Site Visit Report - Final Inspection

JM Tracking Nbr:	7324154
Guarantee Nbr:	Not yet issued
Primary Roof Type:	SBS
Squares:	55
Job Name:	Chesapeake Bay Bridge Tunnel
Inspection Date:	Wednesday, January 4, 2017
Inspected By:	Thomas Wettstein
Inspection Status:	Approved

Property

Chesapeake Bay Bridge Tunnel
32386 Lankford Highway
Cape Charles,, VA 23310

Contractor

WESTAR ROOFING CORP
2516 SQUADRON COURT
VIRGINIA BEACH, VA 23453

(757) 403-3789

Johns Manville (JM) conducted a final inspection on the above referenced property during a site visit on Wednesday, January 4, 2017.

Work to be done by Contractor:

None

Owner maintenance items noted:

None

Photos taken during the inspection are attached.

For questions related to this communication, please contact:

Thomas Wettstein
Technical Representative, RRO
Johns Manville Roofing Systems
Mobile: +1 8043104469
Email: thomas.wettstein@jm.com

* * * Inspection Photographs * * *

JM Tracking Nbr: 7324154
Guarantee Nbr: Not yet issued
Inspection Date: Wednesday, January 4, 2017
Inspected By: Thomas Wettstein

Contractor: WESTAR ROOFING CORP
Property: Chesapeake Bay Bridge Tunnel
32386 Lankford Highway
Cape Charles,, VA 23310

Group: 1.1
Category: Building View

Group: 1.2
Category: Address Verification

Group: 1.3
Category: Overview

Group: 1.4
Category: Overview

Johns Manville

JM Tracking Nbr: 7324154
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Inspected By: Thomas Wettstein

* * * Inspection Photographs * * *

Contractor: WESTAR ROOFING CORP

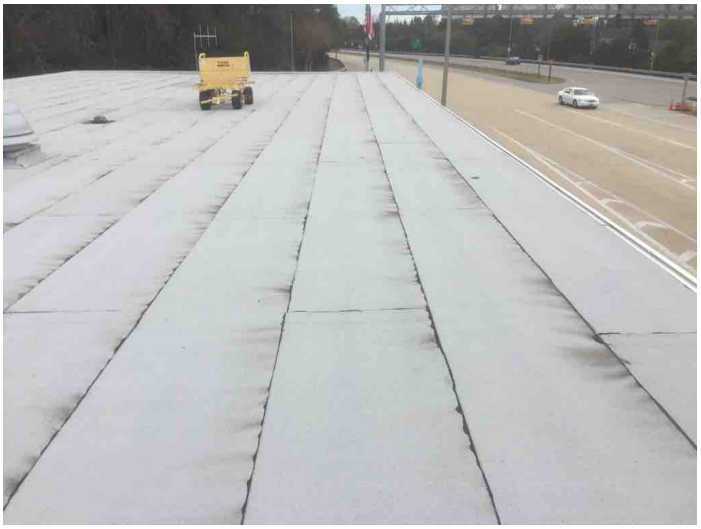
Property: Chesapeake Bay Bridge Tunnel
32386 Lankford Highway
Cape Charles,, VA 23310

Group: 1.5
Category: Typical Detail

Comments: Drain

Group: 2.1
Category: Overview

Group: 2.2
Category: Overview



Group: 2.3
Category: Overview

Johns Manville

JM Tracking Nbr: 7324154
Guarantee Nbr: Not yet issued
Inspection Date: Wednesday, January 4, 2017
Inspected By: Thomas Wettstein

* * * Inspection Photographs * * *

Contractor: WESTAR ROOFING CORP

Property: Chesapeake Bay Bridge Tunnel
32386 Lankford Highway
Cape Charles,, VA 23310

Group: 2.4
Category: Typical Detail
Comments: Curb flashing

Group: 2.5
Category: Typical Detail
Comments: PermaFlash application

Group: 2.6
Category: Typical Detail
Comments: Curb flashing

Group: 2.7
Category: Typical Detail
Comments: PermaFlash application and curb flashing

Johns Manville

JM Tracking Nbr: 7324154
Guarantee Nbr: Not yet issued
Inspection Date: Wednesday, January 4, 2017
Inspected By: Thomas Wettstein

* * * Inspection Photographs * * *

Contractor: WESTAR ROOFING CORP

Property: Chesapeake Bay Bridge Tunnel
32386 Lankford Highway
Cape Charles,, VA 23310

Group: 2.8
Category: Typical Detail

Comments: Curb flashing

Group: 2.9
Category: Typical Detail

Comments: PermaFlash application

CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT
REROOF AND REPAIR SOUTH PLAZA BUILDING

TECHNICAL SPECIFICATIONS

SECTION 200 – ROOF REPLACEMENT - GENERAL

200.01 Description

This is a modified BUR (Built-Up-Roof) project generally consisting of the replacement of the existing South Toll Plaza Building built up roof system using a heat welded 3-ply SBS (Styrene-Butadiene-Styrene) modified system set in SEBS (Styrene-Ethylenebutylene-Styrene) modified roofing asphalt in accordance with the following specifications. This will include approximately 5,350 square feet of roof area, 312 linear feet of gravel stop detail, 3 roof drains, 50 linear feet of curb flashing, 2 through roof vents, 1 fan hoods and the replacement of 312 linear feet of aluminum fascia cover. The entire roof system shall withstand 120 mph wind load.

The project will generally include the following work:

1. Complete removal of existing built up roof system down to existing metal deck. This includes flashing, gravel stop, pitch pockets, wood blocking and fascia cover.

2. Disposal of all existing roofing materials to an approved dumping site.

3. Construction of new roof system in accordance with these and all referenced specifications.

4. Replacement of corroded C-Channel and I-Beam roof framing steel members, as shown on attached Drawing 1 and 2 North Plaza.

5. Removal and replacement of all soffit blocking.

6. Surface preparation and coating of all new and existing roof framing steel members.

7. Coating and installation of new 4’x4’ soffit panels using existing trim.

200.02 Submittals

1. Substitutions

    a. The Contractor may suggest substitutions for certain materials, listed below, after the bid has been awarded. This should not be perceived as an allowance to bid on a different system than what is described in the document.

Substitutions shall be based on at least one of the following subjects:

i. Alternative materials to improve quality, schedule or pricing.
ii. Exceptions to the specifications covering materials, manner of application, or other details.

b. Submit a written description of proposed changes or modifications to the District for review at least four (4) weeks prior to ordering the product.

c. The information shall include catalog data sheets as a minimum and shop drawings, samples and other supportive information as necessary for the District to evaluate the proposed materials.

d. Unless more stringent requirements are specified hereinafter for a certain material or system, provide documentation of at least three (3) referenced projects where the proposed substitution has been successfully used and in service a minimum of ten (10) years. The proposed substitution must have been used in a similar application. Documentation must include a description of the projects and the specific use of the proposed substitution, location of the projects and the names, addresses and phone numbers of the project owner contact representatives.

e. The District will review alternative material recommendations and will be the sole judge in determining whether the proposed material, accessory, or item meets the stated criteria for service and conditions imposed.

f. It is the Contractor's responsibility to notify and receive written approval from the District for substitutions deviating from contract documents.

g. The Contractor shall not proceed with proposed changes or modifications until authorized to do so by the District in writing. The cost of the work performed on proposed changes or modifications without the District's written approval will be at the Contractor's expense, as well as any cost for correcting such unauthorized work.

2. Before any material is delivered to the job site, the Contractor shall submit to the District a complete list of all materials proposed to be furnished and installed on this project listing manufacturer's name, catalog number, cut sheets, and other relevant data. Any proposed substitutions must be clearly stated in writing when the list of proposed materials is submitted, with any proposed substitutions must further comply with the requirements of Section 200.02 of these Technical Specifications.

3. The Contractor shall submit all required work drawings, and all other specified documents for approval to the District.

4. The Contractor shall submit product data to include manufacturer's illustrative data, technical data, installation instructions, material specifications, testing lab material certifications, and other documents as may be necessary to verify that the materials supplied for use on this project conform to project requirements and are installed in accordance with manufacturer's recommendations.

