mm - 133 mm)  
5 3/8" - 6 5/8" (136 mm - 168 mm)  
6 3/4" - 8" (171 mm - 152 mm)

Larger bellows sizes available upon request.

### FLANGES

4"

### LENGTHS

**10' (3.05 m) – Bellows Sizes 4" to 12"**  
**50' (15.24 m) – Bellows Sizes 4" to 8"** (10.16 cm to 20.32 cm) only  
**100' (30.48 m) – Bellows Sizes 4" to 8"** (10.16 cm to 20.32 cm) only  
Custom lengths available upon request.  
Copper or stainless steel flanges are recommended where contact with masonry is part of the design.

### CONSIDERATIONS

Refer to the Material Safety Data Sheet and product label prior to using this product. The Material Safety Data Sheet is available by calling (800) 922-5922 or on the Web at [www.jm.com/roofing](http://www.jm.com/roofing). For technical assistance, please call (800) 445-1500.

Refer to JM applicator guides or detail drawings for instructions.

#### Method for determining bellow widths for Expand-O-Gard style WS:

##### To allow up to 50% movement:

1.5 x (the width of the joint) = Bellows Width

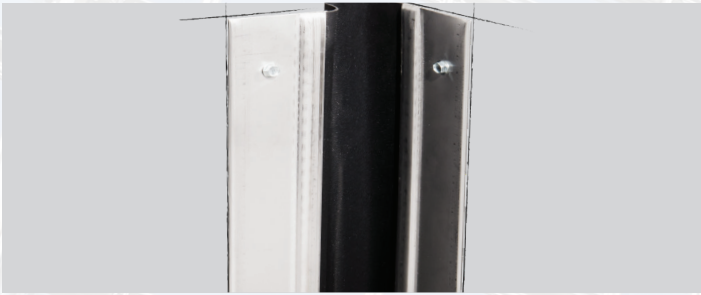
##### To allow up to 100% movement:

2.0 x (the width of the joint) = Bellows Width

**Always round up to the next even number.**

**Guidelines provided above represent the minimum recommended bellows size by Johns Manville, final bellows size must be reviewed and approved by the Architect and/or Engineer of Record.**





## F VERTICAL – SURFACE MOUNTED

Joints between new and existing walls, between curtain walls and glass atriums, and other walls where the flange is exposed. Style F can be surface mounted.

Available to accommodate intersections between vertical Expand-O-Gard and horizontal Expand-O-Flash expansion joints.

EPDM Black – Standard  
White EPDM available upon request

Stainless Steel, 0.018" (0.46 mm)  
Available with punched flanges (1/4") (6.35 cm) holes at 12" (30.48 cm) o.c. or for masonry or unpunched with one end of flange offset to provide 4" (10.16 cm) shiplap splice condition. Other metal flanges are available upon request.

### Joint Opening (span)

- 1"-2 5/8" (25 mm-67 mm)
- 2 3/4" - 4" (70 mm-102 mm)
- 4 1/8" - 5 1/4" (105 mm-133 mm)
- 5 3/8" - 6 5/8" (136 mm-168 mm)
- 6 3/4" - 8" (171 mm-152 mm)

Larger bellows sizes available upon request.

2 1/4" (5.72 cm) folded

10' 4" (3.15 m) (\*10' of yield. 4" shingles over next flange)

Refer to JM applicator guides or detail drawings for instructions.

### Method for determining bellow widths for Expand-O-Gard style F:

#### To allow up to 50% movement:

1.5 x (the width of the joint) = Bellows Width

#### To allow up to 100% movement:

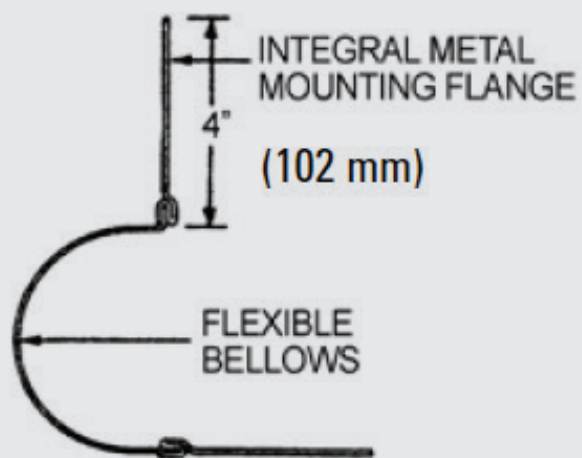
2.0 x (the width of the joint) = Bellows Width

Always round up to the next even number.

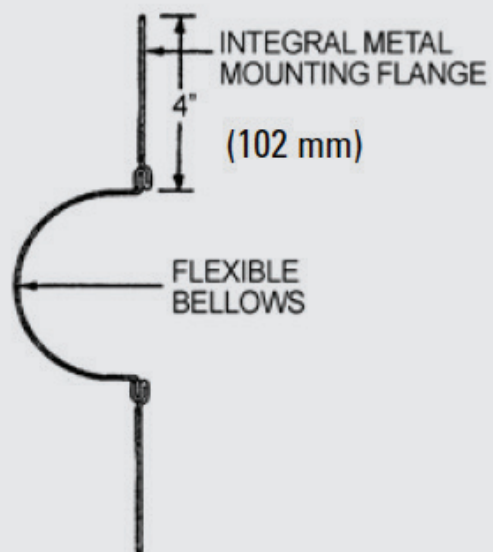
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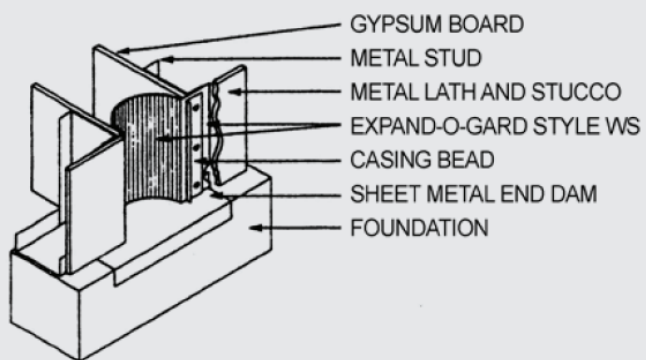
# STYLE WS USAGE DIAGRAMS



