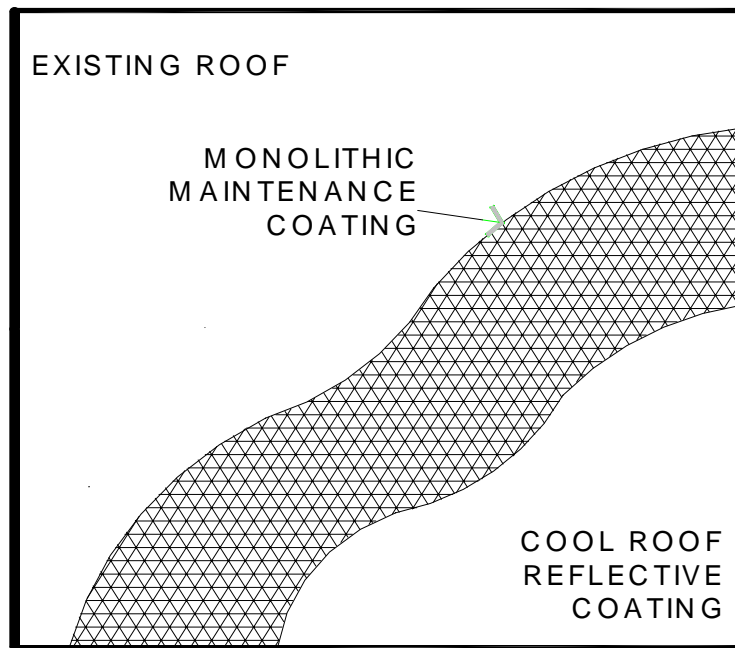


Henry

#1 CHOICE OF PROFESSIONALS®

GUIDE SPECIFICATION HENRY SPECIFICATION H-MR



GUIDE SPEC H-M R

The enclosed guide specification, general requirements and details are broadly written to serve as guidelines to knowledgeable design professionals in roof maintenance, restoration and introduce HENRY products and systems.

Final repair and maintenance specifications must be customized for each building – each of which can be unique. This specification is not specific to any individual building and should not be the final basis of design or construction of any project.

HENRY System & Dry Weights per 100 ft²

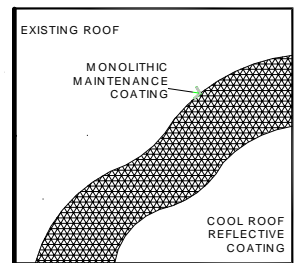
| Existing Roof | To Be Determined |
|---------------------------------------|------------------|
| HE107 Asphalt Emulsion | 36 lbs |
| HE189 Chopped Fiberglass Roving | 3 lbs |
| HE280 DC Cool Roof Reflective Coating | 14 lbs |
| Approximate Total Weight | 53 lbs |

MONOLITHIC™ MAINTENANCE SYSTEM

Over existing Granulated & Smooth Surface BUR or Modified Roof

Approximate dry total weight of one ply application: 53 lbs

H-MR



GUIDE SPEC H-MR

PART 1 – GENERAL

1.01 GENERAL

The HENRY Monolithic™ Maintenance Roofing System can be applied on an existing roof system. This specification addresses unique aspects for this type of installation. Unless otherwise specified in this section, HENRY General Requirements for Roof Maintenance and Restoration Systems shall be used for installations on smooth BUR and MB.

1.02 SUBSTRATE CONDITIONS

- A. The HENRY Monolithic™ Roofing System is to be applied over smooth, dry, sound existing roof system, asphaltic BUR, MB, Metal or some single ply's. Roof must have positive drainage. Do not apply on coal tar substrates or roofs, which have been covered with gravel. Smooth BUR or MB surface must be older than 90 days. Do not apply HENRY Emulsion products over friable and/or brittle roofing. Substrate should not pond water for a period longer than 48 hours after precipitation stops.
- B. Test patches shall be prepared in representative roof areas to check adhesion of HENRY Monolithic Roof System before application on any type of roof system. HENRY coatings will not adhere to any existing silicone-based coatings.
- C. **The substrate surface must be free of ponding water, ice, snow, splits, oils, grease and debris.**
- D. The HENRY Monolithic Roofing System should not be used on heavy-traffic bearing substrates. If foot traffic is expected, a rooftop walkway system approved by HENRY must be used.