200.03 Safety

1. The Contractor shall provide and utilize necessary safety procedures in accordance with applicable industry standards and codes (including, but not limited to NEC, NESC, OSHA and VOSH). This shall include installation of all applicable warning signs, safety devices, etc. that are applicable to the job being performed.

2. The Contractor shall immediately notify the District Representative of any damage done to the existing utilities (including but not limited to electrical wiring, fiber optic cables, or electrical equipment) during any portion of the work. If utility service is interrupted, repair work shall be continuous until service is restored. The Contractor shall be responsible, at his expense, for any utility damage that is attributable to his neglect or methods of performing the work.

3. The Contractor shall be responsible for work area safety, the safety of his employees, all subcontractors and the general safety of all others who may come into contact with the Contractor's work.

200.04 Quality Assurance

1. The District shall have the right at all reasonable times to inspect and test the work and shall for this purpose, have access to the work whenever it is in preparation or in progress. The Contractor shall provide necessary labor and proper facilities for such access, inspection and testing, and shall provide requested information concerning any materials entering into the work.

2. The Contractor shall protect all existing pavement, buildings, landscaping, equipment and materials against damage due to his work. This includes, but is not limited to, such items as abrasions to roadways and parking lots, concrete slabs, wall, roofs, piping, equipment and electrical equipment. Any damage inflicted by the Contractor will be reported immediately to the District and repaired at his expense.

3. Prior to formal acceptance by the District, any items rejected because of installation negligence, i.e., non-compliance with construction documents, and applicable codes and permits shall be corrected at no additional expense to the District.

200.05 Delivery, Storage and Handling

1. The Contractor shall receive, unload, store, and provide necessary weather protection for all materials, equipment, and tools to be furnished and installed. These items shall be stored in an area designated by the District.

2. Handling of materials shall be performed in accordance with the manufacturer's recommendations and in a manner which will not damage or reduce the serviceability of the material.

3. The Contractor shall provide all hoisting, platforms, scaffolding and/or shoring, required for the complete installation of all systems included as part of this project.

200.06 Project/Site Condition

The Contractor shall verify that temperature and other environmental conditions meet the manufacturer's specifications and are appropriate for material to be installed.

200.07 Installation

1. Work shall be performed by skilled craftsmen regularly engaged in the appropriate trade.

2. Materials and equipment furnished shall conform to the standards specified and shall be new and free from defects. No materials and equipment, whether furnished by the Contractor or others, shall be installed or used if the items are physically damaged or functionally defective.

200.08 Method of Payment

Work under Section 200 shall be incidental to the overall project and included in the lump sum pricing described in Section 201.08.

SECTION 201 – ROOF REPLACEMENT – WORK AND MATERIALS

201.01 Work Description

The project will generally include the following work:

1. Complete removal of existing built up roof system down to existing metal deck. This includes flashing, gravel stop, pitch pockets, wood blocking and fascia cover.

2. Disposal of all existing roofing materials to an approved dumping site.

3. Construction of new roof system in accordance with these and all referenced specifications.

4. Replacement of corroded C-Channel and I-Beam roof framing steel members, as shown on attached Drawing 1 and 2 North Plaza.

5. Removal and replacement of all soffit blocking.

6. Surface preparation and coating of all new and existing roof framing steel members.

7. Coating and installation of new 4'x4' soffit panels using existing trim.

201.02 Contractor Qualifications

1. Roofing Contractor must be a "Peak Advantage" approved Johns Manville Roofing Contractor. Contractor must be SBS and BUR approved with Johns Manville or approved equal.

2. Any welded connections required for the C-Channel and I-Beam roof framing steel member replacement shall be performed by a certified welder. Welder qualification certification shall be in accordance with the requirements of Section 407.04(a) 4 of the VDOT 2007 Road and Bridge Specifications.

3. Shop drawings of repairs involving a moment connection capable of developing the full capacity of a cantilevered member will require the stamp of a P.E. licensed to work in the Commonwealth of VA.

201.03 Facilities & Services Provided by the District

The District will provide a designated area to the Contractor for material and equipment storage in the general area of the building to be re-roofed. The materials and equipment stored by the Contractor will not at any time restrict the flow of traffic to, through or from these areas. Any area disturbed shall be restored to a condition equal to or better than the original condition.

This Contract involves work on and around a building that must be accessed by the general public. Provisions for safe ingress/egress of the building by the general public and employees shall be provided and maintained by the Contractor at all times.

201.04 Roofing Materials

1. Manufacturers: Subject to compliance with requirements, provide roofing system products by Johns Manville (3CID design standard) or an approved equal.

2. The roof shall be a 3 ply SBS modified roof system consisting of 2 plies of SBS modified base sheet meeting ASTM D 6162 Type I Grade S equal to DynaPly T1, and 1-ply of SBS cap sheet, meeting ASTM D 6162 Type I Grade G set in SEBS modified asphalt equal to DynaKap FR T1. Modified asphalt shall meet ASTM D-412 with a 1000 elongation at 77 degrees F minimum.

3. Provide a loose layer of 1.5" Iso (Poly Isocyanurate) roof insulation board with a 0.25" per foot sloped tapered Iso board system and a ½" Securock Gypsum Fiber coverboard on metal deck. Mechanically attach the 4' x 8' Securock at a rate of 18 UltraFast fasteners in the field of the roof, 28 fasteners at the perimeters and 32 fasteners at the corner of the roofs. Utilize the standard ASCE7 calculations to determine the perimeter and corner dimensions.

4. All roof drains are to have a 4 foot square perimeter sump where possible, utilizing tapered Iso panels and flashed in accordance with manufacturers requirements. Increase cricketed areas by 50% where possible, and add a cricket between the drains in the valley. Contractor to add additional crickets as required, insuring positive water flow to existing roof drains. No water ponding on roof will be permitted. Contractor shall submit shop drawings/plan for roof drainage to the District for review.

5. Coping systems/fascia are to be .040 aluminum pre-manufactured systems meeting ANSI / SPRI ES-1 ratings and equal to the PrestoTite system. These systems are to be included in the roofing system guarantee and covered under the 120 miles per hour wind rider. All miters are to be measured and made specifically by the manufacturer to fit each corner.

6. All counter flashing is to be .040 aluminum Kynar finished.

7. All base flashing material is to be a two-ply system using a SBS ASTM 6163 Type I Grade S torched base sheet and an ASTM 6163 Type I Grade G torched cap sheet.

8. Roof pipe penetrations are to be flashed using the Perma-Flash system and covered under the systems guarantee.

9. All blocking and nailers are to be pressure treated wood sized and installed per roofing material manufacturer's specifications and ANSI/SPRI ES-1 ratings.

10. All roofing system components are to be furnished by a single manufacturer.

201.05 Roofing Construction Methods

1. Removal of existing roofing shall be performed in such a way as to cause no damage to the existing deck. All debris shall be disposed of in an approved manner. The Contractor in conjunction with the District representative will determine where and if, existing deteriorated metal roof decking and wood blocking must be repaired or replaced prior to placement of the new system. Square foot quantities of metal decking and board foot of the wood blocking will be as agreed upon by the District Engineer. This will not be part of the Lump sum pricing. If any metal roof decking or wood blocking is required and agreed upon by the District, it will be paid for under additional items on the itemized bid sheet, per square foot, board foot or linear foot.

2. The bottom insulation board and the top insulation board are to be mechanically attached to the existing metal roof deck at a rate specified by the roofing material manufacturer for field, corners and perimeters in order to obtain their required 120 MPH wind rider. Press each unit of insulation tightly against adjoining units, but do not deform units. Stagger all joints along short dimension of each unit. Insulation is to be laid perpendicular to the flute direction of the roof deck. Do not lay insulation any faster than can be immediately covered with roofing. Do not leave any uncovered edges or surfaces of insulation at the end of the work day. Where shown or required, provide cant strips of insulation of required size and shape. The contractor shall be responsible to supply an insulation protection board that is compatible with hot asphalt built up roof systems and produce a minimum thermal value of R-16.

3. The modified system shall be installed in strict accordance with the manufacturer's instructions for a fully guaranteed roof system. Printed instructions shall be submitted to the District for approval prior to roofing application. Application temperature shall be in accordance with roofing manufacturer's requirements. Cap sheet shall be installed and granules shall be added to the side lap to cover any bleed outs.