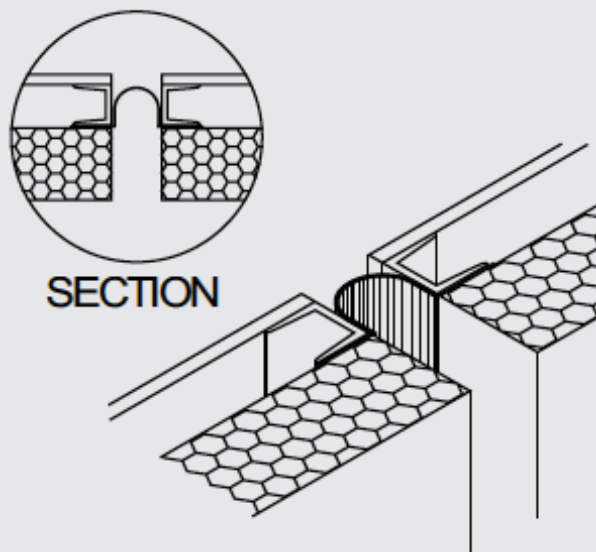
**INSIDE CORNER CONDITION**



**WALL-TO-WALL CONDITION**



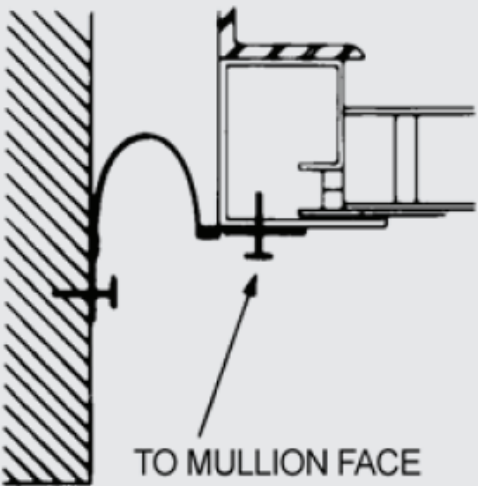
**STYLE WS TERMINATION DETAIL**



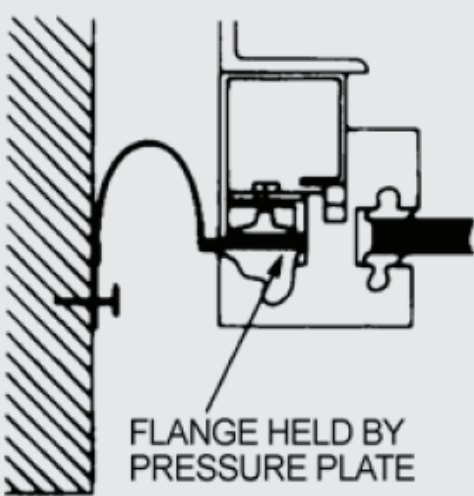
**BEHIND EXTERIOR FACADE**



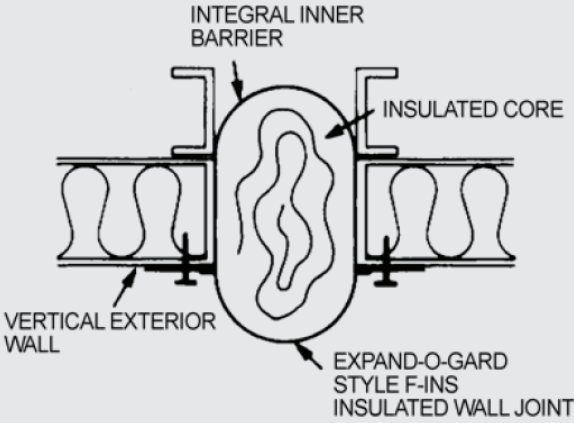
# STYLE F USAGE DIAGRAMS



**CURTAIN-TO-WALL  
DISSIMILAR MATERIAL (OPT 1)**



**CURTAIN-TO-WALL  
DISSIMILAR MATERIAL (OPT 2)**



**INSULATED WALL JOINT**



The Specialty Roofing Products group has established its expert reputation by working with designers of record to provide support for custom designs and specially fabricated systems for building movement and closure problems.

No matter how challenging or unusual the design situation, JM can work with the designer of record to turn rough sketches into custom-manufactured systems.

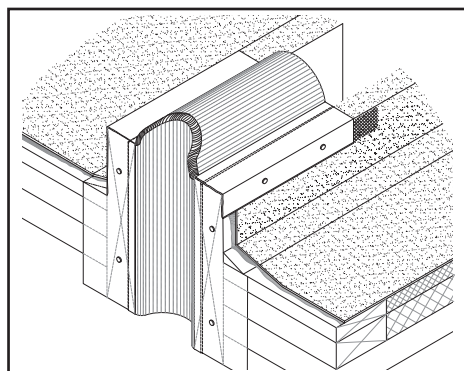
These systems can be included in the Johns Manville Peak Advantage Guarantee, one of the most comprehensive performance guarantees in the roofing industry. Here are a few examples of expansion joint transitions.

