

**Henry®**

# Henry® Pro-Grade® 988 Silicone Roof Coating System Installation Manual



**Building Envelope Systems®**

## Table of contents

<b>1. Introduction.....</b>	<b>3</b>
1.01 Roof coating considerations.....	3
1.02 Building code standards.....	3
<b>2. Pro-Grade® 988 Silicone roof coating system .....</b>	<b>4</b>
2.01 Warranties.....	4
2.02 Pro-Grade® 988 Silicone roof coating system components.....	4
2.03 Pro-Grade® 988 Silicone roof coating system approvals and certifications.....	5
<b>3. Installation considerations .....</b>	<b>5</b>
3.01 Safety.....	5
3.02 Personal protection equipment (PPE).....	5
3.03 Recommended tools and equipment .....	6
3.04 Delivery, storage and handling.....	7
3.05 Site conditions .....	7
3.06 Moisture analysis .....	7
3.07 Substrate conditions and preparation .....	8
3.08 Surface cleaning .....	9
3.09 Temperature and exposure limitations.....	9
3.10 Adhesion testing .....	10
3.11 Primer.....	11
<b>4. Installation.....</b>	<b>11</b>
4.01 Planning material installation .....	11
4.02 Existing roof defect repair.....	12
4.03 Detailing and flashing.....	12
4.04 Pro-Grade® 988 installation procedures .....	13
4.05 Optional walkways.....	13
<b>5. Final inspection.....</b>	<b>14</b>
<b>6. Care and maintenance .....</b>	<b>14</b>
<b>7. Details.....</b>	<b>14</b>

# 1. Introduction

This installation manual includes materials and installation procedures for Pro-Grade® 988 Silicone roof coating system. Pro-Grade® 988 provides long-lasting protection and energy savings by meeting cool roof requirements, and offers an array of assembly approvals and certifications including, but not limited to, Factory Mutual (FM), Miami-Dade County Product Control, National Sanitation Foundation (NSF) and Underwriters Laboratories (UL).

## 1.01 Roof coating considerations

Pro-Grade® 988 is a cost-effective alternative to re-roofing that extends the building's existing roof membrane life cycle, avoiding the expense and disruption of roof tear-off and replacement. Pro-Grade® 988 is ideally suited for restoring previously coated and non-coated granulated or smooth surface modified bitumen (MB) roofing, smooth surfaced asphalt built-up roofing (BUR), single ply roofing (PVC, EPDM, Hypalon® or TPO) and metal roofs.

- Project specific analysis is recommended when conducting product selection to not only ensure the system includes desired testing standards, but to also confirm the existing roof meets Henry® criteria for installation of a warranted assembly.

## 1.02 Building code standards:

*The information in this installation manual should be adapted to suit the requirements of individual projects. It is recommended to consult with design professionals to determine compliance with applicable codes and regulations.*

This installation manual is based upon the following industry standards recognized by manufacturers, installers, code officials, building envelope consultants and design professionals:

- American Society for Testing Materials (ASTM):
  - ASTM C518: Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus
  - ASTM C794 - 10: Standard Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants
  - ASTM C1549: Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Solar Reflectometer
  - ASTM D471: Water Absorption
  - ASTM D1549: Solar Reflectance
  - ASTM D2240: Standard Test Method for Rubber Property-Durometer Hardness
  - ASTM D2369: Standard Test Method for Volatile Content of Coatings
  - ASTM D3359: Standard Test Methods for Measuring Adhesion by Tape Test
  - ASTM D4799: Standard Practice for Accelerated Weathering Test Conditions and Procedures for Bituminous Materials (Fluorescent, UV, Water Spray, and Condensation Method)
  - ASTM D7281: Standard Test Method for Determining Water Migration Resistance Through Roof Membranes
  - ASTM E96: Water Vapor Transmission of Materials
  - ASTM E108: Standard Test Methods for Fire Tests of Roof Coverings
  - 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)
  - ASTM E2178: Standard Test Method for Air Permeance of Building Material
- Factory Mutual (FM):
  - Approval Standard for Single-Ply, Polymer-Modified Bitumen Sheet, Built-Up Roof (BUR) and Liquid Applied Roof Assemblies for use in Class 1 and Non-combustible Roof Deck Construction (Class Number 4470)
- Miami-Dade County Product Control:
  - Miami-Dade County Approved; Notice of Acceptance (NOA)
- National Sanitation Foundation (NSF):
  - Protocol P151 Health Effects from Rainwater Catchment System Components
- Underwriters Laboratories (UL):
  - UL Inc.: Class A Classification for use in roof coverings
- US Green Building Council (USGBC), Leadership in Energy and Environmental Design (LEED)

