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SPEC NOTE: **HRS (Henry**® **Restoration System) Henry® Pro-Grade® 988 Silicone Roof Coating for Existing MB/BUR Roofs.** This specification is ideally suited for the protection and maintenance of existing previously coated and non-coated granulated or smooth surfaced modified bitumen (MB) or smooth surfaced asphalt built-up roofing (BUR) to extend the life of the roofing assembly. Although prepared in CSI three (3) part format, this specification should be adapted to suit the requirements of the individual project and be included as a separate section under Division 07 - Thermal and Moisture Protection.

SPEC NOTE: This guide specification is a reference for recommended installation procedures of the products/assembly described; formatted in accordance with the Construction Specifications Institute (CSI) Manual of Practice. It is the discretion of the project specification author to use the information within as a whole, or in part, to set a minimum standard of performance. Update “[project specific]” notes and coordinate as required. Use of General Contractor/installing Subcontractor identified accordingly; modify as required.

SPEC NOTE: This document includes Henry® Company notes to assist the architect/specification writer. A Henry® Company “SPEC NOTE” will always immediately precede the text to which it is referring. The section serves as a guideline; modify to meet specific project requirements.

SPEC NOTE: Delete “SPEC NOTE” sections in the final copy of the specification.

SPEC NOTE: If existing roof membrane is previously coated contact Henry® technical services at (800) 486-1278.

SPEC NOTE: Pro-Grade® 988 Silicone Roof Coating discussed in this specification is not recommended for use on cold storage or cryogenic structures due to constant high water vapor drive causing long-term accumulation of moisture in the insulation. Consult Henry® for vapor retardant systems to use on refrigerated structures.

SPEC NOTE: Use extreme caution when applying and walking on coated surfaces. Coated surfaces are extremely slippery and can create a fall hazard resulting in injury or death.

SPEC NOTE: Coverage rates indicated in guide specifications DO NOT include material calculations for waste.

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**SECTION 07 01 50**

**MAINTENANCE OF MEMBRANE ROOFING**

1. **GENERAL**
   1. GENERAL REQUIREMENTS
      1. The General Conditions, Supplementary Conditions, Instructions to Bidders, and Division 01- General Requirements shall be read in conjunction with and govern this section.
      2. Read this Specification as a whole by all parties concerned. Each Section may contain more or less than the complete Work of any trade. The Contractor is solely responsible to make clear to the installing Subcontractor the extent of their Work.
   2. SUMMARY
      1. This Section includes requirements for supplying labor, materials, tools, and equipment to complete the Work as shown on the Drawings Architectural Division as specified herein including, but not limited to, the following:
         1. Cleaner
         2. Stain Blocking Primer
         3. Sealant
         4. Stain Blocking Primer
         5. Roof Coating
         6. Walkways (optional)

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SPEC NOTE: Coordination of terminations, transitions, and penetrations are pertinent to ensure chemical compatibility and adhesion of adjacent products. Edit the following related sections as required to specify a continuous air and watertight building envelope. Contact manufacturer(s) where products transition from one assembly to another to confirm minimum installation requirements for warranty issuance.

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* 1. RELATED REQUIREMENTS

* + 1. DIVISION 07 – Thermal and Moisture Protection Section 07 01 20 – Maintenance of Thermal Protection
    2. DIVISION 07 – Thermal and Moisture Protection Section 07 01 50.13 – Roof Moisture Survey
    3. DIVISION 07 – Thermal and Moisture Protection Section 07 01 50.16 – Roof Maintenance Program
    4. DIVISION 07 – Thermal and Moisture Protection Section 07 01 50.19 – Preparation for Re-Roofing
    5. DIVISION 07 – Thermal and Moisture Protection Section 07 01 50.23 – Roof Removal
    6. DIVISION 07 – Thermal and Moisture Protection Section 07 01 50.81 – Roof Replacement
    7. DIVISION 07 – Thermal and Moisture Protection Section 07 01 50.91 – Roofing Restoration
    8. DIVISION 07 – Thermal and Moisture Protection Section 07 01 60 – Maintenance of Flashing and Sheet Metal
    9. DIVISION 07 – Thermal and Moisture Protection Section 07 01 90 – Maintenance of Joint Protection

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SPEC NOTE: Projects not referencing LEED delete Sections “1.03. J” and “1.05.F” as stated below.