**All styles are available with insulated bellows upon request.**

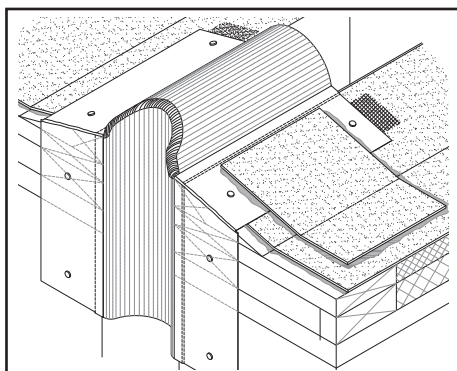
## EXPAND-O-GARD

For Styles WS & F

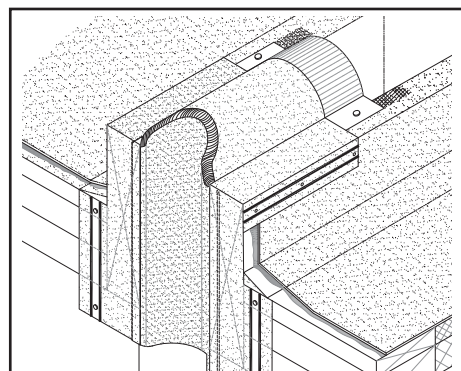
Specify when ordering



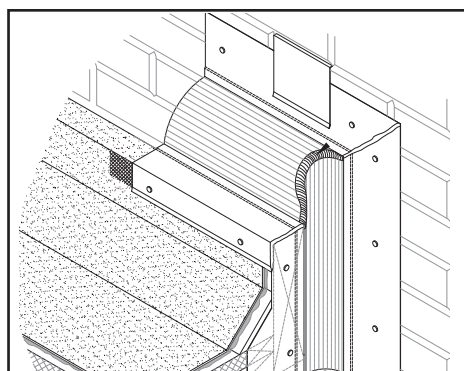
STYLE **CF EG-1**  
TRANSITION **RR VERTICAL OUTSIDE CORNER**



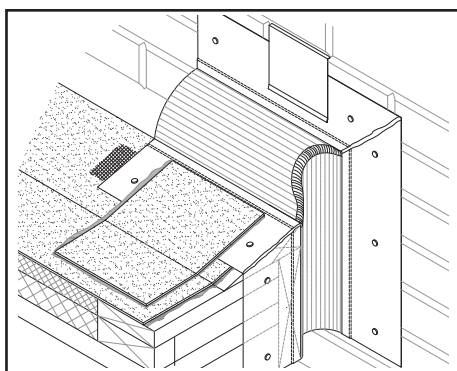
STYLE **EJ EG-11**  
TRANSITION **RR VERTICAL OUTSIDE CORNER**



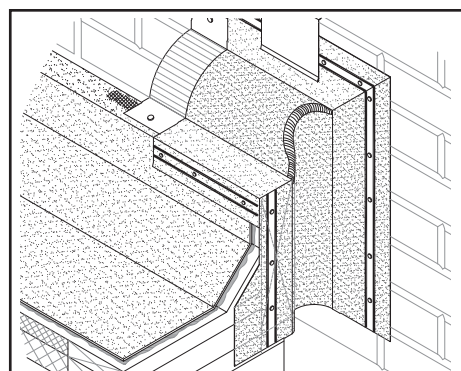
STYLE **EJ/WC EG-21**  
TRANSITION **RR VERTICAL OUTSIDE**



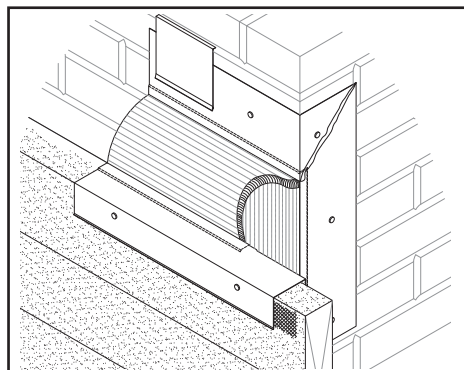
STYLE **CF/EJ EG-2**  
TRANSITION **RW VERTICAL OUTSIDE CORNER**



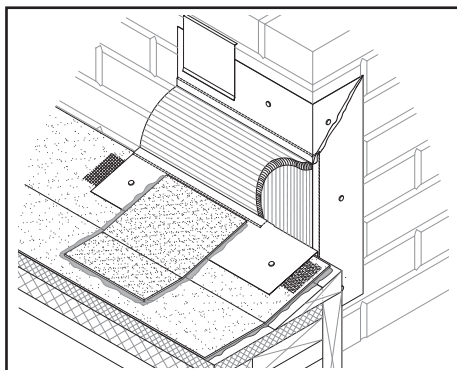
STYLE **EJ EG-12**  
TRANSITION **RW VERTICAL OUTSIDE CORNER**



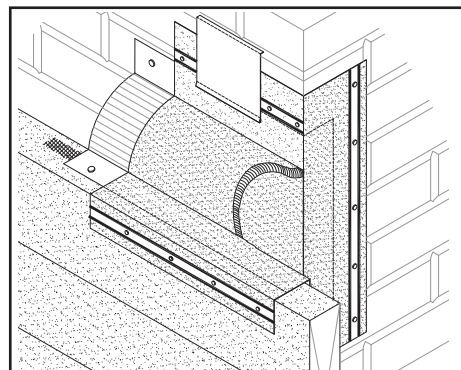
STYLE **EJ/WC EG-22**  
TRANSITION **RW VERTICAL OUTSIDE CORNER**



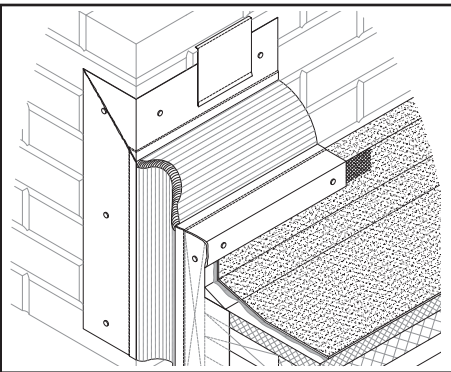
STYLE **CF/EJ EG-3**  
TRANSITION **RW VERTICAL OUTSIDE CORNER**



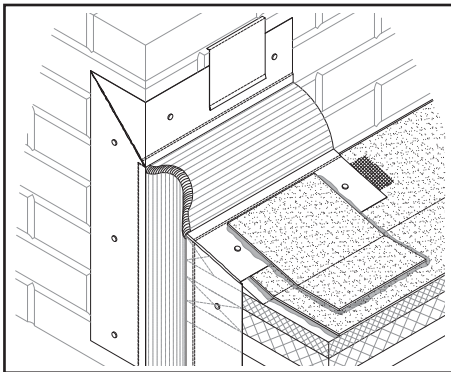
STYLE **EJ EG-13**  
TRANSITION **RW VERTICAL OUTSIDE CORNER**



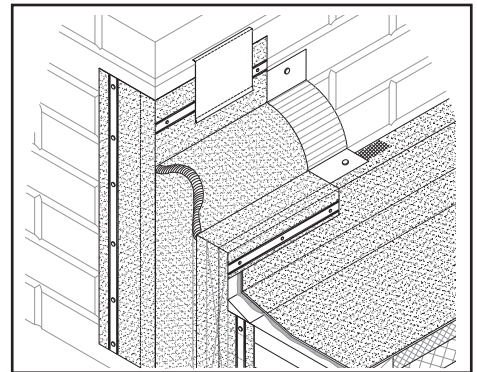
STYLE **EJ/WC EG-23**  
TRANSITION **RW VERTICAL OUTSIDE CORNER**



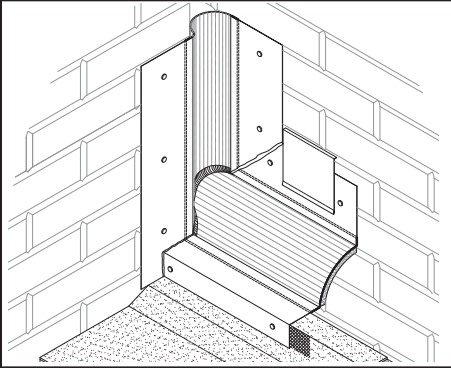
STYLE **CF/EJ EG-4**  