## 2. Pro-Grade® 988 Silicone roof coating system

Henry® defines a roof coating system as the installation of Pro-Grade® 988 and authorized auxiliary products over an existing roof assembly for the purpose of protecting and maintaining previously coated and non-coated roofs, as well as extending the life of the existing roof assembly. For this reason, Pro-Grade® 988 is designed to be installed in conjunction with Henry® authorized auxiliary products to create a complete roof restoration solution that manages long-term protection of commercial buildings, including water penetration and energy loss.

### 2.01 Warranties

Warranty options	Warranty duration	Warranty description
<b>Product warranty</b>	Up to limited lifetime warranty	Products warranted individually: provides replacement product when defects have been determined within specified time period after purchase if the product was applied in accordance with our written directions for uses Henry® recommends as suitable for the product.
<b>Material Plus System warranty*</b>	Up to twenty (20) years	Pro-Grade® 988 and authorized auxiliary products warranted collectively: provides material and labor coverage at no charge during the applicable warranty term to repair the affected roof area when product manufacturing defects have been determined. Products must be installed by a Material Plus or Gold Seal Authorized Contractor.
<b>Gold Seal System warranty*</b>	Up to twenty (20) years	Pro-Grade® 988 and authorized auxiliary products warranted collectively: provides material and labor to repair the affected area when product defects or workmanship installation deficiencies have been determined. Products must be installed by a Gold Seal Authorized Contractor.

\*Refer to Pro-Grade® Silicone Roof Coating Systems Warranty at [http://us.henry.com/fileadmin/pdf/literature/HRS\\_Silicone\\_Warranty\\_Chart\\_142-3US-E148.pdf](http://us.henry.com/fileadmin/pdf/literature/HRS_Silicone_Warranty_Chart_142-3US-E148.pdf)

### 2.02 Pro-Grade® 988 system components

System component	Product name	Product description
<b>Primary product</b>	<b>Pro-Grade® 988 Silicone Roof Coating</b>	<b>Silicone roof coating</b>
<b>Auxiliary materials</b>	Pro-Grade® 988 Silicone Roof Coating	For use as a base coat prior to Pro-Grade® 988 top coat
	Pro-Grade® 986 Silicone Base Coat	For use as a base coat prior to Pro-Grade® 988 top coat
	Pro-Grade® 923 Butter Grade Silicone Roof Sealer	Butter grade sealant
	Pro-Grade® 920 Silicone Roof Sealant	Standard grade sealant
	Pro-Grade® 957 Silicone Fibered Roof Sealer	Fiber grade sealant
	Pro-Grade® 928 Pitch Pocket & Self-Leveling Roof Sealer	Fastener sealer for metal roofs/pitch pocket sealer
	Pro-Grade® 294 Base Coat and Sealer	For use as a stain blocking primer for MB/BUR roofs
	Pro-Grade® 941 Primer	Optional primer for metal and single ply roofs
<b>Supporting materials for use with Pro-Grade® 988 Roof Coating System</b>	Henry® 195 Polyester Fabric	Reinforcement fabric
	Henry® 296 ElastoTape Repair Fabric	Repair fabric
	Substrate Cleaner	Refer to substrate conditions and preparations section of this installation manual
	Permax® Roof Granules	Walkway aggregate

## 2.03 Pro-Grade® 988 roof coating system approvals and certifications

The following approvals and certifications chart is for reference only and may not include all testing data. Refer to Pro-Grade® 988 Technical Data Sheet (TDS) and system-specific testing approval/certification for further information including FM/UL maximum slope allowances.

System approvals and certifications				
Approval/certification		MB/BUR	Metal	Single Ply
FM Certified (Class Number 4470)		●	●	●
Miami-Dade County Approved, Florida NOA		●	●	●
UL Certified: Class A		●	●	●
ENERGY STAR® Certified	Slopes up to 2:12	●	●	●
	Slopes greater than 2:12	●	●	●
NSF P151		●	●	●
Cool Roof Rating Council (CRRC) Rated		●	●	●

### KEY

- No approval/certification
- Approval/certification

## 3. Installation considerations

Consider your installation prior to application: sequencing of materials may be dependent on job progress, product or crew availability. Only products offered through Henry® and installed as referenced in this installation manual may qualify for warranty.