4. Materials and surfaces shall be dry and clean when work is performed. Maintain all materials at manufacturer's recommended temperature range. Protection shall be placed on completed sections of roof for walkways as required.

5. Metal flashing for vents, pipes, ducts, etc., shall be built through the roof. Extend roofing into flashing ring of all roof drains as required. All walls, curbs, and penetrations shall be flashed per the roofing material manufacturer's specifications and in accordance with the National Roofing Contractors Association "Handbook of Accepted Roofing Knowledge."

6. All existing roof drains shall be inspected for deterioration and where needed, as agreed upon by the District Representative, be replaced with like size, type and material. This will not be part of the lump sum price. If any roof drains are to be

replaced it will be paid for under additional items on the itemized bid sheet, on an each basis.

7. The applicable provisions of the National Roofing Contractors Association's "Handbook of Accepted Roofing Knowledge" will be adhered to, unless changes are approved by the District.

201.06 Steel Member Replacement and Coating/ Soffit Work -South Toll Plaza

1. The areas of steel member replacement, consisting of C Channel and I Beam, are generally located on the South East and South West corners of the South Toll Plaza Building and are highlighted in red on attached Drawing 1 and 2, are to be replaced with new steel. Size of new members shall be in accordance with the size shown on attached Drawing 1 and 2 and shall be typical black steel, ASTM A36.

2. All existing soffit blocking on the underside of the steel members shall be removed. After steel members are replaced, surface prepped and coated, the blocking shall be replaced with new MCA treated blocking everywhere existing blocking was removed. Blocking shall be mechanically attached. The method and type of attachment shall be submitted to the District for approval, however all fasteners shall be 304 Stainless Steel. The Contractor shall provide adequate bracing and/or shoring to maintain current roof elevations, preventing sagging members. All aluminum trim shall be saved and labeled for reinstallation during new soffit panel installation.

3. The steel members being replaced are bolted with clips and/or welded. Replacement pieces shall be attached in like manner unless otherwise noted, and shall be submitted to the District for approval. All welding must be performed by a certified welder, with the welded areas cleaned and prepared for coating.

4. Some of the members being replaced, as designated on attached Drawing 1 and 2, will require a field splice capable of developing the full moment capacity of the existing member. For all connections requiring a moment connection, shop drawings shall be submitted to the District for approval. These drawings shall demonstrate a moment connection that is capable of developing the full capacity of a cantilevered member. All such drawings shall be stamped by a Professional Engineer, licensed to do work in the Commonwealth of Virginia.

5. All new and existing steel members shall be power washed and have surface preparation performed by the Contractor prior to coating, following the coating manufacturers recommendations. However, the Contractor shall, at a minimum, use a SP2 or SP3 surface preparation standard after power washing.

6. All new and existing steel members shall be coated with the following products, or approved equal.

    a. Primer shall be Sherwin Williams, Pro-Cryl Universal Primer or approved equal. Primer color shall be different than the color of the top coat.

    b. Top Coat shall be Sherwin Williams, Epolon II Multi-Mil Epoxy or approved equal.

    Sidewalks, asphalt, buildings, windows, the traveling public, and any other facility property, personnel or customers, shall be kept free from paint spray, drift, spatter, drips etc. Clean up and/or removal of any such paint shall be at the sole expense of the Contractor.

7. The Contractor shall supply and install new 4'x4' HardieSoffit, non-vented, smooth panels, or approved equal.. Soffit panels shall be installed per the manufacturer's recommendations. Aluminum trim shall be reused for new panel installation. The Contractor shall be responsible for any additional blocking required for fastening the soffit in accordance with the manufacturer's recommendations for spacing. If the manufacturer provides a choice for fasteners, the Contractor shall always use screws over nails. The contractor shall be responsible for supplying and installing all fasteners. Fasteners for the 4'x4' panels shall be 316 Stainless Steel. HardieSoffit comes pre-primed. All new 4'x4' panels shall be coated with following product, or approved equal.

    a. The Contractor shall apply two coats of Sherwin Williams A-100 Exterior Flat A-6 Series, or approved equal. Surface Preparation and coating shall be per the Manufacturer's recommendation. Paint Color shall be approved by the District.

While performing the work described in items 1 thru 7 above, a protective work barrier shall be used to protect cars, toll booth operators, District personnel and pedestrians in the toll lanes from debris, welding flash, paint spray, and generally being distracted while driving through a constricted area. This barrier shall be submitted to the District for approval and shall extend, at a minimum, from the roof line to the sidewalk. This item will be considered incidental to the lump sum pay items called out in section 201.08. At a minimum this will include the length of the steel repair areas plus ten feet on either end. During the processes of Power washing through painting, a barrier shall encompass the entire front work area, which is the east side of the plaza building.

201.07 Warranty

Contractor shall provide a Manufacturer's guarantee without monetary limitation, in which the Manufacturer agrees to repair or replace components of any or all components of the roofing system that fail in materials or workmanship within the specified warranty period. Warranty includes any or all components including but not limited to roofing, base flashing, roof insulation, fasteners, cover boards, asphalt, roofing accessories, other components of the hot applied 3 ply modified roofing system and their installation for a period of 20 years, with No Dollar Limit. Guarantee must have 120 mph wind rider coverage at Peak Gusts.

201.08 Method of Payment

1. Mobilization shall be measured and paid for on a lump sum basis and shall be in accordance with Section 513 of the VDOT 2007 Road and Bridge Specifications.

2. All roof system material replacement work and warranty described in this project shall be measured and paid for on a lump sum basis. Compensation for incidental items not specifically called for herein or on project plans, but necessary for the successful completion of the project in accordance with applicable codes, standards and project requirements, shall be included in the lump sum price.

3. Removal of all existing soffit blocking and installation of all new MCA treated blocking, with any required fasteners, as described in this project, shall be measured and paid for on a lump sum basis. Compensation for incidental items not specifically called for herein or on project plans, but necessary for the successful completion of the project in accordance with applicable codes, standards and project requirements, shall be included in the lump sum price.

4. All steel members being replaced, consisting of C Channel and I Beams, represented on attached Drawing 1 and 2 and described in this project, including any required drawings and/or calculations, shall be measured and paid for on a lump sum basis. Compensation for incidental items not specifically called for herein or on project plans, but necessary for the successful completion of the project in accordance with applicable codes, standards and project requirements, shall be included in the lump sum price.

5. Power washing, surface preparation and coating of all new and existing steel members, as described in this project, shall be measured and paid for on a lump sum basis. Compensation for incidental items not specifically called for herein or on project plans, but necessary for the successful completion of the project in accordance with applicable codes, standards and project requirements, shall be included in the lump sum price.

6. Installation of new soffit panels using existing aluminum trim pieces, including any additional blocking, fitting, fasteners and coatings, as described in this project, shall be measured and paid for on a lump sum basis. Compensation for incidental items not specifically called for herein or on project plans, but necessary for the successful

completion of the project in accordance with applicable codes, standards and project requirements, shall be included in the lump sum price.

	Pay Item	PayUnit
1.	**Mobilization (per VDOT 2007 R&B Sect. 513)**	**LS**
2.	**Roof Replacement – South Toll Plaza Building**	**LS**
3.	**Soffit Wood Blocking Replacement**	**LS**
4.	**Steel Member Replacement**	**LS**
5.	**Surface Preparation and Coating of Steel Members**	**LS**
6.	**Installation of New Soffit Panels**	**LS**

Additional Items with quantities, if any, to be determined upon removal of existing membrane and built up roof.

7.	**Repair/Replace Metal Roof Deck**	**SQFT**
8.	**Roof Drain Replacement**	**EA**
9.	**Roof Blocking**	**BDFT**

PROJECT SUBMISSION TRANSMITTAL

DATE: 07/28/16

TRANSMITTAL NO. 1

CONTRACTOR
Westar Roofing Corporation
2516 Squadron Court
Virginia Beach, VA 23453

PROJECT
Chesapeake Bay Bridge and Tunnel District
Reroof and Repair South Plaza Bldg.