TRANSITION RW VERTICAL OUTSIDE CORNER



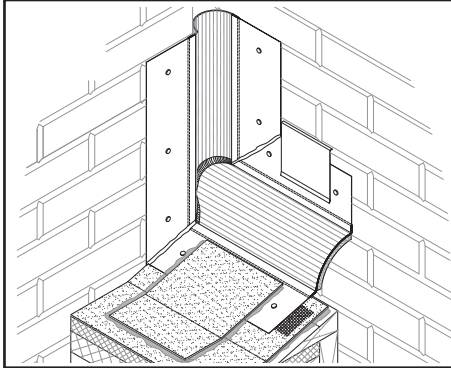
STYLE **EJ EG-14**  
TRANSITION RW VERTICAL OUTSIDE CORNER



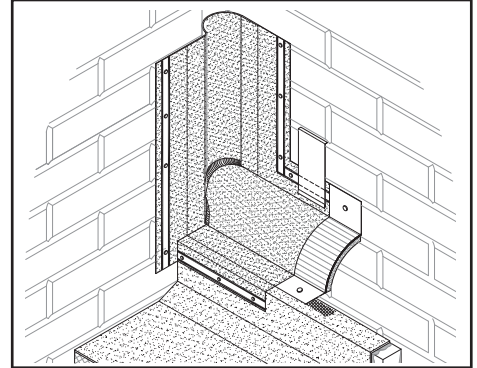
STYLE **EJ/WC EG-24**  
TRANSITION RW VERTICAL OUTSIDE CORNER



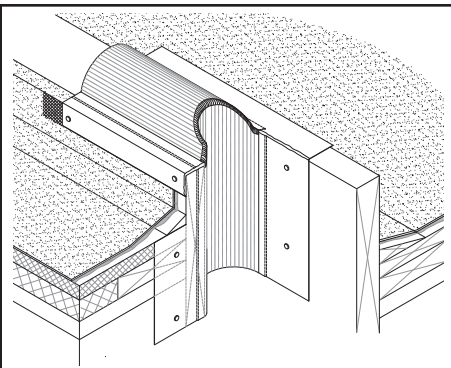
STYLE **CF/EJ EG-5**  
TRANSITION RW VERTICAL INSIDE CORNER



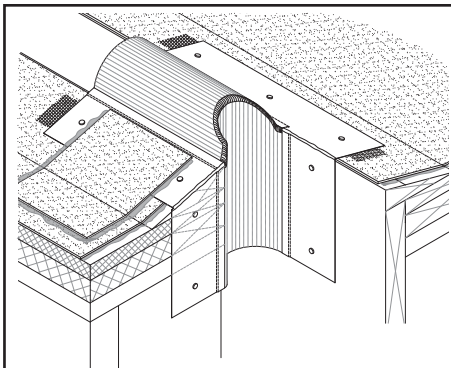
STYLE **EJ EG-15**  
TRANSITION RW VERTICAL INSIDE CORNER



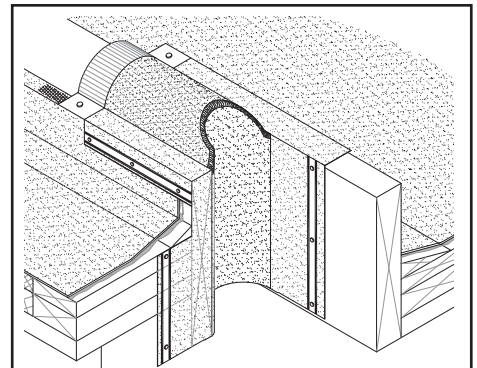
STYLE **EJ/WC EG-25**  
TRANSITION RW VERTICAL INSIDE CORNER



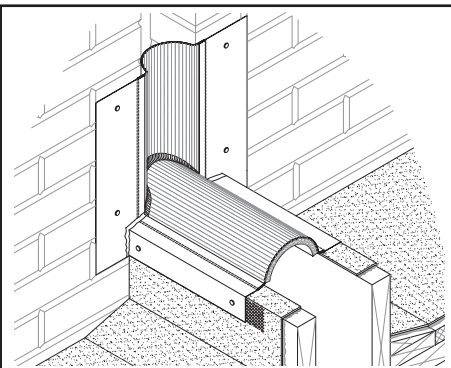
STYLE **CF EG-6**  
TRANSITION RR VERTICAL OUTSIDE CORNER



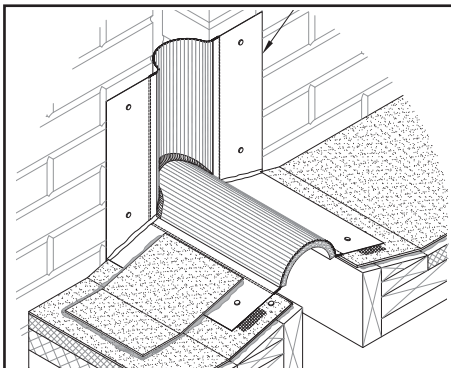
STYLE **EJ EG-16**  
TRANSITION RR VERTICAL OUTSIDE CORNER



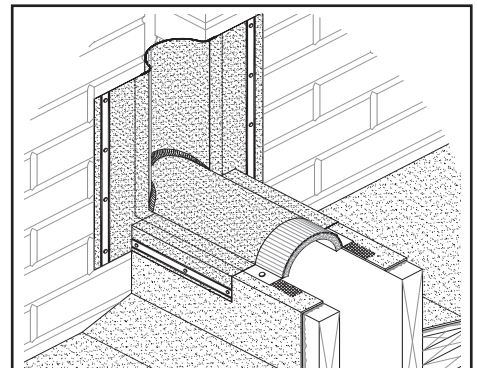
STYLE **EJ/WC EG-26**  
TRANSITION RR VERTICAL OUTSIDE CORNER



STYLE **CF EG-9**  
TRANSITION RR VERTICAL INSIDE CORNER



STYLE **EJ EG-19**  
TRANSITION RR VERTICAL INSIDE CORNER



STYLE **EJ/WC EG-29**  
TRANSITION RR VERTICAL INSIDE CORNER



The Specialty Roofing Products group has established its expert reputation by working with designers of record to provide support for custom designs and specially fabricated systems for building movement and closure problems.

