**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

SPEC NOTE: **HRS (Henry Restoration System) Henry Pro-Grade® 280 Elastomeric White Roof Coating and Reinforced Pro-Grade® 197 Asphalt Emulsion for Existing MB/BUR Roofs.** This specification is ideally suited for the protection and maintenance of existing 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 document is intended as a reference for the recommended installation procedures of the products/assembly described below. Although this specification section follows the recommendations of the Construction Specifications Institute (CSI), Manual of Practice including MasterFormat, SectionFormat, and PageFormat; 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 for specified products/assembly on a project specific basis. Areas noted “[project specific]” are intentionally omitted and shall be updated and coordinated by the project specification author.

SPEC NOTE: This document includes Henry notes for information purposes and to assist the architect/specification writer in making appropriate decisions. A Henry “SPEC NOTE” will always immediately precede the text to which it is referring. The section serves as a guideline only and should be edited with deletions and additions 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: This specification is not intended for application over coal tar roofs, single-ply, SPF foam roofs, silicone coatings, or roofs previously covered with loose or embedded gravel ballast.

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.

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**SECTION 07 01 50**

**MAINTENANCE OF MEMBRANE ROOFING**

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

SPEC NOTE: This guide specification has been written in accordance with the Construction Specifications Institute (CSI) Manual of Practice and use of General Contractor/installing Subcontractor identified accordingly. Modify Sections as required for projects where no General Contractor is allocated.

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

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. The Specification shall be read 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. Sealant
         3. Foundation Coat
         4. Reinforcement Fabric
         5. Base Coat
         6. Primary Roof Coating
         7. Walkways (optional)

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

SPEC NOTE: Edit Paragraph below to suit project requirements: Add Sections as applicable.

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

* 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

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

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

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

* + 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. Roof coatings must meet the following criteria:
        1. Miami-Dade product approval and Notice of Acceptance (NOA) are not considered acceptable substitutions.
     3. Alternate submission format to include:
        1. Online certification listings:
           1. FM Approval
           2. Miami-Dade County Product Control
           3. 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. 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.
      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 D1227: Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing
        5. ASTM D6083: Standard Specification for Liquid Applied Acrylic Coating Used in Roofing
        6. ASTM E96: Water Vapor Transmission of Materials
        7. 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. California Energy Commission Title 24 Section 118(i)3
     3. Cool Roof Rating Council
     4. 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)
     5. Miami-Dade County Product Control
        1. Miami-Dade County Approved; Notice of Acceptance (NOA)
     6. Underwriters Laboratories (UL):
        1. UL Inc.: Class A Classification for use in roof coverings
     7. US Green Building Council (USGBC), Leadership in Energy and Environmental Design (LEED):
        1. LEED Reference Guide, Version 4.0, and USGBC Project Calculation Spreadsheet. Web Site <http://www.usgbc.org>.
  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:
        3. Health Declaration Product (HPD) Certificate Warranty:
           1. Complete set of warranty verification documents as required by the Roof Coating Manufacturer.
  4. QUALITY ASSURANCE
     1. Single Source Responsibility:
        1. Obtain roof coating and auxiliary materials including primary 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. Installing Subcontractor must be authorized to install Roof Coating Manufacturer’s 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. At all times during the execution of the Work allow access to site by the Roof Coating Manufacturer representative.
        5. If meeting with the Roof Coating Manufacturer during project construction, contact the Roof Coating Manufacturer a minimum of two weeks prior to schedule meeting.
  5. DELIVERY, STORAGE, AND HANDLING
     1. Delivery of Materials:
        1. Materials shall be delivered 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.
  6. SITE CONDITIONS
     1. Environmental Requirements:
        1. No Work shall be performed during rain or inclement weather.
        2. No Work shall be performed on frost covered or wet surfaces.
     2. Protection:
        1. It is the responsibility of the installing Subcontractor to protect all surfaces not included in scope of Work from overspray including, but not limited to, windows, doors, adjacent areas, and vehicles.
        2. Protective coverings shall be secured against wind and shall be vented if used in conjunction with applications preventing collection and moisture.
        3. Installing Subcontractor to post signs noting potential overspray hazard within 400ft (122 M) of applications.
        4. All air intake ventilation equipment shall be turned off to prevent fumes from entering building.
        5. No smoking signs must be posted as mandated by local fire ordinances.
     3. Ensure all preparation Work is completed prior to installing roof coating.
     4. All equipment shall be grounded during operations.
  7. 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.

