PDS ENGINEERING & CONSTRUCTION, INC.
107 OLD WINDSOR ROAD • BLOOMFIELD, CT 06002 • TEL: (860) 242-8586 • FAX: (860) 242-8587

SUBMITTAL

Job:

York Correctional Central Plant and Distribution System
Niantic, CT
State Project No. BI-JA-465

Spec Section No: 07 53 23-001

Submittal No: 07 53 23-001-2

Revision No: 2

Sent Date: 08/03/2020

Spec Section Title: Ethylene-Propylene-Diene-Monomer (EPDM) Roofing

Submittal Title: Rev 2 - EPDM Roofing Product Data

Architect/Engineer:
WSP USA, INC.
One Penn Plaza, 2nd Floor
New York, NY 10119

Contractor:
PDS ENGINEERING & CONSTRUCTION, INC.
107 Old Windsor Road
Bloomfield, CT 06002

JCJARCHITECTURE

- [x] **NO EXCEPTIONS**
- [ ] **AMEND AS NOTED**
- [ ] **REJECTED**
- [ ] **REVISE AND RESUBMIT**
- [ ] **INFORMATION ONLY**
- [ ] **SUBMIT REVISED COPY**

This review is only for general conformance with the design concept and the information given in the Construction Documents. Comments made on the submittal during this review do not relieve the Contractor from compliance with the requirements of the Contract Documents and applicable laws, codes and regulations. Review of a specific item shall not include review of an assembly of which the item is a component. Review of such submittals is not for the purpose of determining the accuracy and completeness of other information such as dimensions, quantities, and installation or performance of equipment or systems, which are the Contractor's responsibility.

BY: WAyles **DATE:** 8/17/2020

SPEC:_____ **SUB:**_____ **REV#**_____

Contractor's Stamp

SUBMITTAL / SHOP DRAWING REVIEW

NO EXCEPTIONS TAKEN	■
MAKE CORRECTIONS INDICATED	☐
REVISE AND RESUBMIT	☐
REJECTED-SEE MARKS	☐

Review is only for conformance with the design concept of the Project and compliance with the information given in the Contract Documents. Sub-contractor is responsible for differences to be confirmed and correlated at the job site for information that pertains solely to the fabrication processes or to techniques of construction and for coordination of the work of all trades.

PDS ENGINEERING & CONSTRUCTION

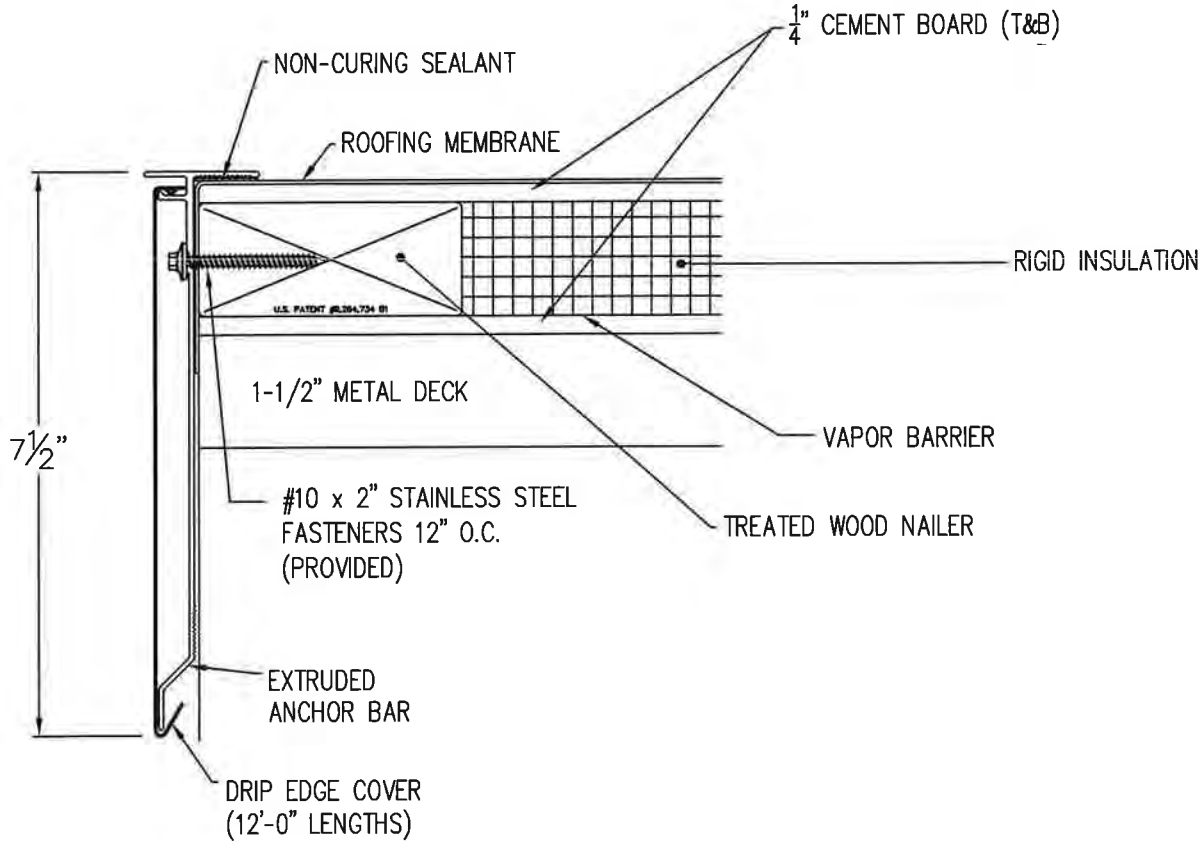
BY: Andreina Valbuena

DATE: 08/03/2020

FM Global-approved RoofNav 328897-0-0 roof section

Anchor-Tite Drip Edge Detail 7.5 inch

The only difference from the Contract “York CI Section and Details” is that there are two 1/4” cement cover board layers, one on top of the metal deck and one on top of the rigid insulation, instead of one 1/2” cement cover board on top of the insulation. The vapor barrier is self-adhered to the first cover board below the insulation.



ANCHOR–TITE DRIP EDGE – 7½”

Back | + Add Scenario | Reset Scenario

Date printed: Jul 23, 2020

Name:* CT Carpentry Corporation

Project: York Correctional Central Plant and Distribution System

Roof Area: Building O

Area of Roof: 27 SF

Comments: All Roof areas will be installed with the same listed products. The only variation in the roof areas is the size

Save Scenario

Assembly Properties

Assembly #:	328897-0-0	Slope:	0.2500
Roof System:	Single-Ply System	Wind Uplift*:	165
Application:	New Roof	Internal Fire:	1
Cover Securement:	Adhered	Exterior Fire:	A
Deck Type:	Steel	Hail:	SH

Assembly limited to use with noncombustible walls only: No

* FM Approved roofs must also have corner (Zone 3) and perimeter (Zone 2) enhancements and FM Approved perimeter flashing. For details, see DS 1-29 and 1-49. For Standing/Lap Seam roofs, see DS 1 - 31.

Assembly Details

IMPORTANT: You must select a cover in order to select the cover securements. Note that all securements may not be approved with all covers.

← Back | + Add Scenario | ↻ Reset Scenario

Date printed: Jul 23, 2020

Name:* CT Carpentry Corporation

Project: York Correctional Central Plant and Distribution System

Roof Area: Building 1

Area of Roof: 27 SF

Comments: All Roof areas will be installed with the same listed products. The only variation in the roof areas is the size

Save Scenario

Assembly Properties

Assembly #:	328897-0-0	Slope:	0.2500
Roof System:	Single-Ply System	Wind Uplift*:	165
Application:	New Roof	Internal Fire:	1
Cover Securement:	Adhered	Exterior Fire:	A
Deck Type:	Steel	Hail:	SH

Assembly limited to use with noncombustible walls only: No

* FM Approved roofs must also have corner (Zone 3) and perimeter (Zone 2) enhancements and FM Approved perimeter flashing. For details, see DS 1-29 and 1-49. For Standing/Lap Seam roofs, see DS 1 - 31.

Assembly Details

IMPORTANT: You must select a cover in order to select the cover securements. Note that all securements may not be approved with all covers.

← Back | + Add Scenario | ↻ Reset Scenario

Date printed: Jul 23, 2020

Name:* CT Carpentry Corporation

Project: York Correctional Central Plant and Distribution System

Roof Area: Building 2

Area of Roof: 27 SF

Comments: All Roof areas will be installed with the same listed products. The only variation in the roof areas is the size

Save Scenario

Assembly Properties

Assembly #:	328897-0-0	Slope:	0.2500
Roof System:	Single-Ply System	Wind Uplift*:	165
Application:	New Roof	Internal Fire:	1
Cover Securement:	Adhered	Exterior Fire:	A
Deck Type:	Steel	Hail:	SH

Assembly limited to use with noncombustible walls only: No

* FM Approved roofs must also have corner (Zone 3) and perimeter (Zone 2) enhancements and FM Approved perimeter flashing. For details, see DS 1-29 and 1-49. For Standing/Lap Seam roofs, see DS 1 - 31.

Assembly Details

IMPORTANT: You must select a cover in order to select the cover securements. Note that all securements may not be approved with all covers.

← Back | + Add Scenario | ↻ Reset Scenario

Date printed: Jul 23, 2020

Name:* CT Carpentry Corporation

Project: York Correctional Central Plant and Distribution System

Roof Area: Building 3

Area of Roof: 27 SF

Comments: All Roof areas will be installed with the same listed products. The only variation in the roof areas is the size

Save Scenario

Assembly Properties

Assembly #:	328897-0-0	Slope:	0.2500
Roof System:	Single-Ply System	Wind Uplift*:	165
Application:	New Roof	Internal Fire:	1
Cover Securement:	Adhered	Exterior Fire:	A
Deck Type:	Steel	Hail:	SH

Assembly limited to use with noncombustible walls only: No

* FM Approved roofs must also have corner (Zone 3) and perimeter (Zone 2) enhancements and FM Approved perimeter flashing. For details, see DS 1-29 and 1-49. For Standing/Lap Seam roofs, see DS 1 - 31.

Assembly Details

IMPORTANT: You must select a cover in order to select the cover securements. Note that all securements may not be approved with all covers.

Back | + Add Scenario | Reset Scenario

Date printed: Jul 23, 2020

Name:* CT Carpentry Corporation

Project: York Correctional Central Plant and Distribution System

Roof Area: Building 4

Area of Roof: 27 SF

Comments: All Roof areas will be installed with the same listed products. The only variation in the roof areas is the size

Save Scenario

Assembly Properties

Assembly #:	328897-0-0	Slope:	0.2500
Roof System:	Single-Ply System	Wind Uplift*:	165
Application:	New Roof	Internal Fire:	1
Cover Securement:	Adhered	Exterior Fire:	A
Deck Type:	Steel	Hail:	SH

Assembly limited to use with noncombustible walls only: No

* FM Approved roofs must also have corner (Zone 3) and perimeter (Zone 2) enhancements and FM Approved perimeter flashing. For details, see DS 1-29 and 1-49. For Standing/Lap Seam roofs, see DS 1 - 31.

Assembly Details

IMPORTANT: You must select a cover in order to select the cover securements. Note that all securements may not be approved with all covers.

← Back | + Add Scenario | ↻ Reset Scenario

Date printed: Jul 23, 2020

Name:* CT Carpentry Corporation

Project: York Correctional Central Plant and Distribution System

Roof Area: Building 5

Area of Roof: 27 SF

Comments: All Roof areas will be installed with the same listed products. The only variation in the roof areas is the size

Save Scenario

Assembly Properties

Assembly #:	328897-0-0	Slope:	0.2500
Roof System:	Single-Ply System	Wind Uplift*:	165
Application:	New Roof	Internal Fire:	1
Cover Securement:	Adhered	Exterior Fire:	A
Deck Type:	Steel	Hail:	SH

Assembly limited to use with noncombustible walls only: No

* FM Approved roofs must also have corner (Zone 3) and perimeter (Zone 2) enhancements and FM Approved perimeter flashing. For details, see DS 1-29 and 1-49. For Standing/Lap Seam roofs, see DS 1 - 31.

Assembly Details

IMPORTANT: You must select a cover in order to select the cover securements. Note that all securements may not be approved with all covers.

← Back | + Add Scenario | ↻ Reset Scenario

Date printed: Jul 23, 2020

Name:* CT Carpentry Corporation

Project: York Correctional Central Plant and Distribution System

Roof Area: Building 6

Area of Roof: 27 SF

Comments: All Roof areas will be installed with the same listed products. The only variation in the roof areas is the size

Save Scenario

Assembly Properties

Assembly #:	328897-0-0	Slope:	0.2500
Roof System:	Single-Ply System	Wind Uplift*:	165
Application:	New Roof	Internal Fire:	1
Cover Securement:	Adhered	Exterior Fire:	A
Deck Type:	Steel	Hail:	SH

Assembly limited to use with noncombustible walls only: No

* FM Approved roofs must also have corner (Zone 3) and perimeter (Zone 2) enhancements and FM Approved perimeter flashing. For details, see DS 1-29 and 1-49. For Standing/Lap Seam roofs, see DS 1 - 31.

Assembly Details

IMPORTANT: You must select a cover in order to select the cover securements. Note that all securements may not be approved with all covers.

← Back | + Add Scenario | ↻ Reset Scenario

Date printed: Jul 23, 2020

Name:* CT Carpentry Corporation

Project: York Correctional Central Plant and Distribution System

Roof Area: Building 7

Area of Roof: 27 SF

Comments: All Roof areas will be installed with the same listed products. The only variation in the roof areas is the size

Save Scenario

Assembly Properties

Assembly #:	328897-0-0	Slope:	0.2500
Roof System:	Single-Ply System	Wind Uplift*:	165
Application:	New Roof	Internal Fire:	1
Cover Securement:	Adhered	Exterior Fire:	A
Deck Type:	Steel	Hail:	SH

Assembly limited to use with noncombustible walls only: No

* FM Approved roofs must also have corner (Zone 3) and perimeter (Zone 2) enhancements and FM Approved perimeter flashing. For details, see DS 1-29 and 1-49. For Standing/Lap Seam roofs, see DS 1 - 31.

Assembly Details

IMPORTANT: You must select a cover in order to select the cover securements. Note that all securements may not be approved with all covers.

← Back | + Add Scenario | ⟳ Reset Scenario

Date printed: Jul 23, 2020

Name:* CT Carpentry Corporation

Project: York Correctional Central Plant and Distribution System

Roof Area: Building 8

Area of Roof: 48 SF

Comments: All Roof areas will be installed with the same listed products. The only variation in the roof areas is the size

Save Scenario

Assembly Properties

Assembly #:	328897-0-0	Slope:	0.2500
Roof System:	Single-Ply System	Wind Uplift*:	165
Application:	New Roof	Internal Fire:	1
Cover Securement:	Adhered	Exterior Fire:	A
Deck Type:	Steel	Hail:	SH

Assembly limited to use with noncombustible walls only: No

* FM Approved roofs must also have corner (Zone 3) and perimeter (Zone 2) enhancements and FM Approved perimeter flashing. For details, see DS 1-29 and 1-49. For Standing/Lap Seam roofs, see DS 1 - 31.

Assembly Details

IMPORTANT: You must select a cover in order to select the cover securements. Note that all securements may not be approved with all covers.

← Back | + Add Scenario | ↻ Reset Scenario

Date printed: Jul 23, 2020

Name:* CT Carpentry Corporation

Project: York Correctional Central Plant and Distribution System

Roof Area: Building 9A

Area of Roof: 48 SF

Comments: All Roof areas will be installed with the same listed products. The only variation in the roof areas is the size

Save Scenario

Assembly Properties

Assembly #:	328897-0-0	Slope:	0.2500
Roof System:	Single-Ply System	Wind Uplift*:	165
Application:	New Roof	Internal Fire:	1
Cover Securement:	Adhered	Exterior Fire:	A
Deck Type:	Steel	Hail:	SH

Assembly limited to use with noncombustible walls only: No

* FM Approved roofs must also have corner (Zone 3) and perimeter (Zone 2) enhancements and FM Approved perimeter flashing. For details, see DS 1-29 and 1-49. For Standing/Lap Seam roofs, see DS 1 - 31.

Assembly Details

IMPORTANT: You must select a cover in order to select the cover securements. Note that all securements may not be approved with all covers.

Date printed: Jul 23, 2020

Name:* CT Carpentry Corporation

Project: York Correctional Central Plant and Distribution System

Roof Area: Building 9C

Area of Roof: 48 SF

Comments: All Roof areas will be installed with the same listed products. The only variation in the roof areas is the size

Save Scenario

Assembly Properties

Assembly #:	328897-0-0	Slope:	0.2500
Roof System:	Single-Ply System	Wind Uplift*:	165
Application:	New Roof	Internal Fire:	1
Cover Securement:	Adhered	Exterior Fire:	A
Deck Type:	Steel	Hail:	SH

Assembly limited to use with noncombustible walls only: No

* FM Approved roofs must also have corner (Zone 3) and perimeter (Zone 2) enhancements and FM Approved perimeter flashing. For details, see DS 1-29 and 1-49. For Standing/Lap Seam roofs, see DS 1 - 31.

Assembly Details

IMPORTANT: You must select a cover in order to select the cover securements. Note that all securements may not be approved with all covers.

← Back | + Add Scenario | ↻ Reset Scenario

Date printed: Jul 23, 2020

Name:* CT Carpentry Corporation

Project: York Correctional Central Plant and Distribution System

Roof Area: Building 10

Area of Roof: 27 SF

Comments: All Roof areas will be installed with the same listed products. The only variation in the roof areas is the size

Save Scenario

Assembly Properties

Assembly #:	328897-0-0	Slope:	0.2500
Roof System:	Single-Ply System	Wind Uplift*:	165
Application:	New Roof	Internal Fire:	1
Cover Securement:	Adhered	Exterior Fire:	A
Deck Type:	Steel	Hail:	SH

Assembly limited to use with noncombustible walls only: No

* FM Approved roofs must also have corner (Zone 3) and perimeter (Zone 2) enhancements and FM Approved perimeter flashing. For details, see DS 1-29 and 1-49. For Standing/Lap Seam roofs, see DS 1 - 31.

Assembly Details

IMPORTANT: You must select a cover in order to select the cover securements. Note that all securements may not be approved with all covers.

