

Features and Components

Use: For use with JM BUR and SBS membrane products. It is part of the JM PermaFlash® Bituminous Flashing System for penetrations and other details. Ideal for areas where hot asphalt is prohibited, not desirable or not practical.

Type: Two-part, elastomeric, liquid-applied flashing material.

Color: Black

Features: Cures to a durable, elastomeric film and forms exceptional bonds between the modified bitumen and underlying substrate. Resists virtually all factors affecting base flashing performance while providing superior flexibility and durability. UV stable, high solids, low odor, VOC compliant.



System Compatibility This product may be used as a component in the following systems. Please reference product application for specific installation methods and information.

Multi-Ply	BUR		APP		SBS			
	HA	CA	CA	HW	HA	CA	HW	SA
<i>Used to adhere Flashings in all Multi-Ply systems</i>								

Single Ply	TPO		PVC		EPDM		
	MF	FA	MF	FA	MF	FA	BA
<i>Do not use in Single Ply systems</i>							

Key: HA = Hot Applied CA = Cold Applied HW = Heat Weldable SA = Self Adhered MF = Mechanically Fastened FA = Fully Adhered BA = Ballasted

Energy and the Environment

Maximum VOC	<121 g/l (base) 0 g/l (activator) <98 g/l (activated base)
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Physical Properties

Property	ASTM Test Method	MBR Flashing Cement
Strength	Tensile Strength	D 412 600 psi (4.1 MPa)
	Elongation	D 412 > 300%
Installation	Working Time ² @ 77°F (25°C)	– 30 min
	Rainproof After ² @ 77°F (25°C)	– 4 hrs
Longevity	Hardness @ 77°F (25°C)	D 2240 65 Shore A
	Crack Bridging (after heat aging)	– 1/8" (3 mm)
	Softening Point, Ring and Ball	D 36 275°F (135°C)
	Elastomeric Waterproofing	C 836 / C 957 Exceeds All Criteria
	Abrasion Resistance	D 4060 ³ 1.2 mg loss
Permeability to Water Vapor	E 96 ¹ 0.03 perms	

1. Method E, 100°F (38°C), 100 mil (3 mm) sheet 2. Working and cure times will vary depending on ambient, surface and material temperatures. 3. 1,000 gr./1,000 rev., CS-17 wheel

Installation/Application



- Apply between 40° and 100° F (4° and 38° C)
- Service temperature is -60° to 220° F (-51° to 104° C)
- Please refer to detailed installation instructions on next page

Packaging and Coverage

Container Sizes	Base:	3.9 gal (16.5 l) pail
	Activator:	44.1 oz (1.3 l) jug
	Base & Activator:	28.7 oz (848.8 ml) cartridges
Coverage Rate*	20-25 ft ² /gal (0.49 - 0.61 m ² /l)	

* Nominal 1/16" (2 mm) thick layer of adhesive. Coverage, open and dry time rates can vary dramatically depending on the particular substrate and environmental conditions. Coverage rates stated herein are approximate only. If FM Global® or UL® approval is required, consult specific RoofNavSM or the UL Certifications Directory for specific application rates.

Storage

Shelf Life	Base: Indefinite in sealed container; Activator: 2 yrs; Cartridges: 1 yr
Storage Conditions	Clean, dry, indoor environment in an unopened container
Temperature Range	60°F – 90°F (16°C – 32°C) - Protect from freezing



MBR® Flashing Cement

Surface Preparation

When flashing to sheet metal, PermaFlash Primer is required and should be applied as prescribed on the primer label.

MBR Flashing Cement bonds very well to clean, dry, well-cured concrete. However, concrete cured with mineral oils, resins or waxes requires the use of JM Concrete Primer. In addition, clean and coat concrete soiled with oil, grease or release agents with JM Concrete Primer, following the instructions on the pail.

Mixing Instructions

These instructions apply to MBR Flashing Cement in 3.9 gal (14.8 l) pails.

(1) pail MBR Flashing Cement Base Contents: 3.9 gal (14.8 l)

(1) jug MBR Flashing Cement Activator Contents: 44.1 oz (1.3 l)

All two-part products are color-coded products.

Installation/Application Instructions

Apply between 40° and 100° F (4° and 38° C)

On the substrate to be flashed, use a trowel to spread the mixed material to obtain a full coverage coating, without voids, to a minimum thickness of 1/8" (3.2 mm). As the coating process proceeds, lay the flashing membrane into the bed of cement. Check all flashing details to determine if there is a nailing requirement.

Seal side laps in the same manner, at a minimum of 4" (10.2 cm).

For penetrations, use MBR Flashing Cement in conjunction with PermaFlash® Primer and PermaFlash® Scrim.

Clean-Up and Disposal

Clean-Up Information

Use mineral spirits to clean tools immediately after completion of work. Periodically place tools in a pail of mineral spirits to prevent buildup of cement. Wear rubber gloves during all applications and clean up procedures. Follow manufacturer's warnings and cautions about using solvents.

Disposal Information

MBR Flashing Cement, i.e., MBR Flashing Cement Base that has been fully reacted with MBR Flashing Cement Activator, can usually be disposed of at a licensed landfill.

MBR Flashing Cement Base is considered a hazardous waste. Disposal must be in accordance with local, state and federal regulations. If possible, fully react any remaining material with MBR Flashing Cement Activator; this reacted material can usually be disposed of at a licensed landfill.

MBR Flashing Cement Activator is also considered a hazardous waste. Disposal must be in accordance with local, state and federal regulations. If the material reacts with MBR Flashing Cement Base, disposal can be as recommended for MBR Flashing Cement. If this is not the case, the material can be neutralized by mixing with a 90 percent water, 8 percent ammonia and 2 percent detergent solution. Leave containers open for at least 48 hours to allow any carbon dioxide gas evolved to escape. The resulting solidified waste can then usually be disposed of at a licensed landfill.

Empty Containers

MBR Flashing Cement Base containers, when empty, contain combustible and harmful vapors and residue. Do not reuse the container or remove the labels. Follow all of the label warnings even when the container is empty. Dispose of containers in accordance with applicable regulations. If the residue is of fully reacted material, the container can usually be disposed of at a licensed landfill.

Neutralize MBR Flashing Cement Activator containers with the solution described in the disposal information above. Leave decontaminated containers open for at least 48 hours to allow any carbon dioxide gas evolved to escape. Containers can then be disposed of at a licensed landfill.

Precautions

MBR Flashing Cement is prepared on the jobsite and requires extra care during preparation. Roofing contractors must advise their crews to precisely follow all safety, storage, handling, preparation and application instructions. JM will not accept responsibility for any use of this product that does not comply with the instructions printed on the containers.

Meets the requirements of ASTM D 4586, Type I

Features and Components

Use: As a substitute for asphalt and MBR® Flashing Cement in JM modified bitumen flashing details, and can be used to adhere the JM modified bitumen flashing systems and built-up roofing felts to vertical surfaces, as a general purpose mastic on most built up roofing and modified bitumen flashing details, or to strip in the laps of modified bitumen base flashings.

Type: One-part, asphalt-based, trowel-grade mastic.

Color: Black

Features: Cold process – does not have to be heated.
Cures to form a durable, elastomeric and watertight film.
Ready for use as shipped.



System Compatibility *This product may be used as a component in the following systems. Please reference product application for specific installation methods and information.*

Multi-Ply	BUR		APP		SBS			
	HA	CA	CA	HW*	HA	CA	HW*	SA
Used to adhere Flashings in all Multi-Ply systems								

Single Ply	TPO		PVC		EPDM		
	MF	FA	MF	FA	MF	FA	BA
Do not use in Single Ply systems							

Key: HA = Hot Applied CA = Cold Applied HW = Heat Weldable SA = Self Adhered MF = Mechanically Fastened FA = Fully Adhered BA = Ballasted

* Compatible with all modified bitumen and built-up roofing membrane sheets that do not incorporate a polyolefin burn-off film.

Energy and the Environment

Maximum VOC	<250 g/l
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Physical Properties

Property	ASTM Test Method	MBR Utility Cement
Weight	Solids Content	82%
	Weight	D 1875 9.5 lb/gal (1.14 kg/l)
Installation	Viscosity @ 77°F (25°C), (Brookfield RV, Spindle No. 7)	
	Summer Grade	D 2556 100,000 - 250,000 cps
	Winter Grade	D 2556 50,000 - 100,000 cps

Installation/Application



Notched Squeegee



Notched Trowel

- Apply between 40° and 100° F (4° and 38° C). Do Not Thin. When the temperature is below 50°F (10°C), the adhesive must be stored in a warm area, approximately 70°F (21°C)
- Available in either a winter or summer grade. Both formulas contain the same basic ingredients, but the consistency, or viscosity, is adjusted to accommodate the ambient weather conditions in which the adhesive will be applied
- Please refer to detailed installation instructions on next page

Packaging and Coverage

Container Sizes	5 gal (18.9 l) pail
Shipping Weight (approx.)	50 lb (22.7 kg)
Coverage Rate*	8 gal per square at 1/8" thick

* Coverage, open and dry time rates can vary dramatically depending on the particular substrate and environmental conditions. Coverage rates stated herein are approximate only. If FM Global® or UL® approval is required, consult specific RoofNavSM or the UL Certifications Directory for specific application rates.

