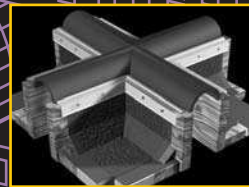
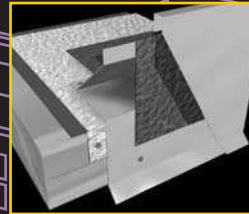
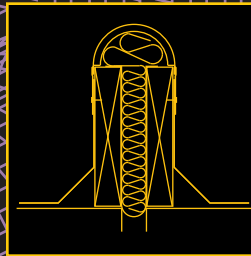
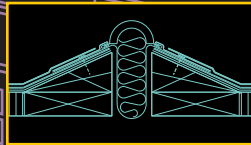
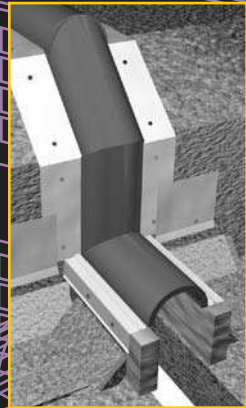


*Commercial/Industrial Roofing Solutions*  
**Accessories**



**S** Johns Manville  
provides total systems to  
**E** meet any commercial or  
industrial roofing need.  
**I** We offer Roofing Systems  
Guarantees for built-up,  
**R** SBS and APP Modified,  
and Single Ply EPDM, PVC,  
**O** and TPO membrane systems.  
**S** **Included in our guarantees**  
**are all of our roofing**  
**S** **accessories, which**  
**provide owner/specifier**  
**S** **with single source**  
**responsibility for the full**  
**E** **system.** Other membrane  
manufacturers include  
**C** some accessories  
in their guaranteed systems,  
**C** but Johns Manville  
is the only manufacturer  
**A** to include our full line  
of accessories.

# Contents

	<b>Expand-O-Flash®</b> watertight roof expansion joint covers for a wide variety of applications	<b>4</b>
	<b>Expand-O-Gard®</b> vertical wall flexible closures for a wide variety of applications	<b>16</b>
	<b>Presto Lock® and Presto-Tite™ Fascia Systems</b> FM I-90 fascia for BUR, Modified Bitumen and Single Ply membrane systems Also Presto Stop™ Gravel Stop	<b>20</b>
	<b>Presto Lock® Coping System</b> FM I-90 coping for BUR, Modified Bitumen and Single Ply membrane systems	<b>23</b>
	<b>FP-10 One-Way® Roof Vents</b> for lightweight fill decks or roof system vapor pressure control	<b>25</b>
	<b>Flex-I-Drains®</b> flexible bellows drains to accommodate movement between drain and plumbing	<b>26</b>
	<b>RetroDrains®</b> spun aluminum, copper or co-polymer drains with cast aluminum or co-polymer domes  <small>•RetroDrain is a registered trademark of Olympic Manufacturing Group, Inc.</small>	<b>27</b>
	<b>AquaVert™ Air Conditioning Condensate Drainage System</b> fleece back PVC channel system to divert AC condensate off the roof	<b>29</b>

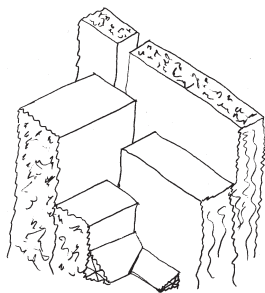
At Johns Manville, we can design an expansion joint cover to fit almost any opening.

This brochure contains many standard products and systems designs.

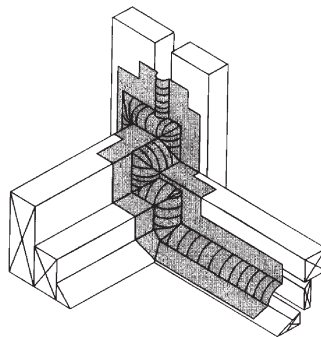
- Expansion joint covers, intersections, and transitions
- Vertical expansion joint closures and transitions
- Fascia, gravel stop and coping systems, corners, scuppers and transitions

In addition, Johns Manville has established a reputation based on our ability to custom design and fabricate special systems to solve building movement and closure problems. No matter how unusual your roofing challenge, we can turn your rough sketches into a custom manufactured Expand-O-Flash®, Expand-O-Gard®, PrestoLock®, Presto-Tite® and Presto Stop™ Fascia or Coping System. And these custom designed systems can be included in the Johns Manville Roofing Systems Guarantees, one of the most comprehensive performance guarantees in the roofing industry.

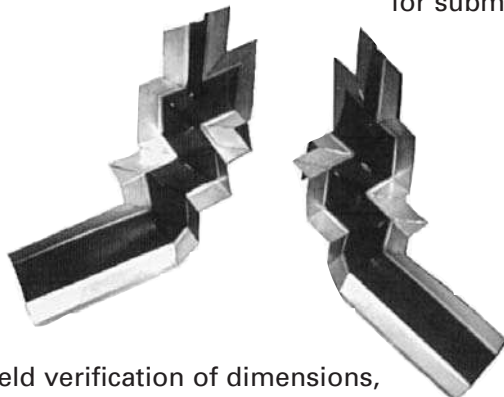
Here is an example of an expansion joint transition between a new and old roof area which created an unusual condition. Our Technical Service Department turned a rough sketch into custom designed transitions.



First the rough sketch from customer.

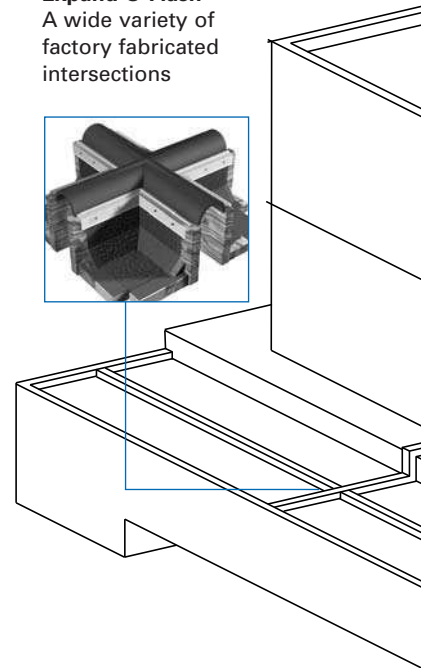
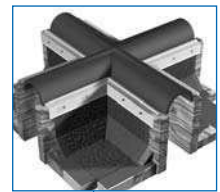


This was converted into a detailed drawing for submittal by the roofing contractor.



After field verification of dimensions, these two custom designed transitions were fabricated by our craftsmen.

**Expand-O-Flash®**  
A wide variety of factory fabricated intersections



These were installed, included in a Johns Manville Roofing System Guarantee, and successfully solved the design challenge.

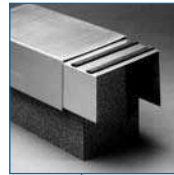
# Flexible Closures, Coping and Fascia Systems

## Recommended Locations

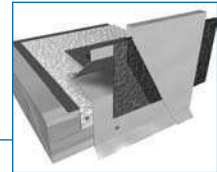
**Expand-O-Flash®**  
A wide variety of  
Factory Fabricated  
Intersections



**Expand-O-Flash® INS**  
Roof to roof



**Presto-Lock®**  
Coping  
System



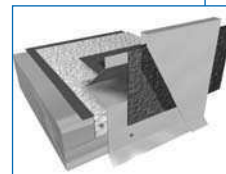
**Presto Lock®**  
Fascia System



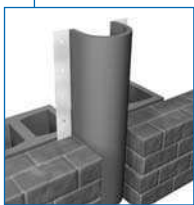
**Expand-O-Flash®**  
Roof to wall



**Expand-O-Flash®**  
A wide variety  
of factory fabri-  
cated intersec-  
tions



**Presto Lock®**  
Fascia System



**Expand-O-Gard®**  
Vertical wall expan-  
sion joint



**Expand-O-Flash®**  
Roof to wall

**Call Technical  
Service  
1-800-445-1500  
Fax: 207-784-0125**

Specially designed  
flexible closure at  
atriums or window  
walls

Designed to manage the movement of commercial and industrial building roof systems. Thermal. Settlement. New and existing junctions. Differing roof deck materials or direction. Seismic movement.

Expand-O-Flash expansion joint covers are flexible, weatherproof, exterior covers for expansion joint openings and are an effective, flexible closure for a wide variety of standard and special applications. Each Expand-O-Flash cover is a combination of a flexible rubber membrane, supported by a closed cell foam to form flexible bellows, with two metal flanges, adhesively and mechanically combined to the bellows by a patented bifurcation process.

Flexible rubber membranes are available in white or black 60 mil EPDM, and black 60 mil Neoprene. Black EPDM is recommended for budget installations. White (sold at a premium) is used where color is important. However, white does not have the longevity of black. Neoprene is more expensive, and is recommended for use where exposure to process oils or animal fats is an issue. It also does not have the longevity of black EPDM.

Metal flanges are available in galvanized steel (26 ga), mill finish aluminum (0.032"), stainless steel (0.018") and copper (16 oz). Galvanized is recommended for budget installations. Aluminum is recommended for areas where longer exposure to severe elements is required. Stainless steel is effective on manufacturing facilities where corrosion could effect longevity of the metal. Copper is used to match other copper metal work.

Selected metals are available on special order including lead coated copper, Tern coated stainless, Kynar coated 24 gauge galvanized, and .032" aluminum and others.

Closed cell foam thickness varies in thickness from  $\frac{3}{8}$ " to  $\frac{3}{4}$ " depending on bellows width.