← Back | + Add Scenario | ↻ Reset Scenario

Date printed: Jul 23, 2020

Name:* CT Carpentry Corporation

Project: York Correctional Central Plant and Distribution System

Roof Area: Building 11

Area of Roof: 27 SF

Comments: All Roof areas will be installed with the same listed products. The only variation in the roof areas is the size

Save Scenario

Assembly Properties

Assembly #:	328897-0-0	Slope:	0.2500
Roof System:	Single-Ply System	Wind Uplift*:	165
Application:	New Roof	Internal Fire:	1
Cover Securement:	Adhered	Exterior Fire:	A
Deck Type:	Steel	Hail:	SH

Assembly limited to use with noncombustible walls only: No

* FM Approved roofs must also have corner (Zone 3) and perimeter (Zone 2) enhancements and FM Approved perimeter flashing. For details, see DS 1-29 and 1-49. For Standing/Lap Seam roofs, see DS 1 - 31.

Assembly Details

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← Back | + Add Scenario | ↻ Reset Scenario

Date printed: Jul 23, 2020

Name:* CT Carpentry Corporation

Project: York Correctional Central Plant and Distribution System

Roof Area: Building 12

Area of Roof: 27 SF

Comments: All Roof areas will be installed with the same listed products. The only variation in the roof areas is the size

Save Scenario

Assembly Properties

Assembly #:	328897-0-0	Slope:	0.2500
Roof System:	Single-Ply System	Wind Uplift*:	165
Application:	New Roof	Internal Fire:	1
Cover Securement:	Adhered	Exterior Fire:	A
Deck Type:	Steel	Hail:	SH

Assembly limited to use with noncombustible walls only: No

* FM Approved roofs must also have corner (Zone 3) and perimeter (Zone 2) enhancements and FM Approved perimeter flashing. For details, see DS 1-29 and 1-49. For Standing/Lap Seam roofs, see DS 1 - 31.

Assembly Details

IMPORTANT: You must select a cover in order to select the cover securements. Note that all securements may not be approved with all covers.

← Back | + Add Scenario | ↻ Reset Scenario

Date printed: Jul 23, 2020

Name:* CT Carpentry Corporation

Project: York Correctional Central Plant and Distribution System

Roof Area: Building 13

Area of Roof: 27 SF

Comments: All Roof areas will be installed with the same listed products. The only variation in the roof areas is the size

Save Scenario

Assembly Properties

Assembly #:	328897-0-0	Slope:	0.2500
Roof System:	Single-Ply System	Wind Uplift*:	165
Application:	New Roof	Internal Fire:	1
Cover Securement:	Adhered	Exterior Fire:	A
Deck Type:	Steel	Hail:	SH

Assembly limited to use with noncombustible walls only: No

* FM Approved roofs must also have corner (Zone 3) and perimeter (Zone 2) enhancements and FM Approved perimeter flashing. For details, see DS 1-29 and 1-49. For Standing/Lap Seam roofs, see DS 1 - 31.

Assembly Details

IMPORTANT: You must select a cover in order to select the cover securements. Note that all securements may not be approved with all covers.

1. Cover (Single-ply)

○ Carlisle SynTec Inc	Sure-Tough
○ Carlisle SynTec Inc	Sure-Tough FR
○ Lexsuco 2010 Corporation	Hi-Flex EPDM FR Reinforced Membrane (RFR-60)
○ Lexsuco 2010 Corporation	Hi-Flex EPDM Reinforced Membrane (R-45, R-60, R-75)
○ Mule-Hide Products Co Inc	FR Reinforced EPDM
○ Mule-Hide Products Co Inc	Mule-Hide Standard Reinforced EPDM
☑ Roofing Products International Inc	Royal Edge Reinforced EPDM
○ Roofing Products International Inc	Royal Edge Reinforced Fire Rated EPDM
○ Versico LLC	Versigard .075 Reinforced
○ Versico LLC	Versigard Reinforced FR
○ Versico LLC	Versigard Reinforced Standard
○ WeatherBond Pro	WeatherBond RBR Reinforced EPDM

Securement (Sheet Lap)

○ Carlisle SynTec Inc	Sure-Seal EP-95
○ Carlisle SynTec Inc	Sure-Seal SecurTAPE
○ Lexsuco 2010 Corporation	Hi-Flex EPDM SA-747 Splice Adhesive (SA747-1G)
○ Lexsuco 2010 Corporation	Hi-Flex EPDM T-325 Seam Tape (T325-3)
○ Mule-Hide Products Co Inc	In-Seam Tape (black)
○ Mule-Hide Products Co Inc	Mule-Hide Black Splice Adhesive
☑ Roofing Products International Inc	Royal Edge Splice Adhesive
○ Versico LLC	G100B Seam Adhesive
○ Versico LLC	Versigard QA Adhesive Seam Tape

2. Securement (Cover) from 1. Cover (Single-ply) to 3. Cover Board

○ Carlisle SynTec Inc	Sure-Seal 90-8-30A
○ Carlisle SynTec Inc	Sure-Seal B-500
○ Lexsuco 2010 Corporation	Hi-Flex EPDM BA-90 Bonding Adhesive (BA90-5USG)
○ Mule-Hide Products Co Inc	Mule-Hide Bonding Adhesive
☑ Roofing Products International Inc	Royal Edge Bonding Adhesive
○ Versico LLC	G200SA Yellow Substrate Adhesive
○ Versico LLC	Versigard B-500 Latex Bonding Adhesive
○ WeatherBond Pro	WeatherBond RBR LC-60 Bonding Adhesive

3. Cover Board

○ Georgia-Pacific Gypsum LLC	DensDeck
○ Georgia-Pacific Gypsum LLC	DensDeck Prime
☑ United States Gypsum Company	SECUROCK Gypsum-Fiber Roof Board
○ United States Gypsum Company	SECUROCK Ultralight Coated Glass-Mat Roof Board

4. Securement (Board Stock) from 3. Cover Board to 8. (Deck) Steel

	SSSP14973	
○	OMG	OMG 3 in. Galvalume Steel Plate
	OMG	OMG #12 Standard
	SSSP15064	
☑	Altenloh, Brinck & Co., U.S., Inc.	Trufast 3" Metal Insulation Plate
	Altenloh, Brinck & Co., U.S., Inc.	Trufast #12 DP
	SSSP15088	
○	OMG	OMG 3 in. Galvalume Steel Plate
	OMG	OMG #14 Heavy Duty
	SSSP16754	
○	OMG	OMG 3 in. Galvalume Steel Plate
	OMG	#12 Standard Roofgrip
	SSSP17345	
○	OMG	OMG 3 in. Galvalume Steel Plate
	OMG	Standard Screw RS
	SSSP19953	
○	OMG	OMG 3 in. Galvalume Steel Plate
	OMG	OMG XHD screw
	SSSP19954	
○	OMG	OMG 3 in. Galvalume Steel Plate
	OMG	#15 Roofgrip
	SSSP29818	
○	Tremco Inc	Tremco 3" Metal Insulation Plate
	Tremco Inc	Tremco #12 DP Fastener
	SSSP29872	
○	Lexsuco 2010 Corporation	Lexgrip 3" Galvanized Steel Insulation Plates
	Lexsuco 2010 Corporation	Lexgrip #12 Drill Point Insulation Screws (Phillips Head)
	SSSP30854	
○	OMG	OMG 3 in. Galvalume Steel Plate
	OMG	Universal #14 Fastener

5. Insulation (Board Stock) Hunter Panel H-Shield Polyiso Board

○	DuPont de Nemours Inc	STYROFOAM DECKMATE Plus FA

6. Thermal Barrier

○	Georgia-Pacific Gypsum LLC	DensDeck
○	Georgia-Pacific Gypsum LLC	DensDeck Prime
☑	United States Gypsum Company	SECUROCK Gypsum-Fiber Roof Board

7. Vapor Retarder Hydrotech VM 60 Sheet Waterproofing Membrane

- ○ Carlisle Construction Materials GmbH — Alutrix FR
- ○ Carlisle SynTec Inc — VapAir Seal MD

SSVR30925

Carlisle SynTec Inc	VapAir Seal 725TR
Mule-Hide Products Co Inc	F5™ Air and Vapor Barrier
Versico LLC	Versico 725TR Air & Vapor Barrier
Generic	self adhered
Georgia-Pacific Gypsum LLC	DensDeck

SSVR30926

Carlisle SynTec Inc	VapAir Seal 725TR
Versico LLC	Versico 725TR Air & Vapor Barrier
Mule-Hide Products Co Inc	F5™ Air and Vapor Barrier
Generic	self adhered
Georgia-Pacific Gypsum LLC	DensDeck Prime

SSVR30927

Carlisle SynTec Inc	VapAir Seal 725TR
Versico LLC	Versico 725TR Air & Vapor Barrier
Mule-Hide Products Co Inc	F5™ Air and Vapor Barrier
Generic	self adhered
United States Gypsum Company	SECUROCK Gypsum-Fiber Roof Board
Georgia-Pacific Gypsum LLC	DensDeck Prime

SSVR30928

Carlisle SynTec Inc	VapAir Seal 725TR
Versico LLC	Versico 725TR Air & Vapor Barrier
Mule-Hide Products Co Inc	F5™ Air and Vapor Barrier
Generic	self adhered
Carlisle Coatings and Waterproofing (CCW)	CAV-GRIP
Georgia-Pacific Gypsum LLC	DensDeck

SSVR30929

Carlisle SynTec Inc	VapAir Seal 725TR
Versico LLC	Versico 725TR Air & Vapor Barrier
Mule-Hide Products Co Inc	F5™ Air and Vapor Barrier
Generic	self adhered
Carlisle Coatings and Waterproofing (CCW)	CAV-GRIP
Georgia-Pacific Gypsum LLC	DensDeck Prime

SSVR30930

Carlisle SynTec Inc	VapAir Seal 725TR
Versico LLC	Versico 725TR Air & Vapor Barrier
Mule-Hide Products Co Inc	F5™ Air and Vapor Barrier
Generic	self adhered
Carlisle Coatings and Waterproofing (CCW)	CAV-GRIP
United States Gypsum Company	SECUROCK Gypsum-Fiber Roof Board

SSVR30931

Carlisle SynTec Inc	VapAir Seal 725TR
Versico LLC	Versico 725TR Air & Vapor Barrier
Mule-Hide Products Co Inc	F5™ Air and Vapor Barrier
Generic	self adhered
Carlisle SynTec Inc	CAV-GRIP Primer
Georgia-Pacific Gypsum LLC	DensDeck

SSVR30932

Carlisle SynTec Inc	VapAir Seal 725TR
Versico LLC	Versico 725TR Air & Vapor Barrier
Mule-Hide Products Co Inc	F5™ Air and Vapor Barrier
Generic	self adhered
Carlisle SynTec Inc	CAV-GRIP Primer
Georgia-Pacific Gypsum LLC	DensDeck Prime

○ SSVR30933

Carlisle SynTec Inc	VapAir Seal 725TR
Versico LLC	Versico 725TR Air & Vapor Barrier
Mule-Hide Products Co Inc	F5™ Air and Vapor Barrier
Generic	self adhered
Carlisle SynTec Inc	CAV-GRIP Primer
United States Gypsum Company	SECUROCK Gypsum-Fiber Roof Board

SSVR30934

Carlisle SynTec Inc	VapAir Seal 725TR
Versico LLC	Versico 725TR Air & Vapor Barrier
○ Mule-Hide Products Co Inc	F5™ Air and Vapor Barrier
Generic	self adhered
Carlisle Coatings and Waterproofing (CCW)	CCW-702
Georgia-Pacific Gypsum LLC	DensDeck

SSVR30935

Carlisle SynTec Inc	VapAir Seal 725TR
Versico LLC	Versico 725TR Air & Vapor Barrier
○ Mule-Hide Products Co Inc	F5™ Air and Vapor Barrier
Generic	self adhered
Carlisle Coatings and Waterproofing (CCW)	CCW-702
Georgia-Pacific Gypsum LLC	DensDeck Prime

SSVR30936

Carlisle SynTec Inc	VapAir Seal 725TR
Versico LLC	Versico 725TR Air & Vapor Barrier
○ Mule-Hide Products Co Inc	F5™ Air and Vapor Barrier
Generic	self adhered
Carlisle Coatings and Waterproofing (CCW)	CCW-702
United States Gypsum Company	SECUROCK Gypsum-Fiber Roof Board

SSVR30937

Carlisle SynTec Inc	VapAir Seal 725TR
Versico LLC	Versico 725TR Air & Vapor Barrier
○ Mule-Hide Products Co Inc	F5™ Air and Vapor Barrier
Generic	self adhered
Carlisle SynTec Inc	Carlisle 702 Primer
Georgia-Pacific Gypsum LLC	DensDeck

SSVR30938

Carlisle SynTec Inc	VapAir Seal 725TR
Versico LLC	Versico 725TR Air & Vapor Barrier
○ Mule-Hide Products Co Inc	F5™ Air and Vapor Barrier
Generic	self adhered
Carlisle SynTec Inc	Carlisle 702 Primer
Georgia-Pacific Gypsum LLC	DensDeck Prime

SSVR30939

Carlisle SynTec Inc	VapAir Seal 725TR
Versico LLC	Versico 725TR Air & Vapor Barrier
○ Mule-Hide Products Co Inc	F5™ Air and Vapor Barrier
Generic	self adhered
Carlisle SynTec Inc	Carlisle 702 Primer
United States Gypsum Company	SECUROCK Gypsum-Fiber Roof Board

SSVR30940

Carlisle SynTec Inc	VapAir Seal 725TR
Versico LLC	Versico 725TR Air & Vapor Barrier
○ Mule-Hide Products Co Inc	F5™ Air and Vapor Barrier
Generic	self adhered
Carlisle Coatings and Waterproofing (CCW)	CCW-702LV
Georgia-Pacific Gypsum LLC	DensDeck

○ SSVR30941

	Carlisle SynTec Inc	VapAir Seal 725TR
	Versico LLC	Versico 725TR Air & Vapor Barrier
	Mule-Hide Products Co Inc	F5™ Air and Vapor Barrier
	Generic	self adhered
	Carlisle Coatings and Waterproofing (CCW)	CCW-702LV
	Georgia-Pacific Gypsum LLC	DensDeck Prime
SSVR30942		
	Carlisle SynTec Inc	VapAir Seal 725TR
	Versico LLC	Versico 725TR Air & Vapor Barrier
○	Mule-Hide Products Co Inc	F5™ Air and Vapor Barrier
	Generic	self adhered
	Carlisle Coatings and Waterproofing (CCW)	CCW-702LV
	United States Gypsum Company	SECUROCK Gypsum-Fiber Roof Board
SSVR30943		
	Carlisle SynTec Inc	VapAir Seal 725TR
	Versico LLC	Versico 725TR Air & Vapor Barrier
○	Mule-Hide Products Co Inc	F5™ Air and Vapor Barrier
	Generic	self adhered
	Carlisle SynTec Inc	Carlisle 702 LV Primer
	Georgia-Pacific Gypsum LLC	DensDeck
SSVR30944		
	Carlisle SynTec Inc	VapAir Seal 725TR
	Versico LLC	Versico 725TR Air & Vapor Barrier
○	Mule-Hide Products Co Inc	F5™ Air and Vapor Barrier
	Generic	self adhered
	Carlisle SynTec Inc	Carlisle 702 LV Primer
	Georgia-Pacific Gypsum LLC	DensDeck Prime
SSVR30945		
	Carlisle SynTec Inc	VapAir Seal 725TR
	Versico LLC	Versico 725TR Air & Vapor Barrier
○	Mule-Hide Products Co Inc	F5™ Air and Vapor Barrier
	Generic	self adhered
	Carlisle SynTec Inc	Carlisle 702 LV Primer
	United States Gypsum Company	SECUROCK Gypsum-Fiber Roof Board

○ None

8. (Deck) Steel By Others

✓ See Separate Steel Deck Manufacturer Listing — steel deck, 22 to 18 ga., wide rib (>90 psf)

9. Structure

Andreina Valbuena

From: Randy Becker
Sent: Thursday, July 23, 2020 3:14 PM
To: 'kyle@ctcarpentry.com'
Cc: Prosser, Adam L. (Adam.Prosser@wsp.com); Robert Hedden (rhedden@downesco.com); Baranowski, Joel; bostonleadengineer@fmglobal.com; 'fdibacco@ctcarpentry.com'; Joe Lucia; Andreina Valbuena; Ayles.William (WAyles@jcj.com); Scott Kozuch (skozuch@downesco.com); Scott Kozuch (skozuch@downesco.com); Sebastiano Uccello
Subject: FW: Project: BI-JA-465; York CI - RE: York Correctional Institution (BI-JA-465) - FM Global Documents - Index 000213.13 - 01
Attachments: EPDM Shop Drawings.pdf; York CI Roof Section and Details.pdf; 07 71 00-002-0 (Fascia - ANN) REV 1.pdf; RoofNav 328897-0-0.pdf; Anchor-Tite Drip Edge Detail 7.5 inch.pdf

Importance: High

Kyle:

There are several attachments to this email. Your Roofing Contractor must fill in the information on the "RoofNav 328897-0-0" attachment, and CT Carpentry must formally submit this in PMWeb ASAP.

The FM Global-approved RoofNav 328897-0-0 roof section is described in the "RoofNav 328897-0-0" attachment and the modified "Anchor-Tite Drip Edge Detail 7.5 inch" attachment. The only difference from the Contract "York CI Section and Details" is that there are two 1/4" cement cover board layers, one on top of the metal deck and one on top of the rigid insulation, instead of one 1/2" cement cover board on top of the insulation. The vapor barrier is self-adhered to the first cover board below the insulation. This is the roof section that must be used for the doghouses on this project.

The fully-adhered 60 mil EPDM membrane shall be as specified in Section 07 53 23. The 1-1/2" 20 gauge structural metal roof deck shall be furnished and installed by Engineered Building Products/MSR. Wood blocking is by CT Carpentry.

The aluminum fascia submittal is attached (Approved As Noted) and you are to provide Almond color for all enclosures except for Building 8. Provide Bone White for Building 8. Provide the 7-1 /2" high 0.050 inch thick product in accordance with Section 07 71 00 (similar for the copings).

The securement, fastening, and adhesion requirements are described below by the FM Global Engineer. These must be strictly followed.

If you have any questions, please contact me.

Thank you.

Randy Becker
Senior Construction Manager
PDS Engineering & Construction, Inc.
107 Old Windsor Road
Bloomfield, CT 06002
Office: 860-242-8586
Cell: 860-978-6316

PDS ENGINEERING & CONSTRUCTION, INC
Affirmative Action/Equal Opportunity Employer

From: Boston Lead Engineer [mailto:bostonleadengineer@Fmglobal.com]
Sent: Thursday, July 23, 2020 2:26 PM
To: Randy Becker; Boston Lead Engineer
Cc: Prosser, Adam L. (Adam.Prosser@wsp.com); Robert Hedden (rhedden@downesco.com); Baranowski, Joel
Subject: RE: Project: BI-JA-465; York CI - RE: York Correctional Institution (BI-JA-465) - FM Global Documents - Index 000213.13 - 01

Randy,

It was good to speak to you today regarding the proposed small doghouse roof assemblies at the above listed location. As discussed the correct FM Approvals assembly based on the use of the RPI Royal Edge Reinforced EPDM and the required uplift at this site is RoofNav 328897-0-0. I have attached a pdf file of the RoofNav listing.