Storage

Shelf Life	12 months from manufacture date
Storage Conditions	Clean, dry, indoor environment in an unopened container
Temperature Range	60°F to 80°F (16°C to 27°C) - Protect from freezing



MBR Utility Cement

Installation/Application Instructions

Apply between 40° and 100° F (4° and 38° C). Do Not Thin. When the temperature is below 50°F (10°C), the adhesive must be stored in a warm area, approximately 70°F (21°C).

Completely unroll the modified bitumen sheets and allow them to relax at least 15 minutes prior to installation; turning light-colored sheets upside down (dark side up) helps accelerate the process.

For best results, make certain the surface to which the cement will be applied is clean, dry and free of loose material. All masonry surfaces which are to receive MBR Utility Cement must be primed with JM Concrete Primer. The primer must be allowed to dry thoroughly before application of the cement.

Use a notched masonry trowel to spread the MBR Utility Cement evenly, about 1/8" (3 mm) thick, working down firmly to ensure good adhesion. The modified bitumen flashing product is embedded into the cement and brushed or rubbed in to make contact and to ensure adhesion.

Precautions

MBR Utility Cement is a combustible material and should be shipped and stored away from open flames, heat or sources of ignition. Keep all pails tightly sealed while in storage. It should be used only in well ventilated areas. It may cause eye, skin and respiratory irritation, and is harmful or fatal if swallowed. Avoid contact with skin: use impervious clothing and rubber gloves to avoid prolonged or repeated contact with skin. Read container label and follow all safety and disposal instructions.

Features and Components

The PermaFlash System consists of PermaFlash Primer, MBR Flashing Cement, and PermaFlash Scrim. It is an integrated flashing system specifically formulated for use in bituminous systems.

PermaFlash Primer (Low VOC): One-Part Solvent-Based Primer that improves adhesion of MBR® Flashing Cement to nonporous substrates.

MBR Flashing Cement: Two-part, liquid-applied flashing material that cures to a durable, elastomeric film.

PermaFlash Scrim: Flexible stitchbonded polyester scrim.

Colors: Primer - Clear; Liquid Base - Black; Activator - Brown; Scrim - White

1. Please see the MBR Flashing Cement data sheet for more information.



Component
L
Liquid

Type
FL
Flashing
Liquid Applied Multi-Ply

Features: Can be used to flash most penetrations, drains, and vertical surfaces.

Resists virtually all factors affecting flashing performance while providing superior flexibility and durability.

High solids, low odor, VOC compliant, and UV stable.

System Compatibility This product may be used as a component in the following systems. Please reference product application for specific installation methods and information.

Multi-Ply	BUR		APP		SBS			
	HA	CA	CA	HW	HA	CA	HW	SA
<i>Compatible with all Multi-Ply systems*</i>								

Single Ply	TPO		PVC		EPDM		
	MF	FA	MF	FA	MF	FA	BA
<i>Do not use in Single Ply systems</i>							

Key: HA = Hot Applied CA = Cold Applied HW = Heat Weldable SA = Self Adhered MF = Mechanically Fastened FA = Fully Adhered BA = Ballasted

*As part of the PermaFlash integrated flashing system

Energy and the Environment

Maximum VOC	0 g/L (primer - low VOC) <121 g/l (base) 0 g/l (activator) <98 g/l (activated base)
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Physical Properties

Property	ASTM Test Method	MBR Flashing Cement
Strength	Tensile Strength	D 412 600 psi (4.1 MPa)
	Elongation	D 412 > 300%
Installation	Working Time ² @ 77°F (25°C)	– 30 min
	Rainproof After ² @ 77°F (25°C)	– 4 hrs
Longevity	Hardness @ 77°F (25°C)	D 2240 65 Shore A
	Crack Bridging (after heat aging)	– 1/8" (3 mm)
	Softening Point, Ring and Ball	D 36 275°F (135°C)
	Elastomeric Waterproofing	C 836 / C 957 Exceeds All Criteria
	Abrasion Resistance	D 4060 ³ 1.2 mg loss
	Permeability to Water Vapor	E 96 ¹ 0.03 perms
Service Temperature	NA -60° to 220°F (-51° to 104°C)	

1. Method E, 100°F (38°C), 100 mil (3 mm) sheet 2. Working and cure times will vary depending on ambient, surface and material temperatures. 3. 1,000 gr/1,000 rev., CS-17 wheel

Peak Advantage® Guarantee Information

Systems	Guarantee Term
Any bituminous roofing system.	Up to 20 years*

*Can be included in Peak Advantage Guarantee for new systems.

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.

Installation/Application



Packaging and Coverage

Primer Container Size	Box of six 32 oz (946 ml) bottles
Primer Coverage Rate ¹	75 ft ² (7.4 m ² /l)
Cement Container Sizes	Base: 3.9 gal (16.5 l) pail
	Activator: 44.1 oz (1.3 l) jug
	Base & Activator: 28.7 oz (848.8 ml) cartridges
Cement Coverage Rate ²	20-25 ft ² /gal (0.49 - 0.61 m ² /l)
Scrim Roll Size	12" (305 mm) w x 300' (91.4 m)
Scrim Coverage	300 ft ² (27.87 m ²) or 20 ft ² (1.86 m ²) - within kit
PermaFlash Kit	4 - 28.7 oz (848.8 ml) cartridges
	1 roll - 12" (305 mm) w x 20' (91.4 m) scrim 1 - 32 oz (946 ml) bottle of primer
Primer DOT Class	Class 3, UN1219, PGII, NMFC 42680 "Limited Quantity" 173.150 49 CFR

- Do not apply material at higher coverages per square foot. Applying too much PermaFlash Primer will result in less adhesion than if the primer had not been used. When applied at the proper coverage, evaporation should occur within a few seconds.
- Nominal 1/16" (2 mm) thick layer of adhesive. Coverage, open and dry time rates can vary dramatically depending on the particular substrate and environmental conditions. Coverage rates stated herein are approximate only. If FM Global® or UL® approval is required, consult specific RoofNavSM or the UL Certifications Directory for specific application rates.

Storage

Shelf Life	Primer & Scrim: 24 months from manufacture date Base: Indefinite in sealed container; Activator: 24 months; Cartridges: 12 months
Storage Conditions	Clean, dry, indoor environment, unopened container
Temperature Range (Protect from freezing)	Primer: 20°F – 90°F (-7°C – 32°C) Cement & Scrim: 60°F – 90°F (16°C – 32°C)



PermaFlash® System

Elastomeric Liquid Applied Flashing Membrane

Application Instructions

See PermaFlash Bituminous Flashing System Detail Instructions, PermaFlash Bituminous Flashing System Penetration Flashing, and PermaFlash Flashing Details for installation instructions.

Clean-Up and Disposal

Clean-Up Information

Use mineral spirits to clean tools immediately after completion of work. Periodically place tools in a pail of mineral spirits to prevent buildup of cement. Wear rubber gloves during all applications and clean up procedures. Follow manufacturer's warnings and cautions about using solvents.

Disposal Information

MBR Flashing Cement, i.e., MBR Flashing Cement Base that has been fully reacted with MBR Flashing Cement Activator, can usually be disposed of at a licensed landfill.

MBR Flashing Cement Base is considered a hazardous waste. Disposal must be in accordance with local, state and federal regulations. If possible, fully react any remaining material with MBR Flashing Cement Activator; this reacted material can usually be disposed of at a licensed landfill.

MBR Flashing Cement Activator is also considered a hazardous waste. Disposal must be in accordance with local, state and federal regulations. If the material reacts with MBR Flashing Cement Base, disposal can be as recommended for MBR Flashing Cement. If this is not the case, the material can be neutralized by mixing with a 90 percent water, 8 percent ammonia and 2 percent detergent solution. Leave containers open for at least 48 hours to allow any carbon dioxide gas evolved to escape. The resulting solidified waste can then usually be disposed of at a licensed landfill.

Empty Containers

MBR Flashing Cement Base containers, when empty, contain combustible and harmful vapors and residue. Do not reuse the container or remove the labels. Follow all of the label warnings even when the container is empty. Dispose of containers in accordance with applicable regulations. If the residue is of fully reacted material, the container can usually be disposed of at a licensed landfill.

Neutralize MBR Flashing Cement Activator containers with the solution described in the disposal information above. Leave decontaminated containers open for at least 48 hours to allow any carbon dioxide gas evolved to escape. Containers can then be disposed of at a licensed landfill.

Precautions

Johns Manville PermaFlash Primer is a combustible material and should be shipped and stored away from open flames, heat or sources of ignition. Keep all bottles tightly sealed while in storage. It should be used only in well-ventilated areas. It may cause eye, skin and respiratory irritation, and is harmful or fatal if swallowed. Avoid contact with skin. Use impervious clothing and rubber gloves to avoid prolonged or repeated contact with skin. Read the container label and follow all safety instructions.

MBR Flashing Cement is prepared on the jobsite and requires extra care during preparation. Roofing contractors must advise their crews to precisely follow all safety, storage, handling, preparation and application instructions. JM will not accept responsibility for any use of this product that does not comply with the instructions printed on the containers.

Features and Components

The PermaFlash System consists of PermaFlash Primer, MBR Flashing Cement, and PermaFlash Scrim. It is an integrated flashing system specifically formulated for use in bituminous systems

PermaFlash Primer (Low VOC): One-Part Solvent-Based Primer that improves adhesion of MBR® Flashing Cement to nonporous substrates.