1.03 WARRANTY

- A. Provide HENRY 5 Year Limited Roof System Warranty per the requirement of the Building Owner and/or Project Architect for the HENRY Emulsion Surfaced products installed in accordance with these specifications. Determination of the appropriateness of the HENRY Roof Coating System for any given smooth BUR or MB roof must be obtained from the HENRY Technical Service Department.
- B. If the moisture scan reveals more than 20% of the roof area is wet, consider other reroofing options. See warranty and guarantee for complete coverage and restrictions.

1.04 REQUIREMENTS

- A. Project notification and registration.
- B. Moisture scans to be conducted by an independent source. All wet areas must be removed and replaced.

PART 2 – PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. HENRY Company

2.02 MATERIALS – GENERAL – PHYSICAL PROPERTIES

Note Drying Times: Listed drying times for various HENRY products are directly affected by environmental conditions and thickness of application. Allow additional drying time when experiencing high relative humidity, low temperatures and/or very thick product application to prevent improper curing and/or product “wash-off”.

A. HE107 - ASPHALT EMULSION

HE107 – Asphalt Emulsion is a premium, versatile coating for the protection of roofing materials, metal, and masonry surfaces. Solvent free, it is made from asphalt emulsified with bentonite clay and water. **HE107 - ASPHALT EMULSION** is cold- applied, non-flammable while wet, corrosion-resistant, and waterproof when dry. **HE107 - ASPHALT EMULSION** does not crack, "alligator," run, or sag under extreme weather conditions. Resists most corrosive fumes and spray.

PHYSICAL PROPERTIES

| | |
|--------------------------------|----------------------------------|
| Appearance | Black liquid |
| Consistency @ 77° F | Thixotropic liquid |
| Maximum VOS | 0 calculated |
| Application Temperature | 50° F and rising |
| Flammability | Non-flammable when wet |
| Solids By Volume | 40 - 50% |
| Base | Asphalt, bentonite clay emulsion |
| Flash Point | >212° F |
| Solids By Weight | 47 - 53% (ASTM D-2939) |
| Brookfield Viscosity | 8000-15,000 cPs (ASTM D-2196) |
| Freezability | Keep from freezing |
| Weight Per Gallon | 8.5 - 9.1 lbs/gal |
| Color | Black |
| Maximum VOC | 0 calculated |

Manufactured to exceed the requirements of ASTM D-1227-95, Type III, Class I.

Dade County Approved

Underwriters Laboratory listed for Class A and B fire rated roof coverings.

Factory Mutual Global approved. Subject to the conditions of approval as a roof coating when installed as described in the current edition of the FMRC approval guide.

REFER TO THE LATEST HENRY DATA SHEET INSTRUCTIONS AT www.henry.com

B. HE189 – Monolithic™ System Fiberglass Roving

HE189 Fiberglass Roving is an essential component in the Monolithic™ System for roofing and water-proofing. **HE189 Fiberglass Roving** is continuous filament glass fiber consisting of approximately sixty strands held together loosely in rope form by a special sizing. It is designed for spray application using a glass chopper spray gun to provide reinforcement for asphalt emulsion coating. The emulsion and glass fibers chopped to a typical length of 3/4" are spray applied simultaneously providing a reinforced waterproof monolithic surfacing. When applied at the normal rate of 9 gallons of HE107 Asphalt Emulsion and 3 pounds of glass fiber, the tensile strength of the film is increased four times that of an unreinforced film. The reinforcement also enables the application of more than double the film thickness without shrinkage cracks.

Application The only method of application is through an approved air operated glass chopper spray gun designed to cut the roving into uniform lengths; 3/4" is standard but shorter lengths are recommended on irregular surfaces to minimize exposed fibers. During application, the roving coil should be kept within ten feet from the applicator. It may be carried by the applicator in backpack or in suitable cart tended by an assistant.

| | |
|----------------------|---|
| Ingredients | Fibrous glass fused in an amorphous vitreous state and surface sizing |
| Color | White |
| Film Diameter | 6 microns, minimum |
| Odor | None |
| Sizes | Cylinder Coil – Approximately 35 lbs or 50 lbs each |
| Flash Point | >212 degrees |
| Maximum VOC | 0 g/l |

