

SECTION 075323

ETHYLENE-PROPYLENE-DIENE-MONOMER (EPDM) ROOFING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Ethylene-propylene-diene-terpolymer (EPDM) roofing.
2. Accessory roofing materials.
3. Substrate board.
4. Vapor retarder.
5. Roof insulation.
6. Insulation accessories.
7. Asphalt materials.
8. Walkways.
9. Existing roof warranty.

B. Section includes installation of sound-absorbing insulation strips in ribs of roof deck. Sound-absorbing insulation strips are furnished under Section 053100 "Steel Decking."

C. Related Requirements:

1. Section 061000 "Rough Carpentry for wood nailers, curbs, and blocking.
2. Section 053100 "Steel Decking" for steel deck infill.

1.2 DEFINITIONS

A. Roofing Terminology: Definitions in ASTM D1079 and glossary of NRCA's "The NRCA Roofing Manual: Membrane Roof Systems" apply to work of this Section.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Roofing Conference: Conduct conference at Project site.

1. Meet with Owner, roofing Installer, roofing system manufacturer's representative, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
2. Review methods and procedures related to roofing installation, including manufacturer's written instructions and existing roof warranty.
3. Review and finalize construction schedule, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
4. Review structural loading limitations of roof deck during and after roofing.

5. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that affects roofing system.
6. Review governing regulations and requirements for insurance and certificates if applicable.
7. Review temporary protection requirements for roofing system during and after installation.
8. Review roof observation and repair procedures after roofing installation.

1.4 ACTION SUBMITTALS

A. Product Data:

1. Ethylene-propylene-diene-terpolymer (EPDM) roofing.
2. Accessory roofing materials.
3. Substrate board.
4. Vapor retarder.
5. Roof insulation.
6. Insulation accessories.
7. Asphalt materials.
8. Walkways.

B. Shop Drawings: Include roof plans, sections, details, and attachments to other work, including the following:

1. Membrane terminations.
2. Flashing details at penetrations.
3. Tie-in with air barrier.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer and manufacturer.

B. Manufacturer Certificates:

1. Performance Requirement Certificate: Signed by roof membrane manufacturer, certifying that roofing system complies with requirements specified in "Performance Requirements" Article.
 - a. Submit evidence of complying with performance requirements.
2. Special Warranty Certificate: Signed by roof membrane manufacturer, certifying that all materials supplied under this Section are acceptable for existing roof warranty compliance.

1.6 CLOSEOUT SUBMITTALS

- ##### A. Certified statement from existing roof membrane manufacturer stating that existing roof warranty has not been affected by Work performed under this Section.

1.7 QUALITY ASSURANCE

- A. Manufacturer Qualifications: **Firestone Building Products** for roofing system used for this Project.
- B. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.
- B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.
 - 1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.
- C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.
- D. Handle and store roofing materials, and place equipment in a manner to avoid permanent deflection of deck.

1.9 FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed in accordance with manufacturer's written instructions and warranty requirements.

1.10 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during reroofing, by methods and with materials so as not to void existing roofing system warranty issued by **Firestone Building Products**.
 - 1. Notify warrantor before proceeding with the Work.
 - 2. Notify warrantor of existing roofing system on completion of reroofing, and obtain documentation verifying that existing roofing system has been inspected and warranty remains in effect.
 - a. Submit documentation at Project closeout.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. General Performance: Installed roofing system and base flashings to withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Roofing and flashings to remain watertight.
- B. Material Compatibility: Roofing materials to be compatible with one another and adjacent materials under conditions of service and application required, as demonstrated by roof membrane manufacturer based on testing and field experience.