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* + 1. DIVISION [project specific] - LEED Requirements Section [project specific] – [project specific].
  1. ALTERNATES
     1. Submit requests for alternates in accordance with Section [project specific].
     2. Materials not considered acceptable substitutions:
        1. Roof coatings such as acrylic, cementitious, ceramic filled or asphalt modified, urethanes, and Kraton based rubber materials.
     3. Roof coatings must meet the following criteria:
        1. Roof coating as a standalone assembly, and independent of existing roof membranes, must pass ASTM D7281 – Standard Test Method for Determining Water Migration Resistance Through Roof Membranes. Test reports indicating testing of roof coating applied over a roof membrane are not considered acceptable substitutions.
        2. Miami-Dade product approval and Notice of Acceptance (NOA) are not considered acceptable substitutions.
        3. NSF certified in accordance with Protocol P151: Health Effects from Rainwater Catchment System Components.
     4. Alternate submission format to include:
        1. Online certification listings:
           1. FM Approval
           2. Miami-Dade County Product Control
           3. NSF
           4. UL Approval
        2. Evidence that alternate materials meet or exceed performance characteristics of product requirements and documentation from an approved independent testing laboratory certifying that the performance of the system including auxiliary components exceed the requirements of the local building code.
        3. Product Data:
           1. Roof Coating Manufacturer’s guide specification.
           2. Roof Coating Manufacturer’s complete set of technical data sheets for assembly.
           3. Energy Star listing.
        4. Certificates:
           1. Independent testing laboratory certification indicating roof coating meets ASTM D7281 as described in Section 1.04.C.
           2. NSF certified in accordance with Protocol P151: Health Effects from Rainwater Catchment System Components.
           3. Product certification that the assembly components are supplied and warranted by single source Roof Coating Manufacturer.
           4. Statement that installing Subcontractor is authorized by Roof Coating Manufacturer to complete Work as specified.
           5. LEED:

Health Declaration Product (HPD) Certificate

* + - 1. Warranty:
         1. Complete set of warranty verification documents as required by the Roof Coating Manufacturer.
      2. References clearly indicating that the Roof Coating Manufacturer has successfully completed projects of similar scope and nature on an annual basis for a minimum of ten (10) years.
    1. Submit requests for alternates to this specification a minimum of ten (10) working days prior to bid date. Include a list of twenty-five (25) projects executed over the past five (5) years.
    2. Acceptable alternates will be confirmed by addendum. Substitute materials not approved in writing prior to tender closing shall not be permitted for use on this project.
  1. REFERENCES
     1. American Society for Testing and Materials (ASTM):
        1. ASTM C794 – 10: Standard Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants
        2. ASTM C1549: Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Solar Reflectometer
        3. ASTM D471: Water Absorption
        4. ASTM D7281 – Standard Test Method for Determining Water Migration Resistance Through Roof Membranes
        5. ASTM E96: Water Vapor Transmission of Materials
        6. ASTM E1980: Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces Miami-Dade County Product Control NOA (Notice of Acceptance)
     2. Factory Mutual (FM):
        1. Approval Standard for Single-Ply, Polymer-Modified Bitumen Sheet, Built-Up Roof (BUR) and Liquid Applied Roof Assemblies for use in Class 1 and Noncombustible Roof Deck Construction (Class Number 4470)
     3. Miami-Dade County Product Control
        1. Miami-Dade County Approved; Notice of Acceptance (NOA)
     4. National Sanitation Foundation (NSF):
        1. Protocol P151 Health Effects from Rainwater Catchment System Components
     5. Underwriters Laboratories (UL):
        1. UL Inc.: Class A Classification for use in roof coverings
     6. US Green Building Council (USGBC), Leadership in Energy and Environmental Design (LEED)
  2. ADMINISTRATIVE REQUIREMENTS
     1. Pre-installation meetings:
        1. When required, and with prior notice, a Roof Coating Manufacturer representative will meet with the necessary parties at the jobsite to review and discuss project conditions as it relates to the integrity of the assembly.
  3. SUBMITTALS
     1. Provide the following requested information in accordance with Section [project specific] Submittal Procedures.
     2. Action Submittals:
        1. Product Data:
           1. Roof Coating Manufacturer’s guide specification.
           2. Roof Coating Manufacturer’s complete set of technical data sheets for assembly.
        2. Certificates:
           1. Product certification that the assembly components are supplied and warranted by single source Roof Coating Manufacturer.
           2. Statement that installing Subcontractor is authorized by Roof Coating Manufacturer to complete Work as specified.
           3. LEED:

