

UNIVERSITY OF ARIZONA

SUMMARY OF WORK

Deferred Maintenance 2021 -2022 Projects:

SUMMARY OF WORK, SPECIFICATIONS, SCOPE OF WORK, TECHNICAL REQUIREMENTS Re-Roofing for two (2) buildings roofs on the University of Arizona Campus and ONE (1) off campus facility. Requesting 20 year NDL on all manufacture materials and 5 year contractor warrenty on all work performed.

1. SUMMARY OF WORK

Remove and replace Two Roofs on campus and refurbish one roof off campus. The Contractor shall supply all Labor, transportation, material, and tools necessary for the proper completion of this work and shall install, maintain and remove all equipment for the proper execution of his contract, and be responsible for safe, proper and lawful performance of his equipment, maintenance and the use of the same, shall perform in the best manner, and everything incidental thereto, as stated in the contract documents, or reasonably implied therein, for roof removal and replacement any associated work as outlined in this specification. Preliminary Manufactures Specification for these jobs have been provided by Johns Mansville. Work shall be bid using these Brand Name Specifications or an Equal and Acceptable Alternate Brand Name Specifications.

2. SPECIFICATIONS OF WORK

Brand Name or Equal and Acceptable Alternate. Specifications will be Brand Name or Acceptable Alternate and requires Installer Certificates for said Brand Name or Acceptable Alternate. Installer Certificates signed by roofing system manufacturer certifying that Installer is an approved, authorized, or licensed by manufacturer to install roofing system. Approved manufacturers include John Mansville, Soprema, Garland, GAF, Firestone. This work involves providing an SBS membrane system *WITHOUT* a torch or the use of an odorous solvent or odorous based cold adhesives. The pertaining roofs should be applied using: SBS self-adhesive technique; Use of NO/LOW odor based cold adhesives SBS BUR System techniques that have a finished surface of granules; Systems need to be appropriately fastened over an approved insulation substrate on an approved deck type according to manufacturers specifications. These types of decks may include: steel, concrete, lightweight concrete, poured or plank gypsum, wood plank, plywood, cementitious wood fiber or hybrid decking complete with flashings, scuppers, expansion joints, control joints, cant strips, edge strips, crickets, insulation, and performing such incidental or other work as may be required by these operations and called for by the drawings. Deliver roofing materials in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, and directions for storage. 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 roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation. Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

Bids will be needed for TWO (2) roofs on the University of Arizona campus and ONE (1) off campus job.

A. The two roofs on campus are as follows:

1. Anthropology BLDG#30A)

1009 E South Campus Dr Tucson, AZ 85719 Built in 1962

APPROX. 12,798.75 ft²

Existing roof includes: 4ply BUR System over a Lightweight concrete and Steel deck concrete filled substrate. This BLDG requires a BUR (Built Up Roof) systems as roof of low odor/No odor cold liquid applied adhesive attaching SBS base Modified membrane and top layer of SBS cap Modified membrane that have a finished surface of granules.

This Roof project should include new tapered installation system, new jacks on penetrations, new scuppers, replace drain rings, clamps and cages. Roofing to follow Specifications provided.

Specifications: Johns Mansville, Soprema or Equal and Acceptable Alternate

2. College of Law BLDG#176A)

1201 E Speedway BLVD Tucson, AZ 85719 Built in 1969

APPROX. 13,054.29 ft²

(This building will be the North portion "M" shaped building.)

Existing roof includes: 3ply BUR System over a concrete substrate. This BLDG requires a BUR (Built Up Roof) systems as roof of low odor/No odor cold liquid applied adhesive attaching SBS base Modified membrane and top layer of SBS cap Modified membrane that have a finished surface of granules. This Roof project should include new tapered installation system, new jacks on penetrations, new scuppers, replace drain rings, clamps and cages. Roofing to follow Specifications provided.

Specifications: Johns Mansville, Soprema or Equal and Acceptable Alternate

B. The one roof off campus is as follows:

3. Paul and Alice Baker Warehouse (34th St Warehouse) BLDG#370)

3740 E 34th Street Tucson, AZ 85713 Built in 1969

APPROX. 60,764.40 ft²

Existing roof includes: 4ply BUR System coated aluminum over a 3/4" Plywood substrate. This BLDG requires refurbish to the roof coating including but not limited to: new pipe jacks, scuppers, sealing of any penetrations, reinforcement to walls and build up of low lying areas. Elastomeric roof coating to be the final product.

NOTE TO ALL PROJECTS:

While approximate measurements are given, Contractors are encouraged to measure the roof themselves to avoid any confusion.

3. SCOPE OF WORK

A. The on campus work includes, but is not limited to the following:

1. Removal and disposal of the existing roof, base flashing system around perimeter walls, curbs, platforms, etc. Removal of insulation down to substrate. If there is any roof top equipment that is dead or is no longer used, the contractor will coordinate with the owner the removal of the equipment and if it should be disposed.
2. Remove and reuse existing wall counter flashing.
3. Remove existing lead flashings at all penetration and support, replace per Soprema Spec.
4. Check existing drains for debris and flow, provide new strainers and rings.
5. Install new tapered insulation system that meets manufacturer spec.
6. Install SBS base ply layer cold process applied
7. Over SBS Base ply, apply modified cap sheet, White granules surface, cold process applied.
8. Install wall flashing and curb flashings fabric reinforced
9. Install new Flashing system as specified.
 - a. All pipe penetrations and or equipments supports, etc.
 - b. Clean coping metal and apply Flashing at joints.
10. Antennas or Satellite dish supports and cables, remove if not used. If removal is not possible, properly mount and flash supports and provide correct flashing for cables. Coordinate this with the owner.
11. Remove all pitch pans and install the Flashing system upon completion of the roof system, refer to specifications.

A. The off campus work includes, but is not limited to the following:

1. Cleaning of the roof surface.
2. Repair of all penetrations, curbs, Scuppers and details to match the manufacture specifications
3. Scrapping and smoothing of existing roof system to allow proper adhesion of new coating system.
4. Application of aluminum binder coat
5. Application of Base coat
6. Application of two(2) coats Elastomeric Roof coating.

4. TECHNICAL REQUIREMENTS OF WORK

- A. The Contractor shall be responsible for obtaining all permits and licenses required by law and for conformance with all requirements of Local, State and Federal Agencies or Boards.
- B. The Roofing Contractor shall notify the UA Personnel, or their representative for the project, of any existing conditions or that the new systems, materials, installation or details that would be detrimental to the performance of the new roofing systems.
- C. The Roofing Contractor shall notify the UA Personnel, or their representative and the Roofing System Manufacturer's Representative of unacceptable materials, substrate conditions or damages found prior to installation of the new roofing system.
- D. The Contractor shall be responsible for leaks, damage, safety requirements.
- E. The Contractor shall be responsible for removal of canceled equipment or lines (unless otherwise stated by UA personnel).