During our discussion today the following substitutions for this RoofNav assembly would be acceptable:

- The coverboard can be a minimum of 1/4" thick and should be one of the products listed in the RoofNav approval.
- The insulation board can be any thickness up to 6" and should be any FM Approved extruded polystyrene insulation board.
- The vapor barrier can be any FM Approved self adhered vapor barrier installed directly above the thermal barrier.
- The thermal barrier should be one of the products listed in the RoofNav approval installed above the steel deck and the thermal barrier should be a minimum of 1/4" thick.

All other components should be in accordance with the RoofNav listing.

You indicated that the fascia will be The Metal Era Anchor Tite Drip edge with a 7.5 inch face. Installation should be in accordance with the FM Approval listing

Anchor-Tite Drip Edge
measurements in. (mm)

Fascia	Face Height in., (mm)	Thickness in., (mm)
Fascia Cover	3 (76) 4.5 (114), 6 (152), 7.5 (191)	0.040 (1.016) Al or 24 ga. [0.0276 in. (0.7 mm)] galvanized steel.
Anchor Bar		varies

Material: Extruded aluminum anchor bar and a 0.040 (1.0) aluminum or 24 ga. [0.0276 in. (0.7 mm)] steel cover.

- The anchor bar is secured to the wood nailer with #10-2.0 in. (38 mm) long or #14 stainless steel screws (wood substrates only) or masonry screws (wood or masonry substrates) secured on the vertical face in two rows. The top row of fasteners is spaced 12 in (305 mm) o.c. approximately 1.25 in (32 mm) from the top of the anchor bar.
- Optional – The bottom row of fasteners is spaced 24 in (610 mm) o.c. approximately 2.75 in (70 mm) from top of the anchor bar. The rows are staggered.
- Fascia cover is applied over the anchor bar.

Meets 1-585 perimeter and 1-465 corner

Material and Thickness	Face Height, in. (mm)	Perimeter Rating	Corner Rating	# of Fastening Rows
0.040 Al or 24 ga steel	4.5 (114) or 6 (152)	1-585	1-465	2
0.040 Al	3 (76) or 7.5 (191)	1-90	1-75	1
0.040 Al	7.5 (191)	1-255	1-210	2

Securement of the nailers should be in accordance with Data Sheet 1-49. The Data Sheet states that the securement should be as follows. Spacing of the two rows from Table 4 would be 18 inches on center.

2.2.2.3.4 Securement of Wood Nailers to Steel Decks

Where wood nailers are secured to minimum 22 ga. (0.0295 in.; 0.75 mm) steel decks, use any fastener that is FM Approved for the securement of above-deck roof components to steel decks. Provide two staggered rows of fasteners with a maximum fastener spacing within each row in accordance with Table 4. Fasten into the top flange of the steel deck with fasteners of sufficient length to protrude ¾ in. (19 mm) below the steel deck. For details see Figures 9 and 10. Prior to installing the wood nailers, secure the steel deck to joists or purlins in accordance with DS 1-29, *Roof Deck Securement and Above-Deck Roof Components.*

Securement of the steel deck should be with any FM Approved steel deck fastener. Tributary area of the fastener should be a minimum of 6 sq., ft.

Two other things that are in the RoofNav listing that the roofer needs to understand are the following:

1. Fastening of the coverboard needs to be one insulation fastener per 1 sq. ft.
2. The application of the roof cover adhesive should be 0.83 gallons per square for both the substrate and the underside of the roof cover. So a total of 1.66 gallons per square.

These details are in the RoofNav listing when you look at in electronically at www.roofnav.com

If you need anything else on this please let me know.

Regards,

John M. Ares
Lead Engineer - FM Global Boston Operations
1175 Boston-Providence Turnpike
P.O. Box 9102
Norwood. MA
02062
Phone - 781-440-8241
E-mail bostonleadengineer@fmglobal.com

From: Randy Becker <RandyB@pdsec.com>
Sent: Thursday, July 16, 2020 3:33 PM
To: Boston Lead Engineer <bostonleadengineer@Fmglobal.com>
Cc: Prosser, Adam L. (Adam.Prosser@wsp.com) <Adam.Prosser@wsp.com>; Robert Hedden (rhedden@downesco.com) <rhedden@downesco.com>
Subject: FW: Project: BI-JA-465; York CI - RE: York Correctional Institution (BI-JA-465) - FM Global Documents - Index 000213.13
Importance: High

EXTERNAL EMAIL

John:

If we switch the location of the cement board and the rigid insulation layers in the attached roof section, will that meet the FM Global requirements? Please send me a standard FM Global roof section that includes:

- 60 mil EPDM membrane, fully adhered.
- Air/Vapor barrier.

- ½” cement board.
- Rigid insulation.
- 1-1/2” 20 gauge structural metal roof deck.
- Drip edge (see attached detail).

I need an answer on this soon, so I appreciate your help with this. We are flexible and these roofs are small (3’x 9’ typ.), so we can make any changes necessary to meet FM Global standards.

Please contact me if you have any questions.

Thank you.

Randy Becker
Senior Construction Manager
PDS Engineering & Construction, Inc.
107 Old Windsor Road
Bloomfield, CT 06002
Office: 860-242-8586
Cell: 860-978-6316

RPI Roofing Products International

Get the Royal Edge Advantage with RPI

Royal Edge Reinforced EPDM Membrane

ROYAL EDGE EPDM MEMBRANE

DESCRIPTION

RPI Royal Edge Reinforced EPDM membrane is a 45 mil, 60 mil, or 75 mil EPDM sheet re-inforced with a polyester scrim for added strength and puncture resistance. The membrane is available in widths up to 10' (3m) and lengths of 100' (30m). A perimeter sheet of 6.5' is available.
The standard Royal Edge Reinforced membrane meets or exceeds UL Class A code body testing criteria for Fire Retardant roofing membranes for slopes up to 3". A Royal Edge FR Reinforced 45 mil and 60 mil membrane is available for higher slope UL Class A rated assemblies.

THE RPI ROYAL EDGE ADVANTAGE

WARRANTIES

RPI offers the longest Membrane Only Warranty in the roofing industry. Up to 40 Years when installed as a Fully Adhered System over an RPI approved assembly. RPI offers 20 and 30 year Membrane Only Warranies for 045 mil, 060 mil, and 075 mil Royal Edge Reinforced EPDM.
RPI Labor and Material Warranties are available for commercial/industrial installations thru the RPI Registered Applicators Program.

DURABILITY

After decades of proven in-field performance, RPI EPDM is still performing, showing little signs of aging while maintaining all the characteristics that have made EPDM the roofing industries longest performing single-ply membrane.
RPI Royal Edge EPDM remains dimensionally stable and flexible down to -40° F (5° C).
The excellent resistance to weathering and high elongation qualities result in superior resistance to hail damage. (UL 2218 Class 4).

BEST COLD WEATHER MEMBRANE

Dark membranes are better suited membranes are better suited to cold climates with more heating days than cooling days. Buildings and homes that are properly insulated will benefit from solar heat gain resulting in reduced snow and ice build-up. Lower heating costs reduce the carbon footprint.

FASTER EASIER APPLICATION

RPI's Clean Sheet means less preparation time is required for seams and flashings. Seam Tape Primer can be applied with a roller on new RPI CSFR membranes without having to clean the membrane, saving time and labor.

ENVIRONMENTAL

The Life Cycle Assessment for EPDM, TPO, PVC, and Modified Bitumen using EPA's TRACI model determined:

EPDM has the lowest global warming potential
EPDM has the lowest acid rain impact
EPDM has the lowest contribution to smog

APPROVALS

RPI Royal Edge Reinforced EPDM is a 45 mil, 60 mil, and 75 mil EPDM membrane designed to be installed as part of an FM Approved and UL Classified Assembly.

Typical Properties and Characteristics

Physical Property	Test Method	SPEC. (PASS)	Typical
Tolerance on Nominal Thickness, %	ASTM D751	±10	±10
Elongation, Ultimate, min, % .045/.060 **.075**	ASTM D412 Die C	250**	480** 500**
Tear Strength, min, lbf/in (kN/) .045/.060 .075	ASTM D751 B Tongue Tea	150 (26.3) 10 (45)	200 (35.0) 70 (311) 70 (311)
Resistance to Heat Aging* Properties after 28 days @ 240°F (116°C) Breaking Strength, min, lbf (N) Elongation, Ultimate, min, % **Linear Dimensional Change, max, %**	ASTM D573 ASTM D751 ASTM D412 Die C ASTM D1204	80 (355) 200** ±1.0	182 (823) 250** -1.0
Thickness over Scrim min, in. (mm) .045 .060 .075	ASTM D4637 Annex	0.015 (0.381)	0.016 (0.406) 0.020 (0.508) 0.032 (0.81)
Ozone Resistance* **Condition after exposure to 100 pphm Ozone in air for 168 hours @ 104°F (40°C) Specimen is at 50% strain**	ASTM D1149	No Cracks	No Cracks
Brittleness Temp., max, °F (°C)*	ASTM D2137	-49 (-45)	-49 (-45)
Resistance to Water Absorption* After 7 days immersion @ 158°F (70°C) Change in mass, max, %	ASTM D471	+8, -2**	5.5**
Water Vapor Permeance* **Max, perms**	ASTM E 96 (Proc. B or BW)	0.10	0.02
Fungi Resistance	ASTM G21	N/A	0 (No Growth)
Resistance to Outdoor (Ultraviolet) Weathering* Xenon-Arc, total radiant exposure at 0.70 W/m² irradiance, 80°C black panel temperature	ASTM G155	No Cracks No Crazing 7,560 kJ/m² 3,000 hrs	No Cracks No Crazing 35,320 kJ/m² 14,000 hrs
At 0.35 W/m² irradiance, 80°C black panel temperature		6,000 hrs	28,000 hrs
Weight, lbs/ft² (kg/m²) **45-mil** **60-mil** **75-mil**			0.27 (1.3) 0.39 (1.9) 0.48 (2.3)

*Not a quality control test due to the time required for the test or the complexity of the test. All tests are run on a statistical basis to ensure overall long-term performance of the membrane.
Note: Roofing Products International Royal Edge Reinforced EPDM Membrane meets or exceeds the minimum requirements set forth by ASTM D4637 for Type II reinforced EPDM single-ply roofing membranes.

Typical properties and characteristics are based on samples tested and are not guaranteed for all samples of this product. This data and information is intended as a guide and does not reflect the specification range for any particular property of this product.

Roofing Products International, Inc. 57460 Dewitt St. Elkhart, IN 46517 800-628-2957 Fax: 574-294-3450 www.rpiroyaledge.com

RPI Roofing Products International

Get the Royal Edge Advantage with RPI

Royal Edge Reinforced EPDM Membrane

ROYAL EDGE EPDM MEMBRANE

INSTALLATION

RPI Royal Edge Reinforced EPDM membrane is a talc free sheet of cured, fire-retardant single-ply EPDM membrane designed for use in new or re-roof low slope Mechanically Attached and Fully Adhered roofing applications using RPI Royal Edge Bonding Adhesives, approved insulations, and cover boards.

RPI Royal Edge Fully Adhered System

Approved insulation boards are mechanically attached or adhered to the roof deck using an approved insulation adhesive. The RPI membrane is unrolled into position and allowed to relax. The membrane is folded back and the bonding adhesive is applied to the substrate and membrane. After the appropriate "flash-off" time, the membrane is rolled onto the substrate and broomed into place using a stiff push broom.

All seams are completed with RPI Seam Tape Primer and RPI Seam Tape. Flashings and other details are made using RPI Royal Edge EPDM accessories.

APPLICATION PRECAUTIONS

Cold Weather

- Membrane is slippery when wet. Use precaution when walking on wet, ice, or snow covered membrane.
- When using adhesives in cold weather temperatures (50°F or below), air moisture content may have an adverse affect on the performance of the adhesives and tapes. Do not attempt to use adhesives or tape products in cold temperatures unless the sky is clear and sunny with little or no wind.
- Store adhesives and flashing products at room temperature or in rooftop warming boxes for 24 hours prior to application. The use of a heat gun to warm seaming and/or flashing areas prior to priming and seaming is acceptable. Take care to not overheat, burn or blister the membrane.
- Do not attempt installing Primers,Tapes, or Flashings until any frost has completely "burnt off" and all surfaces are dry.
- Do not attempt to install Primers, Tapes, or Flashings when any sign of condensed moisture becomes apparent on the adhesives or flashings.

Hot Weather

- Store membranes with factory laminated tape and any flashings with or without tape in cool, dry conditions. Avoid prolonged storage temperatures in excess of 90° F (32°C).
- In hot dry conditions, an additional coating of adhesive may be required over porous substrates.
- When the adhesives have "flashed off", mate the adhered surfaces together. Leaving the adhesives exposed "open" during high heat will "cook out" the adhesive and require another coat of adhesive. Do not leave the adhered surfaces open and exposed to any windblown dust, dirt, or other debris.

STORAGE

Store in unopened original packaging in a cool, dry, space. Do not store in areas exposed to the sun, rain, or snow.

Royal Edge CSFR EPDM membrane with factory applied tape has a shelf life of one year.

Available Reinforced Membrane Roll Sizes

Width	Length
10 ft.	100 ft.
6.5 ft.	100 ft.

RPI Pre-Taped EPDM

Royal Edge Reinforced EPDM is available with pre-installed RPI Seam Tape. The Seam Tape is applied as part of the manufacturing process in a quality controlled environment using state of the art equipment that enables the installer to save time, labor, and materials while ensuring the highest possible level of system performance.

When using RPI Reinforced EPDM membrane, RPI Seam Tape Primer may be applied with a hand roller.

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See UL Roofing Materials and Systems Directory R10073

LEED® Information

Pre-consumer Recycled Content	0%
Post-consumer Recycled Content	0%
Manufacturing Location	Carlisle, PA
Solar Reflectance Index	9

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RPI Roofing Products International

Get the Royal Edge Advantage with RPI

Royal Edge Low VOC Bonding Adhesive

ROYAL EDGE ADHESIVES

DESCRIPTION

RPI Low VOC Bonding Adhesive is a solvent based contact adhesive specially formulated to adhered RPI Royal Edge EPDM, Re-Flex EPDM, and Re-Flex TPO membranes to wood, metal flashings, brick or block masonry, rooftop flashings, insulation boards, recover, barrier boards, oriented strand boards, and other acceptable substrates. This product meets the Low VOC requirements of the OTC Model Rule for single-ply roofing adhesives.

THE ROYAL EDGE ADVANTAGE

- Compatible with RPI EPDM and TPO membranes.
- Easily applied using 3/8" or 1/2" nap solvent based rollers
- Provides instant adhesion to EPDM and substrates with long term performance

MIXING AND USE REQUIRMENTS

Keep the adhesive in a warm (room temperature) area until use. If the temperature of the adhesive falls below 50° F, allow the adhesive to warm to 60° F to 90° F before mixing and application.

Stir or mix the adhesive a minimum of once per day. Do not use electric drills for mixing the material. When mixing, be sure to scrape all materials from the sides and bottom of the pail.

The adhesive must be thoroughly mixed until all solids are blended and the adhesive is a uniform color and consistency. Keeping the adhesive warm will aid in the mixing process.

APPLICATION

1. All surfaces to be adhered should be completely dry, clean, and completely free of dust and loose debris. Membrane and substrates should be free of oil, grease, and other contaminates. If necessary, sweep the substrate and membrane with a push broom before applying the Bonding Adhesive.
2. Thoroughly stir the adhesive until any settled pigments/solids are blended and the adhesive is uniform in color.
3. Using a 9" roller with a solvent based cover, apply the Bonding Adhesive to the substrate and membrane in one application. Apply the adhesive to bother surfaces in an even coat without puddles or globs. Do not apply to areas that will later be field seams or flashings.
4. Allow the adhesive to "flash-off" and become tacky. Using the finger-push method, check the adhesive by pushing your finger across the adhesive while applying pressure. If your finger slides, the adhesive is still wet and more flash-off time must be allowed. When the adhesive is flashed off, mate the adhered surfaces together.
5. To ensure complete adhesion, the adhered membrane must immediately be broomed into place using a push broom with heavy pressure.

APPLICATION PRECAUTIONS

1. Mating the adhered surfaces together before the adhesive has completely flashed off may cause blisters to form in the membrane. This occurs as the solvents expand under the membrane. Blisters will typically draw down as the membrane goes through several expansion/contraction cycles (warm/cold). Blisters look unsightly but do not harm the membrane.
2. Royal Edge Low VOC Bonding Adhesive vapors are extremely flammable. Do not use indoors or in unventilated areas. Do not use near air transfer or ventilation systems.
3. Do not smoke during application. Keep away from all sources of ignition.

COVERAGE RATES

A coverage rate of 60 sq.ft. per gallon should be expected. Coverage rate will vary depending upon the type of substrate and the substrate surface. Some substrates are more porous and may require more adhesive. Other substrates with smooth, dense facers may result in a higher coverage rate. Coverage rates are based upon applications using a 3/8" nap, solvent based roller cover.

Typical Properties and Characteristics

Base	Synthetic Rubber
Color	Yellow
Solids	22%
Flash Point	0° F (-17° C) Close Cup
VOC	250 g/l max
Brookfield Viscosity	3500 centipoises
Net Wt. per ctn.	8.0 lbs per gallon
Packaging	5-gallon pail
Shelf Life	1 year

Typical properties and characteristics are based on samples tested and are not guaranteed for all samples of this product. This data and information is intended as a guide and does not reflect the specification range for any particular property of this product.