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

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

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

* + 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; choose from the following:
          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 twelve (12) 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 twelve (12) 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. Roof coating and auxiliary materials must be obtained 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)

* 1. MATERIALS
     1. Primary roof coating shall comply with the following system requirements:
        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. 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:
        1. Primary Roof Coating (Basis of Design):
           1. Water based acrylic latex elastomeric roof coating; having the following properties:

Basis of design: Pro-Grade® 280 Elastomeric White Roof Coating

Color: White

Elongation, Initial (ASTM D2370): >250%

Fungi Resistance Rating (ASTM G-21): 0

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

Solar Reflective Index (SRI) (ASTM E1980): 111

Solar Reflectance (ASTM C-1549):

Initial: 0.88

Three (3) years: 0.73

Solids Content by Volume: >52-56%

Tear Resistance (ASTM D624): > 80 lbf/in

Tensile Strength Film (Initial) (ASTM D2370): >240 psi

Thermal Emittance (ASTM C1549):

Initial: 0.90

Three (3) years: 0.87

Water Vapor Permeance (ASTM E96): <50 perms

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

SPEC NOTE: Choose from one of the following base coats and delete section which is not applicable to project. Pro-Grade® 291 Elastomeric Base Coat recommended for smooth surfaces.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

* + - 1. Base Coat; choose from one of the following:
         1. Water based acrylic latex elastomeric roof coating; having the following properties:

Basis of design: Pro-Grade® 280 Elastomeric White Roof Coating

Color: White

Elongation, Initial (ASTM D2370): >250%

Fungi Resistance Rating (ASTM G-21): 0

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

Solar Reflective Index (SRI) (ASTM E1980): 111

Solar Reflectance (ASTM C-1549):

Initial: 0.88

Three (3) years: 0.73

Solids Content by Volume: >52-56%

Tear Resistance (ASTM D624): > 80 lbf/in

Tensile Strength Film (Initial) (ASTM D2370): >240 psi

Thermal Emittance (ASTM C1549):

Initial: 0.90

Three (3) years: 0.87

Water Vapor Permeance (ASTM E96): <50 perms

* + - * 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. Foundation Coat:
         1. Asphalt Emulsion solvent-free roof coating; having the following properties:

Basis of Design: Pro-Grade® 197 Asphalt Emulsion

Color: Black

Flash Point (ASTM D3278): Non-flammable

Solids Content by Volume: 49-53%

Volatile Organic Content (VOC) (ASTM D3960/EPA Method 24): 20 g/l max

Meets ASTM D 1227, Type III, Class I

Dade County Approved

UL listed for Class A and B fire rated roof coverings

* + - * 1. Contact Manufacturer for a complete list of authorized foundation coatings.
    1. Assembly Auxiliary Materials:
       1. Reinforcement Fabric:
          1. Stitch bonded, high performance fabric reinforcement sheet; having the following physical 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. Repair Fabric:
         1. Spun-bonded polyester, non-woven mat; having the following physical properties:

Basis of Design Product: HE296 Elasto Tape Repair Fabric

Complies with ASTM D-1688-80, Type III

* + - * 1. Woven fabric, 20 x 10 mesh, made of yarns of inert, flexible filaments of pure glass; having the following physical properties:

Basis of Design Product: HE183 Repair Fabric Yellow Fiberglass

Fiberglass mesh fabric

* + - 1. Sealants:
         1. Roofing Sealant:

Elastomeric acrylic patching compound specially formulated for repairing and preventing roof leaks prior to coating with an acrylic reflective coating; having the following physical properties:

Basis of Design Product: 289 White Roofing Sealant

ASTM C920, Class 25.