2.2 ETHYLENE-PROPYLENE-DIENE-TERPOLYMER (EPDM) ROOFING

- A. EPDM Sheet: ASTM D4637/D4637M; Match Existing.
 - 1. Manufacturers: provide products by the following:
 - a. ***Elevate; Holcim Building Envelope (formerly Firestone Building Products).***
 - 2. Thickness: 90 mils (2.2 mm), nominal.
 - 3. Exposed Face Color: Black

2.3 ACCESSORY ROOFING MATERIALS

- A. General: Accessory materials recommended by roofing system manufacturer for intended use and compatible with other roofing components.
 - 1. Adhesive and Sealants: Comply with VOC limits of authorities having jurisdiction.
- B. Sheet Flashing: 60-mil- (1.5-mm-) thick EPDM, partially cured or cured, according to application.
- C. Protection Sheet: Epichlorohydrin or neoprene nonreinforced flexible sheet, 55 to 60 mils (1.4 to 1.5 mm) thick, recommended by EPDM manufacturer for resistance to hydrocarbons, non-aromatic solvents, grease, and oil.
- D. Slip Sheet: Manufacturer's standard, of thickness required for application.
- E. Asphalt-Coated, Glass-Fiber-Mat, Venting Base Sheet: ASTM D4897/D4897M, Type II; nonperforated, asphalt-impregnated fiberglass reinforced, with mineral granular patterned surfacing on bottom surface.
- F. Prefabricated Pipe Flashings: As recommended by roof membrane manufacturer.
- G. Bonding Adhesive: Manufacturer's standard.

- H. Modified Asphaltic Fabric-Backed Membrane Adhesive: Roofing system manufacturer's standard modified asphalt, asbestos-free, cold-applied adhesive formulated for compatibility and use with fabric-backed membrane roofing.
- I. Water-Based, Fabric-Backed Membrane Adhesive: Roofing system manufacturer's standard water-based, cold-applied adhesive formulated for compatibility and use with fabric-backed membrane roofing.
- J. Low-Rise, Urethane, Fabric-Backed Membrane Adhesive: Roof system manufacturer's standard spray-applied, low-rise, two-component urethane adhesive formulated for compatibility and use with fabric-backed membrane roofing.
- K. Seaming Material: Manufacturer's standard, synthetic-rubber polymer primer and 3-inch- (75-mm-) wide minimum, butyl splice tape with release film.
- L. Lap Sealant: Manufacturer's standard, single-component sealant, colored to match membrane roofing.
- M. Water Cutoff Mastic: Manufacturer's standard butyl mastic sealant.
- N. Metal Termination Bars: Manufacturer's standard, predrilled stainless steel or bars, approximately 1 by 1/8 inch (25 by 3 mm) thick; with anchors.
- O. Metal Battens: Manufacturer's standard, aluminum-zinc-alloy-coated or zinc-coated steel sheet, approximately 1 inch wide by 0.05 inch thick (25 mm wide by 1.3 mm thick), prepunched.
- P. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening components to substrate, and acceptable to roofing system manufacturer.
- Q. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, molded pipe boot flashings, preformed inside and outside corner sheet flashings, reinforced EPDM securement strips, T-joint covers, in-seam sealants, termination reglets, cover strips, and other accessories.

2.4 SUBSTRATE BOARD

- A. Glass-Mat Gypsum Roof Substrate Board: ASTM C1177/C1177M, water-resistant gypsum board.
 - 1. Manufacturer: Match existing.
 - 2. Thickness: Type X, 5/8 inch (16 mm).
 - 3. Surface Finish: Match existing.
- B. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening substrate panel to roof deck.

2.5 VAPOR RETARDER

- A. Vapor Retarder: Match existing.

2.6 ROOF INSULATION

- A. General: Preformed roof insulation boards manufactured or approved by EPDM roof membrane manufacturer.
 - 1. Match existing type.
 - 1. Thickness: Match existing, respective of each infill location.