### 3.01 Safety

First and foremost, job site safety is of prime consideration. Coordinate in advance with jobsite supervision and follow all site-specific and OSHA safety requirements and recommendations. Be aware of surroundings at all times. If in doubt, stop all work, remove yourself from immediate danger, and speak with your jobsite supervisor or safety official before proceeding.

### 3.02 Personal protection equipment (PPE)

Comply with requirements of OSHA, NIOSH or governing local authority regarding the addition and use of safety and personal protection equipment. Safety and personal protection equipment for roof installation or personal use may include, but are not limited to, items shown below. Items shown below are for reference only. Refer to local and governing authorities for a complete list of requirements.

- Safety shoes
- Safety glasses
- Work gloves
- Ear protection
- Hard hat
- Fall protection
- Caution tape
- Guardrails
- Ladder stabilizer
- Lanyard
- Netting
- Roof anchors
- Roof brackets
- Safety harness
- Scaffolding
- Barricades
- Retaining ropes
- Respiratory protection

### 3.03 Recommended tools and equipment

Substrate preparation and coating installation recommendations are specific to substrate types and coating technology. Refer to the **Substrate preparation tools and equipment** chart to confirm authorized tools and equipment for substrate preparation and the **Coating installation tools and equipment** chart for typical tools and equipment used during coating installation.

#### Substrate preparation tools and equipment

Recommended tools and equipment for substrate preparation include pressure washing, air-lance, algae/mildew/fungus removal, and metal etching. Refer to the section **Surface Cleaning** in this installation manual for substrate specific preparation methods.

Recommended substrate preparation tools and equipment			
Tools and equipment	Product purpose	Recommended product type	Reason for use
Pressure washer	Typical surface cleaning	Greater than 2000 psi	Remove dirt and debris
Air-lance	Typical surface cleaning	Greater than 2000 psi	Remove dirt and debris
Non-filming detergent and water solution	Enhanced surface cleaning	Tri-sodium phosphate (TSP)	Remove algae, mildew or fungus
Etching detergent in conjunction with sprayer	Surface cleaning and etching	1.) Hudson type agricultural sprayer 2.) Conventional pressure sprayer 3.) Airless sprayer	Clean and lightly etch metal substrate

#### Installation tools and equipment

Tools and equipment may vary depending upon product technology and project specific requirements. Refer to the following chart for typical tool and equipment recommendations.

Recommended coating installation tools and equipment			
Tools and equipment	Product purpose	Recommended product type	Reason for use
Extension cords	Connect electrical devices to outlets	Outdoor rated with ground fault safety protection	Provide electricity to all areas within the scope of work
Tape measure	Measure roof areas as required	Retractable and/or measuring wheel	Measuring; verify flashing extensions/ roof marking
Spray paint	Roof marking	Upside-down marking pen in a contrasting color	Area marking to ensure warranted coverage rate application per square
Plastic sheeting	Protective covering	4 mil poly	Protect all surfaces from overspray
Pail/bucket opener	Open pails or buckets	Plastic or aluminum lid opener	Pry lids off pails or buckets
Caulk guns	Manual power source caulking gun	For use with 9" size cartridges	Use to apply caulking
Utility knives	Cutting	Heavy duty utility knife with retractable blade-locking positions for safety	Cut or slicing as required
Duct tape	Adhering protective covering	General purpose duct tape	Used to install temporary plastic sheeting to protect from overspray
Disposable gloves	Hand protection	Powder free latex or vinyl exam gloves	Protect hands during coating installation
Drill motor with mixer blade	Mix roof coating	Jiffy style mixer blade	Mix roof coating prior to use with drill and mixer blade until consistent viscosity is achieved
Paint rollers	Coating installation	<ul style="list-style-type: none"> <li>• Heavy broom handle</li> <li>• Medium to heavy 9-inch roller frame</li> <li>• 9-inch roller cover</li> <li>• 4-inch roller</li> <li>• 3/8 to 1 inch nap</li> </ul>	Install coating where spraying is not the preferred method of installation
Squeegee	Spread coating	<ul style="list-style-type: none"> <li>• 24- to 36-inch heavy squeegee with rubber dual edge squeegee blade</li> <li>• 2-inch chip brush</li> <li>• 4-inch chip brush</li> <li>• 4-inch plastic bondo spreader</li> <li>• 6-inch plastic bondo spreader</li> <li>• Plastic trowels</li> </ul>	Evenly distribute coating where spraying is not the preferred method of installation
Airless spray pump with corresponding motor, hose, hopper feed kit, spray gun and tips	Coating installation	Refer to Installation Tools and Equipment for Spray Applications section of this installation manual	Install coating where rolling/squeegeeing is not the preferred method of installation
Wet film thickness gauge	Measuring wet film thickness	Manual gauge stepped and notched to verify thickness of wet films	Press gauge into wet film to verify true wet film thickness
Rags	Clean up	Cotton or fleece	Surface cleaning
Equipment cleaner	Clean up	VM&P Naphtha or mineral spirits (for solvent-based coatings only)	Clean up of spray equipment containing uncured material