MBR Flashing Cement: Two-part, liquid-applied flashing material that cures to a durable, elastomeric film.

PermaFlash Scrim: Flexible stitchbonded polyester scrim.

Colors: Primer - Clear; Liquid Base - Black; Activator - Brown; Scrim - White



Component
L
Liquid

Type
FL
Flashing
Liquid Applied Multi-Ply

Features: Can be used to flash most penetrations, drains, and vertical surfaces.

Resists virtually all factors affecting flashing performance while providing superior flexibility and durability.

High solids, low odor, VOC compliant, and UV stable.

System Compatibility This product may be used as a component in the following systems. Please reference product application for specific installation methods and information.

Multi-Ply	BUR		APP		SBS			
	HA	CA	CA	HW	HA	CA	HW	SA
<i>Compatible with all Multi-Ply systems*</i>								

Single Ply	TPO		PVC		EPDM		
	MF	FA	MF	FA	MF	FA	BA
<i>Do not use in Single Ply systems</i>							

Key: HA = Hot Applied CA = Cold Applied HW = Heat Weldable SA = Self Adhered MF = Mechanically Fastened FA = Fully Adhered BA = Ballasted

*As part of the PermaFlash integrated flashing system

Energy and the Environment

Maximum VOC	0 g/L (primer - low VOC) <121 g/l (base) 0 g/l (activator) <98 g/l (activated base)
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Physical Properties

Property		ASTM Test Method	MBR Flashing Cement
Strength	Tensile Strength	D 412	600 psi (4.1 MPa)
	Elongation	D 412	> 300%
Installation	Working Time ² @ 77°F (25°C)	—	30 min
	Rainproof After ² @ 77°F (25°C)	—	4 hrs
Longevity	Hardness @ 77°F (25°C)	D 2240	65 Shore A
	Crack Bridging (after heat aging)	—	1/8" (3 mm)
	Softening Point, Ring and Ball	D 36	275°F (135°C)
	Elastomeric Waterproofing	C 836 / C 957	Exceeds All Criteria
	Abrasion Resistance	D 4060 ³	1.2 mg loss
Permeability to Water Vapor		E 96 ¹	0.03 perms

1. Method E, 100°F (38°C), 100 mil (3 mm) sheet 2. Working and cure times will vary depending on ambient, surface and material temperatures. 3. 1,000 gr/1,000 rev., CS-17 wheel

Peak Advantage® Guarantee Information

Systems	Guarantee Term
Any bituminous roofing system.	Up to 20 years*

*Can be included in Peak Advantage Guarantee for new systems.

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.

Installation/Application



- Service temperature is -60° to 220° F (-51° to 104° C)
- Please refer to detailed installation instructions on next page

Packaging and Coverage

Primer Container Size	Box of six 32 oz (946 ml) bottles
Primer Coverage Rate ¹	75 ft ² (7.4 m ² /l)
Cement Container Sizes	Base: 3.9 gal (16.5 l) pail
	Activator: 44.1 oz (1.3 l) jug
	Base & Activator: 28.7 oz (848.8 ml) cartridges
Cement Coverage Rate ²	20-25 ft ² /gal (0.49 - 0.61 m ² /l)
Scrim Roll Sizes	12" (305 mm) w x 300' (91.4 m) l
	12" (305 mm) w x 20' (91.4 m) l - within kit
Scrim Coverage	300 ft ² (27.87 m ²) or 20 ft ² (1.86 m ²) - within kit
Primer DOT Class	Class 3, UN1219, PGI, NMFC 42680 "Limited Quantity" 173.150 49 CFR

1. Do not apply material at higher coverages per square foot. Applying too much PermaFlash Primer will result in less adhesion than if the primer had not been used. When applied at the proper coverage, evaporation should occur within a few seconds.
2. Nominal 1/16" (2 mm) thick layer of adhesive. Coverage, open and dry time rates can vary dramatically depending on the particular substrate and environmental conditions. Coverage rates stated herein are approximate only. If FM Global® or UL® approval is required, consult specific RoofNav® or the UL Certifications Directory for specific application rates.

Storage

Shelf Life	Primer & Scrim: 24 months from manufacture date Base: Indefinite in sealed container; Activator: 24 months; Cartridges: 12 months
Storage Conditions	Clean, dry, indoor environment, unopened container
Temperature Range (Protect from freezing)	Primer: 20°F - 90°F (-7°C - 32°C) Cement & Scrim: 60°F - 90°F (16°C - 32°C)



PermaFlash® System

Elastomeric Liquid Applied Flashing Membrane

Application Instructions

See PermaFlash Bituminous Flashing System Detail Instructions, PermaFlash Bituminous Flashing System Penetration Flashing, and PermaFlash Flashing Details for installation instructions.

Clean-Up and Disposal

Clean-Up Information

Use mineral spirits to clean tools immediately after completion of work. Periodically place tools in a pail of mineral spirits to prevent buildup of cement. Wear rubber gloves during all applications and clean up procedures. Follow manufacturer's warnings and cautions about using solvents.

Disposal Information

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Precautions

Johns Manville PermaFlash Primer is a combustible material and should be shipped and stored away from open flames, heat or sources of ignition. Keep all bottles tightly sealed while in storage. It should be used only in well-ventilated areas. It may cause eye, skin and respiratory irritation, and is harmful or fatal if swallowed. Avoid contact with skin. Use impervious clothing and rubber gloves to avoid prolonged or repeated contact with skin. Read the container label and follow all safety instructions.

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Features and Components

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Type: Two-part, elastomeric, liquid-applied flashing material.

Color: Black

Features: Cures to a durable, elastomeric film and forms exceptional bonds between the modified bitumen and underlying substrate. Resists virtually all factors affecting base flashing performance while providing superior flexibility and durability. UV stable, high solids, low odor, VOC compliant.



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Energy and the Environment

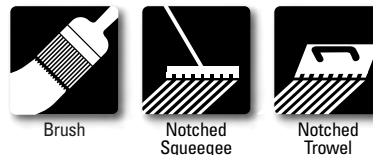
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Installation/Application



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Packaging and Coverage

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MBR® Flashing Cement

Surface Preparation

When flashing to sheet metal, PermaFlash Primer is required and should be applied as prescribed on the primer label.

MBR Flashing Cement bonds very well to clean, dry, well-cured concrete. However, concrete cured with mineral oils, resins or waxes requires the use of JM Concrete Primer. In addition, clean and coat concrete soiled with oil, grease or release agents with JM Concrete Primer, following the instructions on the pail.

Mixing Instructions

These instructions apply to MBR Flashing Cement in 3.9 gal (14.8 l) pails.

(1) pail MBR Flashing Cement Base Contents: 3.9 gal (14.8 l)

(1) jug MBR Flashing Cement Activator Contents: 44.1 oz (1.3 l)

All two-part products are color-coded products.

Installation/Application Instructions

Apply between 40° and 100° F (4° and 38° C)

On the substrate to be flashed, use a trowel to spread the mixed material to obtain a full coverage coating, without voids, to a minimum thickness of 1/8" (3.2 mm). As the coating process proceeds, lay the flashing membrane into the bed of cement. Check all flashing details to determine if there is a nailing requirement.

Seal side laps in the same manner, at a minimum of 4" (10.2 cm).

For penetrations, use MBR Flashing Cement in conjunction with PermaFlash® Primer and PermaFlash® Scrim.

Clean-Up and Disposal

Clean-Up Information

Use mineral spirits to clean tools immediately after completion of work. Periodically place tools in a pail of mineral spirits to prevent buildup of cement. Wear rubber gloves during all applications and clean up procedures. Follow manufacturer's warnings and cautions about using solvents.

Disposal Information

MBR Flashing Cement, i.e., MBR Flashing Cement Base that has been fully reacted with MBR Flashing Cement Activator, can usually be disposed of at a licensed landfill.

MBR Flashing Cement Base is considered a hazardous waste. Disposal must be in accordance with local, state and federal regulations. If possible, fully react any remaining material with MBR Flashing Cement Activator; this reacted material can usually be disposed of at a licensed landfill.

MBR Flashing Cement Activator is also considered a hazardous waste. Disposal must be in accordance with local, state and federal regulations. If the material reacts with MBR Flashing Cement Base, disposal can be as recommended for MBR Flashing Cement. If this is not the case, the material can be neutralized by mixing with a 90 percent water, 8 percent ammonia and 2 percent detergent solution. Leave containers open for at least 48 hours to allow any carbon dioxide gas evolved to escape. The resulting solidified waste can then usually be disposed of at a licensed landfill.

Empty Containers

MBR Flashing Cement Base containers, when empty, contain combustible and harmful vapors and residue. Do not reuse the container or remove the labels. Follow all of the label warnings even when the container is empty. Dispose of containers in accordance with applicable regulations. If the residue is of fully reacted material, the container can usually be disposed of at a licensed landfill.

Neutralize MBR Flashing Cement Activator containers with the solution described in the disposal information above. Leave decontaminated containers open for at least 48 hours to allow any carbon dioxide gas evolved to escape. Containers can then be disposed of at a licensed landfill.

Precautions

MBR Flashing Cement is prepared on the jobsite and requires extra care during preparation. Roofing contractors must advise their crews to precisely follow all safety, storage, handling, preparation and application instructions. JM will not accept responsibility for any use of this product that does not comply with the instructions printed on the containers.