2.7 INSULATION ACCESSORIES

- A. General: Roof insulation accessories recommended by insulation manufacturer for intended use and compatibility with other roofing system components.
- B. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening roof insulation to substrate, and acceptable to roofing system manufacturer.
- C. Insulation Adhesive: Insulation manufacturer's recommended adhesive formulated to attach roof insulation to substrate or to another insulation layer as follows:
 - 1. Modified asphaltic, asbestos-free, cold-applied adhesive.
 - 2. Bead-applied, low-rise, one-component or multicomponent urethane adhesive.
 - 3. Full-spread, spray-applied, low-rise, two-component urethane adhesive.

2.8 ASPHALT MATERIALS

- A. Roofing Asphalt: Roof manufactures standard.
- B. Asphalt Primer: ASTM D41/D41M.

2.9 WALKWAYS

- A. Flexible Walkways: Factory-formed, nonporous, heavy-duty, slip-resisting, surface-textured walkway pads, approximately 3/16 inch (5 mm) thick and acceptable to roofing system manufacturer.
 - 1. Size: Approximately 30 by 30 inches (762 by 762 mm).

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance of the Work.
 - 1. Verify that roof openings and penetrations are in place, curbs are set and braced, and roof-drain bodies are securely clamped in place.
 - 2. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing system installation in accordance with roofing system manufacturer's written instructions. Remove sharp projections.
- B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.
- C. Install sound-absorbing insulation strips in accordance with acoustical roof deck manufacturer's written instructions.

3.3 INSTALLATION OF ROOFING, GENERAL

- A. Install roofing system in accordance with roofing system manufacturer's written instructions, and existing 30-year roof warranty.
- B. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at end of workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.
- C. Install roof membrane and auxiliary materials to tie into existing roofing to maintain weathertightness of transition and to not void warranty for existing roofing system.
- D. Coordinate installation and transition of existing roofing system component serving as an air barrier with new air barrier.

3.4 INSTALLATION OF SUBSTRATE BOARD

- A. Install substrate board with long joints in continuous straight lines, with end joints staggered not less than 24 inches (610 mm) in adjacent rows.

1. At steel roof decks, install substrate board at right angle to flutes of deck.
 - a. Locate end joints over crests of steel roof deck.
2. Tightly butt substrate boards together.
3. Cut substrate board to fit tight around penetrations and projections, and to fit tight to intersecting sloping roof decks.
4. Fasten substrate board to top flanges of steel deck.
5. Fasten substrate board to top flanges of steel deck to resist uplift pressure at corners, perimeter, and field of roof in accordance with roofing system manufacturers' written instructions.

3.5 INSTALLATION OF VAPOR RETARDER

- A. Vapor Retarder: Install new vapor retarder and interface with existing vapor barrier installation.
- B. Completely seal vapor retarder at terminations, obstructions, and penetrations to prevent air movement into roofing system.

3.6 INSTALLATION OF INSULATION

- A. Coordinate installing roofing system components so insulation is not exposed to precipitation or left exposed at end of workday.
- B. Comply with roofing system and insulation manufacturer's written instructions for installing roof insulation.
- C. Installation Over Metal Decking:
 1. Install base layer of insulation with joints staggered adjacent rows and with long joints continuous at right angle to flutes of decking.
 - a. Locate end joints over crests of decking.
 - b. Where installing composite and noncomposite insulation in two or more layers, install noncomposite board insulation for bottom layer and intermediate layers, if applicable, and install composite board insulation for top layer.
 - c. Trim insulation neatly to fit around penetrations and projections, and to fit tight to intersecting sloping roof decks.
 - d. Make joints between adjacent insulation boards not more than 1/4 inch (6 mm) in width.
 - e. Fill gaps exceeding 1/4 inch (6 mm) with insulation.
 - f. Cut and fit insulation within 1/4 inch (6 mm) of nailers, projections, and penetrations.
 - g. Loosely lay base layer of insulation units over substrate.
 - h. Mechanically attach base layer of insulation and substrate board using mechanical fasteners specifically designed and sized for fastening specified board-type roof insulation to metal decks.

- 1) Fasten insulation to resist specified uplift pressure at corners, perimeter, and field of roof.