### Installation tools and equipment for spray applications

Recommended tools and equipment for spray applications may vary depending upon product technology. Refer to the following chart for product specific spray application recommendations.

Recommended coating installation tools and equipment for spray applications				
Products	Required pump equipment capacity PSI	Spray at GPM*	Hose size*	Tip size
Pro-Grade® 988	Greater than 3500	3.0 - 5.0	3/4"	0.025 - 0.035
Pro-Grade® 986	Greater than 3500	3.0 - 5.0	3/4"	0.025 - 0.035
Pro-Grade® 294	1000 - 1500	1.0 - 2.0	1/2"	0.030 - 0.040
Pro-Grade® 941	Solvent-resistant Hudson Type garden sprayer	n/a	n/a	n/a

\*Hose sizes and gallons per minute (GPM) are for reference only. Actual sizes may vary.

### 3.04 Delivery, storage and handling

For product specific product delivery, storage, and handling instructions, refer to relevant product Technical Data Sheets (TDS) and Safety Data Sheets (SDS) available at [www.henry.com](http://www.henry.com).

- Deliver materials to the jobsite undamaged and in original packaging indicating the manufacturer and product name.
- Store materials in original packaging, in accordance with relevant product TDS, and conform to applicable safety regulatory agencies.
- Keep solvent-based products, such as adhesives and primers, away from open flame or excessive heat.
- Provide adequate ventilation for protection from hazardous fumes.

### 3.05 Site conditions

#### Environmental requirements

For product specific characteristics, limitations and suitable weather conditions, refer to relevant product TDS and material SDS available at [www.henry.com](http://www.henry.com).

- Do not install during rain or inclement weather. Do not install materials over frost-covered substrates or surfaces that are wet to touch.
- If applicable, installer should verify compliance with all federal, state and local regulations controlling use of volatile organic compounds (VOCs) on the jobsite.

### 3.06 Moisture analysis

Moisture analysis must be conducted in accordance with the following chart for both previously coated and non-previously coated substrates.

Moisture analysis					
Method		MB/BUR	Metal	Single Ply	Uninsulated roof membrane
Visual inspection		●	●	●	●
Non-visual inspection (choose from one or more of the following)	Infrared thermography	●	n/a	●	n/a
	Nuclear scan	●	n/a	●	n/a
	Electric capacitance or impedance testing	●	n/a	●	n/a
	Core cut samples include all of the following: Field of existing roofing membrane <ul style="list-style-type: none"> <li>• Minimum number of core cut samples: Two (2)</li> <li>• One (1) core cut sample must be completed every 10,000 sq. ft.</li> <li>• Areas of existing membrane roofing indicating worn substrates require additional core cut samples.</li> </ul> Other areas requiring additional core cut samples: <ul style="list-style-type: none"> <li>• Any change in existing roofing membrane</li> <li>• Existing roofing membranes installed in varying phases</li> <li>• Shaded areas</li> <li>• Areas indicating ponding water</li> <li>• Previously coated areas</li> </ul>	●	n/a	●	n/a

#### KEY

- n/a Not applicable for roof substrate
- Moisture analysis required

## 3.07 Substrate conditions and preparation

### Substrate conditions

Appropriate substrate conditions are critical to obtain proper adhesion; be sure surfaces are ready for product installation and are in accordance with this installation manual. Contact Henry® Technical Support for compatibility confirmation and project specific preparation recommendations for previously coated areas.