Material meets the requirements of ASTM D 4601, Type II

Features and Components

PermaPly 28 is designed for use as the first or base sheet in built up roofing or modified bitumen roof assemblies.

Lightweight: Exceptionally pliable, easy to handle and lays flat.

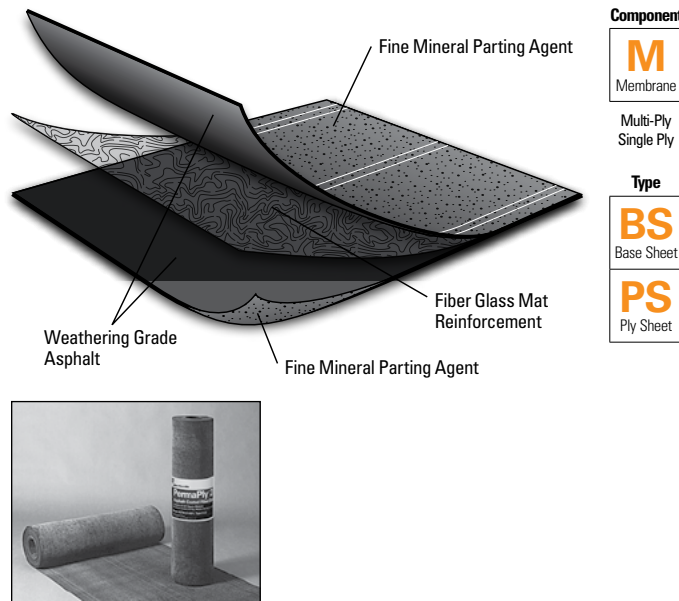
Asphalt Coating: Makes it suitable as an intermediate or ply felt in cold-applied built-up and modified bitumen roof assemblies.

Ideal for Mechanical Attachment: Use where mechanical attachment of the membrane to the roof substrate or deck is desired.

Fiber Glass Reinforcement Mat: Low moisture, excellent dimensional stability and resistance to rot make it an ideal replacement for organic base or ply sheets. Provides a solid dimensionally stable substrate for other roofing membrane components.

Laying Lines: Laying lines are imprinted on the top surface so the roofing mechanic can install the felt with the proper exposure and provide the correct number of plies.

Surfacing: Fine mineral parting agent.



System Compatibility This product may be used as a component in the following systems. Please reference product application for specific installation methods and information.

Multi-Ply	BUR		APP		SBS			
	HA	CA	CA	HW	HA	CA	HW	SA
<i>Compatible with the selected Multi-Ply systems above</i>								

Single Ply	TPO		PVC*		EPDM		
	MF	FA	MF	FA	MF	FA	BA
<i>Compatible with the selected Single Ply systems above</i>							

Key: HA = Hot Applied CA = Cold Applied HW = Heat Weldable SA = Self Adhered MF = Mechanically Fastened FA = Fully Adhered BA = Ballasted

*Suitable as an intermediate ply in hot asphalt applied hybrid PVC fleece back membrane systems.

Energy and the Environment

Pre-Consumer Recycled Content	0%
Post-Consumer Recycled Content	0%

Peak Advantage® Guarantee Information

Systems	Guarantee Term
Dependent on system	Up to 30 years

*Contact JM Technical Services for specific system requirements or guarantee terms.

Codes and Approvals



Installation/Application



Hot Asphalt



Cold Applied



Mechanically Fastened

Refer to JM BUR application guides and detail drawings for instructions.

Roll Size	36" x 106' (914 mm x 32.31 m)
Roll Coverage (net)	300 ft ² (27.87 m ²)
Roll Coverage (gross)	316.5 ft ² (29.5 m ²)
Roll Weight	67 lb (30.4 kg)

Material meets the requirements of ASTM D 4601, Type II

Tested Physical Properties

Physical Properties		ASTM Test Method	Standard	PermaPly 28
			Type II	
Strength	Breaking Strength @ 73.4° F, (<i>min</i>) (lbf/in)			
	Longitudinal (with fiber grain)	D 146	≥ 44	76
	Transverse (across fiber grain)	D 146	≥ 44	45
	Pliability at 77° F (pass/fail) 90° around 1" mandrel @ 77° F, (pass/fail)	D4601	No Failures	Pass
Performance	Net Dry Mass - Coated Sheet, (<i>min</i>) (lb/100ft ²) Individual Roll	D 228	≥ 14.5	22.4
	Mass per Area of Desaturated Glass Felt (lb/100ft ²)	D 228	≥ 1.7	2.0
	Moisture at Point of Manufacture, (<i>max</i>) (%) ¹	D 146	≤ 1.0	0.6
	Surfacing and Stabilizer, (<i>max</i>) (%)	D 228	≤ 65	65
	Asphalt, (<i>min</i>) (lb/100ft ²)	D 228	≥ 7.0	7.1
	Ash - glass mat only, (%)	D 228	70 – 88	77
Installation	Unrolling @ 40° F and 140° F, (pass/fail)	D 4601	No Damage	Pass

Note: 1. Moisture (As Received) was utilized in lieu of Moisture at Point of Manufacture

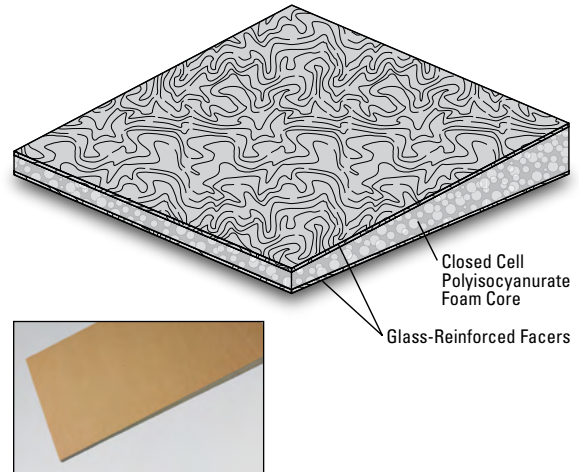
Meets the requirements of ASTM C 1289, Type II, Class 1, Grade 2 (20 psi)

- Tapered ENRGY 3 Grade 3 (25 psi)
- Tapered ENRGY 3 25 PSI

Features and Components

Glass-Reinforced Facers: Provides rigidity and resistance to indentation and crushing, and are compatible with BUR, modified bitumen and single ply membrane systems.

Closed Cell Polyisocyanurate Foam Core: Provides high R-value per inch in built-up, modified bitumen, metal roof and single ply roof systems, and utilizes an environmentally compliant blowing agent that provides high thermal insulation performance.



Component
I Insulation
Multi-Ply Single Ply
Type
HT High Thermal
TP Tapered

System Compatibility This product may be used as a component in the following systems. Please reference product application for specific installation methods and information.

Multi-Ply	BUR		APP		SBS			
	HA	CA	CA	HW	HA	CA	HW	SA
Compatible with the selected Multi-Ply systems above								

Single Ply	TPO		PVC		EPDM		
	MF	FA	MF	FA	MF	FA	BA
Compatible with all Single Ply systems							

Key: HA = Hot Applied CA = Cold Applied HW = Heat Weldable SA = Self Adhered MF = Mechanically Fastened FA = Fully Adhered BA = Ballasted

Energy and the Environment

LEED®	Recycled Content	Varies with thickness, see JM Tapered Polyiso Offerings table on back page.
Produced with environmentally compliant pentane blowing agent with zero ozone depletion (conforms to the Montreal Protocol of 1987).		

Peak Advantage® Guarantee Information

Systems
For use in approved JM Peak Advantage Roofing Guarantees

Codes and Approvals



- FM® Standards 4450/4470 Approvals (refer to FM RoofNavSM)
- UL® Standard 790, 263 and 1256 (refer to UL Roofing Materials system directory)
- Meets the requirements of CAN/ULC S704
- California Code of Regulations, Title 24, Insulation Quality Standard License #TI-1341
- Third-party certification with the PIMA Quality Mark™ for Long-Term Thermal Resistance (LTTR) values

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.

Installation/Application



Refer to the application instructions guidelines for proper utilization of this product.

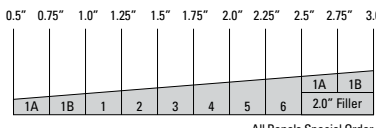
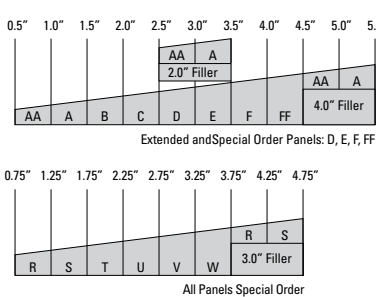
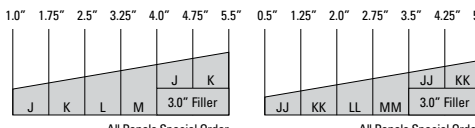
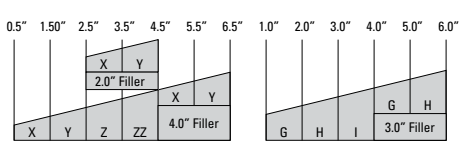
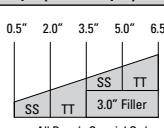
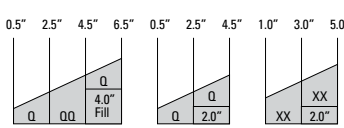
Packaging and Dimensions

Size	4' x 4' (1.22 m x 1.22 m)					
Thicknesses	1/2" (1.27 cm) min to 4.0" (10.16 cm) max in a single layer					
Slopes ¹ in/ft (mm/m)	1/16" (5.2)	1/8" (10.4)	3/16" (15.6)	1/4" (20.8)	3/8" (31.2)	1/2" (41.6)
Producing Locations	Bremen, IN Hazleton, PA	Cornwall, ONT Jacksonville, FL	Fernley, NV			
Stocking Locations ²	Grand Prairie, TX	Southgate, CA	Tracy, CA			

1. Tapered ENRGY 3® and Tapered ENRGY 3® 25 PSI are available in thicknesses of 1/2" to 4". Available profiles are shown on the back side of this data sheet. In some regions extended panels are also available.
2. Not all sizes, thicknesses, and products are stocked at all locations, please call Customer Service at 1-877-766-3295.