No matter how challenging or unusual the design situation, JM can work with the designer of record to turn rough sketches into custom-manufactured systems.

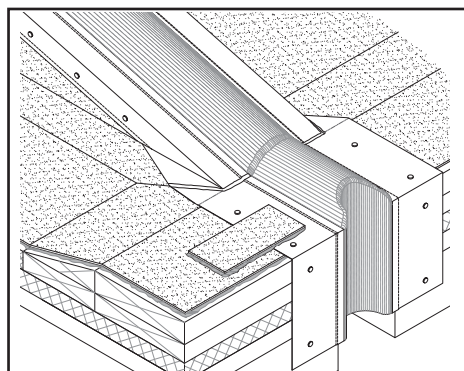
These systems can be included in the Johns Manville Peak Advantage Guarantee, one of the most comprehensive performance guarantees in the roofing industry. Here are a few examples of expansion joint transitions.

**All styles are available with insulated bellows upon request.**

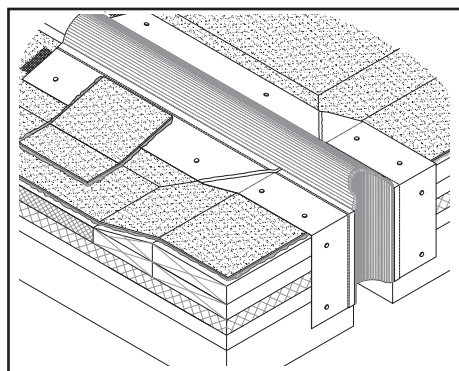
## EXPAND-O-GARD

For Styles WS & F

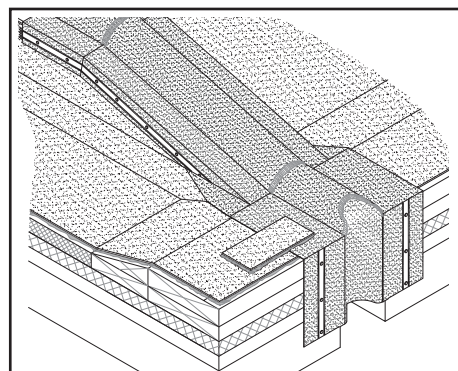
Specify when ordering



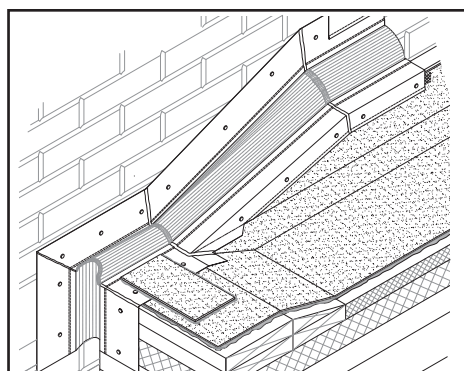
STYLE **CF/EJ FF-1**  
TRANSITION **RR VERTICAL OUTSIDE CORNER**



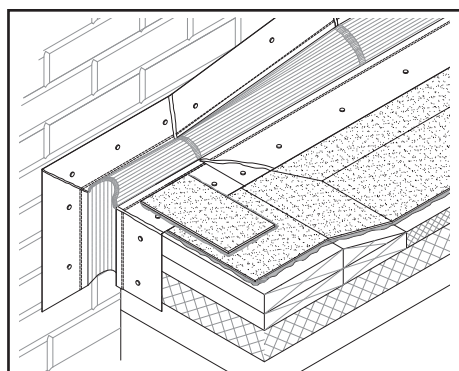
STYLE **EJ FF-11**  
TRANSITION **RR VERTICAL OUTSIDE CORNER**



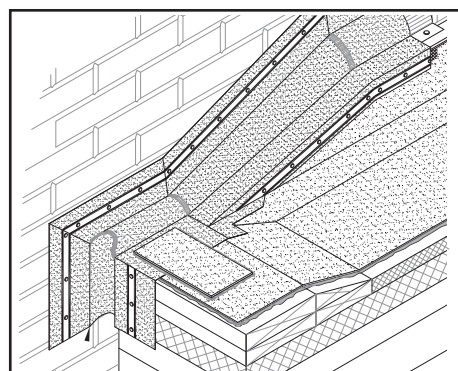
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TRANSITION **RR VERTICAL OUTSIDE CORNER**