* + - * 1. Roof Mastic:

Henry asphalt roofing cement; having the following physical properties:

Complies with ASTM D4586

Contact Roofing Coating Manufacturer for a list of authorized products.

* + 1. Additional Materials:
       1. Cleaner:
          1. Refer to Section 3.02. C. Surface Cleaning
       2. Walkways (optional):
          1. 20-40 mesh silica sand or quartz

1. **EXECUTION**
   1. EXAMINATION
      1. The installing Subcontractor shall examine and determine that surfaces and conditions are ready to accept the Work of this section in accordance with the Roof Coating Manufacturer’s published literature. Commencement of Work or any parts thereof shall mean installing Subcontractor acceptance of the substrate.
         1. Do not install roof coating over saturated insulation.
         2. Do not install roof coating over saturated substrates.
      2. As a requirement for meeting warranty conditions the existing roof system must be tested for leaks. It is the installing Subcontractor’s responsibility to verify the existing roof membrane and assembly are dry and leak free prior to installation of roof coating.
         1. Maintain a copy of moisture detection survey for reference and verification of substrate condition prior to installation of roof coating.
         2. Moisture detection survey includes all of the following:
            1. Visual inspection
            2. Moisture analysis; choose from one or more of the following:

Infrared Thermography

Nuclear Scan

Electric Capacitance / Impedance Testing

Core samples

* + 1. Adhesion Test:
       1. Not required.
    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. All 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 all cleaning residue is removed.