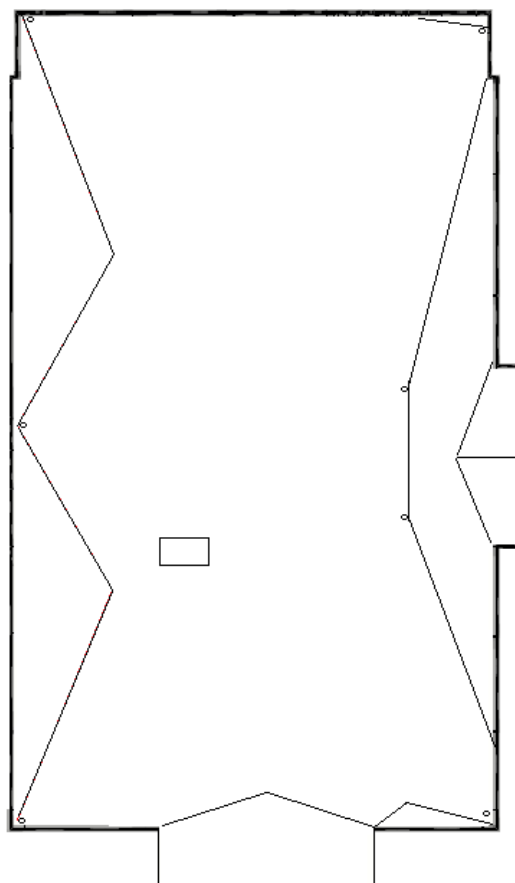


DATE: 8/9/2021

SCALE: NTS

Provided by: SOPREMA / Walt Hitchcock

30A



ROOF PLAN

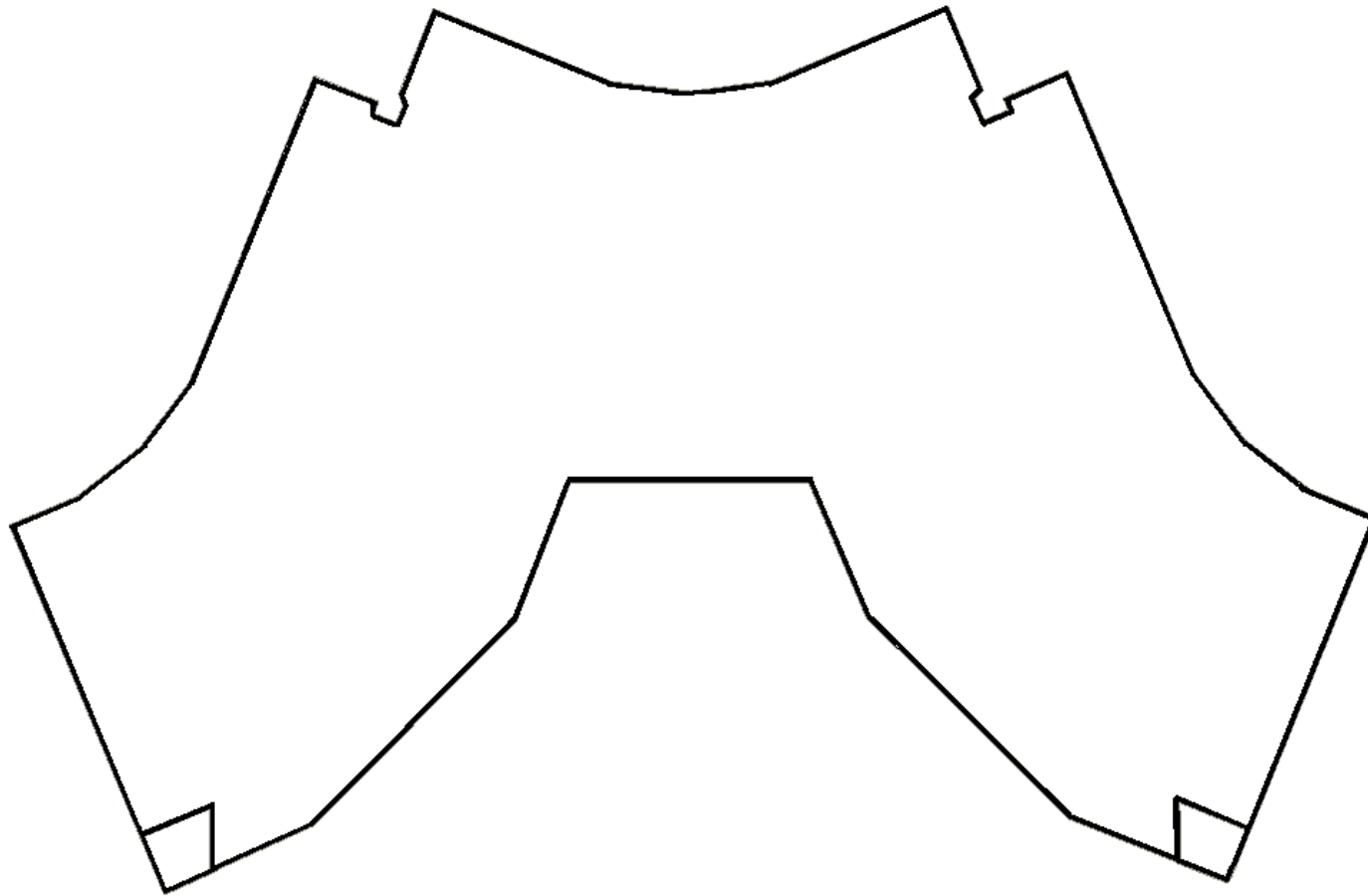


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& Construction**

EMIL W. HAURY ANTHROPOLOGY BUILDING
1010 E. UNIVERSITY BLVD. TUCSON, AZ



30A



ROOF PLAN



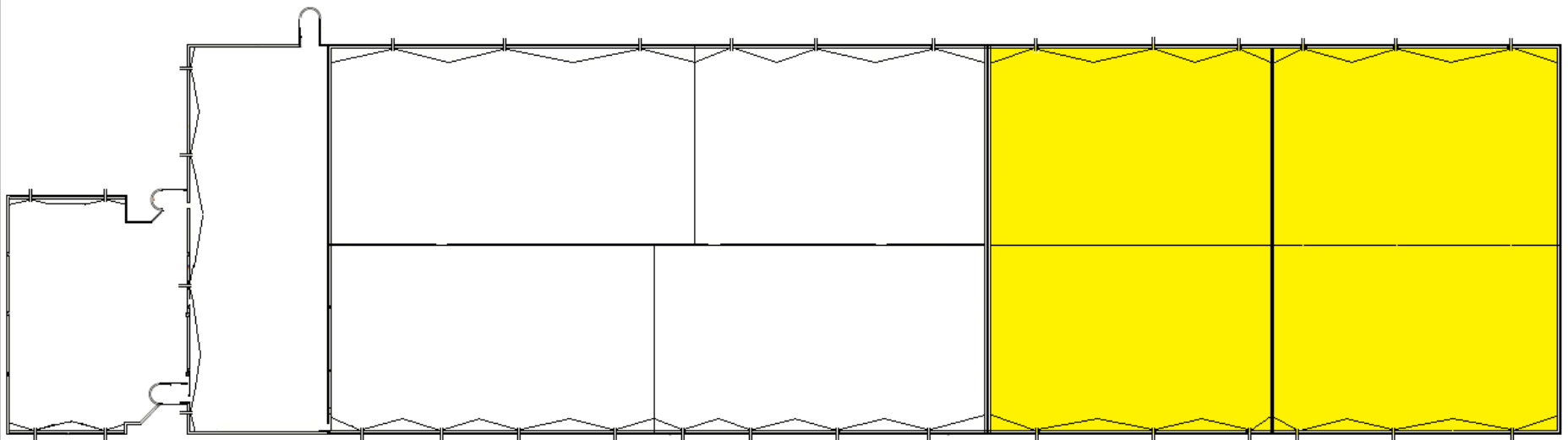
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ROOF



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PAUL & ALICE BAKER
DISTRIBUTION CENTER
3740 E. 34TH ST., TUCSON, AZ



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9/15/2015 2 OF 2

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SECTION 075216 - STYRENE-BUTADIENE-STYRENE (SBS) MODIFIED BITUMINOUS
MEMBRANE ROOFING

PART 1 - GENERAL

1.1 SCOPE OF WORK

- A. This is a turn-key project that should include all equipment, materials, labor, safety including fall protection, safety barricades, fencing, port-a-johns, site supervision, etc.
 - 1. Tear-off: The existing roof shall be removed down to the existing concrete substrate.
 - 2. Examination: Inspect substrate for damage or defect, perform minor repairs to substrate to comply with manufacturers requirements.
 - 3. Coverboard applied in Low Rise Foam Adhesive
 - 4. SBS modified Base Ply applied in a low odor / no odor, ultra-low VOC cold ply adhesive.
 - 5. SBS modified Cap ply applied in a low odor / no odor ultra-low VOC cold ply adhesive.
 - 6. SBS modified base flashings base and cap ply applied in a low odor / no odor ultra-low VOC cold ply flashing cement.
 - 7. All other materials needed to complete the project.
 - 8. Materials and project requirements are contained in Part II Products and Part III Execution.

1.2 SUMMARY

- A. Section Includes:
 - 1. Styrene-butadiene-styrene (SBS)-modified bituminous membrane roofing.
 - 2. Roof insulation.

1.3 DEFINITIONS

- A. Roofing Terminology: Definitions in ASTM D 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" apply to work of this Section.

1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Roofing Conference: Conduct conference at Project site.
 - 1. Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative, deck Installer, 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.
 - 3. Review and finalize construction schedule, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.

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4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
5. Review structural loading limitations of roof deck during and after roofing.
6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that affects roofing system.
7. Review governing regulations and requirements for insurance and certificates if applicable.
8. Review temporary protection requirements for roofing system during and after installation.
9. Review roof observation and repair procedures after roofing installation.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Sustainable Design Submittals:
 1. Product Data: For adhesives and sealants, indicating VOC content.
 2. Laboratory Test Reports: For adhesives and sealants, indicating compliance with requirements for low-emitting materials.
- C. Shop drawings:
 1. Full Tapered System design as provided by manufacturer or supplier.
- D. Samples for Verification: For the following products:
 1. Cap sheet, of color required.
 2. Flashing sheet, of color required.

1.6 BID SUBMITTALS

- A. The following information must be included with bid submittal
 1. Notice of intent to warranty letter provided by and signed by the roof system manufacturer that describes the materials and assemblies to be installed.
 2. Installer Qualification Letter: Provide letter that states that the contractor is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty.

INFORMATIONAL SUBMITTALS

- B. Qualification Data: For Installer and manufacturer
- C. Manufacturer Certificates: Signed by roofing manufacturer certifying that roofing system complies with requirements specified in "Performance Requirements" Article.
 1. Submit evidence of complying with performance requirements.
- D. Product Test Reports: For components of membrane roofing system, for tests performed by manufacturer and witnessed by a qualified testing agency.

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- E. Research/Evaluation Reports: For components of membrane roofing system.
- F. Field quality-control reports.
- G. Sample Warranties: For manufacturer's special warranties.

1.7 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For roofing system to include in maintenance manuals.

1.8 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A qualified manufacturer that is UL listed and or FM Global approved for membrane roofing system identical to that used for this Project.
- B. Manufacturer Qualifications: Manufacturer shall employ trained technical service representatives, independent of sales.
- C. Manufacturer Qualifications: Manufacturer shall be an ISO 9001 registered company and provide a 'Quality Compliance Certificate (QCC)' for reporting/confirming the tested values of the SBS modified bitumen membrane materials upon request.
- D. 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.

1.9 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.

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1.10 FIELD CONDITIONS

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

1.11 WARRANTY

- A. **Platinum NDL Roof Warranty:** Manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period.
1. Special warranty Rider includes membrane roofing, base flashings, roof insulation, fasteners, cover boards, substrate board, roofing accessories including sheet metal flashings, and other components of roofing system.
 2. Warranty Period: **20** years from date of Substantial Completion.
- B. Special Project Warranty: Submit roofing Installer's warranty, on roofing contractors standard warranty form or letterhead, signed by Installer, covering the Work of this Section, including all components of roofing system such as membrane roofing, base flashing, roof insulation, fasteners, cover boards, substrate boards, vapor retarders, and walkway products, for the following warranty period:
1. Warranty Period: **Two** years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide SOPREMA, Inc.; SBS Roofing Membrane or a comparable product by one of the following:
1. Johns Manville; a Berkshire Hathaway company.
 2. Siplast, Inc.
 3. Or a prior approved equal (must be submitted prior 10 days prior to bid)
- B. Source Limitations: Obtain components including roof insulation, coverboard, fasteners, liquid flashing membrane, for roofing system from same manufacturer as membrane roofing.