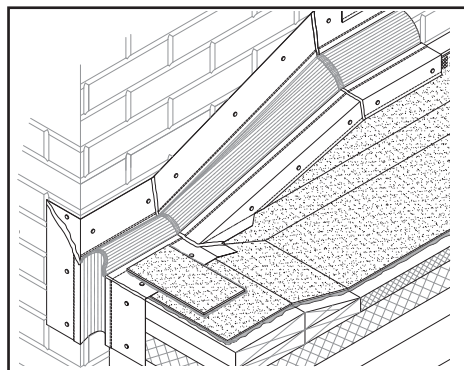
STYLE **CF/EJ FF-2**  
TRANSITION **RW VERTICAL OUTSIDE CORNER**



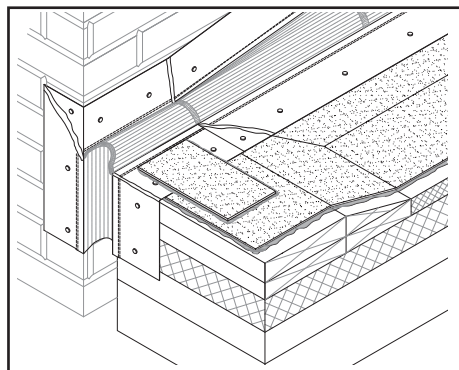
STYLE **EJ FF-12**  
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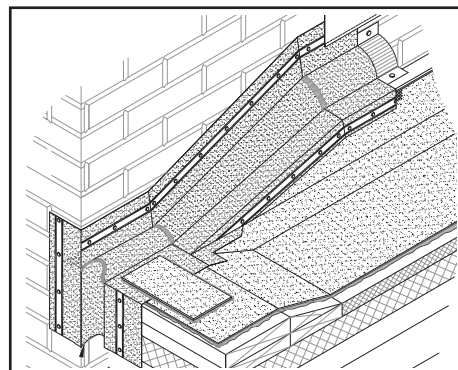
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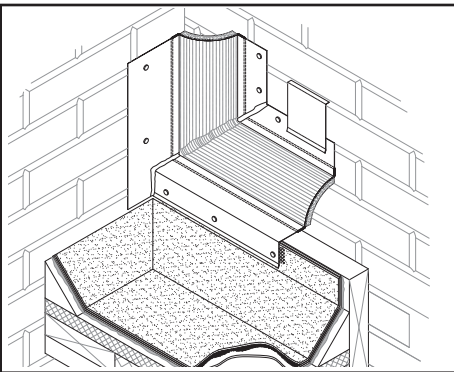
STYLE **CF/EJ FF-4**  
TRANSITION **RW VERTICAL OUTSIDE CORNER**



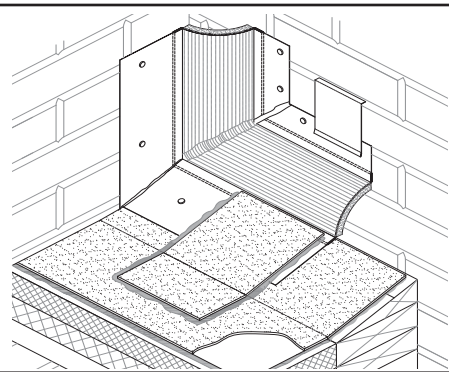
STYLE **EJ FF-14**  
TRANSITION **RW VERTICAL OUTSIDE CORNER**



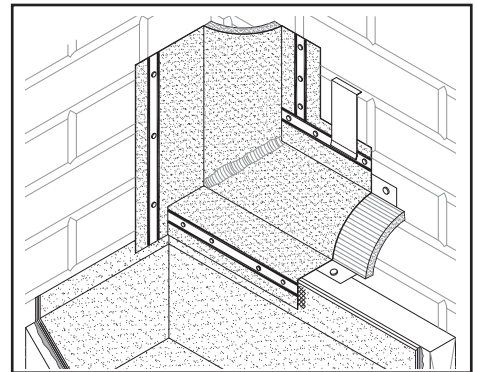
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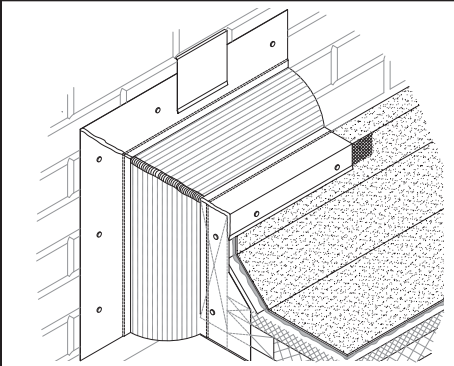
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TRANSITION **RW VERTICAL INSIDE CORNER**



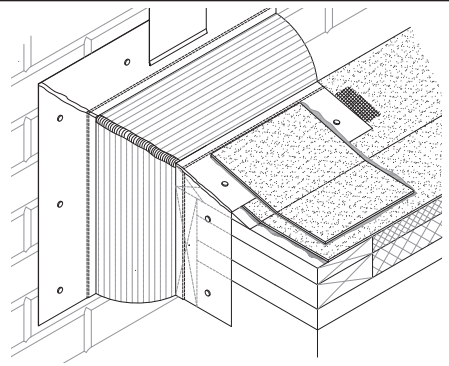
STYLE **EJ PF-18**  
TRANSITION **RW VERTICAL INSIDE CORNER**



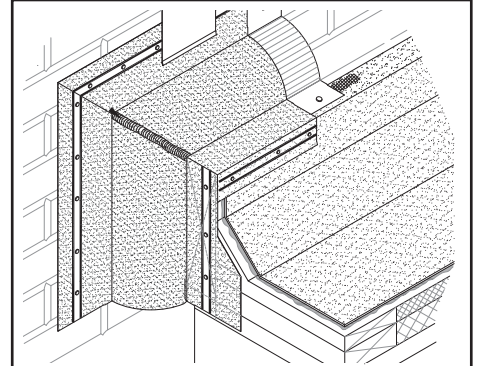
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TRANSITION **RW VERTICAL INSIDE CORNER**



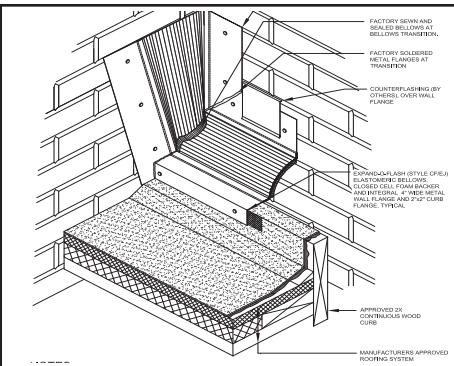
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TRANSITION **RW VERTICAL OUTSIDE CORNER**



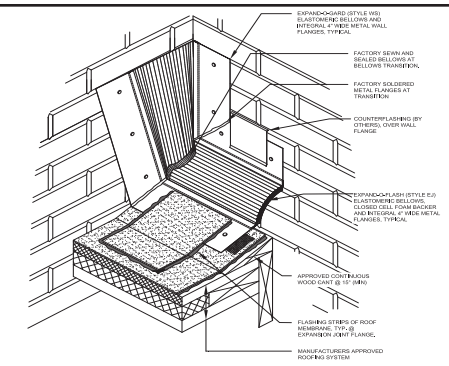
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TRANSITION **RW VERTICAL OUTSIDE CORNER**