#### **Expand-O-Flash®**

- Accommodates multidirectional movement
- Non-reinforced bellows for both geometric and elastomeric movement
- Available in 10 foot lengths, 50 and 100 foot rolls (larger rolls also available)
- Peel and Stick (for labor savings) splice tab kits included with all EPDM expansion joint covers.
- Compatible with built-up, modified bitumen (SBS and APP) and single ply (SPM) membranes
- Designed in a variety of styles for application requirements
- Labor saving factory crafted intersections to fit most needs or custom designed for special needs
- Over 40 years of proven design, fabrication and field performance
- Included in Johns Manville Roofing Systems Guarantees for single source responsibility up to 20 year NDL
- **10 Year Repair/Replacement Warranty. Includes labor and materials for replacement of expansion joint cover, factory produced intersections and field applied splices, when installed consistent with Johns Manville specifications and instructions.**





# Expand-O-Flash®

## Roof Expansion Joint Covers

Each Expand-O-Flash style is made with a combination of proven materials.

### Flexible Membrane Cover

- Type E-60 mil EPDM sheet – white or black (white is premium priced)
- Type N-60 mil Neoprene sheet – black (also premium priced)

### Flange Metal

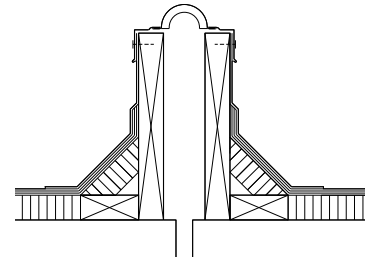
- Style EJ (Flat Flanges) 4" wide
- Style CF (Curb Formed) 2" wide and 2" vertical
- Galvanized Steel, 26 ga.
- Stainless Steel, .018"
- Aluminum, .032"
- Copper, 16 oz.
- Others available

### Support Foam

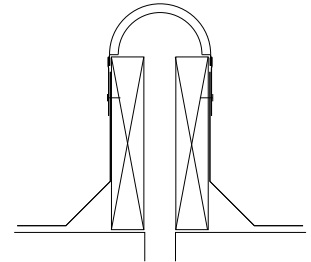
- Closed cell foam, K factor = .25 at ambient
- Thickness varies from 3/8" to 3/4" depending on bellows width

### For application to curbs

#### Style CF



#### Style EJ



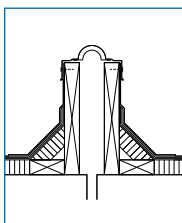
### Selection Chart for Standard Sizes

#### Type N (Neoprene) or Type E (EPDM)

				Style EJ		Style CF and CF-EJ	
Joint Opening or Span		Bellows Width*	Foam Thickness	Style	Length	Style	Length
Roof-to-Wall	Roof-to-Roof						
1" to 2"	1½" to 2½"	4"	3/8"	EJ-4	10 ft./50 ft.	CF-4, CF-EJ-4	10 ft.
2" to 3"	2½" to 3½"	6"	1/2"	EJ-6	10 ft./50 ft.	CF-6, CF-EJ-6	10 ft.
3" to 4"	3½" to 5"	8"	1/2"	EJ-8	10 ft./50 ft.	CF-8, CF-EJ-8	10 ft.
4" to 5"	5" to 6½"	10"	5/8"	EJ-10	10 ft.	CF-10, CF-EJ-10	10 ft.
5" to 6"	6½" to 8"	12"	3/4"	EJ-12	10 ft.	CF-12, CF-EJ-12	10 ft.

\*Based on the rule of thumb method to determine bellows width for CF (Curb Form) and CF-EJ styles:

Roof to Roof = 1.5 times (outside wood curb to outside of wood curb minus 4 inches); Roof to Wall: Bellows width = 2.0 times (outside wood curb to wall minus 2 inches). For EJ vertically mounted Roof to Roof = 1.5 times (outside wood curb to outside wood curb), for Roof to Wall = 1.5 times (outside wood curb to wall). For curb widths greater than 2½", see style EJ/WC page 7. **In all cases, anticipated movement should be considered for proper sizing.**

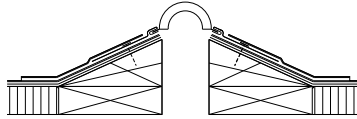


### Expansion joint detail for 1" joint

In order to provide adequate clearance between metal flanges and bellows for a 1 inch expansion joint, a space of at least 2 inches should be left between curbs or curb and wall.

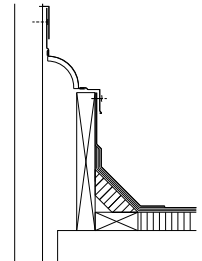
**For application to cant**

**Style EJ**



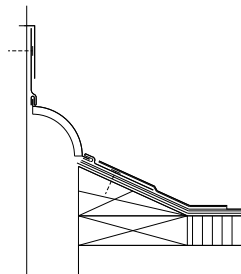
**For application to curb and wall**

**Style CF-EJ**

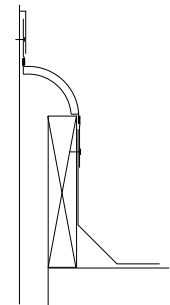


**For application to cant and wall**

**Style EJ**



**Style EJ**



**Vertical Distance Requirement  
in Roof to Wall Installations  
(for all styles)**

**Mounting**

<b>Bellows Width</b>	<b>Height "A"</b>
4"*	2 1/2"
6"*	3 3/4"
8"*	5"
10"*	6 1/4"
12"*	7 1/2"
14"***	8 3/4"
16"***	10 1/4"
18"***	11 1/2"
20"***	12 3/4"
24"***	15 1/4"

\*Standard bellows width.

\*\*Made to order.

For standard size selection  
see chart on page 5.

**PVC EJ/WC Expand-O-Flash®**

Expand-O-Flash Style PVC EJ/WC consists of foam supported bellows with integrally attached non-metallic nailing flanges over which is attached a reinforced PVC cover of sufficient width to weld the entire joint assembly to the PVC membrane.

Nailing flanges are 1 3/8" (35 mm) rigid PVC welded to flexible PVC strips which in turn are welded to the reinforced PVC cover membrane. Cover membrane is available in white 80 mil (2.0 mm) reinforced PVC membrane. The membrane is designed to cover the curbs or cants and extend 5" (127 mm) onto the roof surface to be welded to the PVC roof membrane.

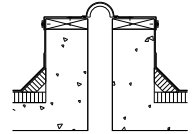
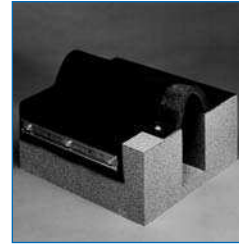
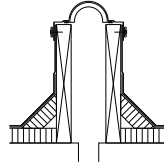




## Expand-O-Flash® EJ/WC

*Low Profile Roof Expansion Joint Cover with Cover Membrane in Longer Rolls*

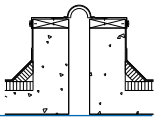
Expand-O-Flash Style EJ/WC consists of foam-supported bellows with integral attachment flanges over which a factory-laminated EPDM or Neoprene cover of sufficient width to flash the entire joint assembly, including curbs. Flanges are 1 $\frac{3}{8}$ " steel wrapped with Neoprene coated nylon fabric. Supplied in 50' or 100' rolls (larger rolls by special order) EJ/WC is used in curb-to-curb or curb-to-wall low profile installations or where curbs are too wide for metal flanges on Style CF. Prepunched aluminum termination bar is provided with EJ/WC.



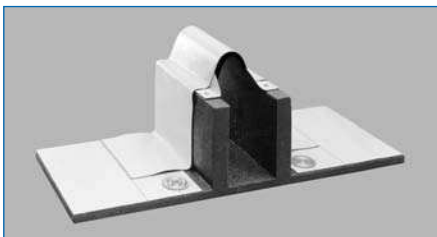
### Product Selection Chart

#### Curb-to-Curb

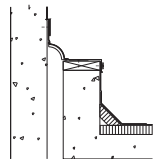
**C – EJ Bellows Width (inches)**  
**D – Cover Overall Width (inches)**



Joint Opening	Width of each curb					
	1 $\frac{1}{2}$ "	3"	6"	8"	10"	12"
	C/D	C/D	C/D	C/D	C/D	C/D
1 $\frac{1}{2}$ to 2 $\frac{1}{2}$ "	4/11	4/14	4/20	4/24	4/28	4/32
2 $\frac{1}{2}$ to 4"	6/13	6/16	6/22	6/26	6/30	6/34
4 to 5"	8/15	8/18	8/24	8/28	8/32	8/36
5 to 6 $\frac{1}{2}$ "	10/17	10/20	10/26	10/30	10/34	10/38
6 $\frac{1}{2}$ to 8"	12/19	12/22	12/28	12/32	12/36	12/40

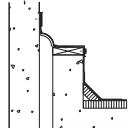


- Accommodates multidirectional movement
- Reinforced 80 mil cover membrane to match PVC roof membranes
- Non-metallic rigid PVC 1 $\frac{3}{8}$ " (35 mm) nailing strips
- Available in 50 foot (15.2 m) rolls.
- Foam is held back on one end to allow a 4" (102 mm) welded seam to be "shiplapped"
- Designed in a variety of styles for application requirements
- Included in Johns Manville Roof Systems Guarantees



#### Curb-to-Wall

**C – EJ Bellows Width (inches)**  
**D – Cover Overall Width (inches)**



Joint Opening or Span	Width of each curb					
	1 $\frac{1}{2}$ "	3"	6"	8"	10"	12"
	C/D	C/D	C/D	C/D	C/D	C/D
1" to 2"	4/11*	4/13	4/16	4/18	4/20	4/22
2" to 3"	6/13	6/15	6/18	6/20	6/22	6/24
3" to 4"	8/15	8/17	8/20	8/22	8/24	8/26
4" to 5"	10/17	10/19	10/22	10/24	10/26	10/28
5" to 6"	12/19	12/21	12/24	12/26	12/28	12/30

\* Also 4/8G with Galvanized flange at wall

In all cases, anticipated movement should be considered for proper sizing.