WESTAR ROOFING CORPORATION
Westar Roofing Corporation
2516 Squadron Court
Virginia Beach, VA 23453

1 LIST ONLY ONE SPECIFICATION SECTION PER FORM.
2 LIST ONLY ONE OF THE FOLLOWING CATEGORIES PER FORM AND INDICATE WHICH IS BEING SUBMITTED:

- [x] FOR REVIEW
- [ ] RESUBMISSION FOR REVIEW
- [ ] SUBSTITUTION FOR REVIEW

REVIEWER'S ACTION CODES
1 NO EXCEPTIONS TAKEN
2 MAKE CORRECTIONS NOTED
3 AMEND AND RESUBMIT
4 REJECTED
5 RECEIPT ACKNOWLEDGED

SUBMITTALS ARE RETURNED WITH ACTION INDICATED. REVIEW DOES NOT AUTHORIZE CHANGES TO CONTRACT REQUIREMENTS WITHOUT WRITTEN AUTHORIZATION BY THE ARCHITECT.

CONTRACTOR USE ONLY				REVIEWER USE		DISTRIBUTION			
ITEM NO.	SPEC SEC. PARA. # AND/OR DWG. NO.	ITEM DESCRIPTION	COPIES SUBMITTED	ACTION CODE	REVIEWER'S INITIALS / DATE	CONSULTANT	FILE	CONTRACTOR	OWNER
		Assembly Letter	e						
		Installers Certification	e						
		Product Data	e						
		Tapered Shop Drawings	e						

CONTRACTOR'S COMMENTS:

SUBCONTRACTOR

CONTRACTOR {SIGNATURE}

DATE:7/28/16

TRANSMITTAL TO: _____ Date Sent: _____

☐ Consultant ☐ Arch PM Please Review and Return No Later Than: _____

REVIEWER COMMENTS:

DATE	CONSULTANT SIGNATURE
DATE	ARCHITECT SIGNATURE

ASSEMBLY LETTER
Roofing Systems

Johns Manville

717 17th St. Denver, CO 80202 (800) 922-5922

July 26, 2016

Westar Roofing Corp
2516 Squadron Court
Virginia Beach, VA 23453

Johns Manville
Debbie Walczyk, EIT
District Technical Specialist
Roofing Systems Group
10100 W Ute Ave
Littleton, CO 80127
800-922-5922 Option 3
Debbie.Walczyk@jm.com

RE: 3PID-HW - Chesapeake Bay Bridge Tunnel

To Whom It May Concern:

The above named contractor is currently a Johns Manville Approved Roofing Contractor in good standing, certified as a Summit Level Contractor. As such, the contractor is eligible to receive Peak Advantage Guarantees for Johns Manville SBS Heat Welded roofing systems. These guarantees will be issued to the contractor in accordance with all procedures and requirements of the Johns Manville Peak Advantage Guarantee Program.

Building Information
ASCE 7 calculations were performed using information supplied to Johns Manville that has not been verified.

ASCE 7 (2005) Calculation:

Velocity Pressure is determined as follows:

(1) $q_z = 0.00256\ K_h\ K_{zt}\ K_d\ V^2\ I$

Building Height, ft	**25**
Exposure Category	**D**
Importance Factor, I	**1.00**
Wind Speed, V (mph)	**120**

Enclosed/Partially Enclosed (E/P)	**E**
Directionality Factor, K_d	1.00
Topographic Factor, K_{zt}	1.0
Velocity Pressure Exposure, $K_{h(xx')}$	1.12

$q_{z=}$ 41.29

Design Pressure is determined as follows:

(2) $P = q_z\ (GC_p - GC_{pi})$

	GC_p	GC_{pi}
Field	-1	.18
Perimeter	-1.8	.18
Corner	-2.8	.18

Solving for P yields:

	Calculated Pressures	FM Equivalent
Field Pressure (psf)	**-48.72**	**105**
Perimeter Pressure (psf)	**-81.75**	**165**
Corner Pressure (psf)	**-123.04**	**255**

Roofing Assembly as proposed to Johns Manville

Deck Type:	Steel, min 22 ga	
Insulation:	ENRGY 3 Tapered ENRGY 3	Loose laid
Cover Board:	JM Securock Gypsum Fiber Board, 1/2"	Field Fastening: 18 fasteners and plates per board; Perimeter Fastening: 28 fasteners and plates per board; Corner Fastening: 32 fasteners and plates per board (4'x8' boards) using UltraFast Fasteners and flat-bottom Plates
Ply Sheet:	DynaFast 180 HW , 2 plies	Heat fused using torch application techniques
Cap Sheet:	DynaWeld Cap 250 FR	Heat fused using torch application techniques
Flashings:	DynaFast 180 HW and DynaWeld Cap 250 FR	Heat fused using torch application techniques
Penetrations:	PermaFlash Flashing System	
Edge Metal:	Presto-Tite Fascia System (Bituminous Systems)	

Perimeter and Corner Dimensions

Perimeter and corner dimensions for buildings less than 60 ft. in height:

Equal to the smaller of:

- 0.1 times the building lesser plan dimension (overall length or width)
- 0.4 times the eave height

but will never measure less than 0.04 times the building lesser plan dimension and never less than 3 ft.

Perimeter and corner dimensions for buildings greater than 60 ft. in height:

Equal to 0.1 times the building lesser plan dimension (overall length or width), but never less than 3 ft.
Corners are "L" shaped with legs twice the width of the perimeter.

Buildings with continuous parapets 36" or greater may treat corners as perimeters.

Ensure any whole or partial insulation board that falls within the calculated perimeter or corner has the increased securement applied over the entire board. This must also be true for any roof cover/base sheet width when the roll is parallel to the building edge.

All Johns Manville materials installed as listed above are compatible and made in the USA. The system(s) shall be eligible for a 20 year No Dollar Limit (NDL) Johns Manville Peak Advantage Roofing System Guarantee when installed by a certified Johns Manville contractor and inspected and approved by a Johns Manville Technical Representative. All materials supplied or marketed by Johns Manville will be covered under the terms and conditions of this agreement. This guarantee includes wind speeds up to 120 mph (3-second gust). Please use SDR # DWAL07262016S when applying for the guarantee online.

Thank you for your interest in our roofing products and services. Please contact Johns Manville if any information is incomplete or incorrect so that appropriate modifications can be made. If you have any questions, please do not hesitate to contact our technical department at 1-800-922-5922 Option 3.

Regards,

Deb Walczyk

Debbie Walczyk, EIT
District Technical Specialist
Johns Manville Roofing Systems

Johns Manville

July 5, 2016

WESTAR ROOFING CORP
2516 SQUADRON COURT
VIRGINIA BEACH, VA 23453

Phone: 1-757-368-4199
Fax: 1-757-368-4190

To Whom It May Concern:

Please be advised that a Johns Manville Approved Roofing Contractor Agreement (the "Agreement") presently exists between Johns Manville Roofing Systems Group and the above named contractor located at the above address. The Agreement stipulates that Johns Manville will issue Peak Advantage Guarantees for Johns Manville systems listed below.

System	Term
APP; BUR; SBS Asphalt Applied; SBS Heat Welded; SBS Cold Applied; EPDM; PVC; TPO	all
none	

These guarantees will be issued to the above-named contractor in accordance with all procedures and requirements of the Johns Manville Peak Advantage Guarantee Program. This Agreement is subject to cancellation by either Johns Manville Roofing Systems Group or the above named contractor upon thirty (30) days written notice to the other party of the Agreement.

Sincerely,

Guarantee Services

For questions related to this communication, please contact:

Guarantee Services
Johns Manville Roofing Systems
10100 W. Ute Avenue | Mailstop R-15 | Littleton, CO 80127
GSU@jm.com | 800.922.5922 | Fax: 877.403.1747

DYNAFAST® 180 HW

Polyester-Reinforced SBS Base or Ply Sheet

Meets the requirements of ASTM D 6164, Type I, Grade S

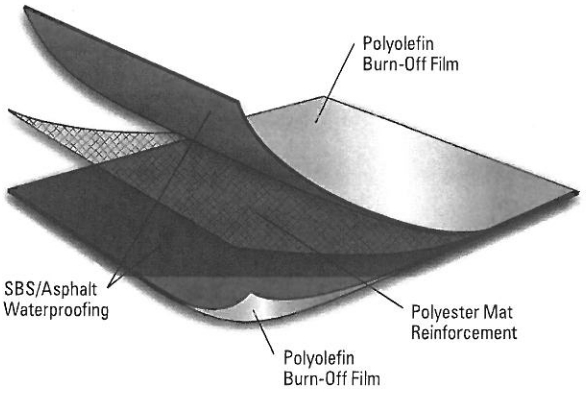
Features and Components

DynaFast 180 HW is a heat weldable base or ply sheet for use in mechanically fastened systems.