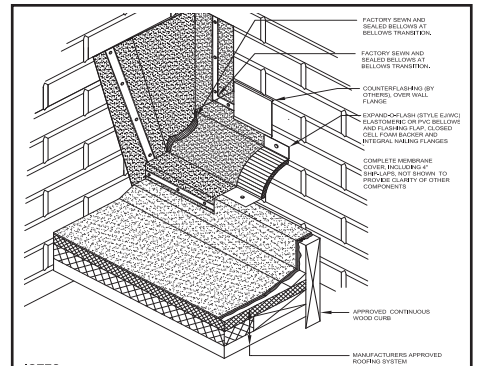
STYLE **EJ/WC EW-24**  
TRANSITION **RW VERTICAL OUTSIDE CORNER**



STYLE **CF/EJ EW-8 RAD**  
TRANSITION **TERMINATION**



STYLE **EJ EW-18 RAD**  
TRANSITION **TERMINATION**



STYLE **EJ/WC EW-28 RAD**  
TRANSITION **TERMINATION**







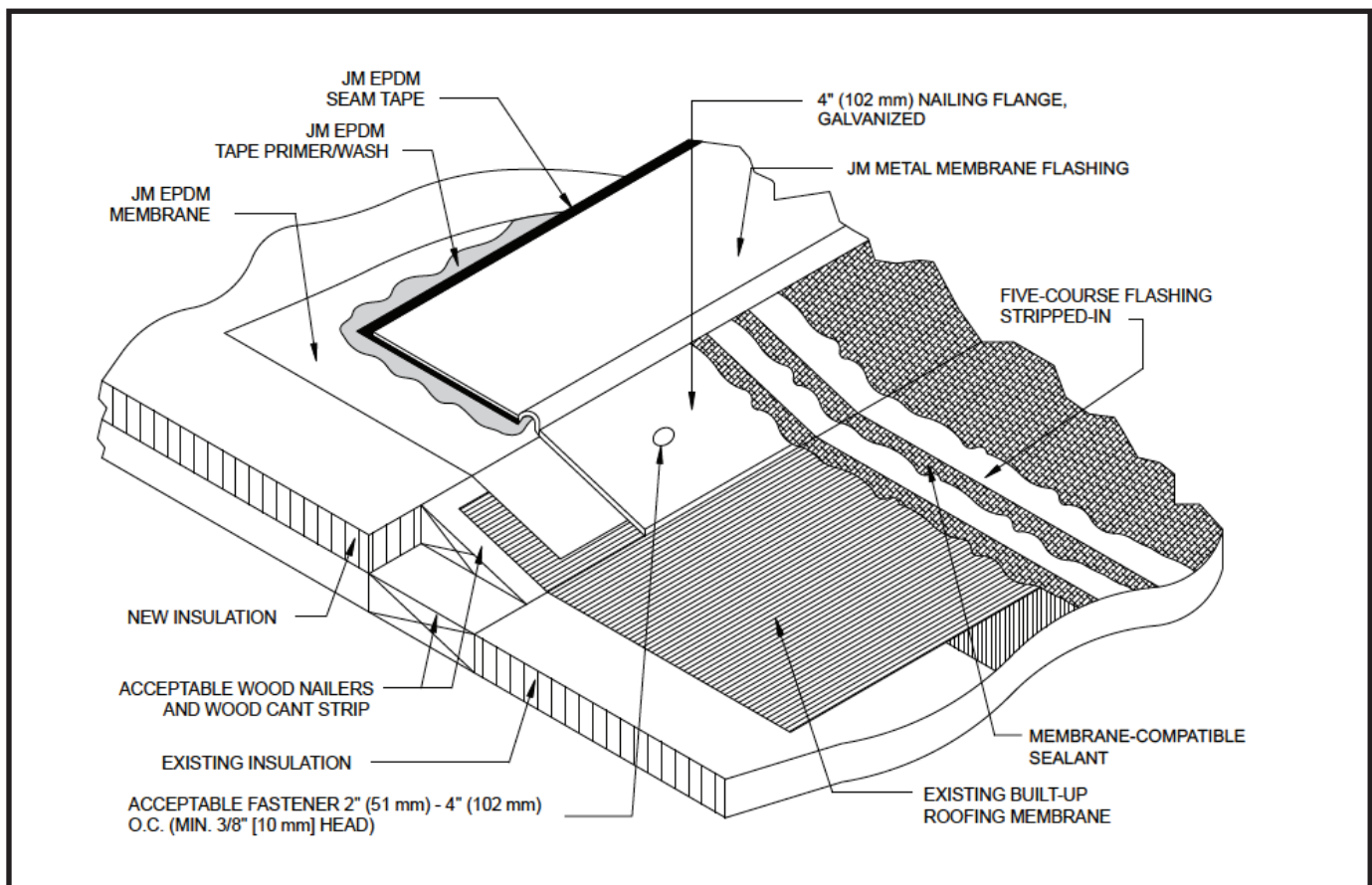
# JM EPDM

## Metal/Membrane Flashing

**A specially developed and manufactured flashing system for sealing and waterproofing adjacent JM EPDM and bituminous membrane roofing systems.**

System construction:

- 6" (152 mm) strip of 60-mil (1.5 mm) cured EPDM
- 4" (102 mm) wide, 26-ga (0.5 mm) galvanized steel flange
- Secured to EPDM by a patented method
- Available in 100' (30.5 m) rolls









## DRAINS

A variety of roof drains allow for drainage, providing watertight seals between the roof, the drain and plumbing.



## DRAINS STYLE



**HERCULES® PVC RETRODRAIN®**



**HERCULES® TPO RETRODRAIN®**

### MEMBRANE COMPATIBILITY

Please refer to the specific JM specification sheets for details.

### SINGLE PLY: PVC

### SINGLE PLY: TPO

### USES AND DESCRIPTION

Developed for use in single ply PVC roof systems to replace existing drains in re-roofing applications. This one-piece, spun aluminum body has a plastisol-coated flange for direct hot-air welding of PVC roof membranes. The drain flange has a depressed sump area to facilitate the easy drainage of all water from the roof surface.

Developed for use in single ply TPO roof systems to replace existing drains in re-roofing applications. The one-piece spun aluminum body has a TPO-coated flange for direct hot-air welding to TPO roof membranes. The drain flange has a depressed sump area for improved flow and to facilitate drainage.

### MATERIALS

**Body:** Spun aluminum  
**Flange:** Plastisol-coated for direct hot-air welding of PVC roof membranes.

**Body:** Spun aluminum  
**Flange:** TPO-coated flange, for direct hot-air welding to most TPO membranes.

### SIZES

#### TO FIT

3", 4", 5" and 6" (76 mm, 102 mm, 127 mm and 152 mm)  
Custom sizes available upon request.

3", 4", 5" and 6" (76 mm, 102 mm, 127 mm and 152 mm)  
Custom sizes available upon request.