Health Declaration Product (HPD) Certificate

* + - 1. Warranty:
         1. Complete set of warranty verification documents as required by the Roof Coating Manufacturer.
  1. QUALITY ASSURANCE
     1. Single Source Responsibility:
        1. Obtain roof coating and auxiliary materials including roof coating, fabric reinforcement, sealants, and adhesives from a single Roof Coating Manufacturer regularly engaged in the manufacturing and supply of the specified products.
        2. Contactor to verify product compliance with federal, state, and local regulations controlling use of Volatile Organic Compounds (VOC).
     2. Manufacturer Qualifications:
        1. Roof Coating Manufacturer shall demonstrate qualifications to supply materials of this section by certifying the following:
           1. Roof Coating Manufacturer must not issue warranties for terms longer than they have been manufacturing and supplying specified products for similar scope of Work.
     3. Installer Qualifications:
        1. Only authorized Subcontractor(s) shall install the roof coating.
        2. Perform Work in accordance with the Roof Coating Manufacturer’s published literature and as specified in this section.
        3. Maintain one (1) copy of the Roof Coating Manufacturer’s instructions on site.
        4. Allow the Roof Coating Manufacturer representative site access during installation.
        5. Contact the Roof Coating Manufacturer two weeks prior to scheduling a meeting.
  2. DELIVERY, STORAGE, AND HANDLING
     1. Delivery of Materials:
        1. Deliver materials to the jobsite in undamaged and clearly marked containers indicating the name of the Roof Coating Manufacturer and product.
     2. Storage of Materials:
        1. Store materials as recommended by the Roof Coating Manufacturer and conforming to applicable safety regulatory agencies. Refer to all applicable data including, but not limited to, MSDS sheets, Product Data sheets, product labels, and specific instructions for personal protection.
        2. Keep solvents away from open flame or excessive heat.
        3. Roof coating should be stored in closed containers.
        4. Refer to Roof Coating Manufacturer’s published literature.
     3. Handling:
        1. Provide adequate ventilation for protection from hazardous fumes.
        2. Protect areas not included in scope of work from overspray.
        3. Refer to Roof Coating Manufacturer’s published literature.
  3. SITE CONDITIONS
     1. Environmental Requirements:
        1. Do not install roof coating over saturated insulation.
        2. Do not install roof coating over saturated substrates.
     2. Protection:
        1. It is the responsibility of the installing Subcontractor to protect all surfaces not included in scope of Work from damage.
        2. Secure protective coverings against wind and vent area if used in conjunction with applications preventing collection and moisture.
        3. Post signs noting potential overspray hazard within 400ft (122 M) of applications.
        4. Turn off air-intake ventilation equipment to prevent fumes from entering building.
        5. Post no smoking signs as mandated by local fire ordinances.
     3. Complete preparation Work prior to installing roof coating.
     4. Ground all electrical equipment during operations.
  4. WARRANTY
     1. Warranty Submittals to Roof Coating Manufacturer:
        1. Contact Henry® sales representative for a complete list of required documents and procedures prior to material purchase. Warranties submitted without required documents and procedures completed may result in delay or rejection of warranty request.