3.7 INSTALLATION OF ADHERED ROOF MEMBRANE

- A. Adhere roof membrane over area to receive roofing in accordance with roofing system manufacturer's written instructions.
- B. Unroll membrane roof membrane and allow to relax before installing.
- C. Start installation of roofing in presence of roofing system manufacturer's technical personnel.
- D. Accurately align roof membrane, and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
- E. Bonding Adhesive: Apply to substrate and underside of roof membrane at rate required by manufacturer, and allow to partially dry before installing roof membrane. Do not apply to splice area of roof membrane.
- F. Hot Roofing Asphalt: Apply a solid mopping of hot roofing asphalt to substrate at temperature and rate required by manufacturer, and install fabric-backed roofing. Do not apply to splice area of roof membrane.
- G. Fabric-Backed Roof Membrane Adhesive: Apply to substrate at rate required by manufacturer, and install fabric-backed roof membrane.
- H. In addition to adhering, mechanically fasten roof membrane securely at terminations, penetrations, and perimeters.
- I. Apply roof membrane with side laps shingled with slope of roof deck where possible.
- J. Adhesive Seam Installation: Clean both faces of splice areas, apply splicing cement.
 1. Firmly roll side and end laps of overlapping roof membrane to ensure a watertight seam installation.
 2. Apply lap sealant and seal exposed edges of roofing terminations.
 3. Apply a continuous bead of in-seam sealant before closing splice if required by roofing system manufacturer.
- K. Tape Seam Installation: Clean and prime both faces of splice areas, apply splice tape.
 1. Firmly roll side and end laps of overlapping roof membrane to ensure a watertight seam installation.
 2. Apply lap sealant and seal exposed edges of roofing terminations.
- L. Repair tears, voids, and lapped seams in roof membrane that do not comply with requirements.
- M. Adhere protection sheet over roof membrane at locations indicated.

3.8 INSTALLATION OF WALKWAYS

- A. Flexible Walkways: Install walkway products in accordance with manufacturer's written instructions.
 - 1. Install flexible walkways at the following locations:
 - a. Perimeter of each rooftop unit and as indicated on drawings.
 - b. As required by roof membrane manufacturer's warranty requirements.
 - 2. Provide 2-inch (51-mm) clearance between adjoining pads.
 - 3. Adhere walkway products to substrate with compatible adhesive in accordance with roofing system manufacturer's written instructions.

3.9 PROTECTING AND CLEANING

- A. Protect roofing system from damage and wear during remainder of construction period. When remaining construction does not affect or endanger roofing system, inspect roofing system for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.
- B. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and in accordance with warranty requirements.
- C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

3.10 EXISTING ROOF WARRANTY – see following pages

FIRESTONE PLATINUM-P ROOFING SYSTEM LIMITED WARRANTY

Warranty No: PL001664

FBPCO #CC7083

Square Footage: 33700 s.f.

Building Owner: MILLERSVILLE UNIVERSITY

Building Identification: PUCILLO GYM

Building Address: 105 PUCILLO DRIVE, MILLERSVILLE, PA, 17551

Warranty Period Of: THIRTY (30) Years Beginning on: 07/21/08

Roofing Contractor: DAVID M. MAINES ASSOC., INC. (05703)

For the warranty period indicated above, Firestone Building Products Company, LLC ("Firestone"), an Indiana limited liability company, warrants to the Building Owner ("Owner") above that Firestone will, subject to the Terms, Conditions, and Limitations set forth below, repair any leak in the Firestone Roofing System ("System").