* + - * 1. All substrate areas must be completely dry prior to roof coating application.
        2. Refer to Roof Coating Manufacturer’s published literature.
    1. Repair, removal, and replacement of existing roof membrane:
       1. Completely remove existing 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 to match existing ensuring a continuous and flush substrate; secure in accordance with Roofing Membrane Manufacturer’s published literature.
       3. Allow to cure a minimum of 24 hours.
    2. 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. Reinforced Roofing Sealant:
          1. Install one (1) layer of roofing sealant at three (3) gallons per square (48 wet mils) extending three (3) inches on each side of defect as described above.
          2. Center four (4) inch wide strip of repair fabric over defect and fully embed repair fabric into roofing sealant ensuring two (2) inches of repair fabric on each side of defect as described above.
          3. Allow roofing sealant to dry prior to subsequent roofing sealant application.
          4. Apply second layer of roofing sealant at three (3) gallons per square (48 wet mils) extending three (3) inches on each side of defect as described above ensuring repair fabric is fully coated and has a smooth and continuous watertight finish.
       2. Reinforced Roof Mastic:
          1. Install one (1) layer of roof mastic at three (3) gallons per square (48 wet mils) extending three (3) inches on each side of defect as described above.
          2. Center four (4) inch wide strip of repair fabric over defect and fully embed repair fabric into roof mastic ensuring two (2) inches of repair fabric on each side of defect as described above.
          3. Allow roof mastic to dry prior to subsequent roof mastic application.
          4. Apply second layer of roof mastic at three (3) gallons per square (48 wet mils) extending three (3) inches on each side of defect as described above ensuring repair fabric is fully coated and has a smooth and continuous watertight finish.
          5. Allow roof mastic to cure seven (7) days prior to subsequent installation.
       3. Foundation Coat:
          1. Install one (1) layer of foundation coat at three (3) gallons per square (48wet mils) extending three (3) inches on each side to ensure a smooth and continuous watertight finish.
    3. All areas must promote positive drainage.
       1. Contact Roof Coating Manufacturer’s technical support or local sales representative for ponding area repair procedures.
    4. Previously coated areas:
       1. Contact Roof Coating Manufacturer’s technical support or local sales representative for previously coated preparation procedures.
  1. INSTALLATION
     1. Ensure substrate is ready to receive roof coating in accordance with Roof Coating Manufacturer’s published literature.
     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 Limitations:
        1. Substrate temperature must be above 50 degrees F (10 degrees C) and rising and 6 degrees F (3 degrees C) above dew point temperature and rising.
     4. Primer: Not required.
        1. Contact Roof Coating Manufacturer where adhesion is less than desired.
     5. Detailing/Flashing:
        1. All detailing and flashings shall be completed prior to installation of roof coating.
        2. All detailing and flashings shall be installed per Roof Coating Manufacturer’s published literature.
        3. Existing assembly must be continuous and secure prior to application of roof coating.
        4. Pretreatment of existing, intact, and secure roof membrane seams:
           1. Not required.
        5. Roof curbs and parapets
           1. Install one (1) layer of foundation coat at three (3) gallons per square (48 wet mils) extending four (4) inches on horizontal surface and a minimum of eight (8) inches up vertical surface.
           2. Center six (6) inch wide strip of reinforcement fabric at parapet upturn and fully embed reinforcement fabric into foundation coat ensuring three (3) inches of reinforcement fabric on both horizontal and vertical surfaces. Brush reinforcement fabric for proper adhesion and removal of all voids.
           3. Allow foundation coat to dry prior to subsequent roof coating application.
           4. Apply second layer of foundation coat at three (3) gallons per square (48 wet mils) fully encapsulating areas previously covered with a reinforced foundation coat.
        6. Roof valleys and waterways:
           1. Install one (1) layer of foundation coat in direction of valley slope at three (3) gallons per square (48 wet mils) extending foundation coat 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 foundation coat 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 foundation coat 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 foundation coat to dry prior to subsequent foundation coat application.
        2. Apply second layer of foundation coat at three (3) gallons per square (48 wet mils) fully encapsulating areas previously covered with a reinforced foundation coat.
      1. Pipe penetrations:
         1. Install one (1) layer of foundation coat at three (3) gallons per square (48 wet mils) extending four (4) inches on horizontal surface and a minimum of eight (8) inches up vertical surface.
         2. Center six (6) inch wide strip of reinforcement fabric at pipe upturn and fully embed reinforcement fabric into foundation coat ensuring three (3) inches of reinforcement fabric on both horizontal and vertical surfaces. Using a soft bristled broom or paint roller brush reinforcement fabric for proper adhesion and removal of all voids.
         3. Allow foundation coat to dry prior to subsequent foundation coat application.
         4. Apply second layer of foundation coat at three (3) gallons per square (48 wet mils) fully encapsulating areas previously covered with a reinforced foundation coat.
      2. Drains:
         1. Remove strainer, ring, and any other drain components.
         2. Install one (1) layer of foundation coat at three (3) gallons per square (48 wet mils) extending twelve (12) inches beyond drain.
         3. Fully embed reinforcement fabric into foundation coat extending ten (10) inches beyond drain. Using a soft bristled broom or paint roller brush reinforcement fabric for proper adhesion and removal of all voids.
         4. Where more than one piece of reinforcement fabric is required:

Coat side and end laps of embedded reinforcement fabric with foundation coat 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 foundation coat to dry prior to subsequent foundation coat application.
        2. Apply second layer of foundation coat at three (3) gallons per square (48 wet mils) fully encapsulating areas previously covered with a reinforced foundation coat.
    1. Roof Marking:
       1. Mark desired area in accordance with published literature so that the appropriate amount of roof coating is applied per square. For multiple coat applications, re-measure prior to installation of subsequent 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.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

SPEC NOTE: Choose from one of the following foundation coat applications: Smooth or Rough Surfaces. Delete foundation coat section which is not applicable to project.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

* + 1. Application of Roof Coating:
       1. Application rates apply to both Material Plus and Gold Seal Warranties.
       2. Foundation Coat:
          1. Smooth surfaces:

Starting at low edge of roof, install one (1) layer of foundation coat at three (3) gallons per square [Forty-eight (48) wet mils; Nineteen (19) mils DFT] extending forty-four (44) inches wide perpendicular to slope and up a minimum of eight (8) inches onto vertical surfaces.