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RPI Roofing Products International

Get the Royal Edge Advantage with RPI

Royal Edge Low VOC Bonding Adhesive

ROYAL EDGE ADHESIVES

PRECAUTIONARY DATA

1. For professional use only.
2. Extremely Flammable. Vapors may ignite explosively under certain conditions. Do not smoke when using. Keep away from open flames, sparks, and other sources of ignition. Close containers after use. Provide Adequate ventilation.
3. Avoid contact with skin and eyes. Protective eye wear along with OSHA approved gloves should be worn.
4. Do not thin.
5. When using in cold temperatures, keep the adhesive at room temperature before applying. If adhesive is below 60° F allow the adhesive to warm to 60° F before attempting to use.
6. Keep out of reach of children.
7. Always cover adhesive when not in use. Do not allow adhesive to "skin over", or sit open for extended periods. Opened containers can be re-sealed and opened for use at a later date if properly sealed. Re-use after one week is not recommended.
8. Use only in well ventilated areas.
9. Do not use indoors or in outdoor areas that do not have adequate ventilation.
10. If swallowed, do not induce vomiting. Call a physician immediately.
11. Avoid contact with skin. Wash hands thoroughly after handling. In case of contact with skin, wash affected areas with soap and water.
12. Do not allow job-site storage temperatures in excess of 90° F. High storage temperatures will affect the product shelf life. If the product is stored near or below 60° F, allow the product to warm to room temperature before using.

PACKAGING

Available In:

5 gallon pails 45 pails per pallet

STORAGE

1. When stored in original unopened containers at temperatures between 60° F (15.6° C) and 80° F (26.7° C), a shelf life of 12 months can be expected.
2. The expected shelf life can be shortened if stored in temperatures exceeding recommended storage levels.
3. When stored in cool temperatures, allow product to warm to room temperature before use.

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See UL Roofing Materials and Systems Directory R10073

LEED® Information	
Pre-consumer Recycled Content	0%
Post-consumer Recycled Content	0%
Manufacturing Location	Greenville, IL
VOC Content	250 g/L

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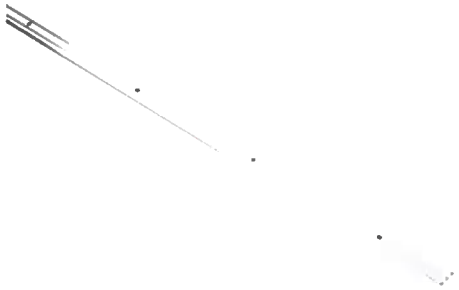
RPI Roofing Products International

Get the Royal Edge Advantage with RPI

Royal Edge Termination Bar

ROYAL EDGE PRODUCTS



DESCRIPTION

RPI Termination Bar is a high strength, aluminum bar with installation holes every 6 inches on center. Termination Bar is used when terminating Royal Edge EPDM, Re-Flex EPDM, and Re-Flex TPO to walls, facsia, and other details which require a mechanical termination of the membrane. Use approved fasteners that are appropriate for specific substrates.

THE RPI ROYAL EDGE ADVANTAGE

- Lightweight, high strength Aluminum.
- Easy to install 10ft. bars.

APPLICATION INSTRUCTIONS

Use Water Cut-Off and Lap Caulk where required, (see installation specification manual).
To minimize bowing, RPI Termination Bar should be secured starting at one end of the bar, installing to the other end; or beginning in the middle and installing towards both ends. Do not overlap the bar. Leave a minimum 1/8 inch space between bars for expansion.
Use only approved fasteners that are appropriate for specific substrates.

PACKAGING

50 - 10 ft. pieces per cardboard tube

STORAGE

Store in dry area, protected from weather.

PRECAUTIONARY DATA

Do not overlap Batten Bar.
Check for sharp edges or burs on bar before installation. Termination Bar should be stored in original cardboard shipping containers.

Typical Properties and Characteristics

Material	Aluminum
Corrosion Resistance Length	Meets FM 4470 Criteria
Width	1.0 inch
Thickness	.0448" - .0510"
Holes	6 inches O.C.

Typical properties and characteristics are based on samples tested and are not guaranteed for all samples of this product. This data and information is intended as a guide and does not reflect the specification range for any particular property of this product.

Roofing Products International, Inc. 57460 Dewitt St. Elkhart, IN 46517 800-628-2957 Fax: 574-294-3450 www.rpiroyaledge.com

Roofing Products International

Get the Royal Edge Advantage with RPI

Royal Edge LVOC Primer/Activator

RPI LOW VOC PRODUCTS

DESCRIPTION

RPI Royal Edge Low VOC Seam Tape Primer is a solvent-based primer designed to prepare substrate surfaces and RPI Royal Edge EPDM membranes for bonding and seaming using RPI Royal Edge Tape Products. Royal Edge Primer is formulated to result in a watertight, high performance Seam or Flashing Detail. Apply using a RPI Scrub Pad or 4 inch roller with a 3/8" solvent resistant cover. Refer to the RPI Specification Manual for details.

THE RPI ROYAL EDGE ADVANTAGE

- Environmentally friendly Low VOC formula is designed to comply with VOC regulations.
- An easy to apply primer that is compatible with RPI Royal Edge and Re-Flex EPDM and Re-Flex TPO membranes and taped accessories.
- Excellent long term peel and shear strength.

APPLICATION

1. IMPORTANT: Stir the primer before and during use. This product is FLAMMABLE. DO NOT USE ELECTRIC MIXERS.
2. Apply the Seam Tape Primer to the seam area in back and forth motions until the primer is a uniform color without heavy loaded (wet) areas. Both surfaces should be primed at the same time using the appropriate amount of primer (no puddles). Allow the primer to "flash-off".
3. Prior to applying the Seam Tape to the primed surfaces, check the primer using the finger push method. Proper flash-off time is affected by ambient air temperatures and air moisture content.
4. When both surfaces have flashed-off, apply the Seam Tape to the bottom surface and seat the tape permanently into position by applying pressure with the Scrub Pad, or a hand roller.
5. Remove the release paper from the tape by peeling the paper at a 45 degree angle, starting at the back of the seam, to the front of the seam edge. Lay the top membrane onto the tape and seat into position by applying pressure while drawing your hand from the back to the front of the seam.
6. Using a 2 inch steel, or hypalon hand roller, roll the seam area by first rolling across the seam, and then the length of the seam.

   For applying primer and Tape product to substrates, refer to the RPI Specification Manual for further details.

COVERAGE

Estimated coverage is 200-250 square ft. per gallon.

Typical Properties and Characteristics	
Base	Synthetic Rubber
Color	Yellow
Solids	10-15%
Flash Point	40°F (4.4°C)
VOC	<250 g/l max
Net Wt. per ctn.	7.4 lbs per gallon
Packaging	4-1 gallon pails per carton
Shelf Life	9 months

Typical properties and characteristics are based on samples tested and are not guaranteed for all samples of this product. This data and information is intended as a guide and does not reflect the specification range for any particular property of this product.

COLD WEATHER CONSIDERATIONS

When the ambient temperature is near the dew point, condensation may form on freshly applied primer. If condensation develops, the application of primer must be discontinued, as proper adhesion will not be achieved. When weather conditions permit, allow the surface to dry and apply a thin fresh coat of primer to the previously coated surface before installing the tape.

COLD WEATHER APPLICATION

To ensure complete and proper adhesion in cold weather applications (temperatures of 50°F or lower), keep the flashings stored above 60°F until installation. The primed area and flashing membrane may be warmed with a hot- air gun while installing the flashings.

Cold weather installation requirements when temperatures fall below 40°F (5°C):

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Royal Edge LVOC Primer/Activator

RPI LOW VOC PRODUCTS

COLD WEATHER APPLICATION

1. Using a hot air gun, warm the primed surface as the Royal Edge Seam is applied.
2. Prior to rolling the splice area with a 2" wide hand roller, warm the topside of the over lap membrane with a hot-air gun. The warmed membrane surface should not be hot to the touch.
3. To ensure complete and proper adhesion in cold weather applications the use of a hot air tool is recommended. Take care not to burn or overheat the membrane.

PACKAGING

Available in:

1-gallon pails	4 pails per carton
5-gallon pails	45 pails per pallet

DOT LABEL REQUIRED

Flammable Liquid

PRECAUTIONARY DATA

1. The solvents used in this product are extremely flammable.Do not smoke when using. Keep away from open flames, sparks, and other sources of ignition.
2. Avoid contact with skin and eyes. Protective eyewear along with OSHA approved gloves should be worn.
3. Do not thin.
4. When using in cold temperatures, keep product at room temperature when applying.
5. RPI Membrane Cleaner is recommended for clean-up.
6. Always cover Primer when not in use. Do not allow Primer to "skin over", or sit open for extended periods.

SHELF LIFE

1. When stored in original unopened containers at temperatures between 60° F (15.6°C) and 80° F (26°C), a shelf life of 9 months can be expected.
2. The life can be shortened if product is stored in temperatures exceeding recommended storage levels.

RECOMMENDED STORAGE

1. Store in original unopened containers at temperatures between 60° F and 80° F.
2. When stored in cooler temperatures, allow material to warm to room temperature before using.
3. Do not allow material to be stored in direct sunlight.
4. Rotate stock. Do not use product past 12 month shelf life.

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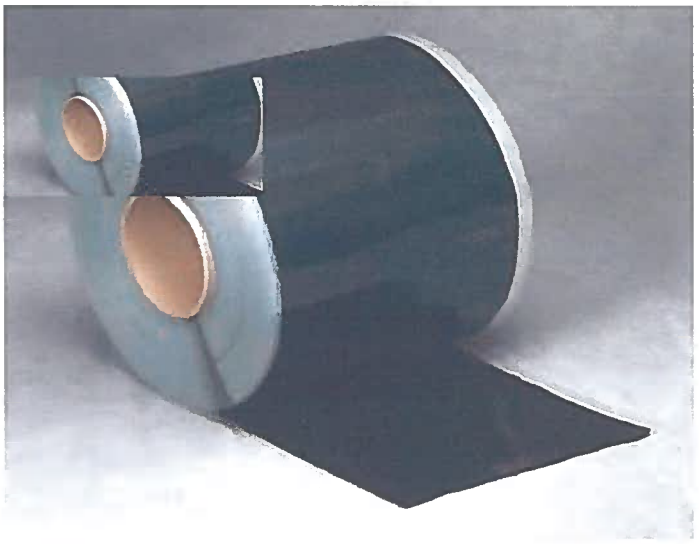
Royal Edge Seam Tape

ROYAL EDGE EPDM MEMBRANE

DESCRIPTION

RPI Royal Edge Seam Tape is a black pressure sensitive 30 mil tape designed to create high performance field seams when using Royal Edge EPDM membranes. The clear polyfilm release membrane will not tear or wrinkle like other tapes with paper release membranes.
RPI Royal Edge Seam Tape offers greater peel and shear strength than other manufacturers and when installed with RPI Seam Tape Primer creates a durable, high performance field seam. Refer to the RPI Specification Manual and Application Handbook for more detailed applications.



THE RPI ROYAL EDGE ADVANTAGE

- Available in widths of 3 inches and 6 inches on 100 ft. rolls.
- May be warmed for easier application during cold weather applications.
- Clear poly release liner won't tear or wrinkle like brown paper liner.
- Excellent long term performance

APPLICATION INSTRUCTIONS

1. All membranes and substrates must be clean, dry, and free of dirt, dust, and oils. Before applying Seam Tape Primer, clean all metal flashings with Membrane cleaner to remove any residual manufacturing oils or other contaminants.
2. Mark the bottom membrane approx. 1/4" to 3/8" past the seam edge as a guide for the Seam Tape.
3. Apply RPI Royal Edge Seam Tape Primer. On Royal Edge Clean Sheets, the Seam Tape Primer can be applied using a 3/8" nap roller. On any aged or talc sheet membranes, Seam Tape Primer must be applied using RPI Scrub Pads after the membrane has been thoroughly cleaned with Membrane Cleaner.
   IMPORTANT: Do not over apply the Seam Tape Primer. The finished primed surface should have a smooth flat sheen. Excessive primer will not enhance the adhesion of the tape.
4. Allow the primed area to "flash-off". Check the primer using the finger-push method. Do not attempt to apply any seam tape to areas that have not been properly primed or primed areas that have not sufficiently flashed-off.
5. Align the Seam Tape release membrane with the marks and mate the tape surface to the primed area of the bottom sheet. Starting in the middle of the tape, mate the membrane to the primer using an even, firm, hand pressure.
6. Fold the primed top membrane onto the Seam Tape and, starting from the back of the seam, remove the Seam Tape liner at a 45 degree angle while mating the top membrane to the Seam Tape; applying firm pressure from the back of the seam to the front edge.
7. Using a 2" steel or hypalon hand roller, roll the entire seam, first rolling across the seam and then the length of the seam . Roll the exposed tape edges.
8. Apply Lap Sealant to all required flashing edges and intersections.
9. To ensure complete and proper adhesion in cold weather applications (temperatures of 50° F or lower), keep the flashings stored in a room temperature until installation. The primed area and flashing membrane may be warmed with a hot- air gun while installing the flashings.

Refer to the RPI Specification Manual or Application Handbook for specific detail information.

Typical Properties and Characteristics

Product	3" Seam Tape (75mm)	6" Seam Tape (150mm)
Color	Black	Black
Base	Synthetic Rubber	Synthetic Rubber
Thickness	.030" (75mm)	.030 (75mm)
Roll Length	100' (30m)	100' (30m)
Packaging	4 rolls per carton	2 rolls per carton
Net Wt. Per Carton	26 lbs (12Kg)	26 lbs. (12Kg)
Shelf Life	1 year	1 year
Net Wt. Per Roll	6.5 lbs.	13 lbs.

Typical properties and characteristics are based on samples tested and are not guaranteed for all samples of this product. This data and information is intended as a guide and does not reflect the specification range for any particular property of this product.

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Royal Edge Seam Tape

ROYAL EDGE EPDM MEMBRANE

COLD WEATHER APPLICATIONS

Cold weather installation requirements when temperatures fall below 40° F (5°C):

1. Using a hot air gun, heat the primed area of the bottom membrane as the Royal Edge Seam Tape is applied and pressed into place.
2. The Seam Tape must be rolled with a 2"-wide hand roller prior to removal of the release liner when temperatures fall below 20° F (-7°C).
3. Prior to rolling the splice area with a 2"-wide hand roller, apply heat to the topside of the membrane with a hot-air gun. The heated surface should be hot to the touch.

Due to solvent flash-off, condensation may form on freshly applied primer when the ambient temperature is near the dew point. If condensation develops, the application of primer and Royal Edge Seam Tape must be discontinued, as proper adhesion will not be achieved. When weather conditions permit, allow the surface to dry and apply a thin freshener coat of primer to the previously coated surface and apply the Seam Tape.

Techniques when using large sheets with factory seam step-offs.

1. Remove any excess mica dust from the area and clean the membrane with Membrane Cleaner.
2. Apply Seam Tape Primer with a scrub pad taking extra care to scrub the Primer into the step -off area.
3. Roll the Seam Tape into the factory seam step-off with the edge of the hand roller and then roll the top membrane into the step-off after setting the top membrane.

PRECAUTIONS

Avoid prolonged contact with skin. In case of contact with skin, thoroughly wash affected area with soap and water.

KEEP OUT OF REACH OF CHILDREN.

Prolonged job-site storage temperatures in excess of 90° F (32° C) will diminish the product's shelf life.

In hot, sunny weather, store rolls on-site in original boxes, in a shaded area, until ready to use.

Storage and use of Royal Edge Seam Tape at temperatures below 40°F (4° C) will result in a loss of tape tack and, in extreme cases, will result in no bond to the substrate. Overnight storage must be available to keep the temperature of the Royal Edge Seam Tape at a minimum of 60° F (15°C). Hot boxes for job-site storage must be provided to maintain a minimum tape temperature of 40° F (4° C).

STORAGE

Prolonged jobsite storage temperatures in excess of 90°F (32°C) will diminish the product's shelf life.

In hot, sunny weather, store rolls onsite in original boxes, in a shaded area, until ready to use.

Storage and use of Royal Edge Seam Tape at temperatures below 40°F (4°C) will result in a loss of tape tack and, in extreme cases, will result in no bond to the substrate. Overnight storage must be available to keep the temperature of the Royal Edge Seam Tape at a minimum of 60°F (15°C). Hot boxes for job-site storage must be provided to maintain a minimum tape temperature of 40°F (4°C).

Royal Edge Seam Tape must be stored in a dry area.

Keep away from open sources of flame or ignition.

Refer to the RPI Specification Manual or Application Handbook for the specific application detail.

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LEED® Information	
Pre-consumer Recycled Content	4%
Post-consumer Recycled Content	0%
Manufacturing Location	Greenville, IL
Solar Reflectance Index	N/A

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Get the Royal Edge Advantage with RPI

Royal Edge EPDM Walkway Pads with Tape

ROYAL EDGE EPDM MEMBRANE

DESCRIPTION

RPI Walkway Pads are molded, high quality EPDM pads designed to protect the field membrane from damage caused by foot traffic at roof access points, around HVAC units, and other mechanicals which require maintenance service and inspections such as:

1. All access points, (ladder step-off areas, hatches, doorways, and specific paths to mechanical equipment that requires maintenance.
2. Step-off areas at walls at defined traffic areas.

THE RPI ROYAL EDGE ADVANTAGE

- Excellent Grip and slip resistance
- Tear and puncture proof
- Resists UV radiation

INSTALLATION

1. Remove all dust, talc, dirt, and other debris from the membrane roof.
2. Layout the Walkway Pads to define the desired traffic pattern and, using a crayon, mark the placement of the pads on the roof membrane. The pads should be laid out with a minimum of 1" and maximum of 6" space between the pads.
3. Maintain a minimum of 3" space from a field seam. If the Walkway Pad must cover a field seam, apply a Cover Tape over the seam before the Walkway Pad is installed.
4. Turn the pads over and clean the existing roof membrane where the Tape on the Walkway Pads will bond with the roof membrane using Membrane Cleaner and cotton rags.
5. Using a scrub pad, apply Seam Tape Primer in a circular motion to the cleaned areas of the roof membrane. Do not over apply the primer. It should be evenly applied without puddles or globs resulting in a smooth flat application. Allow the primer to dry or "flash-off".
6. Clean any dust or debris from the Walkway Pad release film and place the pad into position using the crayon marks. Remove the release film and mate the tape adhesive to the primed area of the field membrane.
7. Using a roller with pressure, mate the Walkway Pad adhesive surface to the primed field membrane.

INSTALLATION PRECAUTIONS

Do not install Walkway Pads within 10' of the roof perimeter on projects that exceed a height of 50'. Concrete pavers should be used in these areas.

RPI Walkway Pads are designed as walk pads and not to be used as a substitute for ballast.

Avoid entrapment of any ballast (stone, gravel) under the Walkway Pads

Important:

Permeation-resistant gloves that meet ANSI/SEA 105-2005 are required for hand protection when cleaners and primers are being used.

STORAGE

Store in cool, dry area protected from weather.

Prolonged job site storage temperatures in excess of 90° F (32° C) will diminish the product's shelf life.