TERMS, CONDITIONS AND LIMITATIONS

1. The Firestone PLATINUM Roofing System is composed of all Firestone materials. Any materials not manufactured or supplied by Firestone are not covered under this warranty and are listed herein:
2. In the event any leak should occur in the System: (a) The Owner must give written notice to Firestone within thirty (30) days of any occurrence of a leak. By so notifying Firestone, the Owner authorizes Firestone or its designee to investigate the cause of the leak. (b) If upon investigation, Firestone determines that the leak is not excluded under the Terms, Conditions and Limitations set forth in this limited warranty, the Owner's sole and exclusive remedy and Firestone's liability will be limited to the repair of the leak. (c) Should the investigation reveal that the leak is excluded under the Terms, Conditions and Limitations, the Owner is responsible for payment of the investigation costs. Failure by Owner to pay for these costs shall render this Firestone PLATINUM P Roof System Limited Warranty ("Limited Warranty") null and void. Firestone will advise the Owner of the type and/or extent of repairs required to be made at the Owner's expense that will permit this Limited Warranty to remain in effect for the unexpired portion of its term. Failure by the Owner to properly make these repairs in a reasonable manner using a Firestone licensed applicator and within a reasonable time shall render this Limited Warranty null and void. (d) Any dispute, controversy or claim between the Owner and Firestone concerning this Limited Warranty shall be settled by mediation. In the event that the Owner and Firestone do not resolve the dispute, controversy or claim in mediation, the Owner and Firestone agree that neither party will commence or prosecute any suit, proceeding, or claim other than in the courts of Hamilton County in the state of Indiana or the United States District Court, Southern District of Indiana, Indianapolis Division. Each party irrevocably consents to the jurisdiction and venue of the above-identified courts.
3. Firestone shall have no obligation under this Limited Warranty unless and until Firestone and the licensed applicator have been paid in full for all materials, supplies, services, warranty costs and other costs which are included in, or incidental to, the System.
4. As a special term of this warranty, Firestone will repair any leaks caused by unintentional and occasional damage to the membrane as a result of normal rooftop inspection, maintenance or service.
5. Firestone shall have no obligation under this Limited Warranty, or any other liability, now or in the future if a leak or damage is caused by: (a) Natural forces, disasters, or acts of God including, but not limited to, winds in excess of 55 MPH, hurricanes, tornadoes, hail, lightning, earthquakes, atomic radiation, insects, or animals; (b) Any act(s), conduct or omission(s) by any person, or act(s) of war, which damages the System or which impairs the System's ability to resist leaks; (c) Failure by the Owner to use reasonable care in maintaining the building, said maintenance to include, but not limited to those items listed on the reverse side of this Limited Warranty titled "Building Envelope Care and Maintenance Guide"; (d) Deterioration or failure of building components, including, but not limited to, the roof substrate, walls, mortar, HVAC units, etc.; (e) Condensation or infiltration of moisture in, through, or around the walls, copings, rooftop hardware or equipment, building structure or underlying or surrounding materials. Firestone specifically excludes any damage to the Firestone insulation or roof system that may come from moisture within the roof deck or existing roof system. (f) Any acid, oil, harmful chemical, chemical or physical reaction and the like which comes in contact with the System, which damages the System, or which impairs the System's ability to resist leaks; (g) Alterations or repairs to the System not approved in writing by Firestone; (h) The architecture, engineering, construction or design of the roof, roofing system, or building. Firestone does not undertake any analysis of the architecture or engineering required to evaluate what type of roof system is appropriate; (i) A change in building use or purpose; (j) Deterioration caused by marine salt water atmosphere or by regular spray of either salt or fresh water. (k) Failure to give proper notice as set forth in paragraph 2(a) above.
6. This Limited Warranty shall be transferable subject to Firestone inspection, written approval, and payment of the current transfer fee.
7. During the term of this Limited Warranty, Firestone, its designated representative or employees shall have free access to the roof during regular business hours. In the event that roof access is limited due to security or other restrictions, Owner shall reimburse Firestone for all reasonable costs incurred during inspection and/or repair of the System that are due to delays associated with said restrictions. Owner shall be responsible for the removal and replacement of any overburdens, superstrata or overlays, either permanent or temporary, excluding accepted stone ballast or pavers, as necessary to expose the system for inspection and/or repair.
8. Firestone's failure to enforce any of the terms or conditions stated herein shall not be construed as a waiver of such provision or of any other terms and conditions of this Limited Warranty.
9. This Limited Warranty shall be governed and construed in accordance with the laws of the State of Indiana without regard to conflict of laws.