Note: Technical information on this data sheet is intended to be used as a general guideline only and is subject to change without notice. Contact your JM Sales Representative for further details.

Johns Manville Tapered Polyiso Offerings Please refer to the ENRGY 3® data sheet for typical physical properties.

Panel Desig.	Slope	Dimension		LTTR Value Nominal	Pieces per Unit	Square Foot per Unit	Brd Ft per Unit	Slope Profiles	
		Thin	Thick						
1/16 in/ft (5.2 mm/m)									
1A	1/16	0.5	0.75	3.6	70	1120	700	 <p>All Panels Special Order</p>	
1B	1/16	0.75	1	5.0	50	800	700		
1	1/16	1	1.25	6.4	38	608	684		
2	1/16	1.25	1.5	7.8	32	512	704		
3	1/16	1.5	1.75	9.3	26	416	676		
4	1/16	1.75	2	10.7	22	352	660		
5	1/16	2	2.25	12.1	20	320	680		
6	1/16	2.25	2.5	13.6	18	288	684		
1/8 in/ft (10.4 mm/m)									
AA	1/8	0.5	1	4.3	64	1024	768	 <p>Extended and Special Order Panels: D, E, F, FF</p> <p>All Panels Special Order</p>	
A	1/8	1	1.5	7.1	38	608	760		
B	1/8	1.5	2	10.0	26	416	728		
C	1/8	2	2.5	12.9	20	320	720		
D	1/8	2.5	3	15.9	16	256	704		
E	1/8	3	3.5	18.9	14	224	728		
F	1/8	3.5	4	22.1	12	192	720		
FF	1/8	4	4.5	25.2	10	160	680		
R	1/8	0.75	1.25	5.7	44	704	704		
S	1/8	1.25	1.75	8.6	40	480	720		
T	1/8	1.75	2.25	11.4	22	352	704		
U	1/8	2.25	2.75	14.4	16	256	640		
V	1/8	2.75	3.25	17.4	14	224	672		
W	1/8	3.25	3.75	20.5	12	192	672		
3/16 in/ft (15.6 mm/m)									
J	3/16	1	1.75	7.8	32	512	704		 <p>All Panels Special Order</p>
K	3/16	1.75	2.5	12.1	20	320	680		
L	3/16	2.5	3.25	16.6	16	256	736		
M	3/16	3.25	4	21.2	12	192	696		
KK	3/16	1.25	2	9.3	28	448	728		
JJ	3/16	0.5	1.25	5.0	52	832	728		
LL	3/16	2	2.75	13.6	18	288	691		
MM	3/16	2.75	3.5	18.2	14	224	694		
1/4 in/ft (20.8 mm/m)									
G	1/4	1	2	8.6	30	480	720	 <p>Extended and Special Order Panels: Z, ZZ</p> <p>All Panels Special Order</p>	
H	1/4	2	3	14.4	16	256	640		
I	1/4	3	4	20.5	12	192	672		
X	1/4	0.5	1.5	5.7	48	768	768		
Y	1/4	1.5	2.5	11.4	24	384	768		
Z	1/4	2.5	3.5	17.4	16	256	768		
ZZ	1/4	3.5	4.5	23.6	12	192	768		
3/8 in/ft (31.2 mm/m)									
SS	3/8	0.5	2	7.1	36	576	720	 <p>All Panels Special Order</p>	
TT	3/8	2	3.5	15.9	16	256	704		
1/2 in/ft (41.6 mm/m)									
Q	1/2	0.5	2.5	9.0	32	512	768	 <p>Extended and Special Order Panels: QQ</p> <p>Special Order</p>	
QQ	1/2	2.5	4.5	21.7	12	192	672		
XX	1/2	1	3	12.1	22	352	704		

Tapered Recycle Content:

Recycled content is dependent upon average thickness. To calculate, match the average thickness of Tapered ENRGY 3 to the thickness of Flat ENRGY 3. Use the number from Flat ENRGY 3 as your recycled content.

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.

Tapered ENRGY 3® Polyisocyanurate Roof Insulation

Effective January 1, 2014 with the LTTR change

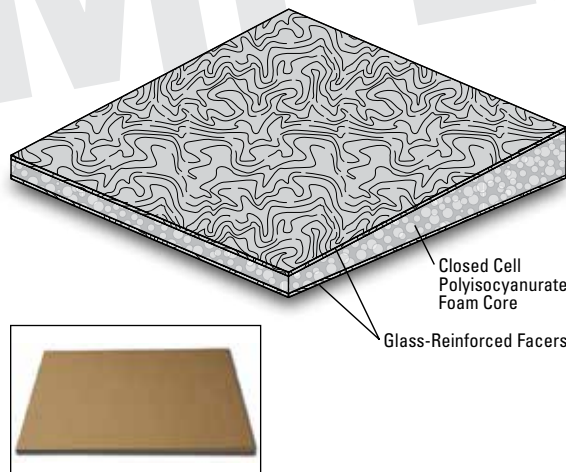
Meets the requirements of ASTM C 1289, Type II, Class 1, Grade 2 (20 psi)

- Tapered ENRGY 3 Grade 3 (25 psi)
- Tapered ENRGY 3 25 PSI

Features and Components

Glass-Reinforced Facers: Provides rigidity and resistance to indentation and crushing, and are compatible with BUR, modified bitumen and single ply membrane systems.

Closed Cell Polyisocyanurate Foam Core: Provides high R-value per inch in built-up, modified bitumen, metal roof and single ply roof systems, and utilizes an environmentally compliant blowing agent that provides high thermal insulation performance.



Component
I Insulation
Multi-Ply Single Ply
Type
HT High Thermal
TP Tapered

System Compatibility Please refer to the specific JM Specification sheets for details.

Multi-Ply	BUR		APP		SBS			
	HA	CA	CA	HW	HA	CA	HW	SA
Compatible with the selected Multi-Ply systems above								

Single Ply	TPO		PVC		EPDM		
	MF	FA	MF	FA	MF	FA	BA
Compatible with all Single Ply systems							

Key: HA = Hot Applied CA = Cold Applied HW = Heat Weldable SA = Self Adhered MF = Mechanically Fastened FA = Fully Adhered BA = Ballasted

Energy and the Environment

LEED®	Recycled Content	Varies with thickness, see <i>Product Data and Packaging</i> table on back page.
Produced with environmentally compliant pentane blowing agent with zero ozone depletion (conforms to the Montreal Protocol of 1987).		

Peak Advantage® Guarantee Information

Systems
For use in approved JM Peak Advantage Roofing Guarantees

Codes and Approvals



- FM® Standards 4450/4470 Approvals (refer to FM RoofNavSM)
- UL® Standard 790, 263 and 1256 (refer to UL Roofing Materials system directory)
- Meets the requirements of CAN/ULC S704
- California Code of Regulations, Title 24, Insulation Quality Standard License #TI-1341
- Third-party certification with the PIMA Quality Mark™ for Long-Term Thermal Resistance (LTTR) values

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.

Installation/Application



Refer to the application instructions guidelines for proper utilization of this product.

Packaging and Dimensions

Size	4' x 4' (1.22 m x 1.22 m)					
Thicknesses	1/2" (1.27 cm) min to 4.0" (10.16 cm) max in a single layer					
Slopes ¹ in/ft (mm/m)	1/16" (5.2)	1/8" (10.4)	3/16" (15.6)	1/4" (20.8)	3/8" (31.2)	1/2" (41.6)
Producing Locations	Bremen, IN Hazleton, PA	Cornwall, ONT Jacksonville, FL	Fernley, NV			
Stocking Locations ²	Dallas, TX	Southgate, CA	Tracy, CA			

1. Tapered ENRGY 3® and Tapered ENRGY 3® 25 PSI are available in thicknesses of 1/2" to 4". Available profiles are shown on the back side of this data sheet. In some regions extended panels are also available.
2. Not all sizes, thicknesses, and products are stocked at all locations, please call Customer Service at 1-877-766-3295.

Note: Technical information on this data sheet is intended to be used as a general guideline only and is subject to change without notice. Contact your JM Sales Representative for further details.



Tapered ENRGY 3[®] Polyisocyanurate Roof Insulation

Effective January 1, 2014 with the LTRR change

Johns Manville Tapered Polyiso Offerings Please refer to the ENRGY 3[®] data sheet for typical physical properties.