In hot, sunny weather, store on-site in original boxes in a shaded area, until ready to use.

Typical Properties and Characteristics

Color	Black
Total Pad Thickness	0.375" 10%
Tensil Strength, psi ASTM D412 Unaged	500
Tear Resistance, lbf/in ASTM D624 Unaged	250
Size	30" x 30"
Packaging	50 per skid

Typical properties and characteristics are based on samples tested and are not guaranteed for all samples of this product. This data and information is intended as a guide and does not reflect the specification range for any particular property of this product.

LEED® Information

Pre-consumer Recycled Content	0%
Post-consumer Recycled Content	0%
Manufacturing Location	Greenville, IL
Solar Reflectance Index	N/A

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Get the Royal Edge Advantage with RPI

Royal Edge Uncured Flashing With Tape Membrane

ROYAL EDGE EPDM MEMBRANE

DESCRIPTION

RPI Royal Edge Uncured Flashing with Tape is a black 60 mil (1. 5 mm) uncured EPDM membrane laminated to a nominal 30 mil (0.75 mm) Seam Tape. Designed as a self-curing, malleable flashing membrane for pipes, inside and outside corners, t-joints, radical bend patches, and other roof protrusions on RPI Royal Edge EPDM membrane systems.
The clear release liner on 12" wide rolls is factory slit at 6" for ease of application. Refer to the RPI Specification Manual and Application Handbook for more detailed applications.

THE RPI ROYAL EDGE ADVANTAGE

- Available in multiple widths and lengths to accommodate large or small installation requirements.
- May be warmed for easier application during cold weather applications.
- Clear release liner won't tear like brown paper liner.
- Excellent long term performance.

APPLICATION INSTRUCTIONS

1. All membranes and substrates must be clean, dry, and free of dirt, dust, and oils. Before applying Seam Tape Primer, clean all metal flashings with Membrane cleaner to remove any residual manufacturing oils or other contaminants.
2. Apply RPI Royal Edge Seam Tape Primer. On Royal Edge Clean Sheets, the Seam Tape Primer can be applied using a 3/8" nap roller. On any aged or talc sheet membranes, Seam Tape Primer must be applied using RPI Scrub Pads after the membrane has been thoroughly cleaned with Membrane Cleaner.
   IMPORTANT: Do not over apply the Seam Tape Primer. The finished primed surface should have a smooth flat sheen. Excessive primer will not enhance the adhesion of the tape.
3. Allow the primed area to "flash-off". Check the primer using the finger-push method. Do not attempt to apply any flashings to primed areas that have not sufficiently flashed-off.
4. Remove the required area of release liner and mate the tape membrane surface to the primed area. Starting in the middle of the flashing piece to minimize air pockets, mate the membrane to the primer using an even, firm, hand pressure.
5. Using a 2" steel or hypalon hand roller, roll the entire flashing from the middle of the flashing to the edges.
6. Apply Lap Sealant at required flashing edges and intersections.
7. To ensure complete and proper adhesion in cold weather applications (temperatures of 50° F or lower), keep the flashings stored in a room temperature until installation. The primed area and flashing membrane may be warmed with a hot- air gun while installing the flashings.
8. Royal Edge Uncured Flashing with Tape is the required flashing for multiple applications in RPI Royal Edge EPDM systems.

Refer to the RPI Specification Manual or Application Handbook for the specific application detail.

Typical Properties and Characteristics

Color	**Black**
Base Membrane **Adhesive**	**EPDM Synthetic** **Rubber**
Ozone resistance condition after exposure to 100 pphm Ozone in air for 168 hours @ 104°F (40°C). Specimen under 50% strain.	**No cracks**
Normal Width **Membrane** **Ashesive**	 **6" , 9", 12"** **6 3/16" , 9 3/16", 12 3/16"**
Normal Thickness	**90 mil**
Brittleness Temperature	**-49° F (-45° C)**
Packaging	**6"x 100' 2-rolls per carton** **9"x50' 1-roll per carton** **12"x 50' 1-roll per carton**
Net Weight Per Roll	**6" roll = 30 lbs** **9" roll = 24 lbs** **12" roll = 32 lbs**
Shelf Life	**9 months when stored between 60°-80°F (15°-27°C)**

Note: Roofing Products International Royal Edge Uncured Flashing with Tape EPDM Membrane meets or exceeds the minimum requirements set forth by ASTM D4811 for Type I, Class V flashing material.

Typical properties and characteristics are based on samples tested and are not guaranteed for all samples of this product. This data and information is intended as a guide and does not reflect the specification range for any particular property of this product.

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Get the Royal Edge Advantage with RPI

Royal Edge Uncured Flashing With Tape Membrane

ROYAL EDGE EPDM MEMBRANE

PRECAUTIONS

Keep out of reach of children.

Avoid prolonged contact with skin. In case of skin contact, wash the affected area with soap and water.

Hot Weather

Do not allow storage temperatures to exceed 90° F. Keep material in a shaded area, out of direct sunlight. High storage temperatures will shorten the product shelf life.

Cold Weather

1. Storage or use in temperatures below 50° F require the material be warmed to room temperature before use. Temperatures below 40° F may result in the complete loss of tack.
2. If the ambien temperature is near the dew point, condensation may form as the Seam Tape Primer flashes off. When this condition occurs, all use of primers and adhesives should stop. When applicable conditions return, the previously primed area should be thoroughly dried and re-primed.
3. Warming or Hot Boxes may be required for on-site storage.
4. A hot air gun may be used to warm the material during a cold weather application. Warming the primed area as the flashing is applied and mated to the primed area will ensure proper adhesion.

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LEED® Information	
Pre-consumer Recycled Content	0%
Post-consumer Recycled Content	0%
Manufacturing Location	Greenville, IL
Solar Reflectance Index	N/A

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Get the Royal Edge Advantage with RPI

Royal Edge Cured Cover Strip with Tape

ROYAL EDGE EPDM MEMBRANE

DESCRIPTION

RPI Royal Edge Cured Cover Strip with Tape is a black nominal 60 mil cured EPDM membrane laminated to a nominal 28 mil fully cured synthetic rubber adhesive tape.
Designed for stripping in metal flashings, covering existing seams, and repairing cuts in EPDM membranes. The clear poly film release membrane will not tear or wrinkle like other tapes with paper release membranes. Must be installed using RPI Seam Tape Primer.

Refer to the RPI Specification Manual and Application Handbook for more detailed applications.

THE RPI ROYAL EDGE ADVANTAGE

- Cured membrane provides immediate expansion and contraction properties without tearing or crazing.
- May be warmed for easier application during cold weather applications.
- Clear poly release liner won't tear or wrinkle like brown paper liner.
- Excellent long term performance.
- Available in 6" and 9" x 100' and 12" x 50' rolls.

INSTALLATION

1. All membranes and substrates must be clean, dry, and free of dirt, dust, and oils. Before applying Seam Tape Primer, clean all metal flashings with Membrane cleaner to remove any residual manufacturing oils or other contaminants.
2. Apply RPI Royal Edge Seam Tape Primer. On Royal Edge Clean Sheets, the Seam Tape Primer can be applied using a 3/8" nap roller. On any aged or talc sheet membranes, Seam Tape Primer must be applied using RPI Scrub Pads after the membrane has been thoroughly cleaned with Membrane Cleaner.
   IMPORTANT: Do not over apply the Seam Tape Primer. The finished primed surface should have a smooth flat sheen. Excessive primer will not enhance the adhesion of the tape.
3. Allow the primed area to "flash-off". Check the primer using the finger-push method. Do not attempt to apply any Cover Strip to areas that have not been properly primed or primed areas that have not sufficiently flashed-off.
4. Unroll and align the Cover Strip over the primed area. Peel approximately 1 foot of release film from the end of the Cover Strip (while maintaining position) mate the tape surface to the primed area. Starting in the middle of the cover strip, mate the membrane to the primed area using an even, firm, hand pressure. Repeat this process until the entire flashing is in place.
5. Using a 2" steel or hypalon hand roller, roll the entire seam, first rolling across the seam and then the length of the seam . Roll any exposed tape edges.
6. Apply Uncured t-joint patches or Lap Sealant at required flashing edges and intersections.
7. To ensure complete and proper adhesion in cold weather applications (temperatures of 50°F or lower), keep the flashings stored above 60°F until installation. The primed area and flashing membrane may be warmed with a hot- air gun while installing the flashings.

Refer to the RPI Specification Manual or Application Handbook for the specific application detail.

Typical Properties and Characteristics

Color	**Black**
Base **Membrane** **Adhesive**	 **EPDM Synthetic** **Rubber**
Nominal Thickness	**88 mils (2.24 mm)**
Solids	**100%**
Elongation Tear **Resistance**	**1480% minimum** **150 lbs/in (35kN/m)**
Tensil Strength	**1650 psi (11.3 Mpa)**
Ozone Resistance Condition after exposure to 100 pphm Ozone in the air for 168 hrs.@ 104°F (40°C) Specimen under 50% strain	**No cracks**
Brittleness Temp	**-67°F (-55°C)**
Nominal Width **Membrane** **Adhesive**	 **6" (150 mm); 9" (225mm) 12" (300 mm)** **6 $^{3}/_{16}$ (155 mm) 9$^{3}/_{16}$" (230 mm); 12$^{3}/_{16}$ (305 mm)**
Net Weight Per Roll	**6"= 30lbs (14kg)** **9" = 45 lbs (21kg)** **12" = 30lbs (30kg)**
Packaging	**6"x 2 rolls/ctn. (100 linear ft. each)** **9" x 1 roll/ctn. (100 linear ft. each)** **12" x 1 roll/ctn. (50 linear ft. each)**
Shelf Life	**1 year**

Typical properties and characteristics are based on samples tested and are not guaranteed for all samples of this product. This data and information is intended as a guide and does not reflect the specification range for any particular property of this product.

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Get the Royal Edge Advantage with RPI

Royal Edge Cured Cover Strip with Tape

ROYAL EDGE EPDM MEMBRANE

COLD WEATHER APPLICATIONS

Cold weather installation requirements when temperatures fall below 40°F (5°C):

1. Using a hot air gun, heat the primed surface as the Royal Edge Cover Strip with Tape is applied and pressed into place.
2. Prior to rolling the splice area with a 2" wide hand roller, apply heat to the topside of the membrane with a hot- air gun. The heated surface should be hot to the touch.

Due to solvent flash-off, condensation may form on freshly applied primer when the ambient temperature is near the dew point. If condensation develops, the application of primer and Royal Edge Cover Strip with Tape must be discontinued, as proper adhesion will not be achieved. When weather conditions permit, allow the surface to dry and apply a thin fresh coat of primer to the previously coated surface and apply the Cover Strip.

PRECAUTIONS

Do not use Cured Cover Strip with Tape as a T-Joint flashing, Radical Bend Patch or around pipes and outside corners. As a cured membrane, it is not meant to be a stretched or molded flashing.

Avoid prolonged contact with skin. In case of contact with skin, thoroughly wash affected area with soap and water.

KEEP OUT OF REACH OF CHILDREN.

Prolonged job site storage temperatures in excess of 90° F (32° C) will diminish the product's shelf life.

In hot, sunny weather, store rolls on-site in original boxes, in a shaded area, until ready to use.

Storage and use of Royal Edge Cover Strip with Tape at temperatures below 40°F (4° C) will result in a loss of tape tack and, in extreme cases, will result in no bond to the substrate. Overnight storage must be available to keep the temperature of the Cover Strip at a minimum of 60°F (15° C). Hot boxes for job site storage must be provided to maintain a minimum tape temperature of 60° F (15° C).

STORAGE

Prolonged job site storage temperatures in excess of 90°F (32°C) will diminish the product's shelf life.

In hot, sunny weather, store rolls on-site in original boxes, in a shaded area, until ready to use.

Royal Edge Cured Cover Strip with Tape must be stored in a dry area. Keep away from open sources of flame or ignition.

Refer to the RPI Specification Manual or Application Handbook for the specific application detail.

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LEED® Information	
Pre-consumer Recycled Content	4%
Post-consumer Recycled Content	0%
Manufacturing Location	Greenville, IL
Solar Reflectance Index	N/A

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Get the Royal Edge Advantage with RPI

Royal Edge Water Cut-Off Mastic

RPI ROYAL EDGE

DESCRIPTION

RPI Water Cut-Off Mastic is a weather resistant one part butyl based sealant designed to be used as a compression gasket. It is used as a compression sealant with Pipe Boots, Termination Bars, Drain Clamping Rings, and other details required by RPI Specifications. Water Cut-Off Mastic is not designed to be used as an exposed caulk.

THE RPI ROYAL EDGE ADVANTAGE

- Excellent long term performance.
- Creates watertight seal between membrane and porous substrates.
- Applicable for horizontal as well as vertical surfaces.

INSTALLATION

All membranes and substrates must be clean, dry, and free of dirt, dust, and oils. Clean and remove any existing flashing materials (mastics, lead flashings) before installing Water Cut-Off Mastic.

PIPE BOOTS

After all debris has been removed and the pipe is clean and dry, measure the pipe and make a mark 1" above the height of the new pipe boot to be installed.

At the mark, apply a 3/8" bead of Water Cut-Off Mastic around the Pipe. Slide the new boot down over the Water Cut-Off Mastic and install per RPI Specifications. This detail is required for all Royal Edge and Re-Flex EPDM and Re-Flex TPO Pipe Boot installations.

TERMINATION BARS

All surfaces must be clean, dry, and free of dust or debris. After the membrane is installed, determine final placement of the Termination Bar. Peel the membrane from the substrate where the Termination Bar will be installed and apply a continuous 3/8" bead of Water Cut-Off Mastic between the substrate and membrane.

Install the Termination Bar directly over the membrane and the bead of Water Cut-Off Mastic. Remove any excess membrane/mastic extending above the bar and apply a bead of Lap Caulk to the bar and substrate (wall or curb).

DRAIN WITH CLAMPING RING

Before installing a Clamping Ring over the field membrane, apply a double bead of Water Cut-Off Mastic around the clamping ring flange.

Allow the membrane to lay over the flange and mastic and install the clamping ring per manufacturers specifications.
NOTE: Upon completion, the mastic should be detectable (protruding) between the membrane and drain flange.

To ensure complete and proper adhesion in cold weather applications (temperatures of 50°F or lower), keep materials above 60° F before and during installation.
Refer to the RPI Specification Manual or Application Handbook for the specific application detail.

PRECAUTIONS

1. Water Cut-Off Mastic is flammable.
2. Store and use away from all sources of direct heat, ignition, and sparks.
3. Keep away from open flames.
4. Always keep containers closed when not in use.
5. Do not smoke when using.
6. Solvent resistant Neoprene gloves are recommended when applying Water Cut-Off Mastic.
7. Do not allow product to come into contact with skin.
8. Do not breath vapors.
9. Recommended cleaner is rubbing alcohol followed by cleaning with soap and water.
10. Refer to SDS for additional precautionary data.
11. Red caution labels are required when shipping.
12. Intended for professional use only.
13. KEEP OUT OF REACH OF CHILDREN
14. Dispose of waste as a hazardous waste in accordance with local, state and federal regulations.
15. Use only in well ventilated areas.

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Roofing Products International

Get the Royal Edge Advantage with RPI

Royal Edge Water Cut-Off Mastic

RPI ROYAL EDGE

STORAGE

Prolonged job site storage temperatures in excess of 90°F (32°C) will diminish the product's shelf life.

In hot, sunny weather, store rolls on-site in original boxes, in a shaded area, until ready to use.

Royal Edge Water Cut-Off Mastic must be stored in a dry area. Keep away from open sources of flame or ignition.

Refer to the RPI Specification Manual or Application Handbook for the specific application detail.

PACKAGING

10.5 oz. per tube 25 tubes per carton

COVERAGE RATE

Coverage rate is approximately 10 linear ft. per tube when applied in a 1/2" bead.

Typical Properties and Characteristics

Physical Appearance	**Grey Viscous Paste**
Odor	**Aliphatic Solvent Odor**
Base	**Butyl Rubber**
Flash Point	**14°F (-10°C) Closed Cup**
Specific Gravity	**1.31**
Net Weight	**10.5 oz./tube 10.93 lb./gl**
Shelf Life	**one year**
Solvents	**Heptane**

Typical properties and characteristics are based on samples tested and are not guaranteed for all samples of this product. This data and information is intended as a guide and does not reflect the specification range for any particular property of this product.

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Get the Royal Edge Advantage with RPI

Royal Edge Lap Caulk

RPI ROYAL EDGE

DESCRIPTION

Royal Edge Lap Caulk is a one part sealant designed for use with RPI Royal Edge EPDM installations. The self-leveling heavy caulk provides a waterproof, flexible, protective seal when applied to seam edges, pipe boots, termination bars. and other details. Lap Caulk may be applied in cold and hot weather conditions.

THE RPI ROYAL EDGE ADVANTAGE

- May be warmed for easier application during cold weather.
- Excellent resistance to Ultraviolet Radiation and Ozone.
- Applicable for horizontal as well as vertical surfaces.
- Excellent longterm resistance to weathering, water, and staining.
- Excellent expansion and contraction characteristics.

INSTALLATION

1. All membranes and substrates must be clean, dry, and free of dirt, dust, and oils. Clean and remove any existing flashing materials (mastics, lead flashings) before installing Lap Caulk. Use Membrane Cleaner for cleaning existing membranes or membranes with talc.
2. Apply Lap Caulk to clean seam edges using a 1/4 inch high by 1/2 inch wide bead. Allow the caulk to completely encapsulate the seam edge with half the bead on the top seam material and half the bead on the bottom material.
3. Allow the caulk to level out. Do not trowel the caulk.

PIPE BOOTS

After the Pipe Boot is installed and the clamp is in place, apply a bead of Lap Caulk around the top of the boot and pipe. This detail is required for all Royal Edge Pipe Boot installations.

TERMINATION BARS

All surfaces must be clean, dry, and free of dust or debris.
After the Termination Bar is installed, remove any excess membrane extending above the bar and apply a bead of Lap Caulk to the bar and substrate (wall or curb).

T-JOINTS

At T-joints apply a bead of Lap Caulk extending 2 inches from the "T" along all seam edges. Refer to the RPI Specification Manual or Installation Handbook for more detailed applications.
IMPORTANT:
Do not apply Lap Caulk to surfaces where foot traffic may contact the caulk before the appropriate cure time. Allow 24 hours before foot traffic is permitted.

To ensure complete and proper adhesion in cold weather applications (temperatures of 50°F or lower), keep materials stored above 60° F installation. The seam areas and flashing membranes may be warmed with a hot- air gun before applying the caulk.
Refer to the RPI Specification Manual or Application Handbook for the specific application detail.