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SPEC NOTE: Contact the local Henry® representative to obtain a current sample warranty for further clarification.

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* + 1. Warranty Terms:
       1. Installing Contractor:
          1. Installing Subcontractor must warranty the installation; provide material and labor costs for repair in the event of a leak as a result of faulty workmanship for a period of two (2) years from the date of installation completion.
       2. Manufacturer's Single Source Warranty:
          1. Manufacturer’s Single Source Material Plus Warranty:

Installing Subcontractor must be a Material Plus Authorized Subcontractor.

Manufacturer must warranty the products; provide material and labor costs for repair for a period of [Ten (10) ] [Fifteen (15)] [Twenty (20] years from the date of installation completion as a result of any of the following:

Manufacturing product defect

* + - * 1. Manufacturer’s Single Source Gold Seal Warranty:

Installing Subcontractor must be a Gold Seal Authorized Subcontractor.

Manufacturer must warranty the products and installation; provide material and labor costs for repair for a period of [Ten (10) ] [Fifteen (15)] [Twenty (20] years from the date of installation completion as a result of any of the following:

Manufacturing product defect

Faulty workmanship

1. **PRODUCTS**
   1. MANUFACTURERS
      1. Obtain waterproofing and auxiliary materials as a single-source from the Roof Coating Manufacturer to ensure total system compatibility and integrity.
      2. Acceptable Manufacturers:
         1. Henry Company

999 N. Sepulveda Blvd. Suite 800

El Segundo, CA 90245

(800) 486-1278

[www.henry.com](http://www.henry.com)

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SPEC NOTE: Contact Henry® for additional roof coating color options. Product properties may vary.

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* 1. MATERIALS
     1. Primary roof coating assembly minimum requirements (Basis of Design):
        1. Energy Performance:
           1. Initial Solar Reflectance (ASTM C1549): 88%
           2. Solar Reflective Index (SRI): 111
           3. ENERGY STAR: Certified
        2. FM Approved (Class Number 4470):
           1. Max Roof Slope: 1:12
        3. Florida Product Approval:
           1. Miami-Dade County, Florida NOA
        4. NSF certified:
           1. Protocol P151: Health Effects from Rainwater Catchment System Components
        5. Tested Fire Response Characteristics:
           1. Standard Test Methods for Fire Tests of Roof Coverings (ASTM E 108 or UL 790): Class A
     2. Roof Coating (Basis of Design):
        1. Primary Roof Coating:
           1. Solvent free one-component moisture curing silicone rubber roof coating; having the following properties:

Basis of design: Pro-Grade® 988 Silicone Roof Coating

Color: Bright White

Standard Test Method for Determining Water Migration Resistance Through Roof Membranes (ASTM D7281): Pass (>/= 22 dry mils)

Solids Content:

By volume (ASTM D2697): 92 +/-3%

Flash Point (ASTM D93): 140.9 degrees F (60.5 degrees C)

Tack-Free Time at 75 degrees F (24 degrees C): Approximately 1-2 hours

Volatile Organic Content (VOC) (ASTM D3960/EPA Method 24): 10g/l max.

Durometer Hardness, Shore A (ASTM D2240): 42 Shore A

Tensile Strength, die C (ASTM D412): 320psi

Elongation (ASTM D412): 170%

Permeability (ASTM E96): 4.6 perms

Initial Solar Reflectance (ASTM C1549): White roof coating: .88

Solar Reflective Index (SRI): 111

QUV, 5,000 hours (ASTM G154): No degradation

Water Absorption (ASTM D471): 0.0005%

* + - 1. Base Coat:
         1. Solvent free one-component moisture curing silicone rubber roof coating; having the following properties:

Basis of design: Pro-Grade® 988 Silicone Roof Coating

Color: Bright White, Tan or Gray

Standard Test Method for Determining Water Migration Resistance Through Roof Membranes (ASTM D7281): Pass (>/= 22 dry mils)

Solids Content:

By volume (ASTM D2697): 92 +/-3%

Flash Point (ASTM D93): 140.9 degrees F (60.5 degrees C)

Tack-Free Time at 75 degrees F (24 degrees C): Approximately 1-2 hours

Volatile Organic Content (VOC) (ASTM D3960/EPA Method 24): 10g/l max.