Panel Desig.	Slope	Dimension		LTRR Value Nominal	Pieces per Unit	Square Foot per Unit	Brd Ft per Unit	Slope Profiles
		Thin	Thick					
1/16 in/ft (5.2 mm/m)								
1A	1/16	0.5	0.75	3.6	70	1120	700	<p>0.5" 0.75" 1.0" 1.25" 1.5" 1.75" 2.0" 2.25" 2.5" 2.75" 3.0"</p> <p>All Panels Special Order</p>
1B	1/16	0.75	1	5.0	50	800	700	
1	1/16	1	1.25	6.4	38	608	684	
2	1/16	1.25	1.5	7.8	32	512	704	
3	1/16	1.5	1.75	9.3	26	416	676	
4	1/16	1.75	2	10.7	22	352	660	
5	1/16	2	2.25	12.1	20	320	680	
6	1/16	2.25	2.5	13.6	18	288	684	
1/8 in/ft (10.4 mm/m)								
AA	1/8	0.5	1	4.3	64	1024	768	<p>0.5" 1.0" 1.5" 2.0" 2.5" 3.0" 3.5" 4.0" 4.5" 5.0" 5.5"</p> <p>Extended and Special Order Panels: D, E, F, FF</p> <p>0.75" 1.25" 1.75" 2.25" 2.75" 3.25" 3.75" 4.25" 4.75"</p> <p>All Panels Special Order</p>
A	1/8	1	1.5	7.1	38	608	760	
B	1/8	1.5	2	10.0	26	416	728	
C	1/8	2	2.5	12.9	20	320	720	
D	1/8	2.5	3	15.9	16	256	704	
E	1/8	3	3.5	18.9	14	224	728	
F	1/8	3.5	4	22.1	12	192	720	
FF	1/8	4	4.5	25.2	10	160	680	
R	1/8	0.75	1.25	5.7	44	704	704	
S	1/8	1.25	1.75	8.6	30	480	720	
T	1/8	1.75	2.25	11.4	22	352	704	
U	1/8	2.25	2.75	14.4	16	256	640	
V	1/8	2.75	3.25	17.4	14	224	672	
W	1/8	3.25	3.75	20.5	12	192	672	
3/16 in/ft (15.6 mm/m)								
J	3/16	1	1.75	7.8	32	512	704	<p>1.0" 1.75" 2.5" 3.25" 4.0" 4.75" 5.5" 0.5" 1.25" 2.0" 2.75" 3.5" 4.25" 5.0"</p> <p>All Panels Special Order</p>
K	3/16	1.75	2.5	12.1	20	320	680	
L	3/16	2.5	3.25	16.6	16	256	736	
M	3/16	3.25	4	21.2	12	192	696	
KK	3/16	1.25	2	9.3	28	448	728	
JJ	3/16	0.5	1.25	5.0	52	832	728	
LL	3/16	2	2.75	13.6	18	288	691	
MM	3/16	2.75	3.5	18.2	14	224	694	
1/4 in/ft (20.8 mm/m)								
G	1/4	1	2	8.6	30	480	720	<p>0.5" 1.50" 2.5" 3.5" 4.5" 5.5" 6.5" 1.0" 2.0" 3.0" 4.0" 5.0" 6.0"</p> <p>Extended and Special Order Panels: Z, ZZ</p> <p>All Panels Special Order</p>
H	1/4	2	3	14.4	16	256	640	
I	1/4	3	4	20.5	12	192	672	
X	1/4	0.5	1.5	5.7	48	768	768	
Y	1/4	1.5	2.5	11.4	24	384	768	
Z	1/4	2.5	3.5	17.4	16	256	768	
ZZ	1/4	3.5	4.5	23.6	12	192	768	
3/8 in/ft (31.2 mm/m)								
SS	3/8	0.5	2	7.1	36	576	720	<p>0.5" 2.0" 3.5" 5.0" 6.5"</p> <p>All Panels Special Order</p>
TT	3/8	2	3.5	15.9	16	256	704	
1/2 in/ft (41.6 mm/m)								
Q	1/2	0.5	2.5	9.0	32	512	768	<p>0.5" 2.5" 4.5" 6.5" 0.5" 2.5" 4.5" 1.0" 3.0" 5.0"</p> <p>Extended and Special Order Panels: QQ</p> <p>Special Order</p>
QQ	1/2	2.5	4.5	21.7	12	192	672	
XX	1/2	1	3	12.1	22	352	704	

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.



UltraFast® Fasteners and Plates

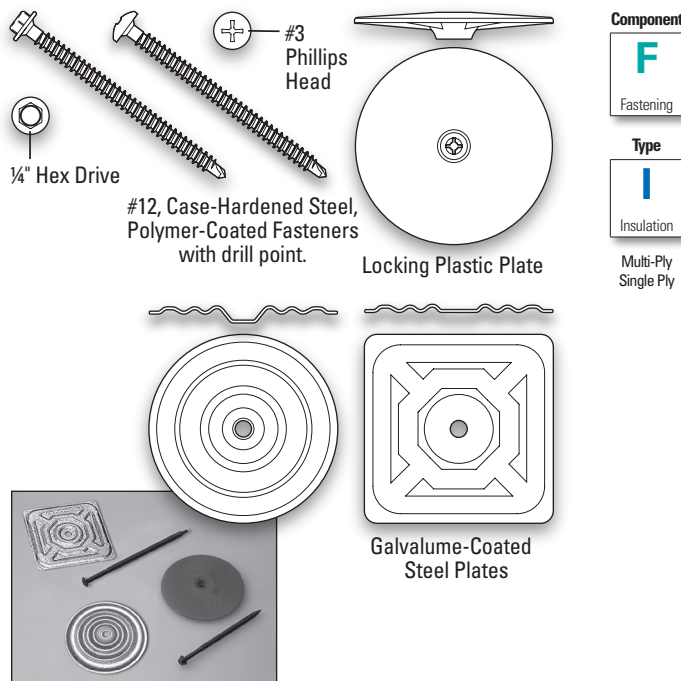
Case-Hardened Steel, Polymer-Coated Fasteners, Galvalume® Metal and Locking Plastic Plates

Features and Components

The UltraFast Fastener is a #12, case-hardened steel, polymer-coated fastener with a buttress thread design that provides maximum pullout values and minimizes fastener backout. Available with either a #3 Phillips head or a 1/4" (6.35 mm) hex head. The drill point is designed for quick installation in new or re-roof applications, and provides exceptional drilling capability in higher tensile decks. The UltraFast Locking Plastic Plate prevents fastener pop-up.

- Use:** Insulation
- Material:** Fasteners — Case-Hardened Steel, Polymer-Coated Plates — Galvalume®*-Coated Steel or High Strength Polypropylene
- Gauge:** #12
- Head:** #3 Phillips Head or 1/4" (6.35 mm) Hex Head
- Plates:** 3" (7.62 cm) Round Locking Plastic and Round or Square Metal
- Colors:** Blue (fasteners), Grey (metal plates), Blue (plastic plates)
- Deck Types:** Wood or 18 - 24 gauge (1.25 mm - 0.51 mm) Metal

* Galvalume is a registered trademark of BIEC International, Inc. and some of its licensed producers.



System Compatibility Please refer to the specific JM Specification sheets for details.

Multi-Ply	BUR		APP		SBS			
	HA	CA	CA	HW	HA	CA	HW	SA
Use to fasten Insulation in all Multi-Ply systems								

Single Ply	TPO		PVC		EPDM		
	MF	FA	MF	FA	MF	FA	BA
Use to fasten Insulation in the selected Single Ply systems above							

Key: HA = Hot Applied CA = Cold Applied HW = Heat Weldable SA = Self Adhered MF = Mechanically Fastened FA = Fully Adhered BA = Ballasted

Energy and the Environment

Recycled Content	This steel based product contains a minimum of 25% post consumer recycled materials by weight
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Peak Advantage® Guarantee Information

Systems	Approved to use with any Peak Advantage Guarantee
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Codes and Approvals*



*Fastener approvals are based on system approvals

Installation/Application

Refer to the application instructions guidelines for proper utilization of this product.

Packaging and Dimensions

Fastener Sizes	Quantity/Container
1 1/8" to 8" (4.13 cm to 20.32 cm) (1) #3 Phillips bit in each pail (1) 1/4" (6.35 mm) hex head bit per 3 pails	1,000/pail
Plate Sizes	Quantity/Container
3" Metal Round or Square, 1,000/pail 3" Plastic Round, 1,000/pail	1,000/pail
Producing Locations*	Agawam, MA and Itasca, IL

* The point of manufacture for fasteners and plates varies depending on the specific part. Call your local JM sales professional for assistance.

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

Meets the requirements of ASTM C 1278

Features

Strength: Engineered to provide high wind-uplift performance. Uniform composition provides enhanced bond strength of membrane systems with no risk of facer delamination.

Fire Performance: Provides excellent fire performance, and demonstrates exceptional surface burning characteristics. The 5/8" thickness meets the requirements of Type X per ASTM C 1177.

Moisture and Mold Resistance: Integral water-resistant core scored a maximum "10" for mold resistance when tested per ASTM D 3273.



Component	B
Cover Board	
Multi-Ply	
Type	GY
Gypsum	
LT	
Low Thermal	

System Compatibility Please refer to the specific JM Specification sheets for details.