PRECAUTIONS

1. Lap Caulk is flammable. Store and use away from all sources of direct heat, ignition, and sparks. Keep away from open flames. Always keep containers closed when not in use.
2. Do not smoke when using.
3. Solvent resistant Neoprene gloves are recommended when applying Lap Caulk. Do not allow Lap Caulk to come into contact with skin.
4. Do not breath vapors.
5. Recommended cleaner is rubbing alcohol followed by cleaning with soap and water.
6. Refer to SDS for additional precautionary data. Red caution labels are required when shipping Lap Caulk.
7. Intended for professional use only.
   KEEP OUT OF REACH OF CHILDREN
8. Dispose of waste as a hazardous waste in accordance with local, state, and federal regulations.
9. Use only in well ventilated areas.

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RPI Roofing Products International

Get the Royal Edge Advantage with RPI

Royal Edge Lap Caulk

RPI ROYAL EDGE

STORAGE

Prolonged job site storage temperatures in excess of 90°F (32°C) will diminish the product's shelf life.

In hot, sunny weather, store rolls on-site in original boxes, in a shaded area, until ready to use.

Royal Edge Lap Caulk must be stored in a dry area. Keep away from open sources of flame or ignition.

Refer to the RPI Specification Manual or Application Handbook for the specific application detail.

PACKAGING

10.3 oz. per tube 25 tubes per carton

COVERAGE RATE

Coverage rate is approximately 20 linear ft. per tube when applied in a 1/4" x 1/2" bead.

Typical Properties and Characteristics

Physical Appearance	**Black Paste**
Odor	**Aliphatic Solvent Odor**
Base	**EPDM Rubber**
Flash Point	**52°F (11°C)**
Specific Gravity	**1.34 - 1.46**
Net Weight	**10.3 oz./tube 6.3 lb./gl**
Shelf Life	**one year**

Typical properties and characteristics are based on samples tested and are not guaranteed for all samples of this product. This data and information is intended as a guide and does not reflect the specification range for any particular property of this product.

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RPI Roofing Products International

Get the Royal Edge Advantage with RPI

Royal Edge EPDM Pipe Boot with Tape

ROYAL EDGE EPDM MEMBRANE

DESCRIPTION

RPI Pipe Boots are high quality EPDM Pipe Boots with RPI Seam Tape laminated to the bottom flange. RPI Pipe Boots are designed to be a high performance, time saving alternative to hand flashing pipes and other round protrusions. The Pipe Boots may be cut to the correct diameter prior to installation and are available in two sizes.

THE RPI ROYAL EDGE ADVANTAGE

- Available in two sizes: 1/2" to 3" and 1" to 6" diameters.
- May be warmed for easier application during cold weather applications.
- Clear poly release liner won't tear or wrinkle like brown paper liner.

INSTALLATION

1. All membranes and substrates must be clean, dry, and free of dirt, dust, and oils. Clean and remove any existing flashing materials (mastics, lead flashings) before installing the Pipe Boot.
2. Cut the Pipe Boot above the sizing ring that will slide over the pipe. Check the fit by sliding the Pipe Boot over the pipe.
3. Remove the Pipe Boot and any debris or dust that may have contaminated the field membrane around the pipe.
4. Place the Pipe Boot next to the pipe and mark the pipe where the top of the installed Pipe Boot will end.
5. Apply RPI Royal Edge Seam Tape Primer on the field membrane around the pipe.
   On Royal Edge Clean Sheets, the Seam Tape Primer can be applied using a 3/8" nap roller. On any aged or talc sheet membranes, Seam Tape Primer must be applied using RPI Scrub Pads after the membrane has been thoroughly cleaned with Membrane Cleaner.
   IMPORTANT: Do not over apply the Seam Tape Primer. The finished primed surface should have a smooth flat sheen. Excessive primer will not enhance the adhesion of the tape.
6. Allow the primed area to "flash-off". Check the primer using the finger-push method.
7. After the primer has flashed off, measure approximately 1" above the mark on the pipe and apply a 3/8" thick bead of Water Cut-Off Mastic around the pipe.
8. Install the Pipe Boot by sliding the boot over the pipe until the bottom flange is 1/2" above the primed field membrane. The Pipe Boot position must be flush with the field membrane without wrinkles or torque.
9. Remove the release liner from the Pipe Boot and mate the boot flange to the primed field membrane.Using a 2" steel or hypalon hand roller, roll the entire Pipe Boot flange. Roll any exposed tape edges.
10. Install the stainless steel pipe clamping band and apply a bead of Lap Caulk around the top of the exposed boot above the clamping band.
11. To ensure complete and proper adhesion in cold weather applications (temperatures of 50°F or lower), keep the flashings stored above 60° F installation. The primed area and flashing membrane may be warmed with a hot- air gun while installing the flashings.

    Refer to the RPI Specification Manual or Application Handbook for the specific application detail.

COLD WEATHER APPLICATIONS

Cold weather installation requirements when temperatures fall below 40° F (5° C):

1. Using a hot air gun, heat the primed surface as the Royal Edge Pipe Boot withTape is applied and pressed into place.
2. Prior to rolling the splice area with a 2" Seam Roller, apply heat to the Pipe Boot flange.
   The heated surface should not be hot to the touch.

Due to solvent flash-off, condensation may form on freshly applied primer when the ambient temperature is near the dew point. If condensation develops, the application of primer must be discontinued, as proper adhesion will not be achieved. When weather conditions permit, allow the surface to dry and apply a thin fresh coat of primer to the previously coated surface and apply the Pipe Boot.

PRECAUTIONS

KEEP OUT OF REACH OF CHILDREN.

Prolonged job site storage temperatures in excess of 90° F (32° C) will diminish the product's shelf life.

In hot, sunny weather, store rolls on-site in original boxes, in a shaded area, until ready to use.

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Roofing Products International

Get the Royal Edge Advantage with RPI

Royal Edge EPDM Pipe Boot with Tape

ROYAL EDGE EPDM MEMBRANE

STORAGE

Prolonged job site storage temperatures in excess of 90°F (32°C) will diminish the product's shelf life.

In hot, sunny weather, store rolls on-site in original boxes, in a shaded area, until ready to use.

Royal Edge EPDM Pipe Boots with Tape must be stored in a dry area. Keep away from open sources of flame or ignition.

Refer to the RPI Specification Manual or Application Handbook for the specific application detail.

Storage and use of Royal Edge Pipe Boots with Tape at temperatures below 40°F (4°C) will result in a loss of tape tack and, in extreme cases, will result in no bond to the substrate. Overnight storage must be available to keep the temperature of the Cover Strip at a minimum of 60°F (15°C). Hot boxes for job site storage must be provided to maintain a minimum tape temperature of 60°F (15°C).

Typical Properties and Characteristics

Physical Properties	1/2" to 3"	1" to 6"
Color	Black	Black
Membrane Material	Molded EPDM	Molded EPDM
Size	1/2" to 3" Pipe	1" to 6" Pipe
Packaging	10 per ctn.	10 per ctn.
Weight	7 lbs/carton	11 lbs/carton
Shelf Life	1 year	1 year

Typical properties and characteristics are based on samples tested and are not guaranteed for all samples of this product. This data and information is intended as a guide and does not reflect the specification range for any particular property of this product.

LEED® Information

Pre-consumer Recycled Content	0%
Post-consumer Recycled Content	0%
Manufacturing Location	Greenville, IL
Solar Reflectance Index	N/A

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TRUFAST® TRUSTED CONNECTIONS

PRODUCT INFORMATION

METAL INSULATION PLATES

PRODUCT DESCRIPTION

TRUFAST® Metal Insulation Plates are used to mechanically attach insulation, coverboards and BUR base sheets to the substrate. The plate's circular design and reinforcing ribs provide exceptional strength to resist wind uplift forces. TRUFAST Metal Insulation Plates are made of Galvalume coated steel for excellent corrosion protection that meet the requirements of ASTM D 6294, FM 4470 and DIN 50018.

TRUFAST 3" Metal Insulation Plate has a flat bottom and is used to attach roof coverboards, insulation, and BUR base sheets to the substrate. Use the TRUFAST #12DP, #14HD, #14 Stainless Steel HD, #15EHD, Fluted Concrete Nail or 1/4" Concrete Spike fasteners.

TRUFAST 3" Recessed Metal Insulation Plate has a deep center recess to accommodate hex headed fasteners and prevent screw heads from snagging mops and penetrating into membrane. It is used to attach roof insulation to the substrate and should only be used over compressible insulations. Used with TRUFAST #12DP, #12DPH, #14HD, #14 Stainless Steel HD or #15EHD fasteners.

TRUFAST 3"TL Insulation Plate is used to attach roof insulation, coverboards and BUR base sheets to cementitious wood fiber, gypsum and lightweight concrete substrates. Use with TRUFAST TL Roofing Fastener.

CODE APPROVALS & LISTINGS

FM Global

FM APPROVED

Miami-Dade County

MIAMI-DADE COUNTY APPROVED

* State of Florida-FL#: 4500-R1
* CE Europeon Technical Approval ETA 09/0375 DoPTru 01-2014-01-01

* with the exception of 3"TL Insulation Plate

MATERIAL SPECIFICATIONS

Manufacturing Location: Cleveland, OH USA
LEED® Eligible Recycled Content: 49%

PRODUCT SELECTION

3" Metal Insulation Plate
Thickness: 0.017"
Diameter: 3"
Hole Diameter: 0.260"
Coating: AZ-50 Galvalume

3" Recessed Metal Insulation Plate
Thickness: 0.017"
Diameter: 3"
Hole Diameter: 0.260"
Coating: AZ-50 Galvalume

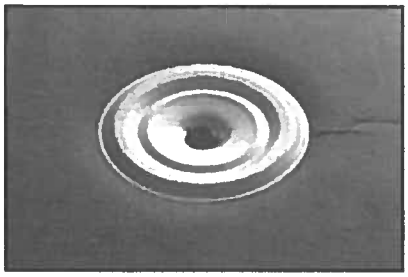
3"TL Insulation Plate
Thickness: 0.017"
Diameter: 3"
Hole Diameter: 0.625"
Coating: AZ-55 Galvalume

Size & Type	Part No.	Pkg. Qty.	Pkg. Wt.	Pallet Qty.
3" Metal Insulation Plate	MP-3000	1000/Bucket	34 lbs.	40,000
3" Recessed Metal Insulation Plate	MPR-3000	1000/Bucket	37 lbs.	40,000
3"TL Insulation Plate	MPTL-3000	500/Carton	17.5 lbs.	36,000

TRUFAST®

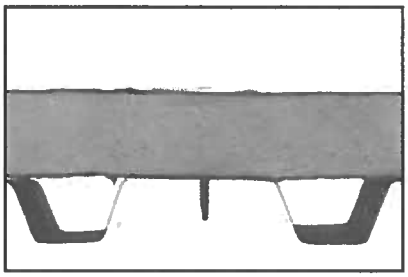
METAL INSULATION PLATES

INSTALLATION GUIDELINES



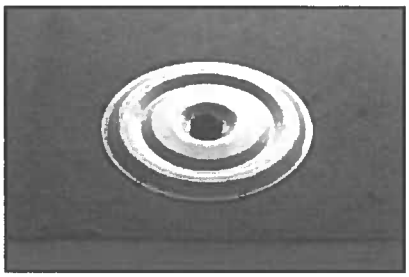
TOP VIEW

Incorrectly installed, overdriven plate/fastener.



SIDE VIEW

Correctly installed plate/fastener. Minimum 3/4" penetration through roof deck.



TOP VIEW

Correctly installed plate/fastener.

DISCLAIMER

The performance specifications published in this TRUFAST® product literature are based on controlled laboratory tests and are intended as a guideline only. They are not guaranteed in any way by the ALTENLOH, BRINCK & CO. U.S., INC. (the manufacturer), since building design, engineering, and construction, including workmanship and materials, are beyond the control of the manufacturer. The manufacturer recommends that pull-out tests be conducted to verify the substrate provides adequate pull-out values.

SINCE 1823

ALTENLOH, BRINCK & CO. U.S., INC.

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Phone: 419-636-6715 or 800-443-9602 • Fax: 419-636-1784
Email: sales@trufast.com • www.trufast.com

TRUFAST® TRUSTED CONNECTIONS

#14 HD Roofing Fasteners

PRODUCT DESCRIPTION

TRUFAST® #14 HD Fastener is engineered to secure insulation, coverboards, base sheets and single-ply roof membrane systems to corrugated steel (16 - 22 ga.), wood, and concrete substrates. Featuring a #2 double flute self-drilling point and exclusive tapered entry thread design, they penetrate steel quickly and offer exceptional back-out resistance.

Enlarged to show detail.

APPROPRIATE ACCESSORIES

Use with TRUFAST® MP-2000, MPB-2000, MPB-2400 Seam Plates; MP-3000 and MPR-3000 Insulation Plates: and BB-18F and BB-18R Batten Bar.

CODE APPROVALS & LISTINGS

FM Global — FM APPROVED

Miami-Dade County — MIAMI-DADE COUNTY APPROVED

State of Florida - FL#: 4500

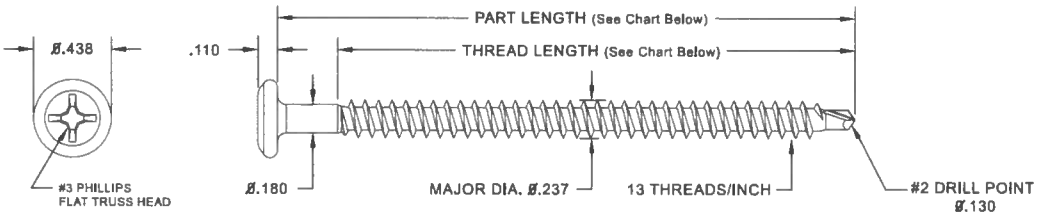
CE European Technical Approval ETA 09/0375

MATERIAL SPECIFICATIONS

Material: SAE C1022, heat treated
Coating: Tru-Kote™ Epoxy E-Coat

Manufacturing Location: Bryan, OH USA
LEED® Eligible Recycled Content: 20%

PRODUCT SPECIFICATIONS



PRODUCT SELECTION

Part No.	Part Length		Thread Length		Pkg. Qty.	Pkg. Wt.	Pallet Qty.
HD-1500	1-1/2"	38.1 mm	1-1/2" (Full)	38.1 mm	1000/Bucket	12.9 lbs.	80,000
HD-2000	2"	50.8 mm	2" (Full)	50.8 mm	1000/Bucket	15.5 lbs.	80,000
HD-2500	2-1/2"	63.5 mm	2-1/2" (Full)	63.5 mm	1000/Bucket	19.4 lbs.	80,000
HD-3000	3"	76.2 mm	2-7/8"	73 mm	1000/Bucket	23.7 lbs.	80,000
HD-3500	3-1/2"	88.9 mm	2-7/8"	73 mm	1000/Bucket	26.4 lbs.	80,000
HD-4000	4"	101.6 mm	3-7/8"	98.4 mm	1000/Bucket	30.9 lbs.	80,000
HD-4500	4-1/2"	114.3 mm	3-7/8"	98.4 mm	1000/Bucket	33.6 lbs.	60,000
HD-5000	5"	127.0 mm	3-7/8"	98.4 mm	1000/Bucket	37.3 lbs.	60,000
HD-5500	5-1/2"	139.7 mm	3-7/8"	98.4 mm	1000/Bucket	40.8 lbs.	60,000
HD-6000	6"	152.4 mm	3-7/8"	98.4 mm	1000/Bucket	44.0 lbs.	60,000
HD-7000	7"	177.8 mm	3-7/8"	98.4 mm	500/Bucket	25.9 lbs.	40,000
HD-8000	8"	203.2 mm	3-7/8"	98.4 mm	500/Bucket	29.7 lbs.	40,000
HD-9000	9"	228.6 mm	3-7/8"	98.4 mm	250/Bucket	16.6 lbs.	15,000
HD-10000	10"	254.0 mm	3-7/8"	98.4 mm	250/Bucket	18.5 lbs.	15,000
HD-11000	11"	279.4 mm	3-7/8"	98.4 mm	250/Bucket	20.1 lbs.	15,000
HD-12000	12"	304.8 mm	3-7/8"	98.4 mm	250/Bucket	22.0 lbs.	15,000

TRUFAST®

#14 HD Roofing Fasteners

PERFORMANCE DATA

Property	Standard	Average Ultimate Value
Tensile Strength:	ASTM F606-10	3200 lbf.
Shear Strength:	NASM 1312-20	2200 lbf. (thread zone)
Corrosion Resistance:	FM 4470, ASTM D6294, DIN 50018	< 15% Red Rust after 30 cycles

Average Ultimate Pullout Values in Corrugated Steel Deck Substrates

Thickness	24 ga.	22 ga.			20 ga.			18 ga.			16 ga.		
Yield Strength	36.5 ksi	33.0 ksi	80.0 ksi	102.0 ksi	33.0 ksi	80.0 ksi	102.0 ksi	33.0 ksi	80.0 ksi	102.0 ksi	33.0 ksi	80.0 ksi	102.0 ksi
Pullout (lbf.)	255	315	480	560	420	615	710	675	885	985	850	1115	1240

Average Ultimate Pullout Values in Wood Substrates

	APA Rated OSB				APA Rated Plywood			
Thickness	7/16"	15/32"	19/32"	23/32"	15/32"	19/32"	23/32"	SPF #2
Pullout (lbf.)	270	290	310	410	360	410	730	795*

* lbf./in. of thread penetration, including tip.

Average Ultimate Pullout Values in 3000 psi. Concrete

Pullout (lbf.)	450*

* lbf./in. of thread penetration, including tip.

INSTALLATION GUIDELINES

For Steel and Wood Decks: Using the #3 Phillips drive bit provided and a 0-2500 rpm screw gun, install the fastener into the deck. The fastener must penetrate the deck a minimum of ¾", as measured from the underside of the deck to the fastener tip. Care should be taken to orient the fastener perpendicular to the deck and not to overdrive the fastener to prevent damage to the insulation or membrane.

For Concrete Decks: Pre-drill a 3/16" diameter hole using a drill bit that meets the requirement of ANSI Standard B212.15. The hole must be a minimum of ½" deeper than the fastener embedment. Using the #3 Phillips drive bit provided and a 0-1500 rpm screw gun, install the fastener to a minimum embedment of 1" until the head of the fastener is properly seated in the plate or bar. Care should be taken to orient the fastener perpendicular to the deck and not to overdrive the fastener to prevent damage to the insulation or membrane.