2.2 PERFORMANCE REQUIREMENTS

- A. General Performance: Installed roofing and base flashings shall 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 base flashings shall remain watertight.
1. Accelerated Weathering: Roofing system shall withstand 2000 hours of exposure when tested according to ASTM G 152, ASTM G 154, or ASTM G 155.
 2. Impact Resistance: Roofing system shall resist impact damage when tested according to ASTM D 3746 or ASTM D 4272.

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- B. Material Compatibility: Roofing materials shall be compatible with one another and adjacent materials under conditions of service and application required, as demonstrated by roofing manufacturer based on testing and field experience.
- C. FM Global Listing: Roofing and component materials shall comply with requirements in FM Global 4450 or FM Global 4470 as part of a roofing system, and shall be listed in FM Global's "RoofNav" for Class 1 or noncombustible construction, as applicable. Identify materials with FM Global markings.
 - 1. Fire/Windstorm Classification: Class 1A-60
- D. Exterior Fire-Test Exposure: ASTM E 108 or UL 790, Class A; for application and roof slopes indicated; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
- E. Fire-Resistance Ratings: Comply with fire-resistance-rated assembly designs indicated. Identify products with appropriate markings of applicable testing agency.

2.3 ROOFING SHEET MATERIALS

- A. Roofing Membrane Sheet: ASTM D 6164/D 6164M, Grade S, Type I, SBS-modified asphalt sheet (reinforced with polyester fabric); smooth surfaced; suitable for application method specified.
 - 1. Basis of Design **Cold-Adhered** Product: SOPREMA, Inc.; **Sopralene 180 Sanded 2.2** with the following physical properties:
 - a. Thickness: 91 mils (2.3mm), ASTM D5147
 - b. Peak Load @ 73.4 F, lbf/in, 85 MD, 65 XMD, ASTM D5147
 - c. Ultimate elongation @ 73.4F, 60% MD, 65% XMD, ASTM D5147
 - d. Tear Strength @ 73.4F, 125 lbf MD, 85lbf XMD, ASTM D5147
- B. Granule-Surfaced Roofing Cap Sheet: ASTM D 6164/D 6164M, Grade G, Type I, SBS-modified asphalt sheet (reinforced with polyester fabric); granule surfaced; suitable for application method specified, and as follows:
 - 1. Basis of Design **Cold-Adhered** Product: SOPREMA, Inc.; **Sopralene 180 FR GR** with the following physical properties:
 - a. Thickness: 91 mils (2.3mm), ASTM D5147
 - b. Peak Load @ 73.4 F, lbf/in, 85 MD, 65 XMD, ASTM D5147
 - c. Ultimate elongation @ 73.4F, 60% MD, 65% XMD, ASTM D5147
 - d. Tear Strength @ 73.4F, 125 lbf MD, 85lbf XMD, ASTM D5147
 - 2. Granule Color: White

2.4 BASE FLASHING SHEET MATERIALS

- A. Flashing Membrane Sheet: ASTM D 6164/D 6164M, Grade S, Type I, SBS-modified asphalt sheet (reinforced with polyester fabric); smooth surfaced; suitable for application method specified.
 - 1. Basis of Design **Cold-Adhered** Product: SOPREMA, Inc.; **Sopralene 180 Sanded 2.2** with the following physical properties:
 - a. Thickness: 91 mils (2.3mm), ASTM D5147

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- b. Peak Load @ 73.4 F, lbf/in, 85 MD, 65 XMD, ASTM D5147
 - c. Ultimate elongation @ 73.4F, 60% MD, 65% XMD, ASTM D5147
 - d. Tear Strength @ 73.4F, 125 lbf MD, 85lbf XMD, ASTM D5147
- B. Granule-Surfaced Flashing Sheet: ASTM D 6164/D 6164M, Grade G, Type I, SBS-modified asphalt sheet (reinforced with polyester fabric); granule surfaced; suitable for application method specified, and as follows:
 - 1. Basis of Design **Cold-Adhered** Product: SOPREMA, Inc.; **Sopralene 180 FR GR** with the following physical properties:
 - a. Thickness: 91 mils (2.3mm), ASTM D5147
 - b. Peak Load @ 73.4 F, lbf/in, 85 MD, 65 XMD, ASTM D5147
 - c. Ultimate elongation @ 73.4F, 60% MD, 65% XMD, ASTM D5147
 - d. Tear Strength @ 73.4F, 125 lbf MD, 85lbf XMD, ASTM D5147
 - 2. Granule Color: White

2.5 AUXILIARY ROOFING MATERIALS

- A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with roofing.
 - 1. Liquid-type auxiliary materials shall comply with VOC limits of authorities having jurisdiction.
- B. Asphalt Primer: ASTM D 41/D 41M.
- C. Synthetic-Polymer Primer:
 - 1. Basis of Design **Cold-Adhered** Product: SOPREMA, Inc.; Elastocol 350.
- D. Cold-Applied Low/No VOC Adhesive: Roofing system manufacturer's polymeric, one-part, asbestos-free, no-VOC, cold-applied adhesive specially formulated for compatibility and use with roofing membrane and base flashings.
 - 1. Basis of Design Roofing Membrane Adhesive Product: SOPREMA, Inc.; Colply EF Adhesive.
 - a. Maximum VOC Content: <35 g/l
 - 2. Basis of Design Base Flashing Adhesive Product: SOPREMA, Inc.; Colply EF Flashing Cement.
 - a. Maximum VOC Content: <35 g/l
- E. Asphalt Roofing Cement: Asbestos free, modified bitumen mastic/cement of consistency required by roofing system manufacturer for application.
- F. Mastic Sealant: Polyisobutylene, plain or modified bitumen; nonhardening, nonmigrating, non-skinning, and nondrying.
- G. Roofing Granules: Ceramic-coated roofing granules, No. 11 screen size with 100 percent passing **No. 8 (2.36-mm)** sieve and 98 percent of mass retained on **No. 40 (0.425-mm)** sieve, color to match roofing.

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- H. Miscellaneous Accessories: Provide those recommended by roofing system manufacturer.

2.6 ROOF INSULATION

- A. General: Preformed roof insulation boards manufactured or approved by roofing manufacturer, selected from manufacturer's standard sizes suitable for application, of thicknesses indicated.
- B. Polyisocyanurate Board Insulation: ASTM C 1289, Type II, Class 1, Grade 2, felt or glass-fiber mat facer on both major surfaces.
1. Basis-of-Design Product: Subject to compliance with requirements, provide SOPREMA, Inc.; or a comparable product by one of the following:
 - a. Atlas Roofing Corporation.
 - b. Johns Manville; a Berkshire Hathaway company
 - c. Or as approved by SBS modified Bitumen roof system manufacturer.
 2. LTTR Value: LTTR-20.5
 3. Thickness: 3.5"
- C. Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where needed for sloping to drain.
1. Cricket slope shall be double the field roof slope to create positive drainage.

2.7 INSULATION ACCESSORIES

- A. General: Roof insulation accessories recommended by insulation manufacturer for intended use and compatibility with roofing.
- B. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Global 4470, designed for fastening roof insulation to substrate, and acceptable to roofing system manufacturer.
1. Where needed as per manufacturers guidelines / requirements
- C. Insulation Adhesive: Insulation manufacturer's recommended adhesive formulated to attach roof insulation to substrate or to another insulation layer as follows:
1. Basis of Design Product: SOPREMA, Inc.; **Duotack 365**, a bead-applied, low-rise, multicomponent urethane adhesive.
- D. Insulation Cant Strips: ASTM C 728, perlite insulation board.
- E. Wood Nailer Strips: To be provided and installed at all perimeter edges, curb locations, and other locations as required by roof system manufacturer to obtain the specified system warranty.
1. Wood nailers must be equal to the thickness of the adjacent rigid insulation board to create a level transition from wood nailer to surface of insulation.
- F. Tapered Edge Strips: ASTM C 728, perlite insulation board.
- G. Cover Board: Mineral fortified, asphaltic roof substrate board with glass fiber facers.

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1. Basis of Design **Cold-Adhered** Cover Board: **1/4 inch (6 mm)** thick Sopraboard, or an equal product as supplied or approved by SBS modified Bitumen manufacturer.

2.8 WALKWAYS

- A. Walkway Pads: Polyester reinforced SBS modified bitumen pads with slip-resisting mineral-granule surface, manufactured as a traffic pad for foot traffic and acceptable to roofing system manufacturer, 3/16 inch (5 mm) thick, minimum.

1. Basis of Design **Cold-Adhered** Product: SOPREMA, Inc.; SOPRALENE 180 FR GR
2. Granule Color: to contrast with SBS surface sheet color

PART 3 - EXECUTION

3.1 DEMOLITION / TEAR-OFF

- A. Complete Tear-off: The existing roof system including membrane, coverboard, insulation, sheet metal pipe flashings, sheet metal vents, vapor barrier layers, and all other components of the existing roof system shall be removed, lowered safely to ground level, and hauled away from the site.
 1. All roofing debris including the existing roofing materials removed shall be hauled away from site and legally deposited at a landfill location that accepts roofing and construction related debris.
 2. All roofing materials shall be removed down to the LWC, LWIC, or Structural concrete substrate.