## Expand-O-Flash® INS

### Insulated Roof Expansion Joint Cover

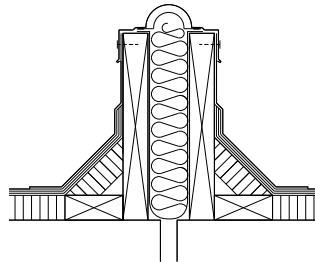
Available in All Expansion Joint Styles,  
Types and Widths

Expand-O-Flash INS is a patented, factory-prefabricated, insulated expansion joint cover. It is formed using a standard Expand-O-Flash cover and Johns Manville Microlite "L" specialty fiber glass insulation integrally attached with a rugged, high quality vapor retarder system. It is available in bellows widths up to 54" to cover seismic and other expansion joint openings. Microlite "L" provides both thermal insulation (example R=19 for 6 1/4" thickness) plus sound absorption (noise reduction coefficient 0.75).

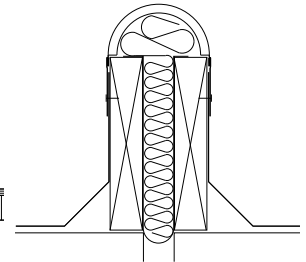


#### For application to curbs

##### Style CF-INS

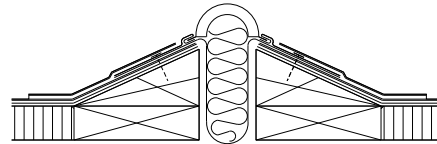


##### Style EJ-INS



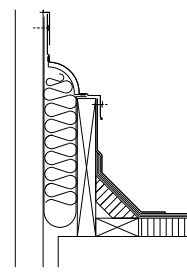
#### For application to cants

##### Style EJ-INS

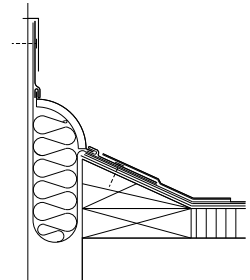


#### For application to curb or cant to wall

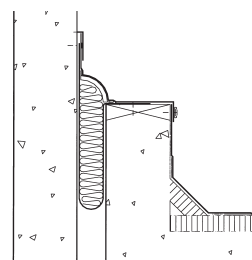
##### Style CF-EJ-INS



##### Style EJ-INS



##### Style EJ-WC



For size selection use charts on page 5 and 6.

# Expand-O-Flash®

## Factory-fabricated Intersections

As expansion joints move, the greatest stress occurs in the cover at the point where expansion joints intersect, cross or change directions. Factory-fabricated intersections are designed for maximum flexibility and are produced using special fabrication techniques to ensure watertight, clean seam lines. Close factory tolerance and quality control assures high yield performance.

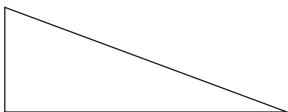
Factory fabricated intersections must be used if they are to be included in all Johns Manville Roofing Systems Guarantees, and in the Johns Manville 10 Year Repair/Replacement Warranty.

Standard intersections are available insulated or uninsulated in Styles CF, EJ, CF-EJ and EJ/WC as shown.

Unless requested, all Style EJ fittings are designed to fit on a cant composed of a wood 2 x 6 sawn diagonally.

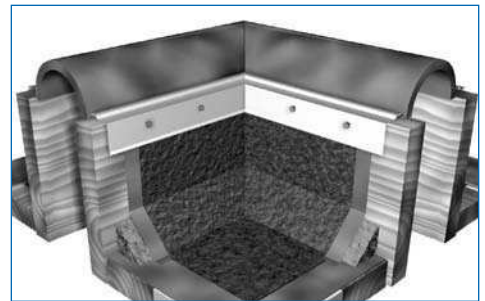
Unless requested, all intersections are fabricated with EPDM bellows.

All intersections available insulated.



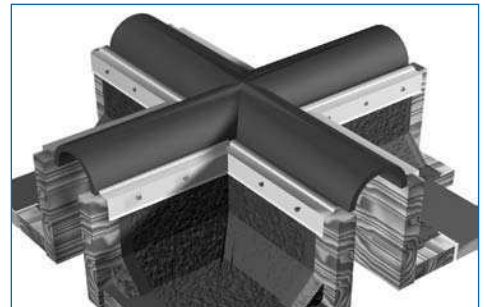
### Roof to Roof Corner

Style	Application
PF-1*	CF
PF-11	EJ
PF-21	WC
PF-31	EJ (vertical application)



### Roof to Roof Crossover

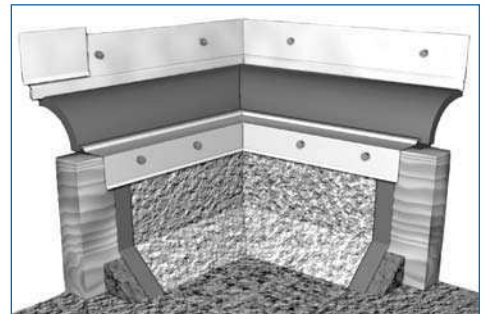
Style	Application
PF-3*	CF
PF-13	EJ
PF-23	WC
PF-33	EJ (vertical application)



### Roof to Wall Inside Corner

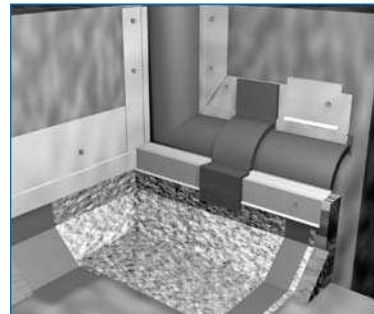
Style	Application
PF-5*	CF-EJ
PF-15	EJ
PF-25	WC
PF-35	EJ (vertical application)

\* Intersection illustrated



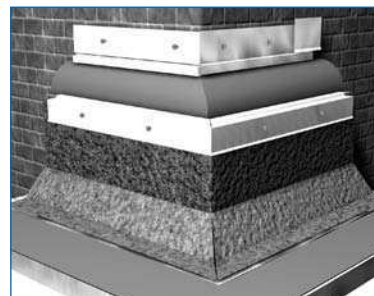
#### Roof to Wall Vertical Inside Corner

Style	Application
PF-8*	CF-EJ
PF-18	EJ
PF-28	WC
PF-38	EJ (vertical application)



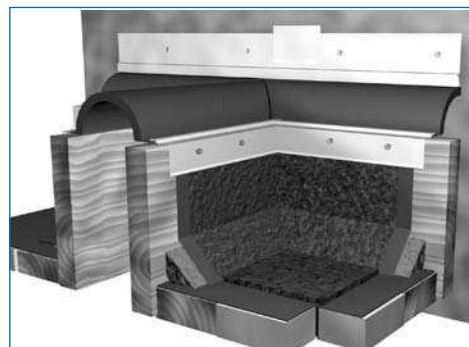
#### Roof to Wall Outside Corner

Style	Application
PF-4*	CF-EJ
PF-14	EJ
PF-24	WC
PF-34	EJ (vertical application)



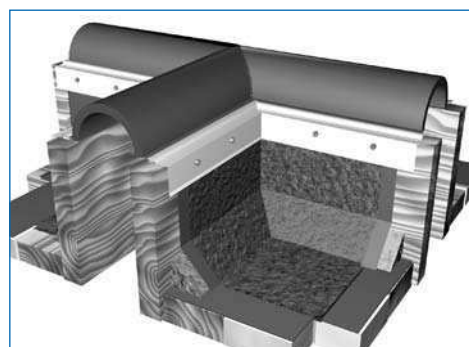
#### Roof to Wall Tee

Style	Application
PF-6*	CF-EJ
PF-16	EJ
PF-26	WC
PF-36	EJ (vertical application)



#### Roof to Roof Tee

Style	Application
PF-2*	CF
PF-12	EJ
PF-22	WC
PF-32	EJ (vertical application)



\* Intersection illustrated

## Expand-O-Flash®

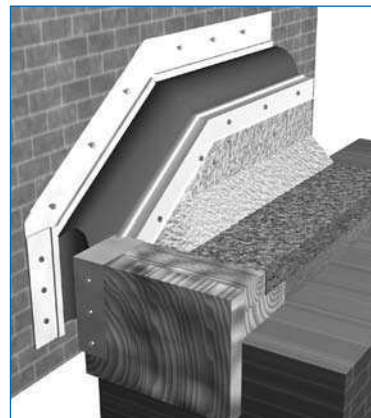
### Factory-fabricated Intersections

Field fabricated intersections are **not** included in guarantees or warranty. Only Factory fabricated intersections are included in the Johns Manville Roofing Systems Guarantees and in the Johns Manville Total Repair/Replacement Warranty.

Factory fabricated intersections are available left or right hand.

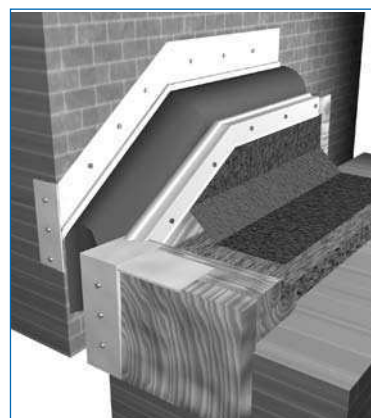
#### Roof Edge with Continuing Wall

Style	Application
FF-2*	CF-EJ
FF-12	EJ
FF-22	WC
FF-32	EJ (vertical application)



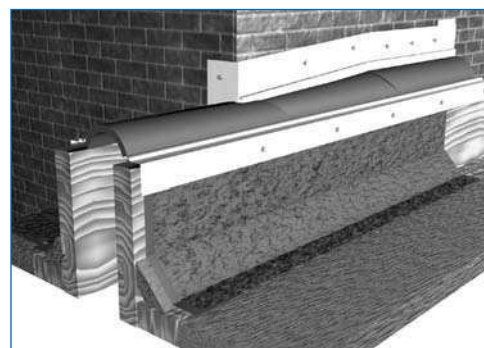
#### Roof Edge with Wall Ending

Style	Application
FF-4*	CF-EJ
FF-14	EJ
FF-24	WC
FF-34	EJ (vertical application)



#### Expansion Joint Continuing Beyond End of Wall

Style	Application
FF-5*	CF-EJ
FF-15	EJ
FF-25	WC
FF-35	EJ (vertical application)