Durometer Hardness, Shore A (ASTM D2240): 42 Shore A

Tensile Strength, die C (ASTM D412): 320psi

Elongation (ASTM D412): 170%

Permeability (ASTM E96): 4.6 perms

Initial Solar Reflectance (ASTM C1549): White roof coating: .88

Solar Reflective Index (SRI): 111

QUV, 5,000 hours (ASTM G154): No degradation

Water Absorption (ASTM D471): 0.0005%

* + 1. Assembly Auxiliary Materials:
       1. Stain Blocking Primer:
          1. Water based acrylic latex elastomeric roof coating; having the following properties:

Basis of design: Pro-Grade® 294 Base Coat and Sealer

Color: grey

Elongation (Initial) (ASTM D2370): >400%

Flash Point (ASTM D3278): Non-flammable

Volatile Organic Content (VOC) (ASTM D3960/EPA Method 24): 50 g/l max

Solids Content by Volume: 51-55%

Tensile Strength Film (ASTM D2370): >150 psi

* + - 1. Reinforcement Fabric:
         1. Stich bonded, high performance fabric reinforcement sheet; having the following properties:

Basis of design: HE195 Polyester Fabric

Color: White to Yellow White

Elongation (Initial) (ASTM D1682): 61-63%

Volatile Organic Content (VOC) (ASTM D3960/EPA Method 24): 0 g/l max Maximum VOS: 0 lbs/gal

Mullen Burst (ASTM D3786): 176.8 lbs.

Tensile Strength Film (Initial) (ASTM D1682): 57.1 lbs.

Trapezoidal Tear Strength (ASTM D1117): 16.1 lbs.

Weight of Fabric: 3 oz/sq. yd.

* + - 1. Sealants:
         1. Butter grade, one-part moisture cure sealant consisting of silicone rubber; having the following properties:

Basis of design: Pro-Grade® 923 Butter Grade Silicone Roof Sealer

Colors: White

Solids Content by Volume (ASTM D2697-3): 95%

Tensile Strength, die C (ASTM D412): 130 psi

Elongation (ASTM D412): 275%

Volatile Organic Content (VOC) (ASTM D3960/EPA Method 24): 25g/l max

* + - * 1. Standard grade, one- part moisture cure sealant consisting of silicone rubber; having the following properties:

Basis of design: Pro-Grade® 920 Silicone Roof Sealant

Colors: Bright White or Grey

Solids Content by Volume (ASTM D2697-3): 95%

Tack free time: Approximately 1-2 hours

Cure time (ASTM C920): 7 days

Tensile Strength, die C (ASTM D412): 200 psi

Elongation (ASTM D412): 300%

* + - * 1. Fibered grade, one-part moisture cure sealant consisting of silicone rubber; having the following properties:

Basis of design: Pro-Grade® 957 Silicone Fibered Roof Sealer

Colors: White

Solids Content by Volume (ASTM D2697-3): 95%

Tack Free Time: Approximately 1-3 hours

Cure time (ASTM C920):24-48 hours

Tensile Strength, die C (ASTM D412): 110 psi

Elongation (ASTM D412): 75%

Volatile Organic Content (VOC) (ASTM D3960/EPA Method 24): 25g/l max

* + - 1. Roof Granules:
         1. Ceramic coated roof granules, and having the following properties:

Basis of design: Permax Roof Granules

Color: White

Sieve Size: varies; refer to Roof Coating Manufacturer published literature.