Multi-Ply	BUR		APP		SBS			
	HA	CA	CA	HW	HA	CA	HW	SA
Compatible with all Multi-Ply systems								

Single Ply	TPO		PVC		EPDM		
	MF	FA	MF	FA	MF	FA	BA
Compatible with the selected Single Ply systems above							

Key: HA = Hot Applied CA = Cold Applied HW = Heat Weldable SA = Self Adhered MF = Mechanically Fastened FA = Fully Adhered BA = Ballasted

Energy and the Environment

LEED®	Recycled Content	Pre-Consumer: 95% (SCS Certified)
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Peak Advantage® Guarantee Information

Systems	Guarantee Term*
When used in most 2-5 ply multi-ply or single ply systems	10, 15 or 20 years

* Contact JM Technical Services for specific systems or terms over 20 years.

Codes and Approvals



Installation/Application



Refer to the Application Guides and Detail Drawings for instructions.

Packaging and Dimensions

Sizes	4' x 4' (1.22 m x 1.22 m) 4' x 8' (1.22 m x 2.44 m)			
Thickness (nom)	¼" (6.35 mm)	⅜" (9.5 mm)	½" (12.7 mm)	⅝" (15.9 mm)
Weight/Board 4' x 8' boards	50 lbs (22.68 kg)	65 lbs (29.48 kg)	78 lbs (35.38 kg)	100 lbs (45.36 kg)
Coverage/Pallet 4' x 8' boards	1,600 ft² (148.7 m²)	1,280 ft² (118.9 m²)	960 ft² (89.2 m²)	768 ft² (71.4 m²)
Boards/Pallet 4' x 8' boards	50	40	30	24
Pallet Weight 4' x 8' boards	2,375 lb (1,077.3 kg)	2,595 lb (1,177.1 kg)	2,445 lb (1,109.0 kg)	2,432 lb (1,103.1 kg)
Pallets per Truck*	17	17	18	18
Producing Locations	Gypsum, OH			

* Assumes 48' flatbed truck.

Refer to the Material Safety Data Sheet and product label prior to using this product.

SECUROCK® is registered trademark of United States Gypsum Company. SECUROCK® is manufactured by United States Gypsum Company and is marketed by Johns Manville as JM® SECUROCK®.



JM® SECUROCK® Gypsum-Fiber Roof Board

Gypsum and Cellulose Fiber Cover Board

Meets the requirements of ASTM C 1278

Typical Physical Properties

Test	ASTM	JM SECUROCK Gypsum-Fiber Roof Board				
		¼" (6.35 mm)	⅜" (9.5 mm)	½" (12.7 mm)	⅝" (15.9 mm)	
Strength	Compressive Strength, psi (kPa) (<i>nom.</i>)	C 1278	1,250 (8618.4)	1,000 (6894.8)	500 (3447.4)	500 (3447.4)
	Flexural Strength, parallel (<i>min.</i>)	C 473	40 lb	70 lb	110 lb	161 lb
	Bending Radius, ft (m)	NA	25 (7.62)	25 (7.62)	25 (7.62)	30 (9.14)
Moisture	Moisture Vapor Permeance, perms (ng/(Pa•s•m ²))	E 96	30 (1,716)	26 (1,487.2)	26 (1,487.2)	24 (1,372.8)
	Water Absorption, % (<i>max.</i>)	C 473	10			
	Surface Water Absorption, g (<i>nom.</i>)	C 473	1.6			
	Mold Resistance	D 3273	10			
Installation	Flute Spannability, in. (cm)	E 661	2 5/8 (6.67)	5 (12.7)	8 (20.32)	8 (20.32)
	Weight, lb/ft ² (kg/m ²) (<i>nom.</i>)	NA	1.43 (6.98)	1.97 (9.62)	2.47 (12.06)	3.06 (14.94)
	Linear variation with change in moisture, in/in • %RH	D 1037	8 x 10 ⁻⁶			
	Coefficient of Thermal Expansion, in./in. • °F	E 831	8 x 10 ⁻⁶			

Thermal Performance

Thickness	Nominal R-Value (Resistance)		
	in.	mm	(hr•ft ² •°F)/BTU
¼	6.35	0.2	0.04
⅜	9.5	0.3	0.05
½	12.7	0.5	0.09
⅝	15.9	0.6	0.11

Test	ASTM	JM SECUROCK Gypsum-Fiber Board
Flame Spread	E 84	5
Smoke Developed	E 84	0

Refer to the Material Safety Data Sheet and product label prior to using this product.



Building Owner:

Name
Address
City, State Zip

Building Name:

Name
Address
City, State Zip

Guarantee Number: *Sample - not issued*

Expiration Date:

Approved Roofing Contractor:

Name
Address
City, State Zip

Date of Completion:

Terms & Maximum Monetary Obligation to Maintain a Watertight Roofing System.

Years: \$

Coverage:

The components of the Roofing System covered by this Guarantee are:

Total Squares:

Section	Sq.	Roof Type	Membrane Spec.	Insulation Type		
				Layer 1	Layer 2	Layer 3

Accessories:	Type	Product Name	Quantity
	Expand-O-Flash (1) Style:		lin. ft.
	Expand-O-Flash (2) Style:		lin. ft.
	Expand-O-Flash (3) Style:		lin. ft.
	Fascia Style:		lin. ft.
	Copings Style:		lin. ft.
	Gravel Stop Style:		lin. ft.
	Drains (1) Style:		ea.
	Drains (2) Style:		ea.
	Vents Style:		ea.

These Johns Manville Guaranteed components are referred to above as the "Roofing System" and ALL OTHER COMPONENTS OF THE OWNER'S BUILDING ARE EXCLUDED FROM THE TERMS OF THIS GUARANTEE, including any amendments thereto.

Johns Manville* guarantees to the original Building Owner that during the Term commencing with the Date of Completion (as defined above), JM will pay for the materials and labor reasonably required in Johns Manville's sole and absolute discretion to repair the Roofing System to return it to a watertight condition if leaks occur due to: ordinary wear and tear, or deficiencies in any or all of the Johns Manville component materials of the Roofing System, or workmanship deficiencies only to the extent they arise solely out of the application of the Roofing System. Non-leaking blisters are specifically excluded from coverage. Should any investigation or inspection reveal the cause of a reported leak to be outside the scope of coverage under this Guarantee, then all such investigation and inspection costs shall be borne solely by the Building Owner.

WHAT TO DO IF YOUR ROOF LEAKS

If you should have a roof leak please refer to directions on the reverse side. Failure by the Building Owner to comply with any of the directions on the reverse side of this document will render the coverage provided under this Guarantee, including any applicable amendments and/or riders, null and void.

LIMITATIONS AND EXCLUSIONS

This Guarantee is not a maintenance agreement or an insurance policy; therefore, routine inspections and maintenance are the Building Owner's sole responsibility (see reverse side of this document). Failure to follow the Maintenance Program on the reverse side of this document will void the Guarantee in its entirety. This Guarantee does not obligate JM to repair or replace the Roofing System, or any part of the Roofing System, for leaks or appearance issues resulting, in whole or in part, from one or more of the following (a) natural disasters including but not limited to the direct or indirect effect of lightning, flood, hail storm, earthquake, tornados, hurricanes or other extraordinary natural occurrences and/or wind speeds in excess of 55 miles per hour; (b) misuse, abuse, neglect or negligence; (c) installation or material failures other than those involving the component materials expressly defined above as the Roofing System or exposure of the Roofing System components to damaging substances such as oil, fertilizers, or solvents or to damaging conditions such as vermin; (d) any and all (i) changes, alterations, repairs to the Roofing System, including, but not limited to, structures, penetrations, fixtures or utilities (including vegetative and solar overlays) based upon or through the Roofing System as well as any (ii) changes to the Building's usage that are not pre-approved in writing by JM; (e) failure of the Building substrate (mechanical, structural, or otherwise and whether resulting from Building movement, design defects or other causes) or improper drainage; (f) defects in or faulty/improper design, specification construction or engineering of the Building or any area over which the Roofing System is installed; (g) defects in or faulty/improper architectural, engineering or design flaws of the Roofing System or Building, including, but not limited to, design issues arising out of improper climate or building code compliance; or (h) in instances of a recover project, Johns Manville is not responsible for the performance of pre-existing materials that predated the recover. Instead, Johns Manville's sole responsibility in recover systems where JM materials are adhered to existing materials is limited to the installed recover JM Roofing materials up to the wind speed listed herein. Guarantee coverage is limited to replacing recover JM Roofing materials only (and not the pre-existing materials – which is the Owner's responsibility) as required to return the roofing system to a watertight condition due to a claim covered under the terms and conditions herein. Johns Manville is not responsible for leaks, injuries or damages resulting from any water entry from any portion of the Building structure not a part of the Roofing System, including, but not limited to, deterioration of the roofing substrate, walls, mortar joints, HVAC units and all other non-Johns Manville materials and metal components. Moreover, the Building Owner is solely and absolutely responsible for any removal and/or replacement of any overburdens, super-strata or overlays, in any form whatsoever, as reasonably necessary to expose the Roofing System for inspection and/or repair.

This Guarantee becomes effective when (1) it is delivered to Owner; and (2) all bills for installation, materials, and services have been paid in full to the Approved Roofing contractor and to JM. Until that time, this Guarantee is not in force, has no effect – and JM is under no obligation whatsoever to perform any services/work.