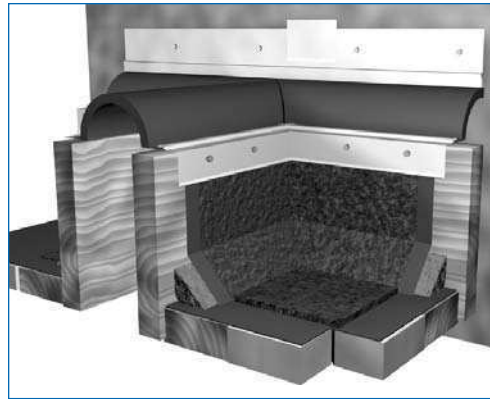
\* Intersection illustrated



### Structural Expansion Joints

**Structural Expansion Joint or Roof Area Divider  
into a Parapet - Non-Load Bearing Wall**

**PF-6 CF to CF-EJ Curb to Wall Tee**



**Structural Expansion Joint into a Parapet - Load Bearing Wall**

**PF-9 Vertical Inside Corner  
Style Curb Form**

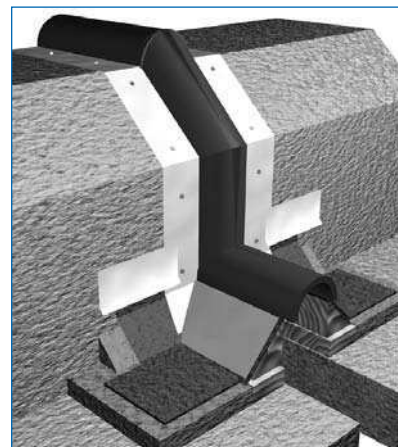
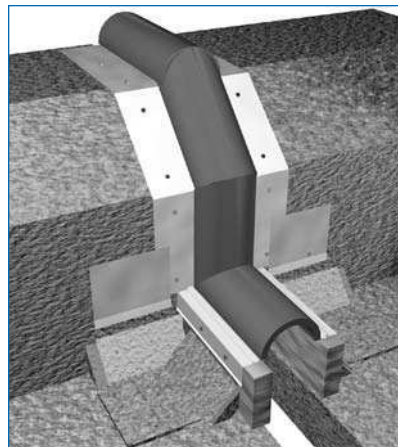
**PF-19 Vertical Inside Corner  
Style EJ on Cants**

**PF-19 Vertical Outside Corner  
Style EJ**

**PF-19 Vertical Outside Corner  
Style EJ**

**PF-29 Vertical Inside or  
Outside Corner  
Style EJ-WC**

**PF-39 Vertical Curb Mounted  
Flanges  
Style EJ.**





# Expand-O-Flash®

## Roof Edge Transition Details

### Structural Expansion Joints

Structural Expansion Joint Intersecting a Roof Edge

FF-1 Style CF Curb Form (Style Shown)

FF-21 Style EJ/WC on Curb

FF-31 Style EJ on Curb



FF-11 Style EJ on Cant (Style Shown)

FF-21 Style EJ/WC

FF-31 Style EJ on Curb

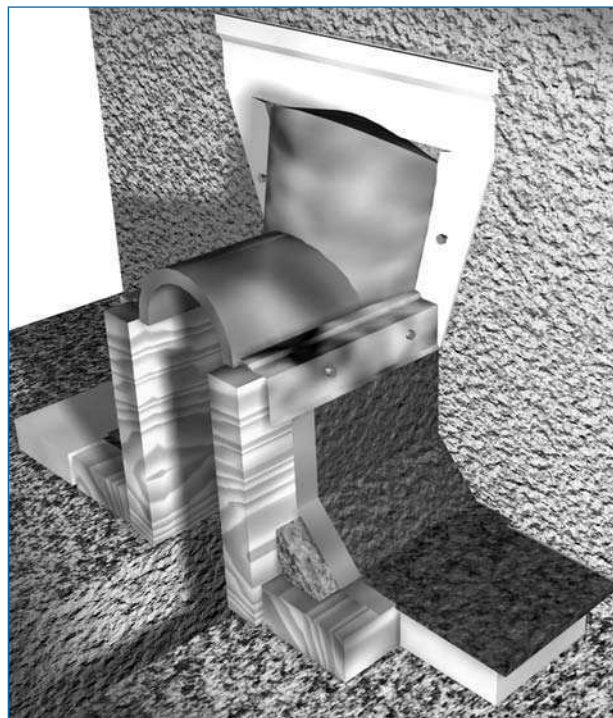


### Area Dividers

Roof Area Divider into a Gravel Stop  
Load Bearing Wall

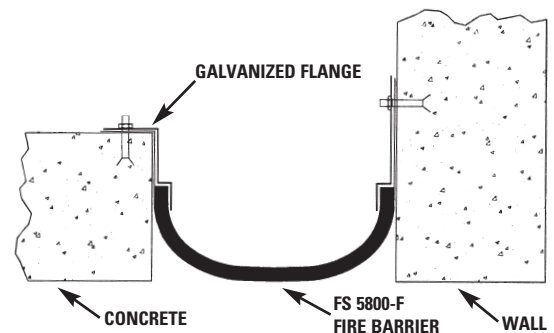
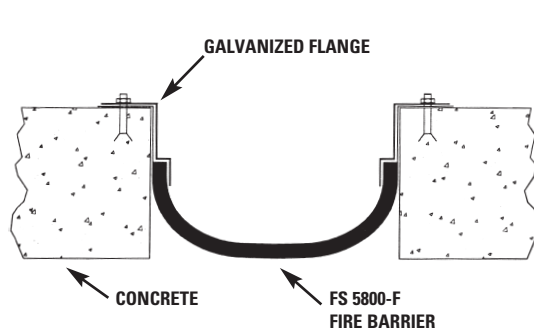
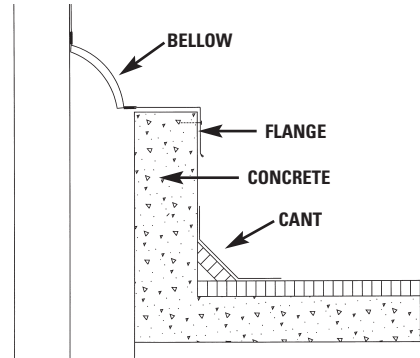
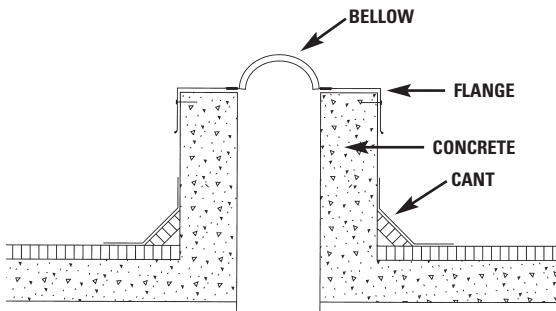


Roof Area Divider into a Parapet  
Load Bearing Wall



### Fire Protection

Where life safety is a requirement, any style Expand-O-Flash installed on a concrete deck and protected by FS 5800-F\* provides a UL listed 1 hour and 2 hour Fire Rating.



### Expand-O-Flash® Advantages

- Included in Johns Manville Roofing Systems Guarantees
- EPDM or Neoprene flexible membrane cover
- Four Flange metals - galvanized, aluminum, copper, stainless
- Horizontal, vertical, shear movement
- Joint openings up to 30 inches
- Factory fabricated intersections
- Seismic Joint Covers

### FS 5800-F Advantages

- UL listed for 1 & 2 hour fire rating
- No caulking required
- 50% expansion / contraction and lateral shear
- Joint openings up to 30 inches
- Custom sizes
- Meets UBC, BOCA, NFPA, ICBO & SBCCI
- ISO 9001 certified

Fire Barrier wall systems are also available, combining JM Expand-O-Gard® with Thermal Structures FS 5800-W\*.

\*Produced by Thermal Structures, Inc., Corona California

## Expand-O-Flash® Problem Solving

### We can make an expansion joint for just about any opening

Johns Manville has built its reputation with the specifying community and contractors alike through our highly experienced Technical Services Department and our skilled craftsmen. We are problem solvers through building movement management.

No matter how unusual your roofing challenge, Johns Manville can turn your rough sketches into custom-manufactured, high quality Expand-O-Flash® expansion joint covers, intersections and transitions. And, when used in a total Johns Manville Roofing System, they can be included in one of the most comprehensive performance guarantees in the industry.

### Seismic Joint Covers

We have expertly fabricated seismic closures on openings up to 24" (expansion joint over 54") to accommodate calculated multi-directional seismic movement without failure.

### Radius Closures

Our designed solutions allow expansion along curved surfaces, such as arches, to accommodate movement at curved surfaces between building components, such as atriums and window walls.

### Penetration Closures

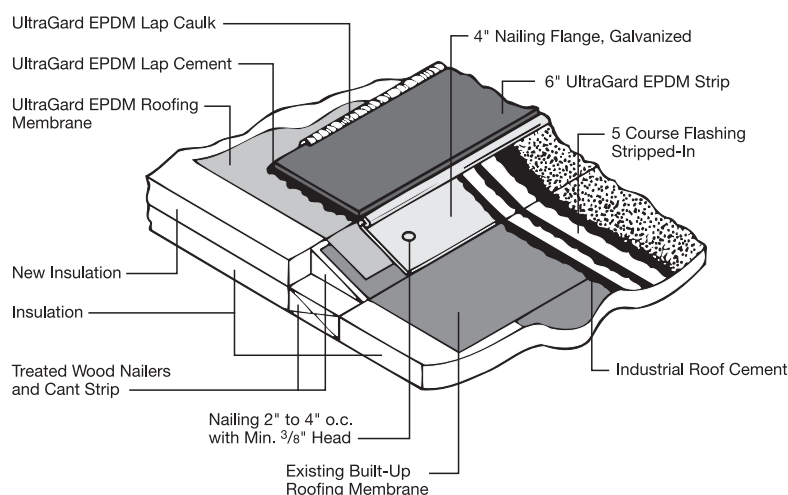
Flexible closures are specifically designed to allow movement between pipes, ducts, tanks, bulk carrying equipment and building walls or roofs, especially where extreme temperatures cause thermal movement.