High-Quality SBS Rubber and Asphalt Blend: Lends elasticity and flexibility to the sheet. The elongation and recovery properties allow the product to easily accommodate the continual expansion and contraction experienced on all roofs.

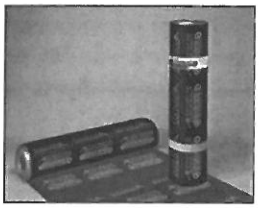
Polyester-Reinforced Mat: Polyester mat with bidirectional glass-scrim reinforcement offers robust tear strength and puncture resistance, allowing for high wind performance and an excellent hail rating. The sheet also exhibits strong dimensional stability and enhanced elongation.

Polyolefin Burn-Off Film: Promotes ease of heat welding.



Component
M
Membrane
Multi-Ply

Type
BS
Base Sheet
PS
Ply Sheet



System Compatibility

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

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

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

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

Energy and the Environment

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

Peak Advantage® Guarantee Information

Systems	Guarantee Term
When used in most 2-5 ply JM SBS systems.*	Up to 30 years

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

Codes and Approvals

- FBC Approved

Installation/Application


Heat Weld


Mechanically Fastened

- Must be installed using heat-welding techniques
- Side laps must be heat or hot-air welded
- Refer to JM SBS modified bitumen specifications and detail drawings for application information
- When used as a base sheet, mechanically fasten only

Packaging and Dimensions

Approximate Roll Coverage*	148 ft² (14 m²)
Roll Length	49' 2" (15 m)
Roll Width	39 ⅜" (1 m)
Roll Weight	100 lb (45.4 kg)
Rolls per Pallet	20
Pallet Weight	2,150 lb (975.2 kg)
Pallets per Truck**	22

*Roll net coverage rates are determined by the estimator or designee.
**Assumes 48' flatbed truck.

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

Johns Manville

DYNAFAST® 180 HW

Polyester-Reinforced SBS Base or Ply Sheet

Meets the requirements of ASTM D 6164, Type I, Grade S

Tested Physical Properties

	Physical Properties		ASTM Test Method	Standard for ASTM D 6164, Type I, Grade S (Min.)	DynaFast 180 HW	
					MD*	XMD**
Strength	Tensile Tear		D 5147	55 lbf (245 N)	203 lbf (903 N)	138 lbf (614 N)
	Peak Load at 0°F (-18°C)		D 5147	70 lbf/in (12.3 kN/m)	118 lbf/in (20.7 kN/m)	81 lbf/in (14.2 kN/m)
	Peak Load at 73.4°F (23°C)		D 5147	50 lbf/in (8.8 kN/m)	90 lbf/in (15.8 kN/m)	60 lbf/in (10.5 kN/m)
Longevity	Low Temp. Flexibility	Unconditioned	D 5147	0°F (-18°C)	-20°F (-29°C)	
		90-Day Heat Conditioned	D 5147	0°F (-18°C)	-20°F (-29°C)	
	Compound Stability		D 5147	215°F (102°C)	250°F (121°C)	
	Thickness		D 5147	85 mil. (2.2 mm)	98 mil (2.5 mm)	
	Elongation at Peak Load at 0°F (-18°C)		D 5147	20%	49%	45%
	Elongation at Peak Load at 73.4°F (23°C)		D 5147	35%	66%	69%
	Ultimate Elongation at 73.4°F (23°C)		D 5147	38%	86%	90%
Aged Performance	90-Day Heat-Conditioned Peak Load at 0°F (-18°C)		D 5147	70 lbf/in (12.3 kN/m)	105 lbf/in (18.4 kN/m)	84 lbf/in (14.7 kN/m)
	90-Day Heat-Conditioned Elongation at Peak Load at 0°F (-18°C)		D 5147	20%	40%	45%
	90-Day Heat-Conditioned Peak Load at 73.4°F (23°C)		D 5147	50 lbf/in (8.8 kN/m)	104 lbf/in (18.2 kN/m)	64 lbf/in (11.2 kN/m)
	90-Day Heat-Conditioned Elongation at Peak Load at 73.4°F (23°C)		D 5147	35%	52%	56%
	90-Day Heat-Conditioned Ultimate Elongation at 73.4°F (23°C)		D 5147	38%	53%	59%
Installation	Dimensional Stability		D 5147	1.0%	-0.2%	0.7%
	Net Mass per Unit Area		D 146	54 lb/100 ft² (24 kg/9.29 m²)	64 lb/100 ft² (29 kg/9.29 m²)	
	Roll Weight		D 146	N/A	100 lb (45.4 kg)	

*MD = Machine Direction
**XMD = Cross-Machine Direction

Note: All data represents tested values.

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

Roofing Membranes, Cover Boards, Insulations and Accessories

SECTION 0. GENERAL INFORMATION

This item meets the definition of article in the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Trade name	:	Roofing Membranes, Cover Boards, Insulations and Accessories

Manufacturer or supplier's details

Company	:	Johns Manville
Address	:	P.O. Box 5108 Denver, CO USA 80127
Telephone	:	303-978-2000 8:00AM-5:00PM M-F
Emergency telephone number	:	1-800-424-9300 (Chemtrec, in English)
Prepared by	:	productsafety@jm.com

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Not a hazardous substance or mixture.

GHS Label element

Not a hazardous substance or mixture.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature

This item meets the definition of article in the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Hazardous components

Non-hazardous according to 29 CFR 1910.1200, when used as intended.

SECTION 4. FIRST AID MEASURES

General advice	:	Do not leave the victim unattended.
If inhaled	:	If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.
In case of eye contact	:	Remove contact lenses.

Protect unharmed eye.
If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

SECTION 5. FIREFIGHTING MEASURES

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Further information : Standard procedure for chemical fires.

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Avoid dust formation.

Methods and materials for containment and cleaning up : Pick up and arrange disposal without creating dust.
Sweep up and shovel.
Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling : For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.

Conditions for safe storage : Keep in a dry, cool place.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Not applicable

Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required.

Hand protection
Remarks : For prolonged or repeated contact use protective gloves.

Eye protection : Safety glasses

Skin and body protection : If used and stored as directed, no special protective

equipment is necessary.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.
Written instructions for handling must be available at the work place.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : solid

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No decomposition if stored and applied as directed.

Chemical stability : No decomposition if stored and applied as directed.

Possibility of hazardous reactions : Stable under recommended storage conditions.
No hazards to be specially mentioned.

Conditions to avoid : No data available

SECTION 11. TOXICOLOGICAL INFORMATION

Further information

No data available

SECTION 12. ECOLOGICAL INFORMATION

Further information

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.
Packaging that can not be reused after cleaning must be disposed or recycled in accordance with all federal, national and local regulations.

SECTION 14. TRANSPORT INFORMATION

International transport regulations

These products are not classified as dangerous goods according to international transport regulations.

SECTION 15. REGULATORY INFORMATION

California Prop 65 : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16. OTHER INFORMATION

Further information

Prepared by productsafety@jm.com

The information provided in this Safe Use Instruction is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

DYNAWELD™ CAP 250 FR

Fire-Retardant, Polyester-Reinforced, SBS Mineral-Surfaced Cap or Flashing Sheet

Meets the requirements of ASTM D 6164, Type II, Grade G

Features and Components

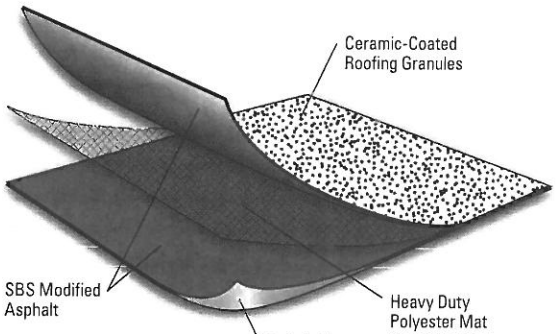
DynaWeld Cap 250 FR is used as a premium polyester-reinforced cap or flashing sheet in a variety of multi-ply roofing systems.