3.2 EXAMINATION

- A. Examine substrates, areas, and conditions, after existing roof has been removed, 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 cants, 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.

3.3 PREPARATION

- A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to 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.

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- C. If required by SBS Modified bitumen manufacturer, prime surface of concrete deck with approved primer and allow primer to dry. Refer to product data sheet for coverage and application information.

3.4 INSTALLATION, GENERAL

- A. Comply with roofing system manufacturer's written instructions.
- B. Substrate-Joint Penetrations: Prevent roofing asphalt and adhesives from penetrating substrate joints, entering building, or damaging roofing system components or adjacent building construction.

3.5 INSULATION INSTALLATION

- A. Install tapered insulation under area of roofing to conform to slopes indicated.
 - 1. Tapered crickets shall be installed where needed to create positive drainage and eliminate standing water / ponding water on surface of the newly installed SBS modified membrane roofing.
- B. Install insulation with long joints of insulation in a continuous straight line, with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding 1/4 inch (6 mm) with insulation.
 - 1. Cut and fit insulation within 1/4 inch (6 mm) of nailers, projections, and penetrations.
- C. Install insulation with long joints of insulation in a continuous straight line, with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding 1/4 inch (6 mm) with insulation.
 - 1. Cut and fit insulation within 1/4 inch (6 mm) of nailers, projections, and penetrations.
- D. Trim surface of insulation where necessary at roof drains so completed surface is flush and does not restrict flow of water.
- E. Install tapered edge strips at perimeter edges of roof that do not terminate at vertical surfaces.
- F. Adhered Insulation: Install each layer of insulation and adhere to substrate as follows:
 - 1. Set each layer of insulation in ribbons of bead-applied insulation adhesive, firmly pressing and maintaining insulation in place.
 - 2. Fasten insulation according to requirements in FM Global's "RoofNav" for specified Windstorm Resistance Classification.
 - 3. Fasten insulation to resist uplift pressure at corners, perimeter, and field of roof.
- G. Install specified cover boards over insulation with long joints in continuous straight lines with end joints staggered between rows. Offset joints of insulation below a minimum of 6 inches (150 mm) in each direction.
 - 1. Fasten cover boards to resist uplift pressure at corners, perimeter, and field of roof.
 - 2. Apply ribbons of bead-applied insulation adhesive and immediately bond cover board to the substrate/insulation.

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3.6 ROOFING INSTALLATION, GENERAL

- A. Install roofing system according to roofing system manufacturer's written instructions and applicable recommendations in ARMA/NRCA's "Quality Control Guidelines for the Application of Polymer Modified Bitumen Roofing" and as follows:
 - 1. Deck Type: C (concrete or nonnailable).
 - 2. Number of SBS-Modified Asphalt Sheets: One
 - 3. Surfacing Type: M (mineral-granule-surfaced cap sheet)
- B. Coordinate installation of roofing system so insulation and other components of the roofing system not permanently exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is forecast.
 - 1. Provide tie-offs at end of each day's work to cover exposed roofing sheets and insulation.
 - 2. Complete terminations and base flashings, and provide temporary seals to prevent water from entering completed sections of roofing system.
 - 3. Remove and discard temporary seals before beginning work on adjoining roofing.
 - 4. Night seal is required regardless of the percentage chance of rain. A night seal is required at the end of each day. No exceptions

3.7 SBS-MODIFIED BITUMINOUS BASE-PLY MEMBRANE INSTALLATION

- A. Install modified bituminous roofing base ply sheet according to roofing manufacturer's written instructions, starting at low point of roofing system. Extend roofing membrane sheets over and terminate beyond cants, when applicable, installing as follows:
 - 1. Cold-Applied: Adhere to substrate in cold-applied adhesive.
 - 2. Unroll roofing sheets and allow them to relax.
 - 3. Heat Weld all end laps seams using a hot air welder to assure a water-tight seal.
- B. Laps: Accurately align roofing sheets, without stretching, and maintain uniform side and end laps. Stagger end laps. Completely bond and seal laps, leaving no voids.
 - 1. Repair tears and voids in laps and lapped seams not completely sealed.

3.8 SBS-MODIFIED BITUMINOUS CAP SHEET MEMBRANE INSTALLATION

- A. Install modified bituminous roofing cap sheet according to roofing manufacturer's written instructions, starting at low point of roofing system. Extend roofing membrane sheets over and terminate beyond cants, when applicable.
 - 1. Cold-Applied: Adhere to substrate in cold-applied adhesive.
- B. SBS Cap Sheet Installation:
 - 1. Unroll cap sheet and allow them to relax.
 - 2. Cold-Applied: Adhere to SBS base ply in cold-applied adhesive.
 - 3. Heat Weld all end lap seams using a hot air welder to assure water-tight seal.

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- C. Laps: Accurately align roofing sheets, without stretching, and maintain uniform side and end laps. Stagger end laps. Completely bond and seal laps, leaving no voids.
 - 1. Repair tears and voids in laps and lapped seams not completely sealed.
 - 2. Apply roofing granules to cover exuded bead at laps while bead is wet.
- D. Install roofing sheets so side and end laps shed water.

3.9 FLASHING AND STRIPPING INSTALLATION

- A. Install base flashing, where applicable, over cant strips and other sloped and vertical surfaces, at roof edges, and at penetrations through roof, and secure to substrates according to roofing system manufacturer's written instructions and as follows:
 - 1. Prime substrates with asphalt primer.
 - a. Where required by manufacturer
 - 2. Backer-Sheet Application: Mechanically fasten backer sheet to walls or parapets.
 - 3. Flashing-Sheet Application: Adhere flashing sheet to substrate in approved flashing cement.
- B. Extend base flashing up walls or parapets a minimum of 8 inches (200 mm) above roofing membrane and 4 inches (100 mm) onto field of roofing membrane.
- C. Mechanically fasten top of base flashing securely at terminations and perimeter of roofing.
 - 1. Seal top termination of base flashing.
- D. Install SBS stripping ply (plies) where metal flanges and edgings are set on roofing according to roofing system manufacturer's written instructions.
- E. Roof Drains: Set **30-by-30-inch (760-by-760-mm)** metal flashing in bed of flashing cement on completed roofing SBS base/inter-ply. Cover metal flashing with SBS base ply stripping ply, and extend a minimum of 4 inches (100 mm) beyond edge of metal flashing onto field of roofing membrane. Cover SBS base ply stripping ply and extend a minimum of [4 inches (100 mm)] with the SBS cap sheet, fully adhered. Clamp roofing membrane, metal flashing, and stripping into roof-drain clamping ring.

3.10 WALKWAY INSTALLATION

- A. Walkway Pads: Install walkway pads using units of size indicated or, if not indicated, of manufacturer's standard size, according to walkway pad manufacturer's written instructions.
 - 1. Set walkway pads in flashing cement.
 - 2. Install walkway pads (sacrificial layer of roof surface membrane) on the working side of all units, at roof access point, and in other heavy traffic areas.
 - a. Consult with facilities management for location walkways for heavy traffic areas.

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3.11 FIELD QUALITY CONTROL

- A. Manufacturer Progress Inspections: The SBS modified Bitumen manufacturer will provide progress inspections a minimum of once each week during the project.
 - 1. Roofing Contractor shall provide access for manufacturer's inspections
 - 2. Roofing Contractor shall coordinate with manufacturer to facilitate weekly inspections
- B. Manufacturer Progress Inspection Reports: Roof System Manufacturer shall provide a written report after each progress site visit. The report shall be provided to:
 - 1. The building owner or building owner's representative
 - 2. The roofing contractor
 - 3. The architect or roof consultant where applicable
- C. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion.
 - 1. Notify Architect and / or Owner 48 hours in advance of date and time of inspection.
- D. Roofing system will be considered incomplete if it does not pass tests and inspections.
 - 1. Additional testing and inspecting, at Contractor's expense, will be performed to determine if replaced or additional work complies with specified requirements.

3.12 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, inspect roofing 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 according to warranty requirements.
- C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION 075216

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SECTION 075216 - STYRENE-BUTADIENE-STYRENE (SBS) MODIFIED BITUMINOUS
MEMBRANE ROOFING

PART 1 - GENERAL

1.1 SCOPE OF WORK

- A. This is a turn-key project that should include all equipment, materials, labor, safety including fall protection, safety barricades, fencing, port-a-johns, site supervision, etc.
 - 1. Tear-off: The existing roof shall be removed down to the existing LWC substrate.
 - 2. Examination: Inspect substrate for damage or defect, perform minor repairs to substrate to comply with manufacturers requirements.
 - 3. Coverboard applied in Low Rise Foam Adhesive
 - 4. SBS modified Base Ply applied in a low odor / no odor, ultra-low VOC cold ply adhesive.
 - 5. SBS modified Cap ply applied in a low odor / no odor ultra-low VOC cold ply adhesive.
 - 6. SBS modified base flashings base and cap ply applied in a low odor / no odor ultra-low VOC cold ply flashing cement.
 - 7. All other materials needed to complete the project.
 - 8. Materials and project requirements are contained in Part II Products and Part III Execution.

1.2 SUMMARY

- A. Section Includes:
 - 1. Styrene-butadiene-styrene (SBS)-modified bituminous membrane roofing.
 - 2. Roof insulation.

1.3 DEFINITIONS

- A. Roofing Terminology: Definitions in ASTM D 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" apply to work of this Section.