### Specialty One-of-Kind

We help find solutions to building movement management through our Technical Service Department. Several solutions involve movement unrelated to roofing and/or buildings.

## UltraGard EPDM Metal/Membrane Flashing

UltraGard EPDM Metal/Membrane Flashing is a specially designed and manufactured flashing for sealing and waterproofing UltraGard EPDM roofing systems where they join an adjacent bituminous roof membrane. It is comprised of a nominal 6" (150 mm) strip of EPDM sheet secured in a patented method to flanges of nominal 4" (100 mm) wide galvanized steel, Type 100G-6, 4" (100 mm) galvanized steel flange with 6" (150 mm) EPDM membrane. Available in 100 foot rolls.



**Expand-O-Gard®**

Expand-O-Gard is a flexible waterproof closure for vertical building walls designed to accommodate movement between building components caused by thermal, settlement, wind, flex 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 designs, Style WS (page 16-17) and Style F (page 18-19).

All styles of Expand-O-Gard available with insulated bellows on special order.

**Style WS**

Style WS - for use on masonry construction, metal buildings and panel wall systems where flanges are concealed and/or sandwiched within the wall system.

- 4" flanges are available in 26 ga. galvanized, 0.032" aluminum, 16 oz. copper, or 0.018" stainless steel. Flanges are available punched ( $\frac{3}{4}$ " holes 4" o.c. for masonry construction) or unpunched. Available in lead coated copper or Kynar finish colored on special order.
- Copper or stainless steel flanges are recommended where contact with masonry is part of the design.
- Flexible rubber membrane bellows are black EPDM. White EPDM and black Neoprene are available on special order at premium pricing.
- Available in 10 foot lengths and 50 & 100 foot rolls. Other lengths available on special order.
- Factory fabricated transitions are available to accommodate intersections between vertical Expand-O-Gard and horizontal Expand-O-Flash expansion joints.

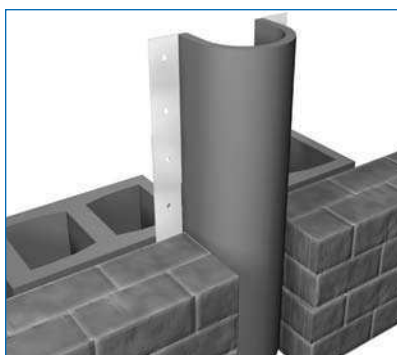


## Expand-O-Gard®

### Style WS Vertical Expansion Joints

Designation	Length	Bellows Width	Flange Materials	Punched or Unpunched
WS	10'	4", 6", 8", 10", 12"	A, G, C, S	U, P
WS	50' & 100'	4", 6", 8"	A, G, S, C	U

To determine the correct bellow size, multiply the nominal joint width by 1.5, or use the nominal joint width plus the maximum amount of anticipated movement. Use the method yielding the greater size.



### Style WS Transitions

#### Factory Fabricated Horizontal to Vertical Transitions Expand-O-Flash to Expand-O-Gard

##### Vertical Outside Corner

##### Style Application

EW-4	CF
EW-14*	EJ
EW-24	EJ/WC
EW-34	EJ Vertical

\*Style shown  
Left or right hand.



##### Vertical Inside Corner

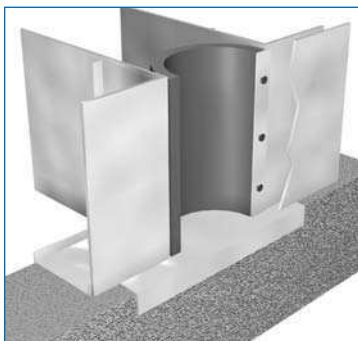
##### Style Application

EW-8	CF
EW-18*	EJ
EW-28	EJ/WC
EW-38	EJ Vertical

\*Left or right hand.



### Style WS Termination Detail (at continuous foundation)



### Style F

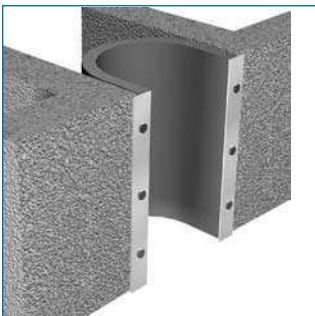
Style F-for use in joints between new and existing vertical walls, between curtain walls and glass atriums, and other vertical building walls where the flange is part of the closure design. Style F can be surface mounted.

- Stainless steel flanges are 2 1/4" double metal construction for improved rigidity. Stainless is the metal of choice where staining is of concern. Flanges are available prepunched for fastening (1/4" holes 12" o.c.) or unpunched. Other metal flanges are available on special order.
- Flexible rubber membrane bellows are black Neoprene. Bellows are available in black or white EPDM on special order.
- Available in 10'4" lengths.

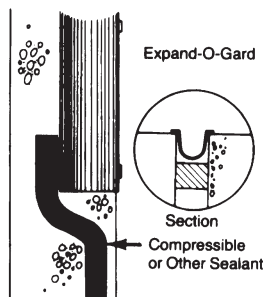
Factory fabricated transitions are available to accommodate intersections between vertical Expand-O-Gard and horizontal Expand-O-Flash expansion joints.



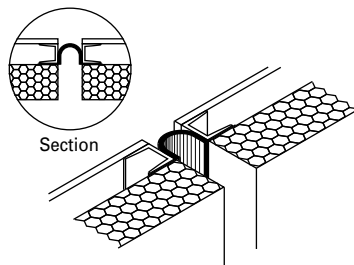
### Abutment or Structural Expansion Joints



#### Sealant Transition for Abutment and Structural Joints

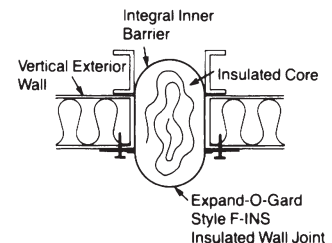
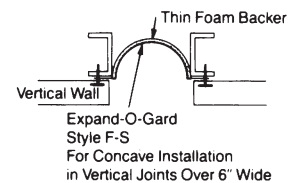
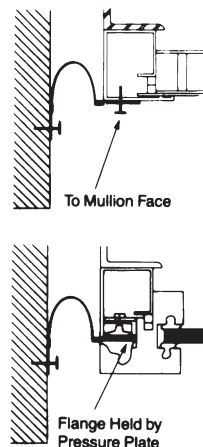


#### Behind Exterior Facade



Bellows size: As a rule of thumb, bellows size should be the greater of the nominal joint plus maximum anticipated movement or 1.5 times the nominal width. Use method yielding the greater size.

#### Curtain Wall to Dissimilar Material





# Expand-O-Gard®

## Style F Transitions

### Factory Fabricated Horizontal to Vertical Transitions Expand-O-Flash to Expand-O-Gard

#### Vertical Outside Corner

##### Style Application

EG-1	CF
EG-11*	EJ
EG-21	EJ/WC
EG-31	EJ Vertical



#### Vertical Outside Corner

##### Style Application

EG-2*	CF-right hand shown
EG-12	EJ
EG-22	EJ/WC
EG-32	EJ Vertical



#### Vertical Outside Corner

##### Style Application

EG-3	CF
EG-13*	EJ-right hand shown
EG-23	EJ/WC
EG-33	EJ Vertical



#### Vertical Outside Corner

##### Style Application

EG-4	CF
EG-14*	EJ-left hand shown
EG-24	EJ/WC
EG-34	EJ Vertical



#### Vertical Inside Corner

##### Style Application

EG-5	CF
EG-15*	EJ-left hand shown
EG-25	EJ/WC
EG-35	EJ Vertical



#### Vertical Outside Corner

##### Style Application

EG-6	CF
EG-16*	EJ-right hand shown
EG-26	EJ/WC
EG-36	EJ Vertical



#### Vertical Inside Corner

##### Style Application

EG-9	CF
EG-19*	EJ
EG-29	EJ/WC
EG-39	EJ Vertical



\*Transition illustrated.

Transitions available  
left or right hand.

### **Presto Lock Fascia System**

Presto Lock Fascia System is an economical snap-on fascia system designed for use with single ply, built-up and modified bitumen roofing systems. The fascia system consists of a galvanized base piece - Water Dam and Cover Plate of either galvanized or aluminum. Concealed splice plates complete the system.

#### **Water Dam**

10 foot sections 24 gauge galvanized are installed over the membrane by attaching to the face and through the skirt onto the roof with standard roofing nails. Sections should be butted together.

#### **Cover Plate**

After approved flashing compatible with the roofing membrane is properly installed over the Water Dam, the Cover Plate is snapped into place. 10 foot sections should be installed with a 1/2" space between each. Sections should be installed with the joints staggered with those of the Water Dam. Cover Plates are made of 0.040" and 0.050" aluminum mill finish or Kynar 500, and 22 or 24 gauge galvanized Kynar 500 finish. Standard sizes are 7" face (covers two 1 1/2" nailers) and 9" (covers three nailers) Concealed Cover Plates of the same color and material as the Cover Plate are installed behind each joint of the Cover Plate. These simply snap into place. The product is available in 28 standard Kynar colors plus clear anodized aluminum.

#### **Extender Plate**

For use where additional metal coverage is required. Fits behind the bottom edge of the fascia system and extends downward the required distance from 4" to 12" in 1" increments. This is hooked onto a continuous connector clip or soffit clip at the bottom, and is nailed at the top. Concealed extender plates are placed behind each joint.

#### **Accessories**

Inside and outside corners, fascia sumps, and scuppers are available made of the same material and color as the Cover Plate. Corners can be field fabricated, however, factory fabrication is recommended.