* + 1. Additional Materials:
       1. Cleaner:
          1. Refer to Section 3.02. C Surface Cleaning

1. **EXECUTION**
   1. EXAMINATION
      1. It is the installing Subcontractor’s responsibility to verify the substrate is dry and in accordance with Section 1.03 Related Requirements prior to installation of roof coating. Commencement of the Work or any parts thereof, indicates installer acceptance of the substrate.
         1. Do not install roof coating over saturated insulation.
         2. Do not install roof coating over saturated substrates.
      2. The installing Subcontractor must verify the following:
         1. Moisture detection survey:
            1. Visual inspection
            2. Moisture analysis; choose from one or more of the following:

Infrared Thermography

Nuclear Scan

Electric Capacitance / Impedance Testing

Roof core cut samples

* + 1. Adhesion Test:
       1. Do not perform Work in this section until a field adhesion test has been conducted by the contractor in accordance with Section 3.02.D. Adhesion Test.
    2. Verify existing substrate and assembly flashings are dry, leak-free, and in accordance with Roof Coating Manufacturer’s published literature.
    3. Verify skylights, scuppers, gutters, penetrations, and structures located within area of Work are firmly secured and in good working condition prior to installation. Clean, repair, or replace to correct substrate deficiencies as required in accordance with Roofing Membrane Manufacturer’s published literature to obtain a continuous and secure substrate in accordance with Roof Coating Manufacturer’s published literature prior to installation of roof coating.
    4. Existing assembly must be continuous and secured prior to application of roof coating.
    5. Do not apply roof coatings until substrate and environmental conditions are in accordance with Roof Coating Manufacturer’s published literature.
    6. Previously coated areas:
       1. Contact Roof Coating Manufacturer’s technical support or local sales representative for previously coated examination procedures.
  1. PREPARATION
     1. Surfaces must be sound, dry, clean, and free of oil, grease, dirt, excess mortar, frost, laitance, loose and flaking particles, or other contaminants.
     2. Existing roof membrane, insulation, and all substrates must be dry and in accordance with Roof Coating Manufacturer’s published literature prior to installation of roof coating.
     3. Surface Cleaning:
        1. Confirm local ordinances and jurisdiction restrictions prior to selecting from the following cleaning methods.
        2. Clean and prepare existing membrane roofing taking caution not to inject water into roofing substrate.
        3. Acceptable Methods of Cleaning
           1. Pressure washer with greater than 2000psi.
           2. Algae, mildew, or fungus:

Treat with a tri-sodium phosphate (TSP) or equivalent non-filming detergent and water solution.

Clear water rinse until complete cleaning residue removal.

* + - * 1. All substrate areas must be completely dry prior to roof coating application.
        2. Refer to Roof Coating Manufacturer’s published literature.
    1. Adhesion Test:
       1. Granulated surfaces:
          1. Not required.
       2. Smooth Surfaces:
          1. Complete an adhesion test over all substrates including existing previously coated and non-coated roof membranes prior to installation of roof coating.

Submit passing adhesion test results to Roof Coating Manufacturer during warranty application process.