1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Roofing Conference: Conduct conference at Project site.
 - 1. Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative, deck Installer, 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.
 - 3. Review and finalize construction schedule, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.

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4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
5. Review structural loading limitations of roof deck during and after roofing.
6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that affects roofing system.
7. Review governing regulations and requirements for insurance and certificates if applicable.
8. Review temporary protection requirements for roofing system during and after installation.
9. Review roof observation and repair procedures after roofing installation.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Sustainable Design Submittals:
 1. Product Data: For adhesives and sealants, indicating VOC content.
 2. Laboratory Test Reports: For adhesives and sealants, indicating compliance with requirements for low-emitting materials.
- C. Shop drawings:
 1. Full Tapered System design as provided by manufacturer or supplier.
- D. Samples for Verification: For the following products:
 1. Cap sheet, of color required.
 2. Flashing sheet, of color required.

1.6 BID SUBMITTALS

- A. The following information must be included with bid submittal
 1. Notice of intent to warranty letter provided by and signed by the roof system manufacturer that describes the materials and assemblies to be installed.
 2. Installer Qualification Letter: Provide letter that states that the contractor is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty.

INFORMATIONAL SUBMITTALS

- B. Qualification Data: For Installer and manufacturer
- C. Manufacturer Certificates: Signed by roofing manufacturer certifying that roofing system complies with requirements specified in "Performance Requirements" Article.
 1. Submit evidence of complying with performance requirements.
- D. Product Test Reports: For components of membrane roofing system, for tests performed by manufacturer and witnessed by a qualified testing agency.

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- E. Research/Evaluation Reports: For components of membrane roofing system.
- F. Field quality-control reports.
- G. Sample Warranties: For manufacturer's special warranties.

1.7 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For roofing system to include in maintenance manuals.

1.8 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A qualified manufacturer that is UL listed and or FM Global approved for membrane roofing system identical to that used for this Project.
- B. Manufacturer Qualifications: Manufacturer shall employ trained technical service representatives, independent of sales.
- C. Manufacturer Qualifications: Manufacturer shall be an ISO 9001 registered company and provide a 'Quality Compliance Certificate (QCC)' for reporting/confirming the tested values of the SBS modified bitumen membrane materials upon request.
- D. 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.

1.9 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.

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1.10 FIELD CONDITIONS

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

1.11 WARRANTY

- A. **Platinum NDL Roof Warranty:** Manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period.
1. Special warranty Rider includes membrane roofing, base flashings, roof insulation, fasteners, cover boards, substrate board, roofing accessories including sheet metal flashings, and other components of roofing system.
 2. Warranty Period: **20** years from date of Substantial Completion.
- B. Special Project Warranty: Submit roofing Installer's warranty, on roofing contractors standard warranty form or letterhead, signed by Installer, covering the Work of this Section, including all components of roofing system such as membrane roofing, base flashing, roof insulation, fasteners, cover boards, substrate boards, vapor retarders, and walkway products, for the following warranty period:
1. Warranty Period: **Two** years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide SOPREMA, Inc.; SBS Roofing Membrane or a comparable product by one of the following:
1. Johns Manville; a Berkshire Hathaway company.
 2. Siplast, Inc.
 3. Or a prior approved equal (must be submitted prior 10 days prior to bid)
- B. Source Limitations: Obtain components including roof insulation, coverboard, fasteners, liquid flashing membrane, for roofing system from same manufacturer as membrane roofing.

2.2 PERFORMANCE REQUIREMENTS

- A. General Performance: Installed roofing and base flashings shall 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 base flashings shall remain watertight.
1. Accelerated Weathering: Roofing system shall withstand 2000 hours of exposure when tested according to ASTM G 152, ASTM G 154, or ASTM G 155.
 2. Impact Resistance: Roofing system shall resist impact damage when tested according to ASTM D 3746 or ASTM D 4272.

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- B. Material Compatibility: Roofing materials shall be compatible with one another and adjacent materials under conditions of service and application required, as demonstrated by roofing manufacturer based on testing and field experience.
- C. FM Global Listing: Roofing and component materials shall comply with requirements in FM Global 4450 or FM Global 4470 as part of a roofing system, and shall be listed in FM Global's "RoofNav" for Class 1 or noncombustible construction, as applicable. Identify materials with FM Global markings.
 - 1. Fire/Windstorm Classification: Class 1A-60
- D. Exterior Fire-Test Exposure: ASTM E 108 or UL 790, Class A; for application and roof slopes indicated; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
- E. Fire-Resistance Ratings: Comply with fire-resistance-rated assembly designs indicated. Identify products with appropriate markings of applicable testing agency.

2.3 ROOFING SHEET MATERIALS

- A. Roofing Membrane Sheet: ASTM D 6164/D 6164M, Grade S, Type I, SBS-modified asphalt sheet (reinforced with polyester fabric); smooth surfaced; suitable for application method specified.
 - 1. Basis of Design **Cold-Adhered** Product: SOPREMA, Inc.; **Sopralene 180 Sanded 2.2** with the following physical properties:
 - a. Thickness: 91 mils (2.3mm), ASTM D5147
 - b. Peak Load @ 73.4 F, lbf/in, 85 MD, 65 XMD, ASTM D5147
 - c. Ultimate elongation @ 73.4F, 60% MD, 65% XMD, ASTM D5147
 - d. Tear Strength @ 73.4F, 125 lbf MD, 85lbf XMD, ASTM D5147
- B. Granule-Surfaced Roofing Cap Sheet: ASTM D 6164/D 6164M, Grade G, Type I, SBS-modified asphalt sheet (reinforced with polyester fabric); granule surfaced; suitable for application method specified, and as follows:
 - 1. Basis of Design **Cold-Adhered** Product: SOPREMA, Inc.; **Sopralene 180 FR GR** with the following physical properties:
 - a. Thickness: 91 mils (2.3mm), ASTM D5147
 - b. Peak Load @ 73.4 F, lbf/in, 85 MD, 65 XMD, ASTM D5147
 - c. Ultimate elongation @ 73.4F, 60% MD, 65% XMD, ASTM D5147
 - d. Tear Strength @ 73.4F, 125 lbf MD, 85lbf XMD, ASTM D5147
 - 2. Granule Color: White

2.4 BASE FLASHING SHEET MATERIALS

- A. Flashing Membrane Sheet: ASTM D 6164/D 6164M, Grade S, Type I, SBS-modified asphalt sheet (reinforced with polyester fabric); smooth surfaced; suitable for application method specified.
 - 1. Basis of Design **Cold-Adhered** Product: SOPREMA, Inc.; **Sopralene 180 Sanded 2.2** with the following physical properties:
 - a. Thickness: 91 mils (2.3mm), ASTM D5147

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- b. Peak Load @ 73.4 F, lbf/in, 85 MD, 65 XMD, ASTM D5147
 - c. Ultimate elongation @ 73.4F, 60% MD, 65% XMD, ASTM D5147
 - d. Tear Strength @ 73.4F, 125 lbf MD, 85lbf XMD, ASTM D5147
- B. Granule-Surfaced Flashing Sheet: ASTM D 6164/D 6164M, Grade G, Type I, SBS-modified asphalt sheet (reinforced with polyester fabric); granule surfaced; suitable for application method specified, and as follows:
 - 1. Basis of Design **Cold-Adhered** Product: SOPREMA, Inc.; **Sopralene 180 FR GR** with the following physical properties:
 - a. Thickness: 91 mils (2.3mm), ASTM D5147
 - b. Peak Load @ 73.4 F, lbf/in, 85 MD, 65 XMD, ASTM D5147
 - c. Ultimate elongation @ 73.4F, 60% MD, 65% XMD, ASTM D5147
 - d. Tear Strength @ 73.4F, 125 lbf MD, 85lbf XMD, ASTM D5147
 - 2. Granule Color: White

2.5 AUXILIARY ROOFING MATERIALS

- A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with roofing.
 - 1. Liquid-type auxiliary materials shall comply with VOC limits of authorities having jurisdiction.
- B. Asphalt Primer: ASTM D 41/D 41M.
- C. Synthetic-Polymer Primer:
 - 1. Basis of Design **Cold-Adhered** Product: SOPREMA, Inc.; Elastocol 350.
- D. Cold-Applied Low/No VOC Adhesive: Roofing system manufacturer's polymeric, one-part, asbestos-free, no-VOC, cold-applied adhesive specially formulated for compatibility and use with roofing membrane and base flashings.
 - 1. Basis of Design Roofing Membrane Adhesive Product: SOPREMA, Inc.; Colply EF Adhesive.
 - a. Maximum VOC Content: <35 g/l
 - 2. Basis of Design Base Flashing Adhesive Product: SOPREMA, Inc.; Colply EF Flashing Cement.
 - a. Maximum VOC Content: <35 g/l
- E. Asphalt Roofing Cement: Asbestos free, modified bitumen mastic/cement of consistency required by roofing system manufacturer for application.
- F. Mastic Sealant: Polyisobutylene, plain or modified bitumen; nonhardening, nonmigrating, non-skinning, and nondrying.
- G. Roofing Granules: Ceramic-coated roofing granules, No. 11 screen size with 100 percent passing **No. 8 (2.36-mm)** sieve and 98 percent of mass retained on **No. 40 (0.425-mm)** sieve, color to match roofing.

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- H. Miscellaneous Accessories: Provide those recommended by roofing system manufacturer.