The Parties agree that any controversy or claims relating to this Guarantee shall be first submitted to mediation under the Construction Industry Arbitration and Mediation Rules of the American Arbitration Association (Regular Track Procedures) or to such other mediation arrangement as the parties mutually agree. No court or other tribunal shall have jurisdiction until the mediation is completed. In any action or proceeding brought against the Building Owner to enforce this Guarantee or to collect costs due hereunder, Johns Manville shall be entitled to recover its reasonable costs, expenses and fees (including expert witness' fees) incurred in any such action or proceeding, including, without limitation, attorneys' fees and expenses, and the Building Owner shall pay it.

TO THE FULLEST EXTENT PERMITTED BY LAW, JM DISCLAIMS ANY IMPLIED WARRANTY, INCLUDING THE WARRANTY OF MERCHANTABILITY AND THE WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND LIMITS SUCH WARRANTY TO THE DURATION AND TO THE EXTENT OF THE EXPRESS WARRANTY CONTAINED IN THIS GUARANTEE.

THE EXCLUSIVE RESPONSIBILITY AND LIABILITY OF JM UNDER THIS GUARANTEE IS TO MAKE REPAIRS NECESSARY TO MAINTAIN THE ROOFING SYSTEM IN A WATERTIGHT CONDITION IN ACCORDANCE WITH THE OBLIGATIONS OF JM UNDER THIS GUARANTEE. JM AND ITS AFFILIATES WILL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES TO THE BUILDING STRUCTURE (UPON WHICH THE ROOFING SYSTEM IS AFFIXED) OR ITS CONTENTS AND OR OCCUPANTS, LOSS OF TIME OR PROFITS OR ANY INCONVENIENCE, INJURY. JM SHALL NOT BE LIABLE FOR ANY CLAIM MADE AGAINST THE BUILDING OWNER BY ANY THIRD PARTY AND THE BUILDING OWNER SHALL INDEMNIFY AND DEFEND JM AGAINST ANY CLAIM BROUGHT BY ANY THIRD PARTY AGAINST JM RELATING TO OR ARISING OUT OF THE ROOFING SYSTEM OR JM'S OBLIGATIONS UNDER THIS GUARANTEE. JM AND ITS AFFILIATES SHALL NOT BE LIABLE FOR ANY DAMAGES WHICH ARE BASED UPON NEGLIGENCE, BREACH OF WARRANTY, STRICT LIABILITY OR ANY OTHER THEORY OF LIABILITY OTHER THAN THE EXCLUSIVE LIABILITY SET FORTH IN THIS GUARANTEE. THIS GUARANTEE DOES NOT COVER, AND EXPLICITLY EXCLUDES, ANY AND ALL INJURIES, CLAIMS AND/OR DAMAGES RESULTING, IN WHOLE OR IN PART, FROM ANY WATER ENTRY FROM ANY PORTION OF THE BUILDING STRUCTURE INCLUDING, BUT NOT LIMITED TO, THE ROOFING SYSTEM.

No one is authorized to change, alter, or modify the provision of this Guarantee other than the Manager, Guarantee Services or authorized delegate. JM's delay or failure in enforcing the terms and conditions contained in this Guarantee shall not operate as a waiver of such terms and conditions. This Guarantee is solely for the benefit of the Building Owner identified above and Building Owner's rights hereunder are not assignable. Upon sale or other transfer of the Building, Building Owner may request transfer of this Guarantee to the new owner, and JM may transfer this Guarantee, in its sole and absolute discretion only after receiving satisfactory information and payment of a transfer fee, which must be paid no later than 30 days after the date of Building ownership transfer.

In the event JM pays for repairs which are required due to the acts or omissions of others, JM shall be subrogated to all rights of recovery of the Building Owner to the extent of the amount of the repairs.

Because JM does not practice Engineering or Architecture, neither the issuance of this Guarantee nor any review of the Building's construction or inspection of roof plans (or the Building's roof deck) by JM representatives shall constitute any warranty by JM of such plans, specifications, and construction or in any way constitute an extension of the terms and conditions of this Guarantee. Any roof inspections are solely for the benefit of JM.

JM does not supervise nor is it responsible for a roofing contractor's work except to the extent stated herein, and roofing contractors are not agents of JM.

*JOHNS MANVILLE ("JM") is a Delaware corporation with its principal mailing address at P.O. Box 5108, Denver, Colorado 80217-5108.

By: Robert Wamboldt
Title: Vice President & General Manager
Roofing Systems Group

Attorney-in-Fact

Addendum(s)

Riders Here

SAMPLE

Maintenance Program

In order to continue the coverage of this Guarantee, the following Maintenance Program must be implemented and followed:

1. Building Owner must notify JM Guarantee Services Unit (see below) immediately upon discovery of the leak and in no event later than ten (10) days after initial discovery of the leak, time being of the essence. Failure of the Building Owner to provide timely notice to JM Guarantee Services of any leak is a material ground for termination of the Guarantee.
2. In response to timely notice, JM will arrange to inspect the Roofing System, and
 - (i) If, in JM's sole and absolute opinion, the leak(s) is/are the responsibility of JM under this Guarantee (see Limitations and Exclusions), then JM will take prompt appropriate action to return the Roofing system to a watertight condition, or
 - (ii) If, in JM's sole and absolute opinion, the leak(s) is/are not the responsibility of JM under this Guarantee, then JM will advise the Building Owner within a reasonable time of the minimum repairs that JM believes are required to return the Roofing System to a watertight condition. If the Building Owner, at his expense, promptly and timely makes such repairs to the Roofing System (time being of the essence) then this Guarantee will remain in effect for the unexpired portion of its Term. Failure to make any of these repairs in a timely and reasonable fashion will void any further obligation of JM under this Guarantee as to the damaged portion of the Roofing System as well as any other areas of the Roofing System impacted by such failure.
3. In the event an emergency condition exists which requires immediate repair to avoid damage to the Building, its contents or occupants, then Building Owner may make reasonable, essential temporary repairs. JM will reimburse Building Owner for those reasonable repair expenses only to the extent such expenses would have been the responsibility of JM under the Guarantee.

There are a number of items not covered by this Guarantee that are the sole, exclusive responsibility of the Building Owner. In order to ensure that your new roof will continue to perform its function and to continue JM's obligations under the Guarantee, you must examine and maintain these items on a regular basis:

- Maintain a file for your records on this Roofing System, including, but not limited to, this Guarantee, invoices, and subsequent logs of all inspections performed and repairs that are made to the Roofing System.
- Inspect your Roofing System at least semi-annually. This is best done in the spring, after the Roofing System has been exposed to the harsh winter conditions, and, in the Fall after a long hot summer. It is also a good idea to examine the Roofing System for damage after severe weather conditions such as hailstorms, heavy rains, high winds, etc.
- Since these types of Roofing Systems typically have a low slope, they are easily examined. However, care must be taken to prevent falling and other accidents. JM expressly disclaims and assumes no liability for any inspections performed on the Roofing System.

When checking the Roofing System:

- Remove any debris such as leaves, small branches, dirt, rocks, etc. that have accumulated.
- Clean gutters, down spouts, drains and the surrounding areas. Make certain they allow water to flow off the Roofing System. Positive drainage is essential.
- Examine all metal flashings and valleys for rust and damage that may have been caused by wind or traffic on the Roofing System, and make certain they are well attached and sealed. Any damaged, loose, or poorly sealed materials must be repaired by a JM Approved Roofing Contractor only.
- Examine the areas that abut the Roofing System. Damaged masonry, poorly mounted counter flashing, loose caulking, bad mortar joints, and any loose stone or tile coping can appear to be a membrane leak. Have these items repaired by a JM Approved Roofing Contractor if found to be defective.
- Examine the edges of the Roofing System. Wind damage often occurs in these areas. Materials that have been lifted by the wind need to be corrected by a JM Approved Roofing Contractor.
- Examine any roof top equipment such as air conditioners, evaporative coolers, antennas, etc. Make certain they do not move excessively or cause a roof problem by leaking materials onto the Roofing System.
- Check the building exterior for settlement or movement. Structural movement can cause cracks and other problems which in turn may lead to leaks in your Roofing System.
- Examine protective coatings; any cracked, flaking, or blistered areas must be recoated.

Protecting your investment:

- Avoid unnecessary roof top traffic.
- If you allow equipment servicemen to go onto the Roofing System, advise them to be careful. Dropped tools, heavy equipment, etc. can damage the membrane. Log all such trips to the Roofing System.
- Do not allow service personnel to make penetrations into the Roofing System; these are to be made only by a JM Approved Roofing Contractor.

All the terms and conditions of this Guarantee shall be construed under the internal law of the state of Colorado without regard to its conflicts of law principles. Invalidity or unenforceability of any provisions herein shall not affect the validity or enforceability of any other provision which shall remain in full force and effect to the extent the main intent of the document is preserved.

This form is not to be copied or reproduced in any manner. This Guarantee is valid only in the United States of America.

Guarantee Services
(800) 922-5922
E-mail: gsu@jm.com
www.jm.com/roofing

Mailing Address:
Johns Manville
Guarantee Services
P.O. Box 625001
Littleton, CO 80162-5001

Shipping Address:
Johns Manville
Guarantee Services
10100 West Ute Avenue
Littleton, CO 80127