Ceramic-Coated Roofing Granules: Specifically engineered for optimal embedment in the SBS-blend sheet. The ceramic coating promotes excellent long-term adhesion. Granules are available in White, Black and Tan (Black and Tan may require extended lead times).

High-Quality SBS Rubber and Asphalt Blend: Lends elasticity and flexibility to the sheet. The elongation and recovery properties allow the product to easily accommodate the continual expansion and contraction experienced on all roofs. The FR blend contains additional fire-retardant additives.

Heavy Duty Polyester-Reinforcement Mat: Provides excellent tensile strength, toughness and puncture resistance, and it can accommodate stresses created by typical rooftop expansion and contraction forces.

Polyolefin Burn-Off Film: Promotes ease of heat welding.



Component: **M** Membrane — Multi-Ply

Type: **CS** Cap Sheet; **FL** Flashing

Colors: White, Black and Tan
(Black and Tan may require extended lead times).

System Compatibility

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

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

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

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

Energy and the Environment

Test	Initial	3-Year Aged
Reflectivity* (ASTM C 1549)	0.26	0.27
Emissivity* (ASTM C 1371)	0.87	0.84
Solar Reflectance Index* (SRI) - E 1980	25	25
Pre-Consumer Recycled Content	0%	
Post-Consumer Recycled Content	0%	

*Standard White Granule only

Peak Advantage® Guarantee Information

Systems	Guarantee Term
When used in most 2-5 ply JM SBS systems.*	Up to 30 years

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

Codes and Approvals

CLASSIFIED UL US

FM APPROVED

MIAMI-DADE COUNTY APPROVED
Miami-Dade County Product Control Approved

Product Application

Heat Weld

- Must be installed using heat-welding techniques
- Refer to JM SBS modified bitumen specifications and detail drawings for application and slope information

Packaging and Dimensions

Roll Coverage*	95.8 ft² (8.9 m²)
Roll Length	32' 10" (10 m)
Roll Width	39 3/8" (1 m)
Roll Weight	115 lb (52.2 kg)
Rolls per Pallet	20
Pallet Weight	2,430 lb (1,102 kg)
Pallets per Truck**	20

*Assumes a 4" side lap **Assumes 48' flatbed truck.

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

Johns Manville

DYNAWELD™ CAP 250 FR

Fire-Retardant, Polyester-Reinforced, SBS Mineral-Surfaced Cap or Flashing Sheet

Meets the requirements of ASTM D 6164, Type II, Grade G

Tested Physical Properties

Physical Properties			ASTM Test Method	Standard for ASTM D 6164, Type II, Grade G (Min.)	DynaWeld Cap 250 FR	
					MD*	XMD**
Strength	Tensile Tear		D 5147	70 lbf (311 N)	181 lbf (805 N)	124 lbf (552 N)
	Peak Load at 0°F (-18°C)		D 5147	100 lbf/in (17.5 kN/m)	184 lbf/in (32.2 kN/m)	122 lbf/in (21.4 kN/m)
	Peak Load at 77°F (23°C)		D 5147	70 lbf/in (12 kN/m)	106 lbf/in (18.6 kN/m)	84 lbf/in (14.7 kN/m)
Longevity	Low Temp. Flexibility	Unconditioned	D 5147	0°F (-18°C)	-10°F (-23°C)	
		90-Day Heat Conditioned	D 5147	0°F (-18°C)	-10°F (-23°C)	
	Compound Stability		D 5147	215°F (102°C)	250°F (121°C)	
	Granule Loss		D 4977	2 g (0.07 oz)	0.7 g (0.02 oz)	
	Thickness		D 5147	130 mil (3.3 mm)	165 mil (4.2 mm)	
	Selvage Edge Thickness		D 5147	N/A	134 mil (3.4 mm)	
	Elongation at Peak Load at 0°F (-18°C)		D 5147	20%	46%	54%
	Elongation at Peak Load at 73.4°F (23°C)		D 5147	50%	58%	71%
	Ultimate Elongation at 77°F		D 5147	60%	61%	76%
Aged Performance	90-Day Heat-Conditioned Peak Load at 0°F (-18°C)		D 5147	100 lbf/in (17.5 kN/m)	178 lbf/in (31.2 kN/m)	119 lbf/in (20.8 kN/m)
	90-Day Heat-Conditioned Elongation at Peak Load at 0°F (-18°C)		D 5147	20%	49%	60%
	90-Day Heat-Conditioned Peak Load at 73.4°F (23°C)		D 5147	70 lbf/in (12 kN/m)	133 lbf/in (23.3 kN/m)	96 lbf/in (16.8 kN/m)
	90-Day Heat-Conditioned Elongation at Peak Load at 73.4°F (23°C)		D 5147	50%	58%	68%
	90-Day Heat-Conditioned Ultimate Elongation at 73.4°F (23°C)		D 5147	60%	60%	71%
Installation	Dimensional Stability		D 5147	1.0%	0.3%	0.1%
	Net Mass per Unit Area		D 146	90 lb/100 ft² (41 kg/9.29 m²)	110 lb/100 ft² (49.9 kg/9.29 m²)	
	Roll Weight		D 146	N/A	115 lb (52.2 kg)	

*MD = Machine Direction
**XMD = Cross-Machine Direction

Note: Material tested in accordance with ASTM D 5147 Standard Test Methods for Sampling and Testing Modified Bituminous Sheet Materials.

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

Roofing Membranes, Cover Boards, Insulations and Accessories

SECTION 0. GENERAL INFORMATION

This item meets the definition of article in the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Trade name	:	Roofing Membranes, Cover Boards, Insulations and Accessories

Manufacturer or supplier's details

Company	:	Johns Manville
Address	:	P.O. Box 5108 Denver, CO USA 80127
Telephone	:	303-978-2000 8:00AM-5:00PM M-F
Emergency telephone number	:	1-800-424-9300 (Chemtrec, in English)
Prepared by	:	productsafety@jm.com

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Not a hazardous substance or mixture.

GHS Label element

Not a hazardous substance or mixture.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature

This item meets the definition of article in the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Hazardous components

Non-hazardous according to 29 CFR 1910.1200, when used as intended.

SECTION 4. FIRST AID MEASURES

General advice	:	Do not leave the victim unattended.
If inhaled	:	If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.
In case of eye contact	:	Remove contact lenses.

Protect unharmed eye.
If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

SECTION 5. FIREFIGHTING MEASURES

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Further information : Standard procedure for chemical fires.

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Avoid dust formation.

Methods and materials for containment and cleaning up : Pick up and arrange disposal without creating dust.
Sweep up and shovel.
Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling : For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.

Conditions for safe storage : Keep in a dry, cool place.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Not applicable

Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required.

Hand protection
Remarks : For prolonged or repeated contact use protective gloves.

Eye protection : Safety glasses

Skin and body protection : If used and stored as directed, no special protective

equipment is necessary.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.
Written instructions for handling must be available at the work place.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : solid

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No decomposition if stored and applied as directed.

Chemical stability : No decomposition if stored and applied as directed.

Possibility of hazardous reactions : Stable under recommended storage conditions.
No hazards to be specially mentioned.

Conditions to avoid : No data available

SECTION 11. TOXICOLOGICAL INFORMATION

Further information

No data available

SECTION 12. ECOLOGICAL INFORMATION

Further information

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.
Packaging that can not be reused after cleaning must be disposed or recycled in accordance with all federal, national and local regulations.

SECTION 14. TRANSPORT INFORMATION

International transport regulations

These products are not classified as dangerous goods according to international transport regulations.

SECTION 15. REGULATORY INFORMATION

California Prop 65 : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16. OTHER INFORMATION

Further information

Prepared by productsafety@jm.com

The information provided in this Safe Use Instruction is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

ULTRAFAST® FASTENERS

Case-Hardened Steel, Polymer-Coated Fasteners

Features and Components

The UltraFast Fastener is a #12, case-hardened steel, polymer-coated fastener with a buttress thread design that provides maximum pullout values and minimizes fastener backout. Available with either a #3 Phillips head or a ¼" (6.35 mm) hex head. The drill point is designed for quick installation in new or re-roof applications, and provides exceptional drilling capability in higher tensile decks.