2.6 ROOF INSULATION

- A. General: Preformed roof insulation boards manufactured or approved by roofing manufacturer, selected from manufacturer's standard sizes suitable for application, of thicknesses indicated.
- B. Polyisocyanurate Board Insulation (full tapered system): ASTM C 1289, Type II, Class 1, Grade 2, felt or glass-fiber mat facer on both major surfaces.
1. Basis-of-Design Product: Subject to compliance with requirements, provide SOPREMA, Inc.; Sopra-ISO Tapered Insulation or a comparable product by one of the following:
 - a. Atlas Roofing Corporation.
 - b. Johns Manville; a Berkshire Hathaway company
 - c. Or as approved by SBS modified Bitumen roof system manufacturer.
 2. Provide a full tapered system over the existing LWC substrate.
 3. Tapered System Slope: 1/4":12
 4. Tapered design must provide positive drainage to existing roof drains.
 5. Minimum thickness: 1/2" Thickness
- C. Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where needed for sloping to drain.

2.7 INSULATION ACCESSORIES

- A. General: Roof insulation accessories recommended by insulation manufacturer for intended use and compatibility with roofing.
- B. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Global 4470, designed for fastening roof insulation to substrate, and acceptable to roofing system manufacturer.
1. Where needed as per manufacturers guidelines / requirements
- C. Insulation Adhesive: Insulation manufacturer's recommended adhesive formulated to attach roof insulation to substrate or to another insulation layer as follows:
1. Basis of Design Product: SOPREMA, Inc.; **Duotack 365**, a bead-applied, low-rise, multicomponent urethane adhesive.
- D. Insulation Cant Strips: ASTM C 728, perlite insulation board.
- E. Wood Nailer Strips: To be provided and installed at all perimeter edges, curb locations, and other locations as required by roof system manufacturer to obtain the specified system warranty.
1. Wood nailers must be equal to the thickness of the adjacent rigid insulation board to create a level transition from wood nailer to surface of insulation.
- F. Tapered Edge Strips: ASTM C 728, perlite insulation board.

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- G. Cover Board: Mineral fortified, asphaltic roof substrate board with glass fiber facers.
 - 1. Basis of Design **Cold-Adhered** Cover Board: **1/4 inch (6 mm)** thick Sopraboard, or an equal product as supplied or approved by SBS modified Bitumen manufacturer.

2.8 WALKWAYS

- A. Walkway Pads: Polyester reinforced SBS modified bitumen pads with slip-resisting mineral-granule surface, manufactured as a traffic pad for foot traffic and acceptable to roofing system manufacturer, 3/16 inch (5 mm) thick, minimum.
 - 1. Basis of Design **Cold-Adhered** Product: SOPREMA, Inc.; SOPRALENE 180 FR GR
 - 2. Granule Color: to contrast with SBS surface sheet color

PART 3 - EXECUTION

3.1 DEMOLITION / TEAR-OFF

- A. Complete Tear-off: The existing roof system including membrane, coverboard, insulation, sheet metal pipe flashings, sheet metal vents, vapor barrier layers, and all other components of the existing roof system shall be removed, lowered safely to ground level, and hauled away from the site.
 - 1. All roofing debris including the existing roofing materials removed shall be hauled away from site and legally deposited at a landfill location that accepts roofing and construction related debris.
 - 2. All roofing materials shall be removed down to the LWC, LWIC, or Structural concrete substrate.

3.2 EXAMINATION

- A. Examine substrates, areas, and conditions, after existing roof has been removed, 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 cants, 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.

3.3 PREPARATION

- A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.

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- 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. If required by SBS Modified bitumen manufacturer, prime surface of concrete deck with approved primer and allow primer to dry. Refer to product data sheet for coverage and application information.

3.4 INSTALLATION, GENERAL

- A. Comply with roofing system manufacturer's written instructions.
- B. Substrate-Joint Penetrations: Prevent roofing asphalt and adhesives from penetrating substrate joints, entering building, or damaging roofing system components or adjacent building construction.

3.5 INSULATION INSTALLATION

- A. Install full tapered insulation system ½" minimum thickness over the entire existing LWC roof substrate.
 - 1. Full tapered system design:
 - a. Tapered insulation slope: ¼":12
 - b. Method of adhesion: Low Rise Foam Adhesive supplied by SBS system manufacturer.
 - 2. Full tapered system and shall be installed according to shop drawing provided by tapered insulation manufacturer or supplier and submitted as part of the approved project submittal package.
- B. Install insulation with long joints of insulation in a continuous straight line, with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding 1/4 inch (6 mm) with insulation.
 - 1. Cut and fit insulation within 1/4 inch (6 mm) of nailers, projections, and penetrations.
- C. Trim surface of insulation where necessary at roof drains so completed surface is flush and does not restrict flow of water.
- D. Install tapered edge strips at perimeter edges of roof that do not terminate at vertical surfaces.
- E. Adhered Insulation: Install each layer of insulation and adhere to substrate as follows:
 - 1. Set each layer of insulation in ribbons of bead-applied insulation adhesive, firmly pressing and maintaining insulation in place.
 - 2. Fasten insulation according to requirements in FM Global's "RoofNav" for specified Windstorm Resistance Classification.
 - 3. Fasten insulation to resist uplift pressure at corners, perimeter, and field of roof.

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- F. Install cover boards over insulation with long joints in continuous straight lines with end joints staggered between rows. Offset joints of insulation below a minimum of 6 inches (150 mm) in each direction.
 - 1. Fasten cover boards to resist uplift pressure at corners, perimeter, and field of roof.
 - 2. Apply ribbons of bead-applied insulation adhesive and immediately bond cover board to the substrate/insulation.

3.6 ROOFING INSTALLATION, GENERAL

- A. Install roofing system according to roofing system manufacturer's written instructions and applicable recommendations in ARMA/NRCA's "Quality Control Guidelines for the Application of Polymer Modified Bitumen Roofing" and as follows:
 - 1. Deck Type: C (concrete or nonnailable).
 - 2. Number of SBS-Modified Asphalt Sheets: One
 - 3. Surfacing Type: M (mineral-granule-surfaced cap sheet)
- B. Coordinate installation of roofing system so insulation and other components of the roofing system not permanently exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is forecast.
 - 1. Provide tie-offs at end of each day's work to cover exposed roofing sheets and insulation.
 - 2. Complete terminations and base flashings, and provide temporary seals to prevent water from entering completed sections of roofing system.
 - 3. Remove and discard temporary seals before beginning work on adjoining roofing.
 - 4. Night seal is required regardless of the percentage chance of rain. A night seal is required at the end of each day. No exceptions

3.7 SBS-MODIFIED BITUMINOUS BASE-PLY MEMBRANE INSTALLATION

- A. Install modified bituminous roofing base ply sheet according to roofing manufacturer's written instructions, starting at low point of roofing system. Extend roofing membrane sheets over and terminate beyond cants, when applicable, installing as follows:
 - 1. Cold-Applied: Adhere to substrate in cold-applied adhesive.
 - 2. Unroll roofing sheets and allow them to relax.
 - 3. Heat Weld all end laps seams using a hot air welder to assure a water-tight seal.
- B. Laps: Accurately align roofing sheets, without stretching, and maintain uniform side and end laps. Stagger end laps. Completely bond and seal laps, leaving no voids.
 - 1. Repair tears and voids in laps and lapped seams not completely sealed.

3.8 SBS-MODIFIED BITUMINOUS CAP SHEET MEMBRANE INSTALLATION

- A. Install modified bituminous roofing cap sheet according to roofing manufacturer's written instructions, starting at low point of roofing system. Extend roofing membrane sheets over and terminate beyond cants, when applicable.
 - 1. Cold-Applied: Adhere to substrate in cold-applied adhesive.

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B. SBS Cap Sheet Installation:

1. Unroll cap sheet and allow them to relax.
2. Cold-Applied: Adhere to SBS base ply in cold-applied adhesive.
3. Heat Weld all end lap seams using a hot air welder to assure water-tight seal.

C. Laps: Accurately align roofing sheets, without stretching, and maintain uniform side and end laps. Stagger end laps. Completely bond and seal laps, leaving no voids.

1. Repair tears and voids in laps and lapped seams not completely sealed.
2. Apply roofing granules to cover exuded bead at laps while bead is wet.

D. Install roofing sheets so side and end laps shed water.

3.9 FLASHING AND STRIPPING INSTALLATION

A. Install base flashing, where applicable, over cant strips and other sloped and vertical surfaces, at roof edges, and at penetrations through roof, and secure to substrates according to roofing system manufacturer's written instructions and as follows:

1. Prime substrates with asphalt primer.
 - a. Where required by manufacturer
2. Backer-Sheet Application: Mechanically fasten backer sheet to walls or parapets.
3. Flashing-Sheet Application: Adhere flashing sheet to substrate in approved flashing cement.

B. Extend base flashing up walls or parapets a minimum of 8 inches (200 mm) above roofing membrane and 4 inches (100 mm) onto field of roofing membrane.

C. Mechanically fasten top of base flashing securely at terminations and perimeter of roofing.

1. Seal top termination of base flashing.

D. Install SBS stripping ply (plies) where metal flanges and edgings are set on roofing according to roofing system manufacturer's written instructions.

E. Roof Drains: Set **30-by-30-inch (760-by-760-mm)** metal flashing in bed of flashing cement on completed roofing SBS base/inter-ply. Cover metal flashing with SBS base ply stripping ply, and extend a minimum of 4 inches (100 mm) beyond edge of metal flashing onto field of roofing membrane. Cover SBS base ply stripping ply and extend a minimum of [4 inches (100 mm)] with the SBS cap sheet, fully adhered. Clamp roofing membrane, metal flashing, and stripping into roof-drain clamping ring.

3.10 WALKWAY INSTALLATION

A. Walkway Pads: Install walkway pads using units of size indicated or, if not indicated, of manufacturer's standard size, according to walkway pad manufacturer's written instructions.