#### BODY

0.125" (3 mm)

0.125" (3 mm)

#### FLANGE

17.5" (44.45 cm)

17.5" (44.45 cm)

#### DRAIN STEM LENGTH

12" (30.48 cm)

12" (30.48 cm)

#### STRAINER

Height: 7" (17.78 cm)

Height: 7" (17.78 cm)

### WEATHERPROOFING

**U-Flow® Mechanical Seal\*\*:**  
watertight connection to pipes.

**U-Flow® Mechanical Seal\*\*:**  
watertight connection to pipes.

### AVAILABLE COLORS

**Color:** Aluminum

**Color:** Aluminum

### ADDITIONAL DETAILS

Heavy-duty cast aluminum strainer dome is easy to remove for cleaning.

Heavy-duty cast aluminum strainer dome is easy to remove for cleaning.

\* PVC AlumaWeld®, Hercules®, RetroDrains® and U-Flow® are registered trademarks of OMG® Roofing Products.

\*\* Watertight U-Flow® Mechanical Seal requires U-Flow screwdriver, sold separately.



**HERCULES® RETRODRAIN®**

**MULTI-PLY:** BUR APP SBS

**SINGLE PLY:** TPO PVC EPDM

Developed to replace existing drains in all roofing systems. The one-piece spun aluminum body and heavy-duty cast aluminum dome and clamping ring provide strength and durability. The drain flange has a depressed sump area for improved flow and to facilitate water drainage from roof surface.

**Body:** Spun aluminum

**Flange:** Extra large 17.5" (44.45 cm) diameter flange that allows positive attachment of roof flashing membrane.

3", 4", 5" and 6" (76 mm, 102 mm, 127 mm and 152 mm)

Custom sizes available upon request.

0.125" (3 mm)

17.5" (44.45 cm)

12" (30.48 cm)

Height: 7" (17.78 cm) or 5.5" (14.0 cm)

**U-Flow® Mechanical Seal\*\*:**  
watertight connection to pipes.

**Color:** Aluminum

Available in two options: Standard or SuperDome with screw-down lid, to secure against vandals.



One Manufacturer.  
One Easy Solution.  
One Solid Guarantee.

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**And the technical support to get it right – the first time.**

**Technical Service (800) 445-1500**

**Customer Service (800) 223-8317**

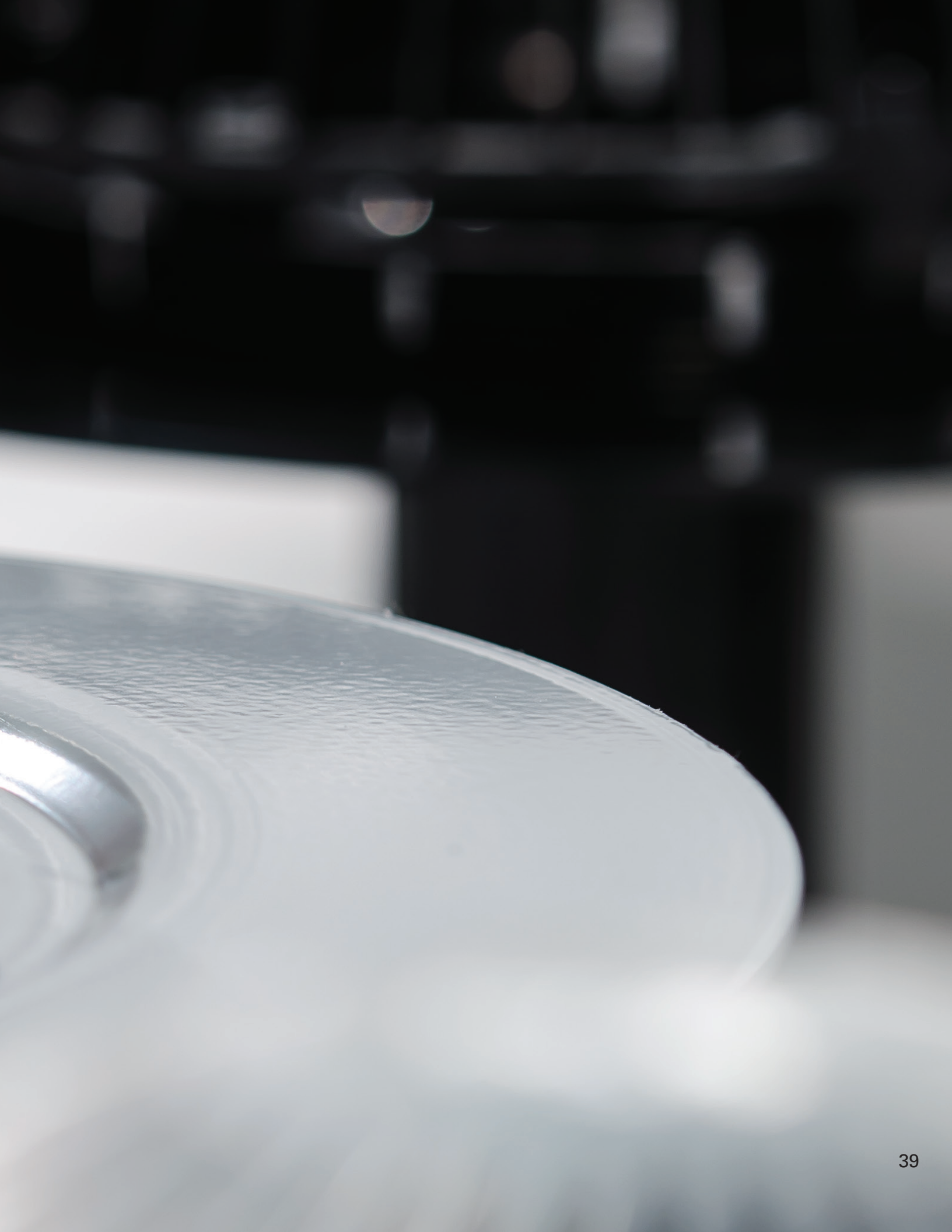
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**CONTACT US DIRECTLY**

**roofacc@jm.com**



Johns Manville offers the most comprehensive guarantee in the roofing industry. That's the advantage you can expect from a longtime, dependable leader along with the financial backing of Berkshire Hathaway.





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RS-6002 9-25 (Replaces 3-24)