DISCLAIMER

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TRUFAST® #14 HD Roofing Fasteners are manufactured by the ALTENLOH, BRINCK & CO. U.S., INC, and are sold through leading roofing and building material distributors across the U.S. and Canada.

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ALTENLOH, BRINCK & CO. U.S., INC.

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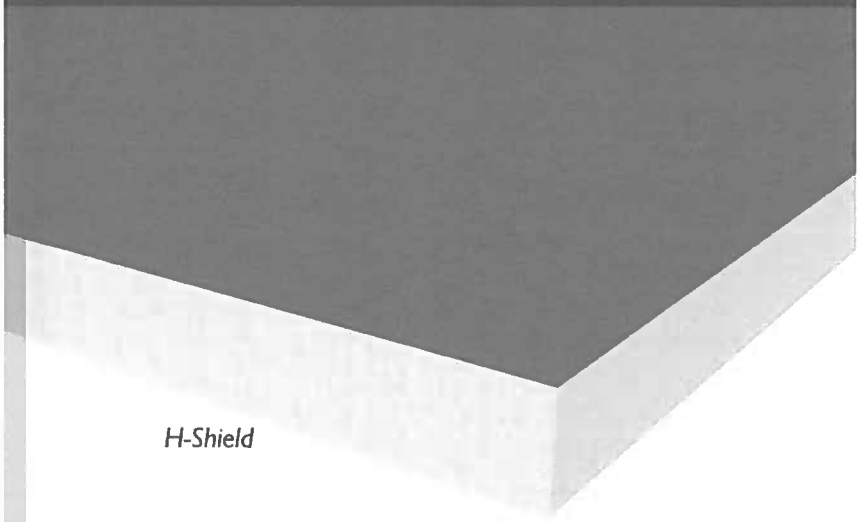
H-SHIELD *Flat Polyisocyanurate Insulation*



H-Shield

H-SHIELD THERMAL VALUES

THICKNESS (INCHES)	(MM)	LTTR R VALUE*	FLUTE SPANABILITY
1.00	25	5.7	2 5/8"
1.50	38	8.6	4 3/8"
1.80	46	10.3	4 3/8"
2.00	51	11.4	4 3/8"
2.50	64	14.4	4 3/8"
2.60	66	15.0	4 3/8"
3.00	76	17.4	4 3/8"
3.50	89	20.5	4 3/8"
3.80	97	22.3	4 3/8"
4.00	102	23.6	4 3/8"
4.30	109	25.5	4 3/8"
4.50	114	26.8	4 3/8"

*Long Term Thermal Resistance Values are based on ASTM C 1289.

PRODUCT DESCRIPTION

H-Shield is a rigid roof insulation panel composed of a closed cell polyisocyanurate foam core manufactured on-line to fiber reinforced facers on each side (GRF).

FEATURES AND BENEFITS

- Manufactured with NexGen Chemistry: Contains no CFCs, HCFCs, is Zero ODP, EPA Compliant, and has virtually no GWP
- Approved for direct application to steel decks
- Approved under all major roof covering systems – BUR, Modified and Single-Ply

PANEL CHARACTERISTICS

- Available in two grades of compressive strengths per ASTM C1289 Type II, Class 1 Grade 2 (20 psi) or Grade 3 (25 psi)
- Available in 4'x4' (1220mm x 1220mm) and 4'x8' (1220mm x 2440mm) panels in thicknesses of 1" (25mm) to 4.5" (114mm)

ROOFING APPLICATIONS

- Constructions requiring FM Class 1 and UL Class A ratings
- Single-Ply Roof Systems (Ballasted, Mechanically Attached, Fully Adhered)
- Standing Seam Metal Roof Systems
- Modified Bitumen Systems
- Built-Up Roofing: Asphalt and Coal Tar

Codes and Compliances

- ASTM C 1289 Type II, Class 1 Grade 2 (20 psi) or Grade 3 (25 psi)
- International Building Code (IBC) Chapter 26
- State of Florida Product Approval Number FL 5968
- Miami Dade County Product Control Approved

Underwriters Laboratories Inc Classifications

- UL 1256
- Insulated Metal Deck Construction Assemblies – No. 120, 123, 292
- UL 790
- UL 263 Hourly Rated P Series Roof Assemblies

UL Classified for use in Canada

- Refer to UL Directory of Products Certified for Canada for more details
- CCMC 13460-L
- UL Certified for Canada, CAN/ULC-S126, CAN/ULC-S101, CAN/ULC- S107
- CAN/ULC-S704 Type 2, Class 3 (20 psi) or Type 3, Class 3 (25 psi)

Factory Mutual Approvals

- FM 4450, FM 4470
- Approved for Class 1 insulated steel deck constructions for 1-60 to 1-270. Refer to FM Approval's RoofNav for details on specific systems

LEED Potential Credits for Polyiso Use

Energy and Atmosphere

- Optimize Energy Performance

Materials & Resources

- Building Life-Cycle Impact Reduction
- Environmental Product Declarations
- Materials Reuse
- Recycled Content
- Construction and Demolition Waste Management

TYPICAL PHYSICAL PROPERTY DATA CHART PER ASTM C 1289 – *POLYISO FOAM CORE ONLY*

PROPERTY	TEST METHOD	VALUE
Compressive Strength	ASTM D 1621	20 psi* (138kPa, Grade 2)
Dimensional Stability	ASTM D 2126	2% linear change (7 days)
Moisture Vapor Transmission	ASTM E 96	< 1 perm (57.5ng/(Pa•s•m²))
Water Absorption	ASTM C 209	< 1% volume
Flame Spread**	ASTM E 84	< 75
Smoke Developed**	ASTM E 84	< 450
Service Temperature	–	-100° to 250° F (-73°C to 122°C)

*Also available in 25 psi, Grade 3

**Meets the requirements of the IBC code. For specific Flame Spread or Smoke Developed Ratings - please contact the Hunter Panels Technical Department.

WARNINGS AND LIMITATIONS

Insulation must be protected from open flame and kept dry at all times. Install only as much insulation as can be covered the same day by completed roof covering material. Hunter Panels will not be responsible for specific building and roof design by others, for deficiencies in construction or workmanship, for dangerous conditions on the job site or for improper storage and handling. Technical specifications shown in this literature are intended to be used as general guidelines only and are subject to change without notice. For more information refer to the Storage and Handling Technical Bulletin at www.hpanels.com, or refer to PIMA Technical Bulletin No. 109: *Storage & Handling Recommendations for Polyiso Roof Insulation* at www.polyiso.org.

INSTALLATION

Single-Ply Systems

Ballasted Single-Ply Systems

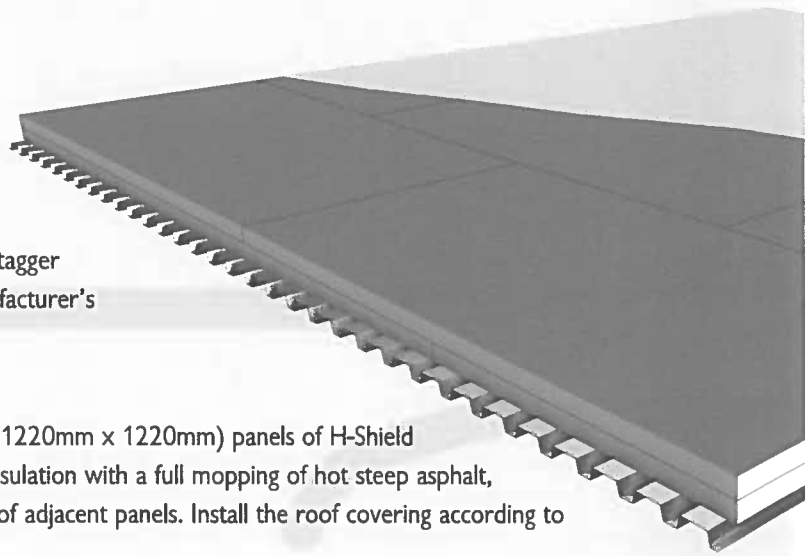
Each H-Shield panel is loosely laid on the roof deck. Butt edges and stagger joints of adjacent panels. Install the roof covering according to the manufacturer's specifications.

Mechanically Attached Single-Ply Systems

Each H-Shield panel must be secured to the roof deck. Butt edges and stagger joints of adjacent panels. Install the roof covering according to the manufacturer's specifications.

Fully Adhered Single-Ply

Each H-Shield panel must be secured to the roof deck. Maximum 4'x4'(1220mm x 1220mm) panels of H-Shield may be adhered to a prepared concrete deck or subsequent layers of insulation with a full mopping of hot steep asphalt, insulation adhesive or cold applied mastic. Butt edges and stagger joints of adjacent panels. Install the roof covering according to the manufacturer's specifications.



R-30.0, two layers of 2.6" H-Shield with Single-Ply membrane

Built Up, Coal Tar And Modified Bitumen Systems (APP, SBS)

Each H-Shield panel must be secured to the roof deck. Maximum 4'x4' (1220mm x 1220mm) panels of H-Shield may be adhered to a prepared concrete deck or subsequent layers of insulation with a full mopping of hot steep asphalt, insulation adhesive or cold applied mastic. Butt edges and stagger joints of adjacent panels. Install the roof covering according to the manufacturer's specifications.

To achieve optimal thermal performance, Hunter Panels recommends installation of a multi-layered system with staggered joints.

HUNTER
Energy Smart Polyiso

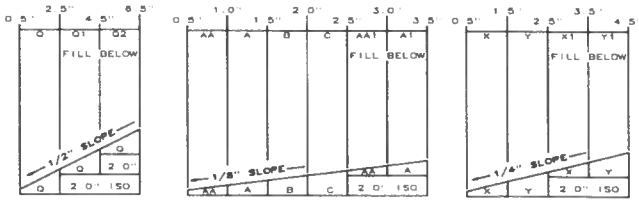
HUNTERPANELS.COM

15 FRANKLIN STREET, PORTLAND, ME 04101 · 888.746.1114 · FAX: 877.775.1769

TAPERED H-SHIELD *Sloped Polyisocyanurate Insulation*

Tapered H-Shield

PROFILES



PRODUCT DESCRIPTION

Tapered H-Shield is a sloped rigid roof insulation panel composed of a closed cell polyisocyanurate foam core manufactured on-line to a fiber reinforced facer on both sides (GRF). Tapered H-Shield is designed to promote positive drainage and prevent ponding water. For best results, request assistance from Hunter Panels Tapered Design Team.

FEATURES AND BENEFITS

- Manufactured with NexGen Chemistry: Contains no CFCs, HCFCs, is Zero ODP, EPA Compliant, and has virtually no GWP
- Approved for direct application to steel decks
- Approved under major roof covering systems – BUR, Modified and Single-Ply

PANEL CHARACTERISTICS

- Available in two grades of compressive strengths per ASTM C 1289 Type II, Class 1 Grade 2 (20 psi) or Grade 3 (25 psi)
- Available slopes are 1/16" (2mm), 1/8" (3mm), 3/16" (5mm), 1/4" (6mm), 3/8" (10mm) and 1/2" (13mm) per foot
- Available in 4'x4' (1220mm x 1220mm) and 4'x8' (1220mm x 2440mm) panels in thicknesses of .5" (13mm) minimum to 4.5" (114mm) maximum in a single layer
- Other panel sizes and facers are available upon special request

ROOFING APPLICATIONS

- Constructions requiring FM Class 1 and UL Class A ratings
- Single-Ply Roof Systems (Ballasted, Mechanically Attached, Fully Adhered)
- Modified Bitumen Systems
- Built-Up Roofing: Asphalt and Coal Tar

Codes and Compliances

- ASTM C 1289 Type II, Class 1 Grade 2 (20 psi) or Grade 3 (25 psi)
- International Building Code (IBC) Chapter 26
- State of Florida Product Approval Number FL 5968
- Miami Dade County Product Control Approved

Underwriters Laboratories Inc Classifications

- UL 1256
- Insulated Metal Deck Construction Assemblies – No. 120, 123, 292
- UL 790
- UL 263 Hourly Rated P Series Roof Assemblies

UL Classified for use in Canada

- Refer to UL Directory of Products Certified for Canada for more details
- CCMC 13460-L
- UL Certified for Canada, CAN/ULC-S126, CAN/ULC-S101, CAN/ULC- S107
- CAN/ULC-S704 Type 2, Class 3 (20 psi) or Type 3, Class 3 (25 psi)

Factory Mutual Approvals

- FM 4450, FM 4470
- Approved for Class 1 insulated steel deck constructions for 1-60 to 1-270. Refer to FM Approval's RoofNav for details on specific systems.

LEED Potential Credits for Polyiso Use

Energy and Atmosphere

- Optimize Energy Performance

Materials & Resources

- Building Life-Cycle Impact Reduction
- Environmental Product Declarations
- Materials Reuse
- Recycled Content
- Construction and Demolition Waste Management

TYPICAL PHYSICAL PROPERTY DATA CHART PER ASTM C 1289 – *POLYISO FOAM CORE ONLY*

PROPERTY	TEST METHOD	VALUE
Compressive Strength	ASTM D 1621	20 psi* (138kPa, Grade 2)
Dimensional Stability	ASTM D 2126	2% linear change (7 days)
Moisture Vapor Transmission	ASTM E 96	< 1 perm (57.5ng/(Pa•s•m²))
Water Absorption	ASTM C 209	< 1% volume
Flame Spread**	ASTM E 84	< 75
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**Meets the requirements of the IBC code. For specific Flame Spread or Smoke Developed Ratings - please contact the Hunter Panels Technical Department

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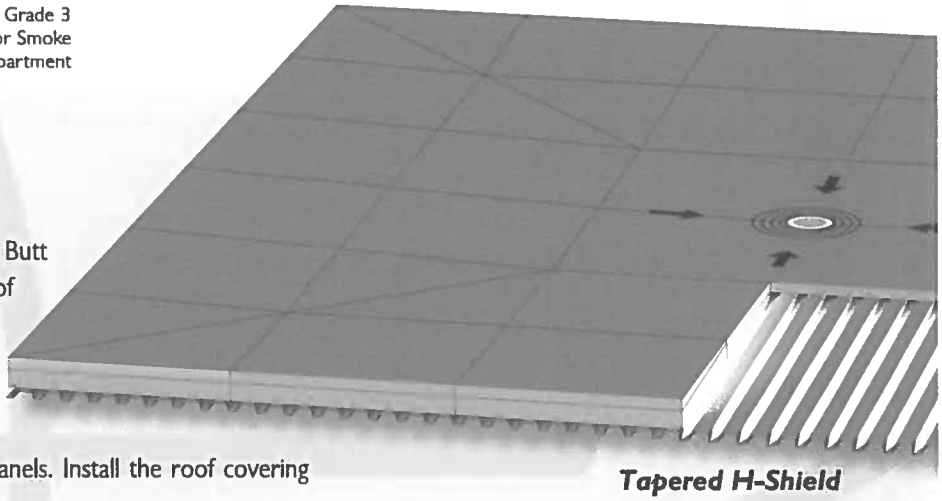

Tapered H-Shield

INSTALLATION

Single-Ply Systems

Ballasted Single-Ply Systems

Each Tapered H-Shield panel is loosely laid on the roof deck. Butt edges and stagger joints of adjacent panels. Install the roof covering according to the manufacturer's specifications.

Mechanically Attached Single-Ply Systems

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PDS ENGINEERING & CONSTRUCTION, INC.
107 OLD WINDSOR ROAD • BLOOMFIELD, CT 06002 • TEL: (860) 242-8586 • FAX: (860) 242-8587

SUBMITTAL

Job:

York Correctional Central Plant and Distribution System
Niantic, CT
State Project No. BI-JA-465

Spec Section No: 07 13 26

Submittal No: 07 13 26-001-0

Revision No: 0

Sent Date: 01/06/2020

Spec Section Title: Self-Adhering Sheet Waterproofing

Submittal Title: Self Adhering Waterproofing PD

Architect/Engineer:
WSP USA, INC.
One Penn Plaza, 2nd Floor
New York, NY 10119

Contractor:
PDS ENGINEERING & CONSTRUCTION, INC.
107 Old Windsor Road
Bloomfield, CT 06002

JCJARCHITECTURE

- [x] **NO EXCEPTIONS**
- [ ] **AMEND AS NOTED**
- [ ] **REJECTED**
- [ ] **REVISE AND RESUBMIT**
- [ ] **INFORMATION ONLY**
- [ ] **SUBMIT REVISED COPY**

This review is only for general conformance with the design concept and the information given in the Construction Documents. Comments made on the submittal during this review do not relieve the Contractor from compliance with the requirements of the Contract Documents and applicable laws, codes and regulations. Review of a specific item shall not include review of an assembly of which the item is a component. Review of such submittals is not for the purpose of determining the accuracy and completeness of other information such as dimensions, quantities, and installation or performance of equipment or systems, which are the Contractor's responsibility.

BY: WAyles **DATE:** 1/7/2020

SPEC:_____ **SUB:**_____ **REV#**_____

Contractor's Stamp

SUBMITTAL / SHOP DRAWING REVIEW

NO EXCEPTIONS TAKEN	■
MAKE CORRECTIONS INDICATED	□
REVISE AND RESUBMIT	□
REJECTED-SEE MARKS	□

Review is only for conformance with the design concept of the Project and compliance with the information given in the Contract Documents. Sub-contractor is responsible for differences to be confirmed and correlated at the job site for information that pertains solely to the fabrication processes or to techniques of construction and for coordination of the work of all trades.

PDS ENGINEERING & CONSTRUCTION

BY: Andreina Valbuena

DATE: 01/06/2020

Connecticut Carpentry Corporation

1850 Silas Deane Highway
2nd Floor
Rocky Hill, CT 06067

Phone: (860)571-8812
Fax: (860)571-8891

TRANSMITTAL

No. 29

PROJECT: Niantic, York Correctional
Bid Package 9A-General Trades & 7A-Roofing

DATE: 12/30/19

TO: PDS Engineering and Constructions, Inc.
107 Old Windsor Road
Bloomfield, CT 06002
Phone:860-242-8586

REF: 071326 Self adhering sheet waterproofing

ATTN: Andreina Valbuena

CONTRACT/PO: BI-JA-465

WE ARE SENDING:	SUBMITTED FOR:	ACTION TAKEN:
☐ Shop Drawings	☑ Approval	☐ Approved as Submitted
☐ Letter	☐ Your Use	☐ Approved as Noted
☐ Prints	☐ As Requested	☐ Resubmit
☐ Change Order	☐ Review and Comment	☐ Submit
☐ Plans	☐ Other:	☐ Returned
☐ Samples	**SENT VIA:**	☐ Returned for Corrections
☑ Specifications	☑ Attached	☐ Due Date:
☐ Other:	☐ Separate Cover Via:	☐ Other:

SUBMITTAL	DRAWING	ITEM NO.	COPIES	DATE	DESCRIPTION
			1		4 pages, product data

REMARKS:

Signed: _____
Lisa Rand

Date: _____

VM60™ SHEET WATERPROOFING MEMBRANE

HYDROTECH®

Tech Data

1. Product Name

VM60™ Sheet Waterproofing Membrane

2. Product Description

Basic Use

The VM60 membrane is a tough, flexible, self-adhering sheet waterproofing membrane that is typically applied to vertical below-grade substrates such as foundation and tunnel walls of concrete and/or concrete block. Applications to wood and metal surfaces are also acceptable.