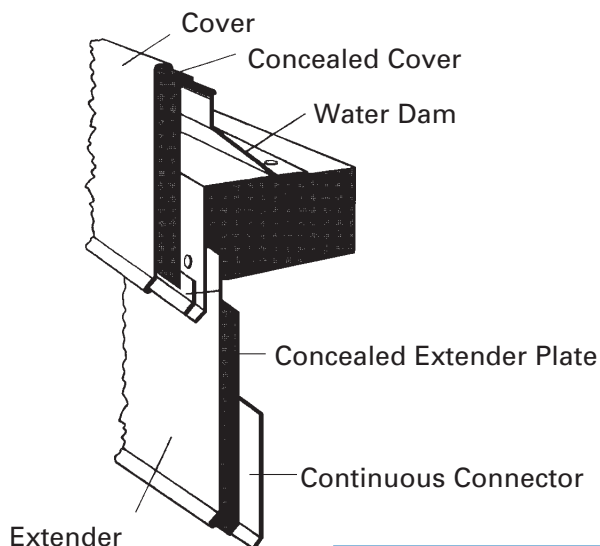
### **Presto Lock Fascia Systems**

- Included in all Johns Manville Roofing Systems Guarantees for total system responsibility from edge-to-edge.
- 0.050" Aluminum FM I-90 Approved
- Special sizes, shapes, metals, and curved fascias are available on special order
- 28 standard Kynar 500 colors available. Special colors available on special order



# Presto Lock®

## Fascia Systems



**Scupper**

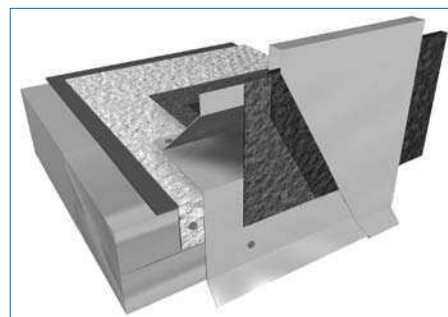
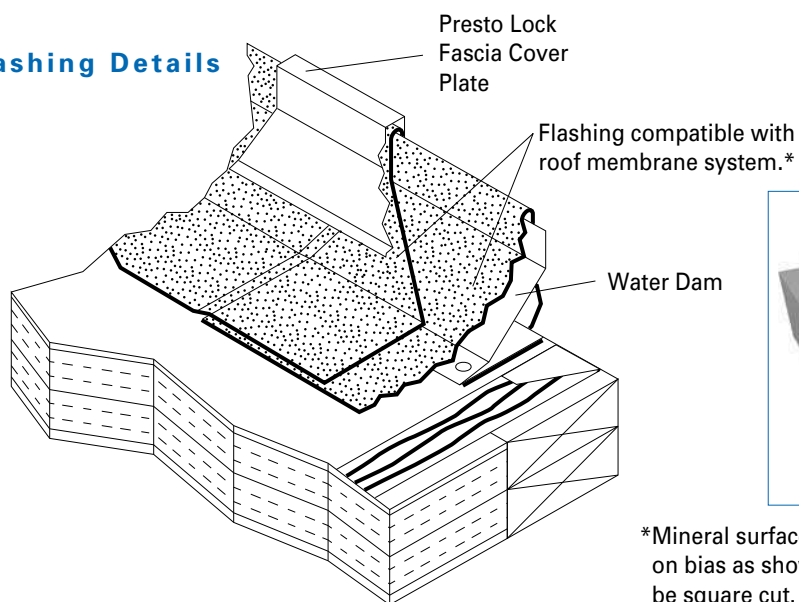


**Fascia Sump**



**Corner**

### Flashing Details



\*Mineral surfaced flashings, cut on bias as shown, all others may be square cut.

Approved flashing materials for BUR and modified systems: DynaFlex and GlasTite Flexible. When GlasTite Flexible is used it must be coated. SPM Flashing for SPM systems.

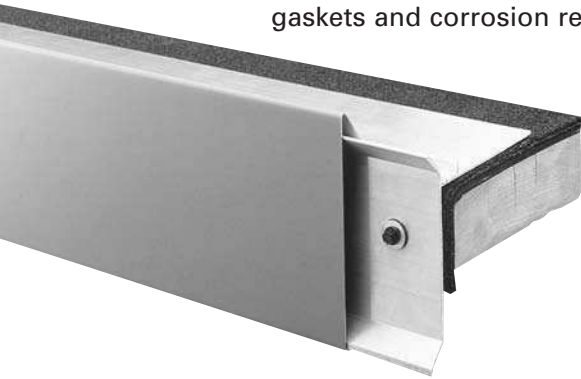
**Presto-Tite™ Fascia System**

For maximum protection against wind up-lift damage.



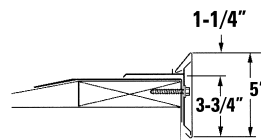
**Presto-Tite is a two part fascia system:**

- Extruded aluminum anchor bar - 12' long, preslotted 12" o.c.
- Snap-on fascial cover - 12' long, notched for 1" overlap, available in 24 gauge steel with Kynar 500 and 0.040." aluminum in mill finish, clear or colored anodized, or Kynar 500.
- Included are Anchor Bar Splice Plates of 0.025" mill finish with closed cell compression gaskets and corrosion resistant #12 x 1<sup>5</sup>/<sub>8</sub>" hex head fasteners.

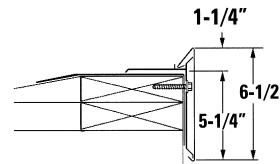


**Modified and BUR Version**

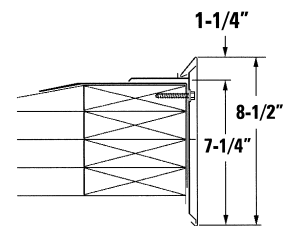
- Typical Applications



**PFM-50**



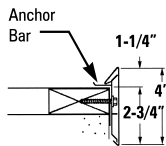
**PFM-65**



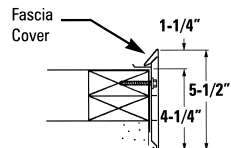
**PFM-85**

**Single Ply Adhered and Mechanically Fastened Version**

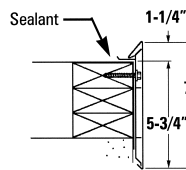
- Typical Applications



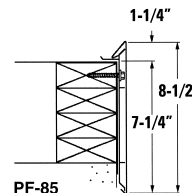
**PF-40**



**PF-55**



**PF-70**

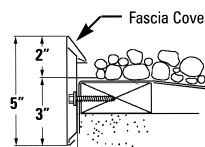


**PF-85**

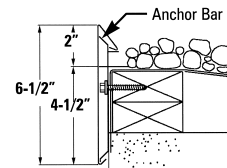


**Single Ply Stone Ballasted Version**

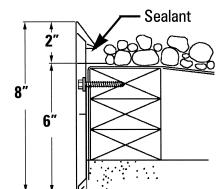
- Typical Applications



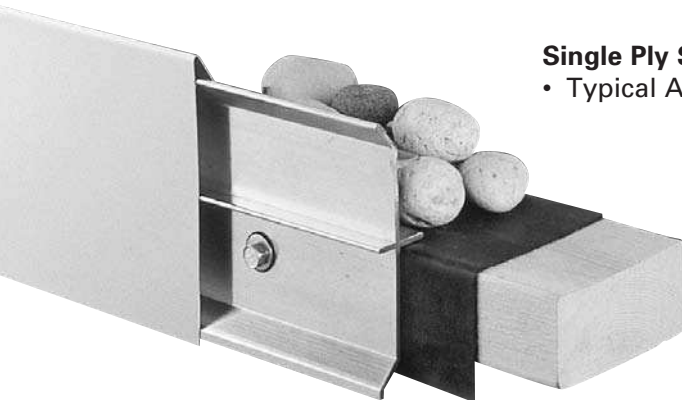
**PFB-50**



**PFB-65**



**PFB-80**



**Presto-Tite Fascia System:**

- Included in all JM Roofing Systems Guarantees.
- FM I-90 Approved.
- Meets ANSI/SPRI ES-1-98 Wind Design Standards.
- 20 year 150 mph warrantee.
- No "stripping in" required.
- No fasteners to penetrate the horizontal roof surface.
- Three face sizes to cover 1, 2, or 3 nailers (4 sizes for adhered and mechanical).

# Presto Lock®

## Coping Systems

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### Presto Lock Coping System

Presto Lock Coping System is a cost effective snap-on coping system designed for use with single ply, built-up and modified bitumen roofing systems. The system consists of stainless steel anchor clips, and aluminum or galvanized coping cover in a variety of thicknesses and colors.

### Stainless Steel Anchor Clips

12" wide 20 gauge base with two stainless steel clips designed to keep upward pressure on the coping cover. These are spaced 4' on center and attached by #12 x 1<sup>5</sup>/<sub>8</sub>" hex head fasteners with neoprene washers, furnished with the system. Special approved masonry fasteners are also available on special order.

### Coping Cover

12 foot lengths are available in 0.040", 0.050", 0.063" and 0.080" aluminum; and 22 and 24 gauge galvanized. Aluminum is standard in mill finish, Kynar 500 finish, clear and colored anodized; galvanized is plain or Kynar finish.

### Concealed Splice Plate

8" wide plate with dual butyl sealant strips of color and metal to match the coping cover. These are placed over every other anchor clip, under the coping cover joint. Cover plate joints are spaced 3/8" apart.

### Coping Extenders

Available in lengths from 5" to 12 1/2" in metal to match the coping cover. Extenders are hooked at the bottom to a continuous cleat, fastened 12" on center. Top is fastened 12" on center.