1. Set walkway pads in flashing cement.

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2. Install walkway pads (sacrificial layer of roof surface membrane) on the working side of all units, at roof access point, and in other heavy traffic areas.
 - a. Consult with facilities management for location walkways for heavy traffic areas.

3.11 FIELD QUALITY CONTROL

- A. Manufacturer Progress Inspections: The SBS modified Bitumen manufacturer will provide progress inspections a minimum of once each week during the project.
 1. Roofing Contractor shall provide access for manufacturer's inspections
 2. Roofing Contractor shall coordinate with manufacturer to facilitate weekly inspections
- B. Manufacturer Progress Inspection Reports: Roof System Manufacturer shall provide a written report after each progress site visit. The report shall be provided to:
 1. The building owner or building owner's representative
 2. The roofing contractor
 3. The architect or roof consultant where applicable
- C. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion.
 1. Notify Architect and / or Owner 48 hours in advance of date and time of inspection.
- D. Roofing system will be considered incomplete if it does not pass tests and inspections.
 1. Additional testing and inspecting, at Contractor's expense, will be performed to determine if replaced or additional work complies with specified requirements.

3.12 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, inspect roofing 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 according to warranty requirements.
- C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION 075216

SOPRABOARD®

1/4"

SOPRABOARD® 1/4"
PRODUCT #
Contact Customer Service

PRODUCT DATA SHEET

DESCRIPTION & FEATURES

SOPRABOARD is a semi rigid, asphaltic roofing substrate board for use in approved multi-ply membrane and flashing assemblies. SOPRABOARD is composed of a mineral fortified asphaltic core formed between two fiber-glass reinforcing plies. SOPRABOARD is designed for use with SOPREMA®'s SBS-modified bitumen membranes and may be used as a protection board in SOPREMA's waterproofing systems and assemblies.

STORAGE & HANDLING

Store SOPRABOARD flat on a pallet to prevent damage. Do not double stack pallets of SOPRABOARD as this may cause damage to the lower pallet. Store in a clean, dry location and cover as necessary to protect boards from environmental damage such as extreme heat, cold, or moisture.

APPLICATION

Place SOPRABOARD in desired position. Apply SOPRABOARD with mechanical fasteners, or adhere with DUOTACK® insulation adhesive or hot asphalt, following the details for the uplift pressure required. Subsequent approved base-ply membranes are adhered to SOPRABOARD via heat welding, cold adhesive, self-adhesive or hot asphalt applications. Refer to the SOPREMA SBS Roofing Manual for additional application guidelines.



SOPREMA®

www.soprema.us

310 Quadral Drive, Wadsworth, Ohio 44281

Toll Free: (800) 356-3521 | Tel: (330) 334-0066

TECHNICAL INFORMATION & TESTING

DIMENSIONS & MASS	
PROPERTY	SOPRABOARD 1/4"
Thickness, in (mm)	1/4 (6.4)
Board Size, ft x ft (m x m)	4x4 (1.2 x 1.2), 4x5 (1.2 x 1.5), 4x8 (1.2 x 2.4)
Weight, lb/ft² (kg/m²)	1.9 (9.3)

PHYSICAL PROPERTIES		
PROPERTY	SOPRABOARD 1/4"	TEST METHOD
Puncture resistance, lbf (N)	100 (445)	ASTM E154
Water absorption, %	<1.0	ASTM D994
Compressive strength, psi (kPA)**	1320 (9100)	ASTM C472
Hardness, min 20 lbf (89 N)	Pass	ASTM C1278

* Data is represented by average values, unless noted otherwise.

** Measured at 50% compression.

PRODUCT DATA SHEET

DESCRIPTION & FEATURES

DUOTACK 365 is a low rise, two component polyurethane adhesive. DUOTACK 365 is used to adhere insulation and cover boards to approved substrates. Insulation and cover boards may include polyisocyanurate, polystyrene, mineral fiber, gypsum, wood fiber, cement, perlite and asphaltic roof boards. DUOTACK 365's unique chemistry provides for a versatile quick setting adhesive that is not susceptible to low relative humidity or temperature.

STORAGE & HANDLING

DUOTACK 365 should be stored in a clean, dry location and protected from environmental exposure and out of direct sunlight. DUOTACK 365 can be stored without temperature restrictions. When used during cold weather, DUOTACK 365 should be conditioned to a minimum temperature of 14°F (-10°C). When stored properly, DUOTACK has a shelf life of 12 months from its manufacture date.

APPLICATION

DUOTACK 365 is applied to approved substrates free of oil, grease, dirt and other contaminants in ½" to ¾" ribbons. Maximum spacing for these ribbons is 12 inches on-center, though 6 inches and 4 inches on center are used in perimeters and corners. Once applied, immediately place the insulation/coverboard into the wet adhesive and do not allow the adhesive time to skin over. Maintain constant pressure/weight on the boards while DUOTACK 365 cures, usually in minutes but may vary depending on environmental conditions. The published application rates may vary based on substrate type and other project conditions. Additional DUOTACK 365 is required for rough, uneven and porous substrates.

QUICK FACTS

CARTRIDGE	
CASE QUANTITY	COVERAGE (ft²)
4 cartridges	100-150 per dual cartridge

CUBITAINER	
CUBITAINER QUANTITY (gal)	COVERAGE (ft²)
10 per cubitainer set (A&B)	2500-3800 per cubitainer set (A&B)

MINI DRUMS	
DRUM QUANTITY (gal)	COVERAGE (ft²)
30 per drum set (A&B)	7500-11400 per drum set (A&B)

DRUMS	
CUBITAINER QUANTITY (gal)	COVERAGE (ft²)
100 per cubitainer set (A&B)	25000-38000 per cubitainer set (A&B)



TECHNICAL INFORMATION & TESTING

PROPERTIES		
PROPERTY		TEST METHOD
Viscosity, Brookfield @ 77 °F (25 °C) 5 rpm, sp# 4, cP Part A Part B	400-600 4,000-7,000	ASTM D2556
Rise time, seconds	Approx. 90	Internal/industry
Curing time, minutes	30	Internal/industry
Tack free time, minutes @ 70°F (21°C)	10-12	-
Color Part A Part B	Amber Grey	-

TESTING & APPROVALS



PRODUCT DATA SHEET

DESCRIPTION & FEATURES

COLPLY EF Flashing Cement is a high performance, single-component viscous cement for use with SBS-modified bitumen membrane flashing assemblies. Due to its polymer composition, once cured, COLPLY EF Flashing Cement provides an additional layer of elastomeric waterproofing protection beneath or between membrane plies. COLPLY EF (environmentally friendly) Flashing Cement is unique in that it is a solvent-free and ultra-low VOC material allowing for application flexibility on job sites where exposure to VOCs or odor may be a concern.

STORAGE

Store on end and maintain in an upright position to prevent damage. Store in a clean dry location and cover as necessary to protect from environmental damage such as extreme cold, heat, or moisture. Monitor varying environmental conditions during storage, handling and application of COLPLY EF Flashing Cement.

APPLICATION

COLPLY EF Flashing Cement is applied to approved, compatible substrates using ¼ inch notched neoprene squeegees or trowels. Apply COLPLY EF Flashing Cement at 2 to 2.5 gallons per 100 square feet for sand surfaced interply applications. The application rate over approved absorptive or rough substrate surfaces vary, requiring 2.5 gallons or more per 100 square feet. Specifically granulated surfaces require 4 to 5 gallons per 100 square feet. COLPLY EF Flashing Cement is applied to both the flashing ply and the substrate prior to placement of the flashing ply. When the ambient temperature is below 50°F (10°C), material should be warmed to a temperature of 70°F (24°C) at the time of application. Refer to SOPREMA SBS Roofing Manual for additional application guidelines.

QUICK FACTS

ASTM STANDARD	CONTAINER (gal)	COVERAGE* (gal/100 ft ²)
D4586	3.5 (13.2 L)	2.0-2.5 interply

* Coverage rate as reported assumes installation using side and end lap recommendations.

TECHNICAL INFORMATION & TESTING

PRODUCT INFORMATION	
Description	Polymer modified flashing adhesive
Installation	Trowel applied
Packaging, gal (L)	3.5 (13.2)
Application rate, gal/100 ft² (absorptive surface)	1.5 - 2.0 (2.0 - 2.5)

TESTING & APPROVALS



SOPRALENE®

180 SANDED 2.2

SOPRALENE®
180 SANDED 2.2
PRODUCT # 00568

PRODUCT DATA SHEET

DESCRIPTION & FEATURES

SOPRALENE 180 Sanded 2.2 is an SBS-modified bitumen base ply for use in approved multi-ply membrane and flashing assemblies. SOPRALENE 180 Sanded 2.2 is composed of a proprietary formulation of elastomeric styrene-butadiene-styrene (SBS) polymer modified bitumen and is reinforced with a tough, dimensionally stable non-woven polyester mat. The topside and underside are surfaced with fine mineral aggregate to facilitate cold adhesive application.

STORAGE & HANDLING

Store rolls on end and maintain in an upright position to prevent damage. Store rolls in a clean dry location and cover as necessary to protect rolls from environmental damage such as extreme cold, heat, or moisture. Monitor varying environmental conditions during storage, handling and application of SOPRALENE 180 Sanded 2.2.