Immediately embed full width of forty (40) inch wide reinforcement fabric. Using a soft bristled broom or paint roller brush reinforcement fabric for proper adhesion and removal of all voids.

Allow foundation coat to dry prior to subsequent foundation coat application.

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

Install subsequent reinforcement fabric courses from lowest to highest point on roof ensuring subsequent reinforcement fabric courses overlap embedded reinforcement fabric a minimum of four (4) inches on side and end laps.

Install reinforcing fabric to toe of cant where reinforced coating intersects vertical transitions.

Apply second layer of foundation coat at three (3) gallons per square [Forty-eight (48) wet mils; Nineteen (19) mils DFT] fully encapsulating areas previously covered with a reinforced foundation coat.

Allow reinforced foundation coat to fully cure prior to application of base coat; minimum forty-eight (48) hours.

Verify substrate is thoroughly clean and free of debris or contamination prior to subsequent application.

* + - * 1. Rough surfaces:

Starting at low edge of roof, install one (1) layer of foundation coat at four (4) gallons per square [Sixty-four (64) wet mils; Twenty-five (25) mils DFT] extending forty-four (44) inches wide perpendicular to slope and up a minimum of eight (8) inches onto vertical surfaces.

Immediately embed full width of forty (40) inch wide reinforcement fabric. Using a soft bristled broom or paint roller brush reinforcement fabric for proper adhesion and removal of all voids.

Allow foundation coat to dry prior to subsequent foundation coat application.

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

Install subsequent reinforcement fabric courses from lowest to highest point on roof ensuring subsequent reinforcement fabric courses overlap embedded reinforcement fabric a minimum of four (4) inches on side and end laps.

Install reinforcing fabric to toe of cant where reinforced coating intersects vertical transitions.

Apply second layer of foundation coat at four (4) gallons per square [Sixty-four (64) wet mils; Twenty-five (25) mils DFT] fully encapsulating areas previously covered with a reinforced foundation coat.

Allow reinforced foundation coat to fully cure prior to application of base coat; minimum forty-eight (48) hours.

Verify substrate is thoroughly clean and free of debris or contamination prior to subsequent application.

* + - 1. Base coat:
         1. Apply base coat at one and a half (1.5) gallons per square [Twenty-four (24) wet mils; Thirteen (13) mils DFT].
         2. Allow base coat to dry.
         3. Verify substrate is thoroughly clean and free of debris or contamination prior to subsequent application.
      2. Primary Roof Coating:
         1. Apply primary roof coating perpendicular to cured base coat at minimum gallons per square to achieve minimum dry thickness in accordance with Roof Coating Manufacturer recommendations.

Apply primary roof coating at one and a half (1.5) gallons per square [Twenty-four (24) wet mils; Thirteen (13) mils DFT].

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

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”.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

* + 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 roof coating at traffic areas at a minimum one (1) gallon per square.
       4. Apply silica sand or quartz 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. Final inspection of roof coating membrane assembly shall be carried out by the Owner’s representative, the installing Subcontractor, or Roof Coating Manufacturer as required by warranty.
           1. Gold Seal Warranty requires Manufacturer final observation and verification for warranty issuance.
        2. Contact Roof Coating Manufacturer for warranty issuance requirements.
  2. CLEANING
     1. Promptly as the Work proceeds, and upon completion, clean up and remove from the premises all rubbish and surplus materials resulting from the foregoing Work.
     2. Check area to ensure cleanliness and remove debris, equipment, and excess material from the site.

END OF SECTION