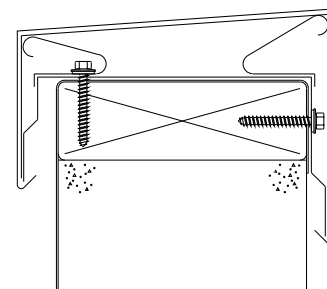
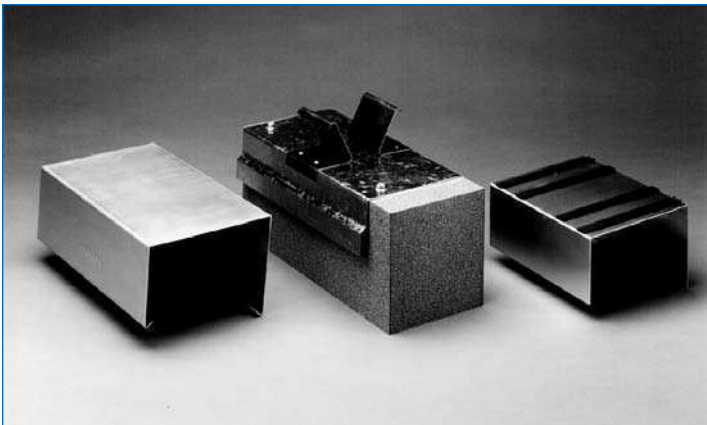
### Accessories

Factory fabricated corners, end caps, tees, scuppers, sumps and downspouts are available with "quicklock" or premium priced welded seams.



### Presto Lock Coping System

- Included in all Johns Manville Roofing Systems Guarantees for total system responsibility from edge-to-edge.
- Fast snap-on design
- FM I-90 Approved
- Meets criteria for SPRI Wind Design Guide Criteria
- 28 standard Kynar 500 colors available. Special colors available on special order
- Special sizes, shapes, metals, and arched & radiused coping available on special order
- Custom fabrication to fit exact job requirements
- Available in both tapered and flat designs. Tapered shown below is recommended.

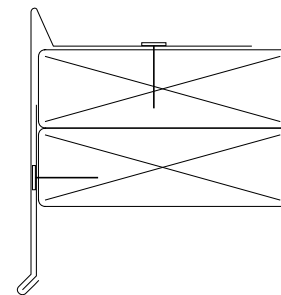


**Tapered Design**

### Presto Stop

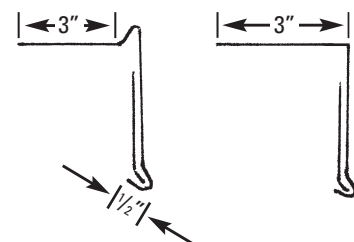
Gravel Stop for BUR, Modified, Single Ply membranes.

- Standard SMACNA Details - 10' lengths
- Available in 22 and 24 gauge Steel Kynar 0.040" Mill Finish of Kynar Aluminum 0.050" Mill Finish, Anodized & Kynar Aluminum
- PVC coated galvanized.
- Other sizes and metals available on special request
- Included in all Johns Manville Roofing Systems Guarantees



**Presto Stop  
Gravel Stop**

**Presto Stop  
Drip Edge**





## FP-10 One Way® Roof Vent

### *Solar Operated Moisture/Vapor Vent*

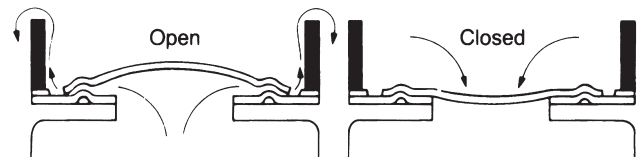
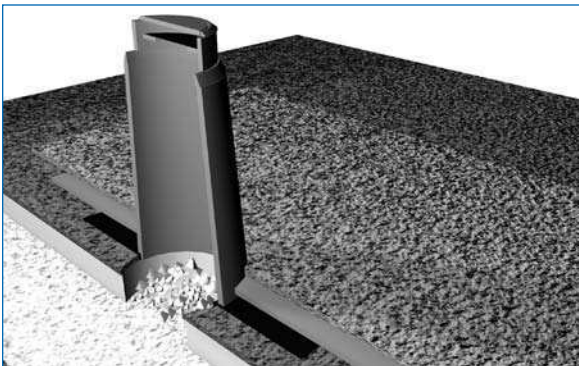
The FP-10 One Way Roof Vent is a solar operated, moisture/vapor venting unit designed to release and prevent the re-entry of moisture laden air in new or existing lightweight fill decks and built-up roofing systems.

The venting unit consists of three major components: A one piece roof deck flange and body, a weatherproof cap, and a silicone rubber valve. The deck flange is 10" in diameter, while the body has a base diameter of 4 1/2" and a height of 6".

The FP-10 Roof Vent is manufactured of black polyethylene and is designed for use with typical built-up roofing and modified bitumen systems. For torch applied systems, do not apply flame directly to vent.

As the sun heats the roofing membrane causing trapped moisture-laden air to expand, the one way valve is forced open, releasing the moisture into the surrounding atmosphere. When the roofing membrane cools, the process is reversed. Cooler air in the roof sandwich contracts tending to draw moisture laden air into the roof system. The one way valve closes preventing its re-entry. The one way silicone-rubber valve also prevents the entry of snow and wind-blown rain.

Included in all Johns Manville Roofing Systems Guarantees for total system responsibility.



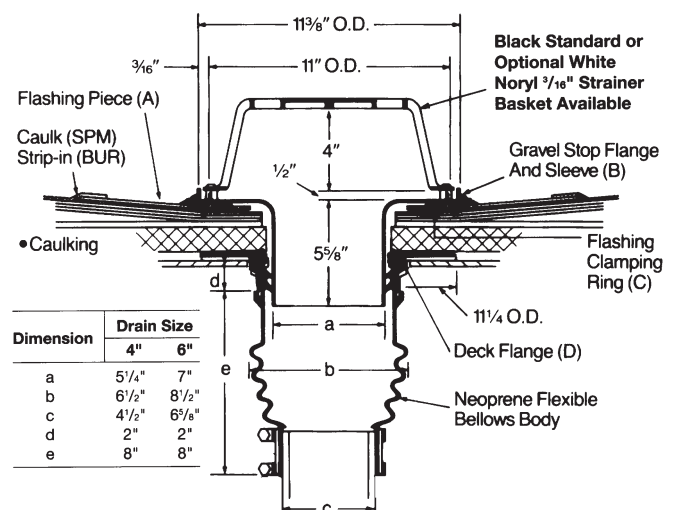
Industry practice recommends the use of 1 vent per 1000 square feet of roofing area for vapor pressure control.

### Flex-I-Drain

Flex-I-Drain is a unique roof drain system, designed to connect to the building plumbing system with no hub connectors. The flexible bellows allow differential movement up to 1" in any direction between the roof deck/roofing system and the plumbing.

- Made from tough, durable, high UV-resistant, high tensile strength modulus, high heat deflection temperature GE Noryl® resin. It meets UL94V-1 requirements. Standard color; Black. For installations requiring a white drain, a white Noryl strainer basket will be furnished.
- Lower installation cost—one person installation (deck clamping ring installation requires only one person under the deck). Lightweight (6 lbs.)
- Broad code approval/certification
  - BOCA 1993 National Plumbing Code
  - ICBO 1994 Uniform Building Code
  - SBCCI Std. Building and Plumbing Codes
  - 1995 International Building Code
- Compatible with all roofing membrane systems and decks.
- Up to 3 1/2" of insulation can be placed under the drain. Where thicker insulation is used, a sump can be fabricated to accommodate the 3 1/2" restriction.
- Short Flexible boot also available for 4" drains.
- Overflow drains also available.
- Deck flange shipped with removable fiber board plug to prevent entrance of construction debris and bitumen into the plumbing system during construction.
- Included in all Johns Manville Roofing Systems Guarantees for total system responsibility.

\*Noryl is a registered trademark of General Electric.



# RetroDrain\*

For Reroofing

## RetroDrain®

Johns Manville offers several RetroDrains specifically designed for use when reroofing an existing roof system with existing roof drains. RetroDrains are installed in the new system, with sleeves designed to tie into the existing drains, with patented mechanical compression seal to prevent backup.

## PC/PET RetroDrain

PC/PET RetroDrain replacement roof drains are manufactured from engineered resin co-polymer. The PC/PET is tough. It is consistently resistant to temperature extremes. The strainer dome installs with a snap fit. The ribbed clamping ring, with raised connection bosses, positions perfectly every time, while forming a watertight seal to the roof membrane. The one-piece molding of the RetroDrain body is designed to sit flush on the existing roof drain, thereby eliminating the need to remove the old drain. The integral Johns Manville Seal ensures a watertight connection to the old drain pipe.

## SuperDome® RetroDrain

SuperDome RetroDrain has the same PC/PET one piece molded RetroDrain body. However, it is furnished with a cast aluminum strainer dome with screw-down lid which secures the drainage system against vandals while permitting access to authorized personnel. The strainer dome with integral clamping ring is connected to the RetroDrain body.

- RetroDrains are included in all Johns Manville Roofing Systems Guarantees for total system responsibility.
- All RetroDrains are compatible with all Johns Manville membrane systems.

\*RetroDrain and SuperDome are registered trademarks of U-Flow Roof Drain Systems, Inc.

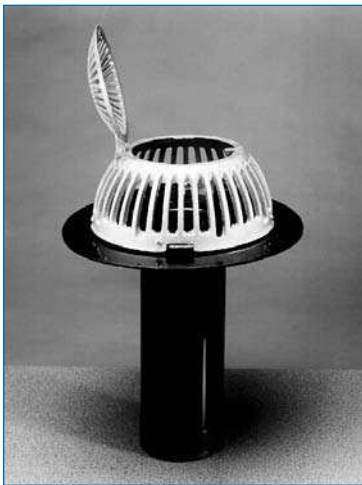
## PC/PET RetroDrain



### Sizes

To fit	.....3", 4", 5" and 6"
	(76 mm, 102 mm, 127 mm and 152 mm)
Flange dimension	.....14" (356 mm)
Drain stem length	.....12" (305 mm)
Strainer height	.....4" (102 mm)

## SuperDome RetroDrain



### Sizes

To fit	.....3", 4", 5" and 6"
	(76 mm, 102 mm, 127 mm and 152 mm)
Flange dimension	.....14" (356 mm)
Drain stem length	.....12" (305 mm)
Strainer height	.....5.5" (140 mm)

### USII RetroDrain

The USII RetroDrain product line is manufactured from .064" (1.6 mm) spun 1100 aluminum alloy. Its one-piece construction drain body is designed for retro-fit applications. The strainer domes securely fasten to the flange by means of a push-in fastener system. The model incorporates the technology of the Johns Manville Seal providing a mechanical watertight connection. The versatile USII RetroDrain easily fits into schedule 40 or 80 pipes. Available with cast aluminum or PC/PET strainer dome.