Use: Insulation

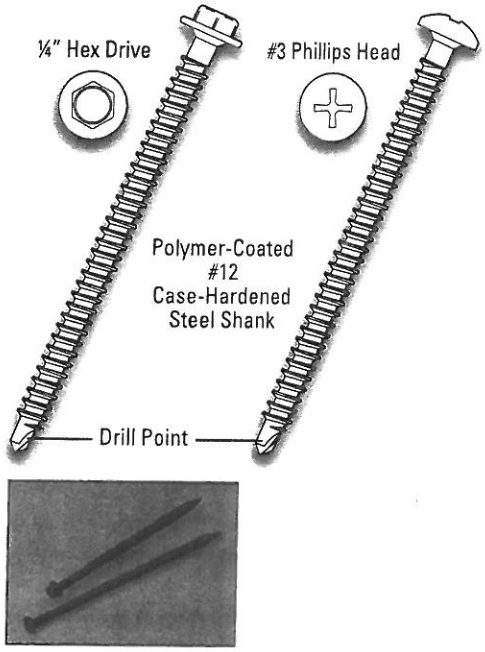
Material: Fasteners - Case-Hardened Steel, Polymer-Coated

Gauge: #12

Head: #3 Phillips Head or ¼" (6.35 mm) Hex Head

Color: Blue

Deck Types: Wood or 18 - 24 gauge (1.25 mm - 0.51 mm) Metal



Component: F Fastening

Type: I Insulation

Multi-Ply
Single Ply

System Compatibility

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

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

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

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

Energy and the Environment

Recycled Content	This steel based product contains a minimum of 25% post consumer recycled materials by weight

Peak Advantage® Guarantee Information

Systems
Approved to use with any Peak Advantage Guarantee

Codes and Approvals*

FM APPROVED

MIAMI-DADE COUNTY APPROVED
Miami-Dade County
Product Control Approved

*Fastener approvals are based on system approvals

Installation/Application

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

Packaging and Dimensions

Fastener Sizes	Quantity/Container
1⅝" to 8" (4.13 cm to 20.32 cm) (1) #3 Phillips bit in each pail (1) ¼" (6.35 mm) hex head bit per 3 pails	1,000/pail
Producing Locations*	Agawam, MA and Itasca, IL

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

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

ULTRAFAST® PLATES

Galvalume® Metal and Locking Plastic Plates

Features and Components

UltraFast Locking Plastic Plates are 3" (7.62 cm) round, high strength polypropylene plates with a special locking feature.

UltraFast Metal Plates are 3" (7.62 mm) round or square, premium Galvalume®*-coated steel metal plates.

Use: Insulation

Material: Plates - Galvalume-Coated Steel or High Strength Polypropylene

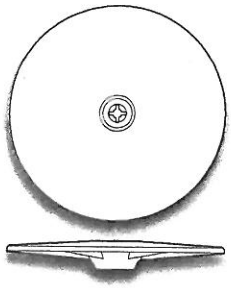
Gauge: 26 Gauge Steel

Plates: 3" (7.62 cm) Round Locking Plastic & Round or Square Metal

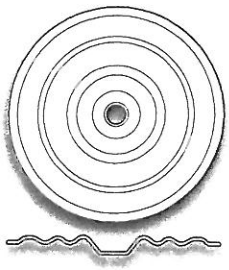
Colors: Grey (metal plates), Blue (plastic plates)

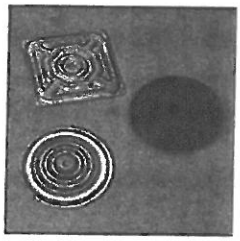
* Galvalume is a registered trademark of BIEC International, Inc. and some of its licensed producers.

UltraFast Locking Plastic Plate

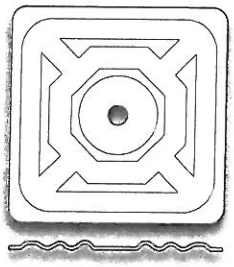


UltraFast Round Metal Plate





UltraFast Square Metal Plate



Component

F Fastening

Type

I Insulation

Multi-Ply
Single Ply

System Compatibility

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

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

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

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

Energy and the Environment

Recycled Content	This steel based product contains a minimum of 25% post consumer recycled materials by weight

Peak Advantage® Guarantee Information

Systems
Approved to use with any Peak Advantage Guarantee

Codes and Approvals*

FM APPROVED

MIAMI-DADE COUNTY APPROVED
Miami-Dade County
Product Control Approved

*Fastener approvals are based on system approvals

Installation/Application

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

Packaging and Dimensions

Plate Sizes	Quantity/Container
3" Metal Round or Square, 1,000/pail 3" Plastic Round, 1,000/pail	1,000/pail
Producing Locations*	Agawam, MA and Itasca, IL

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

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

JM® SECUROCK® GYPSUM-FIBER ROOF BOARD

Gypsum and Cellulose Fiber Cover Board

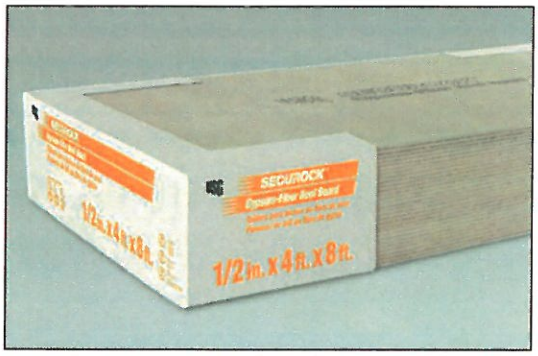
Meets the requirements of ASTM C 1278

Features

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

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

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



Component
B
Cover Board
Multi-Ply
Single Ply

Type
GY
Gypsum
LT
Low Thermal

System Compatibility

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

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

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

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

Energy and the Environment

LEED®	Recycled Content	Pre-Consumer: 97% (SCS Certified)

Peak Advantage® Guarantee Information

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

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

Codes and Approvals

CLASSIFIED C UL US

FM APPROVED

MIAMI-DADE COUNTY APPROVED
Miami-Dade County Product Control Approved

Installation/Application

Cold Applied | Urethane Adhesive | Mechanically Fastened

Refer to the Application Guides and Detail Drawings for instructions.

Packaging and Dimensions

Sizes	4' x 4' (1.22 m x 1.22 m) 4' x 8' (1.22 m x 2.44 m)			
Thickness (nom)	¼" (6.35 mm)	⅜" (9.5 mm)	½" (12.7 mm)	⅝" (15.9 mm)
Weight/Board 4'x8' boards	50 lb (22.68 kg)	63 lb (28.58 kg)	88 lb (39.92 kg)	102 lb (46.27 kg)
Coverage/Pallet 4'x8' boards	1,600 ft² (148.7 m²)	1,280 ft² (118.9 m²)	960 ft² (89.2 m²)	768 ft² (71.4 m²)
Boards/Pallet 4'x8' boards	50	40	30	24
Pallet Weight 4'x8' boards	2,575 lb (1,168.0 kg)	2,575 lb (1,168.0 kg)	2,725 lb (1,236.0 kg)	2,525 lb (1,145.3 kg)
Pallets per Truck*	17	17	18	18
Producing Locations	Gypsum, OH			

* Assumes 48' flatbed truck.