FIRESTONE DOES NOT WARRANT PRODUCTS INCORPORATED OR UTILIZED IN THIS INSTALLATION WHICH IT HAS NOT FURNISHED. FIRESTONE SPECIFICALLY DISCLAIMS LIABILITY, UNDER ANY THEORY OF LAW, ARISING OUT OF THE INSTALLATION OR PERFORMANCE OF, OR DAMAGES SUSTAINED BY OR CAUSED BY, PRODUCTS NOT FURNISHED BY FIRESTONE. THIS LIMITED WARRANTY SUPERSEDES AND IS IN LIEU OF ALL OTHER WARRANTIES OR GUARANTEES WHETHER WRITTEN OR ORAL, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THIS LIMITED WARRANTY SHALL BE THE OWNER'S SOLE AND EXCLUSIVE REMEDY AGAINST FIRESTONE, AND FIRESTONE SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL, SPECIAL, INCIDENTAL OR OTHER DAMAGES INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS OR DAMAGE TO THE BUILDING OR ITS CONTENTS OR THE ROOF DECK. THIS LIMITED WARRANTY CANNOT BE AMENDED, ALTERED OR MODIFIED IN ANY WAY EXCEPT IN WRITING SIGNED BY AN AUTHORIZED OFFICER OF FIRESTONE. NO OTHER PERSON HAS ANY AUTHORITY TO BIND FIRESTONE WITH ANY REPRESENTATION OR WARRANTY WHETHER ORAL OR WRITTEN.

FIRESTONE BUILDING PRODUCTS COMPANY, LLC

By: John R. Geary

Authorized

Signature:

Title: VP of Quality, Technology & Product Development

SUBMITTAL NUMBER: 07532-02

PROJECT: MI-954-PUCILLO ROOF REPLACEMENT
MILLERSVILLE UNIVERSITY
PA STATE SYSTEM OF HIGHER EDUCATION
MILLERSVILLE, PA 17551

PROJECT NUMBER: MI-954

DATE: March 14, 2008

PROFESSIONAL: MILLERSVILLE UNIVERSITY
CAPITAL CONSTRUCTION, CONTRACTING & DESIGN
PO BOX 1002, MILLERSVILLE, PA 17551

CONTRACTOR: DAVID M. MAINES ASSOC, INC
10 EXPANSION DRIVE
LEWISTOWN, PA 17044

MATERIAL: EPDM .090

MANUFACTURER: FIRESTONE BUILDING PRODUCTS

SUPPLIER: FIRESTONE BUILDING PRODUCTS
310 EAST 96TH STREET
INDIANAPOLIS, IN 46240

SPECIFICATION SECTION: SECTION 07532-4 PARA 2.02A,B

I certify that review, approval, verification of products required, field dimensions,
adjacent construction work, and coordination information, is in accord with the
requirements of the work and contract documents

FOR APPROVAL ONLY:

DATE: 3/10/08 BY: G.M.H.

David M. Maines Associates, Inc.





RubberGard Platinum

DESCRIPTION:

RubberGard Platinum is a 90 mil synthetic rubber membrane designed for long-term waterproofing performance when used in a fully adhered roof system application. Like other Firestone EPDM membranes, RubberGard Platinum offers proven long-term performance since it's first installation in the 1986. RubberGard Platinum offers 90 mils of unobstructed waterproofing, unlike membranes that contain a reinforcing fabric that reduces the overall waterproofing layer. RubberGard Platinum is available in Low-Slope Fire-Retardant compound (LSFR).

PACKAGING:

Thickness	Widths	Lengths	Weight
.090"	10 ft (3 m)	100 ft (30 m)	0.56 lb/sf (2.7 kg/m ²)
(2.2 mm)	10 ft (3 m)	50 ft* (15 m)	

*Packaged 2 panels per roll.