REFER TO THE LATEST HENRY DATA SHEET INSTRUCTIONS AT www.henry.com

C. HE291 - PREMIUM ELASTOMERIC BASE COATING

VOC Appearance Liquid
Maximum <50 g/l
Tensile Strength Film (Initial) 130.5 psi (ASTM D2370)
Ash 21.1% (ASTM D1644)
Maximum VOS < 0.4 lbs/gal
Viscosity 118 KU (ASTM D562)
Brookfield Viscosity 15200 cPs (5D @ 20 RPM), (ASTM D2196)
pH 8.6 (Beckman pH meter)
Water Absorption 1.18 (ASTM D471)
Color Gray
Recovery 69.4% (ASTM D2370)
Water By Volume <42%
Drying Time @ 50% R.H. 68°F 2 hrs dry to touch (ASTM D3468)
Shore A Hardness 82 (ASTM C661)
Water By Weight <33%
Elongation (Initial) 352.5% (ASTM D2370)
Solids By Volume 61.6% (ASTM D2697)
Water Resistance 1.1 (ASTM D471)
Flash Point >212° F (ASTM D3278)
Solids By Weight 56.8%
Water Vapor Permeance 2.7 (ASTM D-96)
Flexibility (Low Temperature) Pass 1/8" mandrel @ 5° F (ASTM D734)
Specific Gravity @ 77° F 1.26
Weight Per Gallon 10.5-11.3 lbs (ASTM D-1475)
Freezability Do not freeze

Meets the requirements of ASTM D-6083 with exception of cold bend.

REFER TO THE LATEST HENRY DATA SHEET INSTRUCTIONS AT www.henry.com

D. HE280DC - WHITE ELASTOMERIC ROOF COATING

HE280DC is a premium, water-based acrylic latex coating. Properly applied, it is highly resistant to delamination, chalking, mildew, fungi, and discoloration. **HE280DC - WHITE ELASTOMERIC ROOF COATING** gives the following benefits:

- Reflects up to 88% of sun's heat and U.V.
- Lowers roof and interior temperatures.
- Prolongs roof life.
- Reduces air conditioning costs.

PHYSICAL PROPERTIES

| | |
|--|--|
| Accelerated Weathering 1000 hrs | Pass - No cracking or checking (ASTM D-4798) |
| Fungi resistance, rating | 0 (ASTM G-21) |
| Tensile Strength Film (Initial) | >240 psi (ASTM D-2370) |
| Appearance | Smooth Paint Like |
| Maximum VOC | <50 g/l |
| Thermal Emittance | 0.90 (ASTM C-1371) |
| Application Temperature | 50° F and rising |
| Maximum VOS | <0.42 lbs/gal |
| Viscosity | 115 - 130 KU (ASTM D-562) |
| Brookfield Viscosity | 30,000-40,000 cPs (ASTM D-2196) |
| Near Normal Emittance (LEED) | 0.94 (ASTM E-408) |
| Water Swelling, Mass% | <11.0 (ASTM D-471) |
| Color | White |
| pH | >9.0 |
| Water Vapor Permeance | <7.0 (ASTM E-96) |
| Initial Elongation (Initial) | >250% (ASTM D-2370) |
| Solar Reflectance | 0.88 (ASTM C-1549) |
| Weight Per Gallon | 11.0-11.3 lbs |
| Elongation after 1000 hr. WOM | >230% (ASTM D-2370) |
| Solids By Volume | >52.0% (ASTM D-2697) |
| Wet Adhesion to Concrete Substrate, pli | >5.8 (ASTM D-794/D-903) |
| Flash Point | Non-Flammable |
| Solids By Weight | >65.0% |
| Wet Adhesion to Galvanized Metal, pli | >10.5 (ASTM D-794/D-903) |
| Flexibility (Low Temperature) | Pass - ½" mandrel @ -15° F |
| Tear Resistance Flexibility) | >80 lbf/in (ASTM D-624) |
| Wet Adhesion to SBS Mod. Bitumen, pli | >7.5 (ASTM D-794/D-903) |
| Freezability | Do not freeze |

Manufactured to exceed the requirements of ASTM D- 6083.