### Hercules® RetroDrain

The Hercules RetroDrain is available in 0.050" (39 oz.) copper for 3", 4", and 5", and 0.065" (46 oz.) for 6". The copper body and flange are joined by a copper-to-copper weld to assure continuity of one piece construction. Hercules RetroDrains are also available in spun aluminum construction, made from 0.125" aluminum, in one piece design. Both are supplied with six welded studs to secure cast aluminum clamping ring. Clamping ring accommodates one of three domes - cast aluminum, SuperDome, or PC/PET.

### Hercules® RetroDrain



#### Sizes

To fit .....	3", 4", 5" and 6"
	(76 mm, 102 mm, 127 mm and 152 mm)
Flange dimension .....	17.5" (445 mm)
Drain stem length .....	12" (305 mm)
SuperDome Strainer height .....	5.5" (140 mm)
Cast 362 aluminum alloy strainer height .....	7"
	(178 mm)

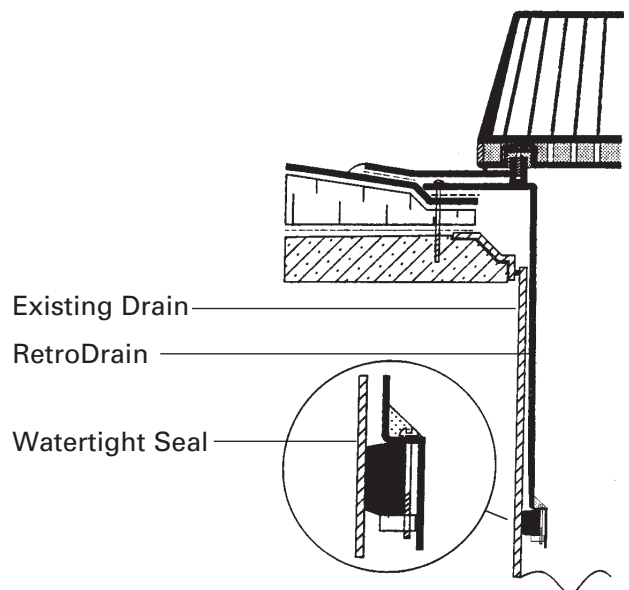
### USII RetroDrain



#### Sizes

To fit .....	3", 4", 5" and 6"
	(76 mm, 102 mm, 127 mm and 152 mm)
Flange dimension .....	17.5" (445 mm)
Drain stem length .....	12" (305 mm)
Strainer height (PC/PET) .....	4" (102 mm)
Cast 362 aluminum alloy strainer height .....	7"
	(178 mm)

### Johns Manville Watertight Seal



\* RetroDrain, Hercules, and SuperDome are registered trademarks of Olympic Manufacturing Group, Inc.

# AquaVert™ PVC

## Air Conditioning Condensate Drainage System

### Description

**AquaVert™ PVC** is a patented, factory-fabricated PVC (Polyvinyl Chloride) A/C condensation drainage system. The base of the channel is fabricated from specially formulated PVC membrane, with a spun polyester fabric (fleece back) adhered to the underside. The rails, which are heat welded along each side of the channel, are fabricated from extruded PVC that will withstand normal rooftop traffic without losing its shape. The AquaVert PVC Channel is specifically designed to protect the surface of built-up, modified bitumen and single ply roofing systems. AquaVert PVC A/C condensate drainage system is intended as a sacrificial layer and is not designed as waterproofing.

### Use

The **AquaVert™ PVC** product protects the surface of the roof system by controlling the destructive paths of A/C condensation. At the A/C unit, the system starts with a 36" wide AquaVert Catch Area which funnels to 8" in approximately 5 feet where it joins the 8" wide AquaVert. The AquaVert channel then delivers the A/C condensate to a point of discharge off the roof. The fleece backing on the AquaVert PVC allows this product to be installed on a variety of roofing membranes by adapting the adhesive to the type of membrane. AquaVert PVC can be installed on many different roofing membranes, including built-up, modified bitumen (SBS and APP), and single ply (TPO, PVC, and EPDM). The AquaVert "Y" Intersection is designed to join AquaVert channels that come together from various angles on the roof surface.



### Advantages

- Protects the surface of built-up, modified bitumen and single ply roofing systems from the destructive effects of A/C condensation
- Eliminates the need for piping systems:
  - No more clogged piping systems
  - No more damaged membrane from A/C condensate
  - No more foot traffic trip hazards
- Low profile does not disrupt rooftop traffic
- The channel is cleaned by normal rainfall
- Less expensive than PVC or galvanized drainage pipes on an installed basis

### Typical Physical Properties

#### AquaVert™ PVC

8" wide in 50 linear feet rolls

#### AquaVert™ Catch Area

36" wide, funneling to 8"x 5' long

#### AquaVert™ "Y" Intersections

36" wide, funneling to 8"x 32" long

### Installation

The **AquaVert™ PVC** system is a non-penetrating system, that adheres directly to the surface of built-up, modified bitumen or single ply roofing systems. Various types of JM cold adhesives are acceptable, depending on the type of roofing membrane. (Hot asphalt application of the AquaVert PVC to BUR or modified roofing systems is also acceptable.) Care must be taken to prevent the asphalt from coming in direct contact with the PVC base and rails. AquaVert can be applied over any existing roofing system, any re-roofing project or any new construction roofing project.

For more information, please refer to AquaVert™ PVC brochure RS-6036.



## Regional Offices and Warranty

Technical information is available from the Technical Services Specialists located at the Johns Manville regional Office nearest you.

### Regional Offices

#### Northeastern

437 North Grove Street  
Berlin, NJ 08009-9700  
856-768-7078  
FAX: 856-768-7034

#### Midwestern

2151 W. Channahon Road  
Rockdale, IL 60436-8559  
815-741-1545  
FAX: 815-741-6131

#### Western

3rd & Harbor Streets  
Pittsburg, CA 94565  
510-432-6426  
FAX: 510-427-2409

#### Southeastern

3901 Roswell Road,  
Suite 215  
Marietta, GA 30062  
770 578 3190  
FAX: 770 578 3195

#### Southwestern

1612 Summit Avenue  
Suite 204  
Ft. Worth, TX 76102  
817-339-1500  
FAX: 817-339-1540

### Canada Customer Service

Write to:  
27 Pearl Street  
Portland, ME 04101  
877-766-3295  
(877 Roof By JM)  
FAX: 800-343-1331

### Product Information Center

800-654-3103 or  
FAX: 303-978-2318

### Additional Information

FAX Express® 888-329-3977  
[www.jm.com](http://www.jm.com)

### For bilingual and international assistance, please call:

Terry Faas  
303-978-3823 or  
FAX: 303-978-2853

### For Guarantee Information

Guarantee Services  
Department  
P.O. Box 625001  
Littleton, CO 80162-5001  
10100 W. Ute Ave.  
Littleton, CO 80127  
303-978-2191  
FAX: 303-978-2808

### LIMITED WARRANTY/SPECIFICATIONS

All products sold are subject to the following limited warranty: Seller warrants that for a period of one year from the date of shipment the product will be free from defects in material and workmanship and is manufactured in all material respects to Seller's product specifications. Note: Seller's products may vary in details of design and construction from descriptions in any literature or from any sample, display or other model inspected by Purchaser.

SELLER DISCLAIMS ALL OTHER REPRESENTATIONS AND WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, IN FACT OR IN LAW, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTY OF MERCHANTABILITY AND THE IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. Every claim under this limited warranty shall be deemed waived unless in writing and received by Seller within 10 days of delivery if visibly damaged or defective, and, otherwise, within 30 days after the defect to which each claim relates is discovered, or should have been discovered, but in no event longer than 1 year after product shipment.

### LIMITATION OF REMEDY

PURCHASER'S EXCLUSIVE REMEDY AND THE LIMIT OF SELLER'S LIABILITY FOR BREACH OF THE LIMITED WARRANTY SET FORTH IN THE ABOVE LIMITED WARRANTY/SPECIFICATIONS, WHETHER BASED ON NEGLIGENCE, BREACH OF WARRANTY, STRICT LIABILITY, OR ANY OTHER THEORY, SHALL BE, AT SELLER'S OPTION, REPAIR, REPLACEMENT WITH A LIKE QUANTITY OF NONDEFECTIVE PRODUCT OR REFUND OF THE PURCHASE PRICE, PLUS REASONABLE COMMERCIAL CHARGES INCURRED FOR APPROVED RETURNS.

### NO RECOVERY OF CONSEQUENTIAL OR SPECIAL DAMAGES

SELLER SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL OR SPECIAL DAMAGES BASED ON NEGLIGENCE, BREACH OF WARRANTY, STRICT LIABILITY, OR ANY OTHER THEORY, FOR FAILURE TO PERFORM ITS OBLIGATIONS UNDER THIS AGREEMENT. ADDITIONALLY, CONSEQUENTIAL AND SPECIAL DAMAGES SHALL NOT BE RECOVERABLE EVEN IF THE REPAIR, REPLACEMENT OR REFUND REMEDY FOR SELLER'S BREACH OF ITS LIMITED WARRANTY FAILS OF ITS ESSENTIAL PURPOSE OR FOR ANY OTHER REASON.

### Health and Safety

Johns Manville maintains Material Safety Data Sheets (MSDS) for all of its products. These MSDS contain health and safety information for development of appropriate product handling procedures to protect your employees and customers. These MSDS are available and should be read and understood by all personnel using and handling these materials.

The physical and chemical properties of the products described herein represent typical, average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice. Consult a Johns Manville Regional Office to assure current information.

For information on other Johns Manville Roofing Systems products, write or call our Product Information Center, P.O. Box 5108, Denver, CO 80217-5108, (800) 654-3103.



### Roofing Systems Group

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