STORAGE:

Store away from sources of punctures and physical damage.

1. Assure that structural decking will support the loads incurred by material when stored on rooftop. The deck load limitations should be specified by the project designer.
3. Store away from ignition sources as membrane will burn when exposed to open flame.

PRECAUTIONS:

1. Take care when moving, transporting, handling, etc. to avoid sources of punctures and physical damage.
2. Isolate waste products, such as petroleum products, greases, oils (mineral and vegetable) and animal fats from the RubberGard membrane. Contact Firestone Roofing System Solutions Department for specific recommendations.
3. Refer to Material Safety Data Sheets (MSDS) for safety information.

This sheet is meant only to highlight Firestone's products and specifications. Information is subject to change without notice. Firestone takes responsibility for furnishing quality materials, which meet Firestone's published product specification. As neither Firestone (self) nor its representatives practice architecture, Firestone offers no opinion on, and expressly disclaims any responsibility for the soundness of any structure on which its products may be applied. If questions arise as to the soundness of a structure, or its ability to support a planned installation properly, the Owner should obtain opinions of competent structural engineers before proceeding. Firestone accepts no liability for any structural failure or for resultant damages, and no Firestone Representative is authorized to vary this disclaimer.

PRODUCT DATA

LEED INFORMATION:

Post Consumer Recycled Content: 0%
 Post Industrial Recycled Content: 0%
 Manufacturing Locations: Prescott, AR



Membrane for Roofing Systems
 As to an External Fire Exposure Only
 61P2
 See UL Directory of Products
 Certified for Canada
 And UL Roofing Materials
 And Systems Directory
 R9516



Cool Roof Rating Council Product
 Identification Number: 0608-0004



Firestone Building Products Company

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S723-RFS-009

Firestone

BUILDING PRODUCTS COMPANY

RubberGard Platinum

PHYSICAL PROPERTIES

<u>Property</u>	<u>Test Method</u>	<u>Minimum ASTM Performance</u>	<u>Typical Values</u>
Tensile Strength	ASTM D-412 (Die C)	1305 psi (9.0 MPa)	1425 psi (9.8 Mpa)
Factory Seam Strength	ASTM D-816 (Modified)	51 lbf/in (9 kN/m) or Sheet Failure	Sheet Failure
Elongation	ASTM D-412 (Die C)	300%	450%
Puncture Resistance	ASTM D-120	NA	19.2 lbf
Tear Resistance	ASTM D-624 (Die C)	150 lbf/in (26.3 kN/m)	200 lbf/in (35.0 kN/m)
Shore A Durometer	ASTM D-2240	65 ± 10	62
Ozone Resistance	ASTM D-1149	No Cracks	No Cracks
7 days/100 pphm @ 100° F (37.8° C) with 50% extension			
Heating Aging	ASTM D-573		
28 days @ 240° F (116° C)			
Tensile Strength	ASTM D-412 (Die C)	1205 psi (8.3 MPa)	1415 psi (9.7 MPa)
Elongation	ASTM D-412 (Die C)	200%	290%
Tear Resistance	ASTM D-624 (Die C)	125 lbf/in (21.9 kN/m)	180 lbf/in (31.5 kN/m)
Linear Dimensional Change, max., %	ASTM D-1204	± 1.0	<1.0
Brittleness Temp.	ASTM D-746	-49° F (-45° C)	-63° F (-53° C)
Water Resistance Change in Weight After Immersion	ASTM D-471	+8, -2	+1.73
7 Days @ 150° F (65.6° C), %			
Water Vapor Permeability, max., Perm mils	ASTM E-96	2.0	+1.93
Tolerance on Nominal Thickness, %	ASTM D-412	±10	±10

RubberGard Platinum membrane exceeds the minimum requirements set forth by ASTM D-4637 for Type I non-reinforced EPDM single-ply roofing membrane.

END OF SECTION 075323

S723-RFS-009