APPLICATION

Prior to installation, unroll SOPRALENE 180 Sanded 2.2 onto the roof surface and allow to relax. Place SOPRALENE 180 Sanded 2.2 in desired position and back roll the product. Apply approved cold adhesive following manufacturer's guidelines. SOPRALENE 180 Sanded 2.2 is then rolled into the cold adhesive subsequently rolled with a weighted roller. Subsequent approved inter-ply or cap ply membranes are applied to SOPRALENE 180 Sanded 2.2 via cold adhesive. Refer to the SOPREMA® SBS Roofing Guide for additional application guidelines.



APPLICATION



COLD ADHESIVE

QUICK FACTS

ASTM STANDARD	LENGTH (ft)	WIDTH (in)	COVERAGE* (ft²)	THICKNESS (mils)	ROLL WEIGHT (lb)	ROLLS/ PALLET (pallet weight)
D6164 Type 1, Grade S	49.2 (15.0 m)	39.4 (1.0 m)	147.6 (13.7 m²)	91 (2.3 mm)	92 (41.7 kg)	30 (2,810 lb/ 1,274 kg)

* Coverage rate as reported assumes installation using side and end lap recommendations.



SOPREMA®

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TECHNICAL INFORMATION & TESTING

SHEET PROPERTIES	
Reinforcement	Polyester
Elastomeric bitumen	Proprietary blend of bitumen and SBS polymers
Top surfacing	Sanded
Back surfacing	Sanded
Selvage width, in (mm)	3 (76)
End lap, in (mm)	6 (152)

DIMENSIONS & MASS		
PROPERTY		TEST METHOD
Thickness, mils (mm)	91 (2.3)	ASTM D5147
Net mass per unit area, lb/100ft ² (g/m ²)	57 (2782)	ASTM D5147

PHYSICAL PROPERTIES			
PROPERTY	MD	XMD	TEST METHOD
Peak load @ 0°F (-18°C), lbf/in (kN/m)	110 (19.3)	85 (14.9)	ASTM D5147
Elongation at peak load @ 0°F (-18°C), %	35	40	ASTM D5147
Peak load @ 73.4°F (23°C), lbf/in (kN/m)	85 (14.9)	65 (11.4)	ASTM D5147
Elongation at peak load @ 73.4°F (23°C), %	55	60	ASTM D5147
Ultimate elongation @ 73.4°F (23°C), %	60	65	ASTM D5147
Tear strength @ 73.4°F (23°C), lbf (N)	125 (556)	85 (378)	ASTM D5147
Low temperature flexibility, °F (°C)	-15 (-26)	-15 (-26)	ASTM D5147
Dimensional stability, %	< 0.5	< 0.5	ASTM D5147
Compound stability, °F (°C)	240 (116)	240 (116)	ASTM D5147

* Data is represented by average values, unless noted otherwise.

TESTING & APPROVALS



FLORIDA BUILDING CODE



SOPRALENE®

180 FR GR

SOPRALENE® 180 FR GR
PRODUCT # 01365 (WH)
05006 (SG)
01323 (ECO3)

PRODUCT DATA SHEET

DESCRIPTION & FEATURES

SOPRALENE 180 FR GR (fire retardant, granulated) is an SBS-modified bitumen cap ply for use in approved multi-ply membrane and flashing assemblies. SOPRALENE 180 FR GR is composed of a proprietary formulation of elastomeric styrene-butadiene-styrene (SBS) polymer modified bitumen and is reinforced with a tough, dimensionally stable non-woven polyester mat. The topside is surfaced with ceramic coated granules and the underside is surfaced with fine mineral aggregate to facilitate cold adhesive application.

SOPRALENE 180 FR GR includes the standard white granules. Contact SOPREMA® Customer Service or your sales representative for other granule color options and special order requirements.

STORAGE & HANDLING

Store rolls on end and maintain in an upright position to prevent damage. Store rolls in a clean dry location and cover as necessary to protect rolls from environmental damage such as extreme cold, heat, or moisture. Monitor varying environmental conditions during storage, handling and application of SOPRALENE 180 FR GR.

APPLICATION

Prior to installation, unroll SOPRALENE 180 FR GR onto the roof surface and allow to relax. Place SOPRALENE 180 FR GR in desired position and back roll the product. Apply approved cold adhesive following manufacturer specifications. SOPRALENE 180 FR GR is then rolled into the cold adhesive and subsequently broomed in. Refer to the SOPREMA SBS Roofing Installation Guide for additional application guidelines.



APPLICATION



COLD ADHESIVE

COOL ROOF RATING

PRODUCT	SOLAR REFLECTANCE		THERMAL EMITTANCE		SRI	
SOPRALENE 180 FR GR Standard white granules (WH)	0.26 initial	0.23 3 year	0.87 initial	0.90 3 year	25 initial	23 3 year
SOPRALENE 180 FR GR Highly reflective white granules (SG)	0.70 initial	0.62* 3 year	0.90 initial	0.90* 3 year	86 initial	75 3 year
SOPRALENE 180 FR GR Smog reducing granules (ECO3)	0.10 initial	N/A	0.89 initial**	N/A	6 initial**	N/A

* CRRC Rapid Ratings. Refer to Cool Roof Ratings Council (CRRC).

**Calculated using internal testing

QUICK FACTS

ASTM STANDARD	LENGTH (ft)	WIDTH (in)	COVERAGE* (ft²)	THICKNESS (mils)	ROLL WEIGHT (lb)	ROLLS/ PALLET (pallet weight)
D6164 Type 1, Grade G	32.8 (10.0 m)	39.4 (1.0 m)	97.9 (9.1 m²)	160 (4.0 mm)	117 (53.1 kg)	25 (2,977 lb/ 1,350 kg)

* Coverage rate as reported assumes installation using side and end lap recommendations.



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TECHNICAL INFORMATION & TESTING

SHEET PROPERTIES	
Reinforcement	Non-woven polyester
Elastomeric bitumen	Proprietary blend of bitumen and SBS polymers
Surfacing	Ceramic coated granules
Back surfacing	Sanded
Selvage surface	Sanded
Side lap, in (mm)	3 (76)
End lap, in (mm)	6 (152)

DIMENSIONS & MASS		
PROPERTY		TEST METHOD
Thickness, mils (mm)	160 (4.0)	ASTM D5147
Thickness @ selvage, mils (mm)	130 (3.3)	ASTM D5147
Net mass per unit area, lb/100ft ² (g/m ²)	109 (5322)	ASTM D5147

PHYSICAL PROPERTIES			
PROPERTY	MD	XMD	TEST METHOD
Peak load @ 0°F (-18°C), lbf/in (kN/m)	115 (4.0)	90 (15.8)	ASTM D5147
Elongation at peak load @ 0°F (-18°C), %	35	40	ASTM D5147
Peak load @ 73.4°F (23°C), lbf/in (kN/m)	85 (14.9)	65 (11.4)	ASTM D5147
Elongation at peak load @ 73.4°F (23°C), %	55	60	ASTM D5147
Ultimate elongation @ 73.4°F (23°C), %	65	80	ASTM D5147
Tear strength @ 73.4°F (23°C), lbf (N)	125 (556)	85 (378)	ASTM D5147
Low temperature flexibility, °F (°C)	-15 (-26)	-15 (-26)	ASTM D5147
Dimensional stability, %	< 0.5	< 0.5	ASTM D5147
Compound stability, °F (°C)	240 (116)	240 (116)	ASTM D5147
Granule embedment, g	1.5 avg; 2.0 max for SG		ASTM D5147
Cyclic fatigue, condition 5	Pass		ASTM D5849

* Data is represented by average values, unless noted otherwise.

TESTING & APPROVALS



PRODUCT DATA SHEET

DESCRIPTION & FEATURES

COLPLY EF Adhesive is a high performance, single-component polymeric adhesive for use with SBS-modified bitumen membrane systems. Due to its polymer composition, once cured, COLPLY EF Adhesive provides an additional layer of elastomeric waterproofing protection beneath or between membrane plies. COLPLY EF (environmentally friendly) Adhesive is unique in that it is a solvent-free and ultra-low VOC material allowing for application flexibility on job sites where exposure to VOC's or odor may be a concern.

STORAGE

Store pail on end and maintain in an upright position to prevent damage. Store in a clean dry location and cover as necessary to protect from environmental damage such as extreme cold, heat, or moisture. Monitor varying environmental conditions during storage, handling and application of COLPLY EF Adhesive.

APPLICATION

COLPLY EF Adhesive is applied to approved, compatible substrates using 1/4" inch notched neoprene squeegees or trowels. Apply COLPLY EF Adhesive at 1.5 to 2 gallons per 100 square feet for sand-surfaced interply applications. When the ambient temperature is below 50°F (10°C), material should be warmed to a temperature of 70°F (24°C) at the time of application. Refer to the SOPREMA SBS Roofing Manual for additional application guidelines.

QUICK FACTS

ASTM STANDARD	CONTAINER (gal)	COVERAGE* (gal/100 ft ²)	RIBBON APPLICATION
			COVERAGE 6" O.C. (gal/100ft ²)
D3019	5.0 (18.9 L)	1.5-2.0 (interply)	2.0 (7.0 L)

* Coverage rate as reported assumes installation using side and end lap recommendations.

TECHNICAL INFORMATION & TESTING

PRODUCT INFORMATION	
Description	Polymer-modified, membrane adhesive
Installation	Brush, roller or squeegee applied
Packaging, gal (L)	
Cartridge	0.4 (1.5)
Pail	5 (18.9)
Drum	50 (189.3)
Application rate, gal/100ft ² (absorptive surface)	1.5 - 2.0 (2.0 - 2.5)
Application rate, gal/100ft ² (L/100ft ²) 6" O.C. Ribbons	2.0 (7.6)

TESTING & APPROVALS



FLORIDA BUILDING CODE