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

RS-5039 10-14 (Replaces 8-14)

JM® SECUROCK® GYPSUM-FIBER ROOF BOARD

Gypsum and Cellulose Fiber Cover Board

Meets the requirements of ASTM C 1278

Typical Physical Properties

	Test	ASTM	JM SECUROCK Gypsum-Fiber Roof Board			
			¼" (6.35 mm)	⅜" (9.5 mm)	½" (12.7 mm)	⅝" (15.9 mm)
Strength	Compressive Strength, psi (kPa), *nom*	C 1278	1,800 (12,411)			
Strength	Flexural Strength, lb, parallel, *min*	C 473	40	70	110	161
Strength	Bending Radius, ft (m), *max*	NA	25 (7.62)	25 (7.62)	25 (7.62)	30 (9.14)
Moisture	Moisture Vapor Permeance, perms (ng/(Pa•s•m²), *max*	E 96	30 (1,716)	26 (1,487)	26 (1,487)	24 (1,373)
Moisture	Water Absorption, % by wt, *max*	C 473	10			
Moisture	Surface Water Absorption, g, *nom*	C 473	1.6			
Moisture	Mold Resistance	D 3273	10			
Installation	Flute Span, in (cm), *max*	E 661	2 5/8 (6.7)	5 (12.7)	8 (20.3)	10 (25.4)
Installation	Weight, lb/ft² (kg/m²), *nom*	NA	1.57 (7.67)	1.96 (9.57)	2.76 (13.48)	3.20 (15.62)
Installation	Linear variation with change in moisture, in/in • %RH	D 1037	8×10^{-6}			
Installation	Coefficient of Thermal Expansion, in/in • °F	E 831	8×10^{-6}			

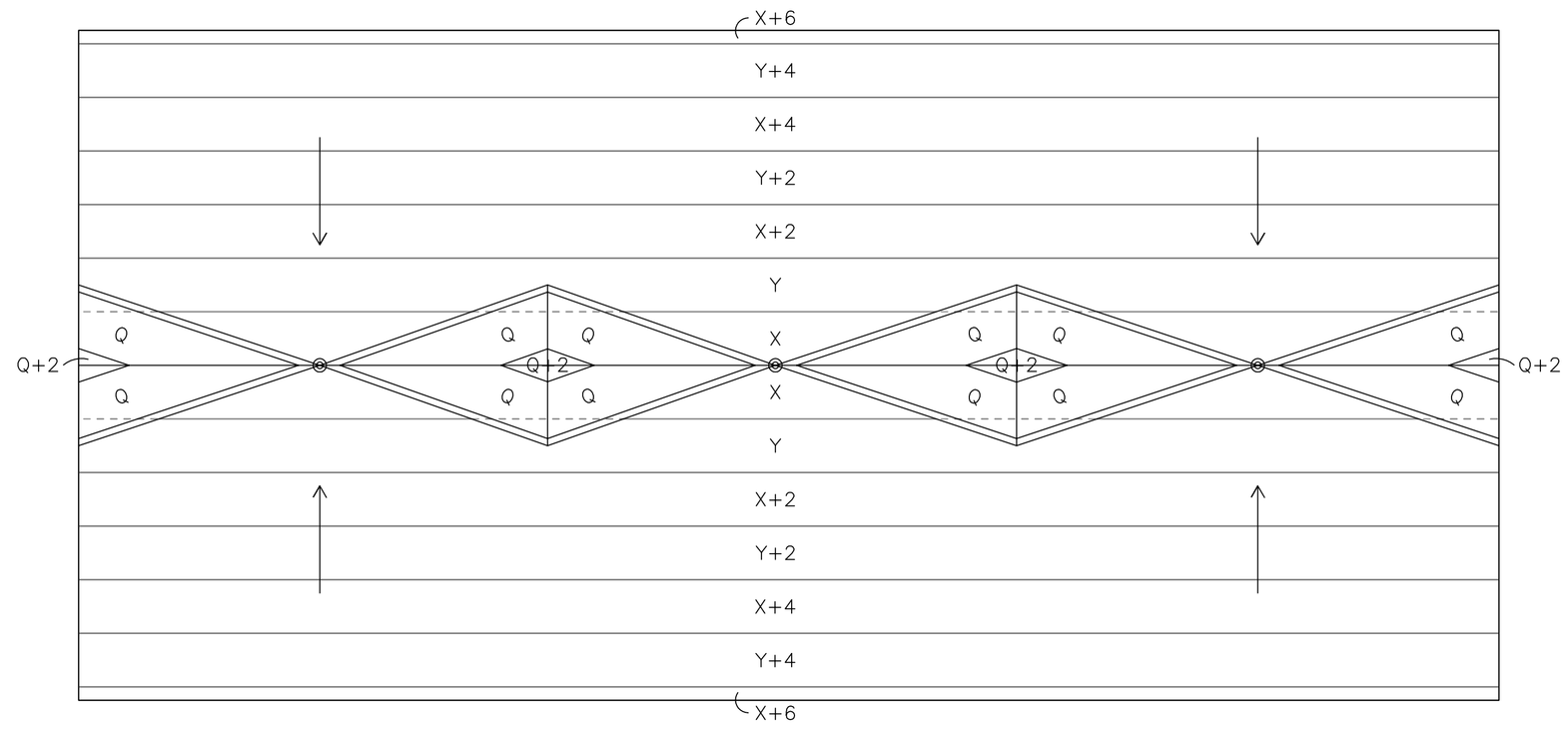
Thermal Performance

Thickness		Nominal R-Value (Resistance)	
in.	mm	(hr•ft²•°F)/BTU	m²•°C/W
¼	6.35	0.2	0.04
⅜	9.5	0.3	0.05
½	12.7	0.5	0.09
⅝	15.9	0.6	0.11

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

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

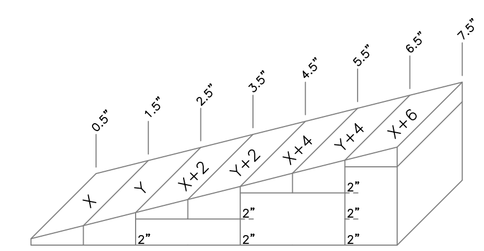
RS-5039 10-14 (Replaces 8-14)



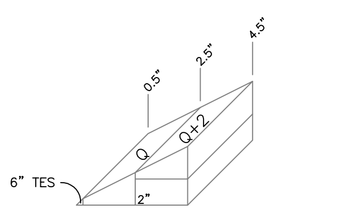
TAPERED ROOF PLAN
SCALE- 1/8"-1'

TAPERED PANELS		
PANEL	DIMENSION	SLOPE
X	1/2" - 1 1/2"	1/4"
Y	1 1/2" - 2 1/2"	1/4"
Q	1/2" - 2 1/2"	1/2"

TAPER PANELS



TAPERED SECTIONS



TAPERED CRICKET

BEST DISTRIBUTING CO.
A Beacon Roofing Supply Company

PROJECT: **CBBT SOUTH TOLL PLAZA**

BRANCH: **BEST DISTRIBUTING CO.**
1301 PRODUCTION RD, NORFOLK, VA 23502

ROOFING CONTRACTOR:

TAPER SPECS

TAPERED MATERIAL:	POLYISO
TAPERED SLOPE:	0.25"
MINIMUM THICKNESS:	0.50"
MAXIMUM THICKNESS:	6.75"
R-VALUE (AVG/MIN):	21.66 AVG

CRICKET SPECS

CRICKET MATERIAL:	POLYISO
CRICKET SLOPE:	0.50"
MINIMUM THICKNESS:	0.50"
MAXIMUM THICKNESS:	3.10"

PROJECT NOTES:

BEACON ENGINEERING
5945 Harris Tech Blvd.
Charlotte, NC 28269
(704)596-8866

NOTES:

INSTALLER MUST VERIFY ALL FIELD DIMENSIONS, DRAIN AND SCUPPER LOCATIONS AND PRODUCT SPECIFICATIONS FOR ACCURACY. MATERIAL WILL BE SHIPPED TO MATCH THE SPECIFICATIONS AND QUANTITIES NOTED HEREON. CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF ALL FIELD CONDITIONS AND COMPLIANCE WITH BUILDING CODE ISSUES.

THE TAPERED LAYOUT ILLUSTRATED ON THIS DRAWING REQUIRES THE INSTALLER TO REUSE PARTIAL PIECES OF INSULATION, THEREFORE, DISCARDING MORE THAN HALF OF A USEABLE PIECE OF TAPERED INSULATION AND/OR ONE QUARTER OF A PIECE OF FLAT INSULATION WILL RESULT IN A SHORTAGE OF MATERIAL FOR YOUR TAPERED SYSTEM.

DATE:	07/27/2016
PROJECT NUMBER:	F16-14114
REVISION:	
DRAWN BY:	RONDA
QUOTE NUMBER:	Q160630-47
DRAWING PAGES:	1 of 1