* + - * 1. Refer to Roof Coating Manufacturer’s application guide for adhesion test procedures.
        2. Allow roof coating to cure for a minimum of 72 hours prior to conducting adhesion test.
    1. Removal and replacement of existing roof membrane, wet insulation and /or defective roof substrate:
       1. Completely remove exiting roof membrane, wet insulation, and /or defective materials and replace roofing membrane to match existing in accordance with roofing membrane manufacturer published literature.
       2. Replace insulation and roofing membrane continuously and flush to match existing roofing membrane and secure in accordance with roofing membrane manufacturer’s published literature. Allow to cure a minimum of 24 hours.
    2. Detail seams where new roof membrane transitions to existing roof membrane to maintain an air and water tight assembly; choose from the following:
       1. Sealant:
          1. Use butter grade or fibered grade sealant. Do not use standard grade sealant when repairing existing roof membrane cut seams.
          2. Using a stiff bristled brush or sealant knife apply sealant at one-eighth (1/8) inch thick (125 wet mils) extending three (3) inches on each side of existing roof membrane seam until fully coated ensuring a smooth and continuous watertight finish.
       2. Reinforced Roof Coating:
          1. Install one (1) layer of roof coating at two (2) gallons per square (32 wet mils) extending four (4) inches on each side of existing roof membrane seam.
          2. Center six (6) inch wide strip of stitch bond polyester fabric over existing roof membrane seam and fully embed fabric into roof coating ensuring three (3) inches of fabric on each side of existing roof membrane seam. Brush fabric for proper adhesion and removal of all voids.
          3. Allow roof coating to dry prior to subsequent roof coating application.
          4. Apply second layer of roof coating at one (1) gallon per square (16 wet mils) extending a minimum four (4) inches on each side of existing roof membrane seam ensuring fabric is fully coated and has a smooth and continuous watertight finish.
    3. Loose or torn existing roof membrane seams; choose from the following:
       1. Sealant:
          1. Secure existing roof membrane seams by generously applying sealant under torn or loose area using a stiff bristled brush or sealant knife, and firmly press loose roof membrane into sealant.
          2. Once existing roof membrane seam is fully bonded into sealant generously apply sealant on top of the existing roof membrane seam using stiff bristled brush or sealant knife until fully coated ensuring a smooth and continuous watertight finish.
       2. Reinforced roof coating:
          1. Install one (1) layer of roof coating at two (2) gallons per square (32 wet mils) extending four (4) inches on each side of existing roof membrane seam.
          2. Center six (6) inch wide strip of stitch bond polyester fabric over existing roof membrane seam and fully embed fabric into roof coating ensuring three (3) inches of fabric on each side of existing roof membrane seam. Brush fabric for proper adhesion and removal of all voids.
          3. Allow roof coating to dry prior to subsequent roof coating application.
          4. Apply second layer of roof coating at one (1) gallon per square (16 wet mils) extending a minimum four (4) inches on each side of existing roof membrane seam ensuring fabric is fully coated and has a smooth and continuous watertight finish.
    4. Repair defects including splits, cracks, blisters, deteriorated flashings, cracked metal edging, and any other defects affecting the water tightness of the roofing system using one of the following methods:
       1. Sealant:
          1. Use butter grade or fiber grade sealant. Do not use standard grade sealant when repairing defects as described above.
          2. Using a stiff bristled brush or sealant knife apply sealant at one-eighth (1/8) inch thick (125 wet mils) extending three (3) inches on each side of defect as described above until fully coated ensuring a smooth and continuous watertight finish.
       2. Reinforced Roof Coating:
          1. Install one (1) layer of roof coating at two (2) gallons per square (32 wet mils) extending four (4) inches on each side of defect as described above.
          2. Center six (6) inch wide strip of stitch bond polyester fabric over defect as described above and fully embed fabric into roof coating ensuring three (3) inches of fabric on each side of defect as described above. Brush fabric for proper adhesion and removal of all voids.
          3. Allow roof coating to dry prior to subsequent roof coating application.
          4. Apply second layer of roof coating at one (1) gallon per square (16 wet mils) extending a minimum four (4) inches on each side of defect as described above ensuring fabric is fully coated and has a smooth and continuous watertight finish.
    5. All areas must promote positive drainage.
       1. Contact Roof Coating Manufacturer’s technical support or local sales representative for ponding area repair procedures.
    6. Previously coated areas:
       1. Contact Roof Coating Manufacturer’s technical support or local sales representative for previously coated preparation procedures.
  1. INSTALLATION
     1. Verify substrate is ready to receive the roof coating in accordance with Roof Coating Manufacturer’s TDS and guide specification.
     2. Roof coating may settle during storage. Mix roof coating prior to use with drill and mixer blade until consistent viscosity is achieved.
     3. Temperature limitation:
        1. Substrate temperature must be above 35 degrees F (2 degrees C) and rising and at least 6 degrees F (3 degrees C) above the dew point temperature and rising.
     4. Stain Blocking Primer:
        1. Apply stain-blocking primer in accordance with Roof Coating Manufacturer’s application guide.
        2. Allow stain-blocking primer to dry and verify substrate is thoroughly clean and free of debris or contamination prior to subsequent application.
     5. Detailing/Flashing:
        1. Complete detailing and flashings prior to installation of roof coating per Roof Coating Manufacturer’s details and application guide.
        2. Refer to Roof Coating Manufacturer application guide for pretreatment of secure and intact seam requirements.
        3. Refer to Roof Coating Manufacturer details including, but not limited to, the following:
           1. Roof curbs
           2. Parapets
           3. Pipe penetrations
           4. Drains
        4. Roof valleys and waterways:
           1. Install one (1) layer of roof coating in direction of valley slope at one (1) gallon per square (16 wet mils) extending roof coating at up twelve (12) inches each side of valley.
           2. Center minimum eighteen (18) inch wide strip of reinforcement fabric over existing roof membrane valley and fully embed reinforcement fabric into roof coating ensuring minimum nine (9) inches of reinforcement fabric on each side of valley. Using a soft bristled broom or paint roller brush reinforcement fabric for proper adhesion and removal of all voids.
           3. Where more than one piece of reinforcement fabric is required:

Coat side and end laps of embedded reinforcement fabric with roof coating ensuring complete coverage of reinforcement fabric prior to installation of subsequent reinforcement fabric courses. Overlap of dry fabric is not acceptable.

Lap ends of reinforcement fabric four (4) inches where more than one piece is required to ensure a continuous watertight finish.

* + - * 1. Allow roof coating to dry prior to subsequent roof coating application.
        2. Apply second layer of roof coating at one (1) gallon per square (16 wet mils) fully encapsulating areas previously covered with a reinforced roof coating.
    1. Roof Marking:
       1. Mark desired area in accordance with published literature to apply the appropriate amount of roof coating per square. Re-measure prior to installation of second coat to ensure proper millage requirements.
       2. Contact Roof Coating Manufacturer for roof marking instructions.
          1. Coverage rates are theoretical and do not take into account for material loss due to spraying, surface texture, waste, etc.
          2. Install a test patch to determine how much coating per square is required over asphaltic textured surfaces.
          3. Adjust application rates based on test patch results in order to meet specified requirements.
    2. Application of Roof Coating:
       1. Application rates apply to both Material Plus and Gold Seal Warranties.
       2. Refer to Roof Coating Manufacturer warranty chart for coverage rate options.

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SPEC NOTE: For added traction at areas anticipating periodic traffic due to roof maintenance and around mechanical equipment, install an additional layer of roof coating in accordance with “3.03.H Walkways”.

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* + 1. Walkways: (optional)
       1. Verify overall roof coating is in accordance with warranty requirements.
       2. Verify substrate is thoroughly clean and free of debris or contamination prior to subsequent application. Wash roof coating as required and allow roof coating to dry.
       3. Apply additional primary roof coating at traffic areas at a minimum one (1) gallon per square (Sixteen (16) wet mils).
       4. Apply roof granules uniformly into wet roof coating at a rate of 20-30 pounds per 100 square feet.
       5. Allow roof coating to dry.
       6. Remove loose particles to avoid clogging drains.
  1. FIELD QUALITY CONTROL
     1. Limit traffic on roof coated surfaces for a minimum of two (2) days. Damage to surface by other trades shall not be the responsibility of the installing Subcontractor.
     2. Final Observation and Verification:
        1. [Architect] [Consultant] [General Contractor] [Roof Coating Manufacturer] to complete the final inspection of roofing coating as required by warranty.
        2. Contact Roof Coating Manufacturer for warranty issuance requirements.
  2. CLEANING
     1. As the Work proceeds, and upon completion, promptly clean up and remove from the premises all rubbish and surplus materials resulting from the foregoing Work.
     2. Clean soiled surfaces, spatters, and damage caused by Work of this Section.
     3. Check area to ensure cleanliness and remove debris, equipment, and excess material from the site.

END OF SECTION