4 foot wide sheet widths allow fast and easy installation to relatively flat and even substrates. Narrow pre-cut widths are also available for detailing corners and penetrations, or strips can be field cut from full rolls.

A ½ inch wide selvage edge of rubberized asphalt membrane assures membrane-to-membrane seal at all inside lap edges.

VM60 is formulated to be used in ambient temperatures greater than 25 degrees F (-4°C).

Accessories

VM and VM WB Precoat Adhesives are used to prime acceptable substrates prior to the application of the VM60 membrane.

VM Liquid Membrane is used to detail at all inside corners and penetrations to provide a smooth transition for the sheet membrane.

VM Masticseal is used to seal all sheet termination edges (i.e., top and bottom of foundation walls), cut edges and sheet "T"-joints.

Limitations

- VM60 is not recommended to be used as pond and/or tank liners and is not to be left exposed for extended periods of time.

- Contact with coal tar or coal tar pitch products or products containing polysulfide polymers should be avoided.

- VM WB Precoat Adhesive is water based and must not be allowed to freeze.

- VM60 is recommended for below-grade, vertical waterproofing applications only. For all other waterproofing (and roofing) applications, Hydrotech recommends Monolithic Membrane 6125®.

Composition and Materials

VM60 sheet membrane combines a membrane (56 mils thick), composed of a specially formulated blend of refined asphalts and rubber polymer compounds, with a high density, crosslaminated, white, polyethylene film (4 mils thick).The membrane extends ½ inch beyond the film along both long sides of each roll.

VM60 membrane is rolled with a disposable,poly film release sheet to prevent blocking in the rolls.

VM Precoat Adhesives are fast drying, high tack, rubber based adhesives in solution. WB is to be used where V.O.C. regulations exist.

VM Liquid Membrane is a two component, elastomeric, extended rubber urethane membrane.

VM Masticseal is a rubberized asphalt mastic.

TABLE 1

Property	Test Method	Results
Color		White/Black
Thickness		60 mils
Tensile Strength (membrane)	ASTM D 412 (mod. Die C)	325 psi
Tensile Strength (film)	ASTM D 882	6500 psi
Elongation (ult. fail of membrane)	ASTM D 412	600%
Permeance	ASTM E 96 (Method B)	0.03 perms
Cycling Over Crack (-15°F)	ASTM C 836	No Effect
Peel Adhesion (from substrate)	ASTM D 1000	10.0 lb/in width
Overlap Bond (memb. to memb.)	ASTM D 1000	8.0 lb/in width
Pliability (180 deg. bend @ -25°F)	ASTM D 146	No Effect
Puncture Resistance (membrane)	ASTM E 154	50 lb
Hydrostatic Head Resistance	ASTM D 5385	231 head foot of water
Shelf Life	Membrane Liquid Membrane Accessories	2 years 1 year 1 year
Water Absorption	ASTM D 570	0.1 %
Chemical Resistance	Excellent resistance to acids, alkalies, salts and fungi in soil	
Pot Life of Liquid Membrane (after mixing)	60 min @ 70°F	

Container/Weight/Coverage
The standard roll size for VM60™ Sheet Membrane is 48" x 50' (1.22m x 15.2m) and each roll weighs 80 pounds. Smaller pre-cut rolls 12", 16" & 24" x 50' (0.3, 0.4 & 0.6m x 15.2m) are available for detailing corners. Each standard roll covers approximately 180 square feet (16.7m^2) when the side and end laps are included.

The Precoat Adhesives are packaged in 5 gallon pails (18.9 l), weighing 37 pounds (16.8 kg)/pail. The Precoat Adhesives are to be brushed or rolled to a properly prepared substrate at a rate of 250-350 square feet/gallon (6-8.4 m^2/l).

The Liquid Membrane is packaged in 2 gallon pails that contain 1.9 gallons (7.2 l) of Part A with a 1 pint can (0.5 l) of Part B. Each pail weighs 18 pounds (8.2 kg). When used as fillets at inside corners, the membrane is spread at a rate of 65-75 lineal feet/gallon (5.2-6 m/l).

When a 90 mil (2.3 mm) thick application is to be applied, the coverage is 17 square feet/gallon (.41m^2/l).

The Masticseal is packaged in 5 gallon pails (18.9 l) or 12-30 ounce tubes (0.89 l) weighing 48 pounds (21.8 kg)/pail and 27 pounds (12.2 kg)/carton. The pails will cover approximately 100 feet/gallon (8 m/l) with a 1 inch (2.5 cm) wide bead and each tube will cover 65 feet (20m) with a ½ inch (1.27 cm) wide bead.

3. Technical Data
Typical physical properties of VM60™ Sheet Waterproofing Membrane are shown in Table 1.

4. Installation

Material Storage
Membrane and Accessories should be unloaded and stored on site carefully. Cartons and containers must be protected from sparks, flames, excessive heat and cold and stored in a well ventilated area. DO NOT stack membrane cartons higher than 5 feet (1.5m) and DO NOT double-stack pallets. All cartons should be stored on pallets and covered to protect against water damage.

Application Temperatures
VM60 Sheet Waterproofing Membrane and all accessories are to be applied at ambient temperatures above 25°F (-4°C). The VM60 membrane should not be applied at temperatures above 105°F (40°C).

Surface Preparation
All concrete surfaces must be smooth, clean, dry, free of voids, protrusions, loose material, laitance, dust, oil, grease and unapproved curing compounds or form release agents. Hydrotech recommends a concrete cure/dry time of 7 days minimum prior to the application of the membrane. In addition, the membrane should not be installed until at least one full day after the forms are stripped from a concrete foundation wall.

Retrofit/rehab applications require the total removal of the existing waterproofing down to clean, bare concrete.

Joints in concrete block substrates should be struck flush with the block surface, not raked.

Any exposed metal surfaces shall be free of paint, oil, rust or any other contaminant.

Wood substrates should be composed of pressure treated or marine grade materials. Creosote treated wood is not acceptable.

Detailing
Most detailing will be accomplished using VM Liquid Membrane and VM60 Sheet Waterproofing Membrane pre-cut or field-cut sheet detail strips. The application of the Liquid Membrane is necessary to provide smoother transitions for the sheet membranes and should be done prior to the application of the Precoat Adhesives. *No area to receive the Liquid Membrane should be primed with the Precoat Adhesive.*

Fillets of VM Liquid Membrane should be applied to all inside corners (vertical and horizontal) to provide a minimum ¾ inch (19mm) face at 45 degrees. The Liquid Membrane, Parts A and B, should be thoroughly mixed with a paddle attached to a minimum ½ inch drill for 3-5 minutes. Mix only enough Liquid Membrane that will be used within 60 minutes.

The fillets can be formed using small mason trowels or even wood tongue depressors. The Liquid Membrane should be allowed to cure for a minimum of 45 minutes prior to covering with the sheet membrane. A 12 inch (30.5cm) wide VM60 membrane detail strip should be installed to all inside corners, over the Liquid Membrane fillet, centered into the corner.

In lieu of the 12 inch detail strip, the Liquid Membrane can be applied 6 inches in both directions from the corner fillet at a thickness of 90 mils (2.3 mm).

All outside corners are to be covered with a 12 inch (30.5 cm) VM60 membrane detail strip centered over the corner.

All cracks greater than 1/16 inch (1.6 mm) and cold joints should be sealed with Liquid Membrane and a 12 inch wide sheet membrane detail strip centered over the crack/joint.

Expansion joints (<2 inches) must be filled/sealed with a proprietary joint filler, water stop or sealant flush with the substrates surface. An 8 inch wide strip of sheet membrane should be laid over the joint, centered and inverted (turned upside down). This is to be followed by a 12 inch wide detail strip of sheet membrane also centered over the joint.

Liquid Membrane fillets are to be installed at the base of all penetrations (i.e., pipes, vents).

Liquid Membrane can also be used to correct slight deficiencies in the concrete surface (i.e. bug holes, rough concrete).

Priming
The VM Precoat Adhesives should be stirred before use. The Precoat Adhesive should be applied to all surfaces to receive the VM60 sheet membranes at a rate of 250-350 square feet/gallon (6-8.4 m^2/l) with a brush or short nap roller. Apply only as much Precoat Adhesive as will be covered with membrane in the same day. Surfaces primed that are left overnight should be re-primed prior to sheet installation. Allow the Precoat Adhesive to dry prior to the application of the sheet membrane (typically about 20-30 minutes). The Precoat Adhesives will retain an aggressively tacky surface.

Sheet Installation
VM60 Sheet Waterproofing membrane is typically installed in the full 48 inches width of the rolls but may be cut to narrower widths. All side laps must be a minimum of 2½ inches (6.4 cm) and should be staggered one sheet to the next. *NOTE: "Side" lap seams occur along the 50 foot length of a roll; "End" lap seams occur along the 4 foot width of a roll.*

Vertical wall installations require that a careful effort be made to assure complete adhesion of the sheet membrane to the primed surfaces. At a minimum, the installation is a two-man job.

The sheet membrane may be installed with the roll positioned vertically or horizontally across a wall's surface. When installed vertically, it is recommended for ease of installation that the sheet membrane be installed in 8 foot (2.4 m) high sections. While horizontal applications technically can be installed using the entire length of the roll, it is also recommended that 8-10 foot lengths be cut from the roll to ease installation.

In either case, the first sections of membrane should be installed from the base of the wall such that the laps from one sheet to the next, continuing up the wall, shingle downward. Further, *ALL LAP SEAMS ARE TO BE HAND ROLLED USING A STANDARD SEAM ROLLER.*

Vertically Positioned: Start by marking the wall, measuring from the wall's base, with a level line at the height of the first lift of membrane (recommended 8 feet). Cut a length of sheet membrane from the full roll equal to the first lift height plus the distance across the top of the footing down the face. Hold the sheet up, allowing the balance to hang, and begin peeling the release sheet off the back along the horizontal top edge. Peel back approximately 6 inches of the release sheet and set the membrane against the wall, lining the top edge with the level line established on the wall. Use heavy hand pressure to secure the sheet to the wall and smooth out the sheet surface. Once the top edge is adhered to the wall, continue peeling the release sheet down from the backside of the membrane securing and smoothing the membrane to the wall as you work down the wall surface. The membrane should be installed minimizing wrinkles and folds. At the base corner of the wall, extra care should be taken to fully set the membrane tightly into the corner and over the Liquid Membrane fillet. Gaps and "bridging" behind the membrane are to be avoided.

Position and secure adjacent sheets across the wall's surface, as above, being sure to provide a minimum 2 ½ inch side lap over the previous sheet edge. *NOTE: Be sure to cut every other sheet length 4 - 6 inches shorter or longer than the starting sheet length to assure that all end laps wind up being staggered.* For subsequent lifts of membrane, establish a level line up the wall as before, this time being sure to allow for a 6 inch wide shingled end lap over the sheet edge below.

Horizontally Positioned: Start by marking the wall, measuring from the wall's base, with a level line at the height of the first lift of membrane (equal to the width of the roll - 4 feet). Cut a manageable length of sheet membrane from the full roll and re-roll the cut length. Stand the rolled sheet up and begin peeling the release sheet off the back along the vertical side edge. Peel back approximately 6 inches and set the sheet against the wall using heavy hand pressure to secure the sheet to the wall and smooth out the sheet surface. Once this side edge is adhered to the wall, continue peeling the release sheet from the backside of the membrane, unrolling the sheet as you go, securing and smoothing the membrane to the wall as you work across the wall surface. Be sure to keep the horizontal sheet edge lined up with the level line established.

NOTE: Installing the membrane in this manner (horizontally) requires the installation of 2 membrane detail strips in the corner where the wall and footing meet.

Position and secure adjacent sheets across the wall's surface, as above, being sure to provide a minimum 6 inch end lap over the previous sheet edge.

For subsequent lifts of membrane, establish a level line up the wall as before, this time being sure to allow for a 2 ½ inch wide shingled side lap over the sheet edge below. In addition, be sure that the 6 inch end laps are staggered between subsequent lifts.

Mastic Application
A ½ - 1 inch bead of VM Masticseal should be applied at all membrane sheet edges that required cutting (i.e., at flashings, etc.), all horizontal sheet termination edges (i.e., top and bottom of a wall/footing) and along all seam edges (horizontal and vertical) that occur at the junction of the wall and footing extending 12 inches in both directions.

Masticseal should be applied to all terminations at the end of each day's work.

Protection
VM60 should be protected and backfill placed immediately. Extruded polystyrene insulation, ¼ inch minimum fanfold, 1 inch minimum expanded polystyrene boards are recommended for vertical installations. Drainage products (i.e., Hydrodrain® 1000, 420 or ThermaFlo™) with integral protection sheets can also be used to provide protection as well as drainage. A construction adhesive compatible with both the protection and the sheet membrane should be used to SPOT ADHERE — not fully adhere— the protection course.

Precautions
The VM60 Sheet Waterproofing Membrane can be adversely affected by ultra-violet light. The waterproofing sheets must be protected from exposure to the sun as soon as possible.

The VM Precoat Adhesive is an industrial coating and would be harmful or fatal if swallowed. It is marked as a red label product due to its flash point.

Adequate ventilation is essential. When using in confined spaces (i.e., bottom of a foundation) mechanical ventilation is strongly recommended.

Do not use near open flame. Avoid breathing solvent vapors and prolonged contact with skin. Do not take internally. If swallowed, do not induce vomiting. Contact a physician immediately. Keep out of reach of children. Keep containers covered when not in use. Do not thin. Dispose of in accordance with local and state and federal requirements. User must read container labels and Material Safety Data Sheets for health and safety precautions prior to use.

5. Availability and Cost
VM60 is readily available through Hydrotech representatives worldwide.

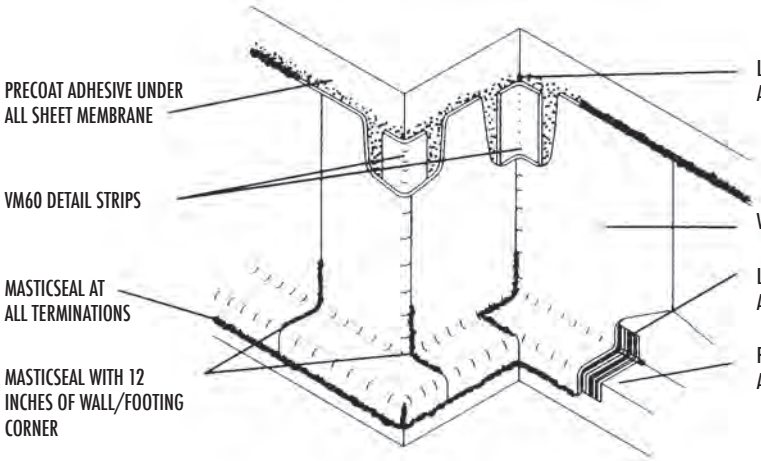
Contact Hydrotech or a representative for pricing information.

6. Guarantees
Contact Hydrotech for specific warranty information.

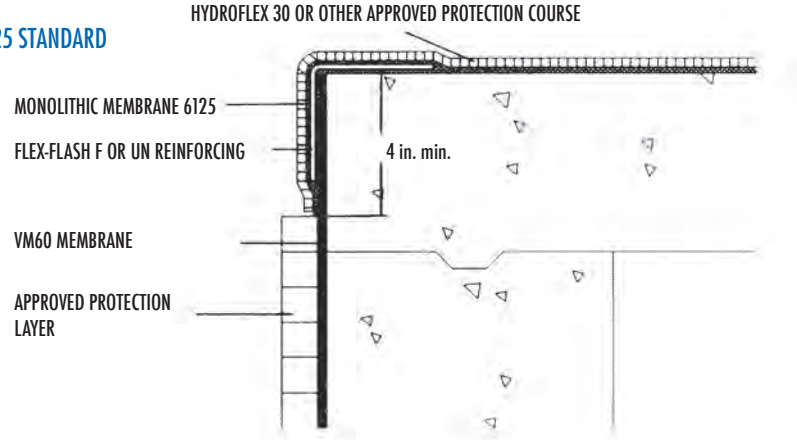
7. Maintenance
None required.

8. Technical Services
Technical support is provided by a trained network of sales representatives and Hydrotech's Technical Services Department.

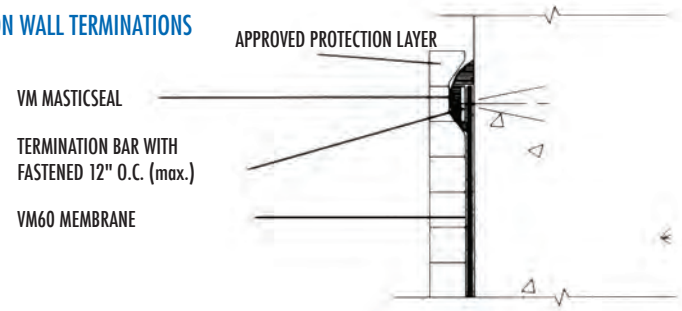
ISOMETRIC

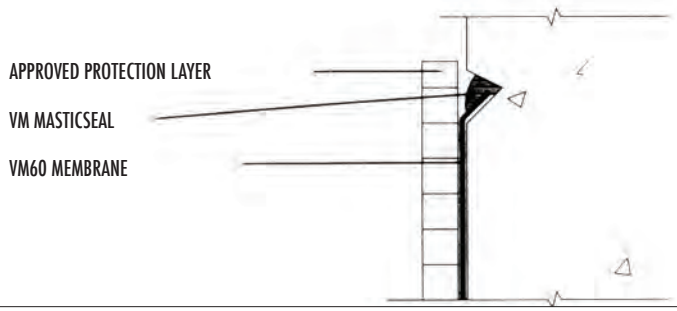


TIE-IN WITH MM6125 STANDARD



TOP OF FOUNDATION WALL TERMINATIONS





HYDROTECH®

American Hydrotech, Inc.
303 East Ohio Street, Chicago, Illinois 60611
800.877.6125; 312.337.4998
312.661.0731 (fax)
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