Miami - Dade County Approved

Underwriters Laboratory listed for existing Class A, B or C for fire rated roof coverings systems.

LEED Qualified (Reflectivity and Emissivity)

Florida Product Approval

Meet California T-24 Section 118 (i) 3 - California Energy Commission

Cool Roof Rating Council Listed

Energy Star® Rated

REFER TO THE LATEST HENRY DATA SHEET INSTRUCTIONS AT www.henry.com

PART 3 – EXECUTION

3.01. GENERAL

HENRY Company's General Requirements and Product Data are a part of this specification.

3.02 EXAMINATION OF SUBSTRATE

Examine substrate to receive new roofing. Do not proceed with new roofing until adhesion has been verified by test patches, other preparatory work has been completed and unsatisfactory conditions have been corrected in a manner acceptable to HENRY. Notify Owner's Representative of any corrective action before proceeding with roofing.

- A. Treatment of Existing Roof: Any areas where the existing roof has blistered, buckled and/or become wet must be removed and repaired using similar products manufactured by membrane manufacturer. All areas where the roof surface has significantly craze cracked (i.e., gaps in width and/or depth greater than 1/16") must be repaired using HE107 Asphalt Emulsion to bring the substrate to a smooth, workable surface. HE107 can be applied by either squeegee or brush when repairing craze cracks.
- B. Substrate Cleaning: Roof substrate must be carefully power washed with water. Pressure wash to remove all dirt, dust, chalking, loose materials, etc. Take care not to damage the roof surface or force water into the roof system. Use hot water and mild detergent to remove grease and/or oils from the roof substrate. If mildew or algae are present, use bleach to treat these areas, then pressure wash surface.
- C. Substrate must be clean, completely dry and free of any debris before application of HENRY products.

3.03 PREPARATION

- A. Power wash all existing smooth roof surfaces before proceeding. Scrub out any grease and dirt and other foreign matter that will interfere with adhesion of the coating.
- B. Repair defects: Splits, cracks, ridges, large blisters, deteriorated flashings, cracked metal edging and any other defect affecting the water-tightness of the roofing system. See Henry Repair Guide.
- C. Repair, reinforce and resurface all flanges, roof penetrations and base flashings.
- D. Clean all drains of dried mastic and any other loose material and repair if required.
- E. Complete base flashings, drains and flanged penetrations prior to application of the emulsion and polyester.
- F. Reinforce all valleys and waterways with an extra layer of HE196 Polyester Fabric and HE107 Asphalt Emulsion at a rate of 4 gallons per 100 ft². Extend ply at least 12" up inclines. Apply in the direction of the slope of the valley, lapping 4" on ends.

3.04 SURFACING (Monolithic System)

- A. After repairs have cured, sweep or pressure blow dust and debris from the roof surface to provide a clean surface. Hose and/or scrub off with water any residue accumulation.
- B. Protect adjacent walls not scheduled for emulsion and reflective coating. Protect equipment, roof top units, etc. from overspray.
- C. Cover prepared surfaces with the Henry Monolithic system using HE107 asphalt emulsion at the rate of 9 gallons per 100 ft². Evenly blend emulsion with ¾" HE189 Fiberglass Roving reinforcing sprayed with equipment approved by Henry Company. Tufting of the glass fibers is not acceptable.

3.05 COOL ROOF REFLECTIVE COATING

- A. Allow Monolithic surfacing to cure. Clean the surface of dust and debris. Scrub out any pockets of residue.
- B. Apply two coats of HE280DC at a rate not less than 1 ¼ gallons/100ft² per coat. If low slope or ponded water areas are anticipated, use HE291 Premium Elastomeric Base coat at the rate of 1 ¼ gallons/100ft² as the base coat over the emulsion.
- C. The recommended application of HE280DC is by airless sprayer. A roller can be used; however, more coats may be required to obtain specified mil thickness.

- D. If possible, apply base and top coat the same day. Allow to dry thoroughly between coats. Schedule work so second coat can dry before nightfall. Apply second coat at right angles to first course.
- E. Any areas that peel must be redone before the project will be considered complete.

Note: Repair leaks promptly to avoid adverse effects, including mold growth.

For specific HENRY Monolithic™ maintenance specification documents, construction details, or application questions, please contact the HENRY Company Technical Service Department 800 486-1278.

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