- Do not install roof coating until substrate conditions are in accordance with this installation manual.
- Do not install roof coating over saturated insulation.
- Do not install roof coating over saturated substrates.
- Substrate must be continuous and secure.
- Not all product installations require the use of primer. However, primer may be used in some cases where adhesion test results indicate adhesion is less than two (2) pounds per lineal inch. Refer to **Adhesion testing** and **Primer** sections of this installation manual for further information.
- Verify existing substrates and assembly flashings are dry, leak-free and create a continuous and secure substrate.
- Repair or replace existing substrates and assembly flashings that do not comply with substrate conditions and preparation section of this installation manual. Areas include, but are not limited to, the following:
  - Field of existing roofing assembly
  - Flashings
  - Skylights
  - Scuppers
  - Gutters
  - Penetrations

### Preparation

Appropriate substrate preparation is critical to obtain proper adhesion, so be sure surfaces are ready to accept the product and are in accordance with this installation manual.

- Ensure all required preparatory work is complete prior to applying Pro-Grade® 988 system products.
- For optimal adhesion, surfaces must be clean and free of oil, grease, dirt, excess mortar, frost, laitance, loose and flaking particles, and other contaminants.
- All substrates must be completely dry prior to primer or coating application.
- Protect adjacent surfaces to prevent spillage and overspray.
- Do not apply Pro-Grade® 988 system components until substrate and environmental conditions are in accordance with this installation manual.



### 3.08 Surface cleaning

Clean existing roof assembly prior to coating installation. Confirm local ordinances and jurisdiction restrictions prior to selecting from the following cleaning methods.

Acceptable surface cleaning methods			
Cleaning method	MB/BUR	Metal	Single Ply
Pressure washer with greater than 2000 psi	●	●	●
Air lance with greater than 2000 psi	n/a	●	n/a
<b>Algae, mildew or fungus:</b> <ul style="list-style-type: none"> <li>Treat with a tri-sodium phosphate (TSP) or equivalent non-filming detergent and water solution.</li> <li>Clear water rinse until all cleaning residue is removed.</li> </ul>	●	●	●
<b>Etching detergent in conjunction with sprayer:</b> <ul style="list-style-type: none"> <li>Allow etching detergent to stand for 5 minutes. Lightly scrub with stiff bristle broom and remove with power washer with greater than 2000 psi using 3 to 4 ft (0.91 to 1.2m) arc pattern.</li> </ul> Recommended equipment: <ol style="list-style-type: none"> <li>Hudson type agricultural sprayer</li> <li>Conventional pressure sprayer</li> <li>Airless sprayer</li> </ol>	n/a	●	n/a

**KEY**

- n/a Not applicable for roof substrate
- Applicable cleaning method

### 3.09 Temperature and exposure limitations

- Actual temperature limitations may vary by product. Refer to relevant product TDS for product specific information.
- Not all Henry® auxiliary products are designed for indefinite UV exposure. Refer to relevant product TDS for product specific UV exposure limitations.

Minimum temperature installation limitations		
Assembly product type	Product name	Minimum application
Primary products	Pro-Grade® 988	35 °F (2 °C)
Auxiliary materials	Pro-Grade® 294	50 °F (10 °C)
	Pro-Grade® 920	35 °F (2 °C)
	Pro-Grade® 923	35 °F (2 °C)
	Pro-Grade® 928	35 °F (2 °C)
	Pro-Grade® 941	35 °F (2 °C)
	Pro-Grade® 957	35 °F (2 °C)
	Pro-Grade® 986	35 °F (2 °C)

### 3.10 Adhesion testing

Refer to the following charts for Henry® adhesion testing parameters. For further product specific information and adhesion test instructions, visit the Henry® website at [www.us.henry.com/silicone-adhesion-instructions](http://www.us.henry.com/silicone-adhesion-instructions)

Adhesion testing				
Required testing areas	Smooth cap sheet/BUR (non-aggregate)	Granulated cap sheet	Metal	Single Ply
<b>Non-previously coated surfaces</b>				
<b>Field of existing roofing membrane</b> <ul style="list-style-type: none"> <li>• Minimum two (2) tests</li> <li>• One (1) test per every 10,000 sq.ft.</li> <li>• Worn substrates</li> </ul>	●	-	●	●
<b>Changes in existing substrates</b>	●	-	●	●
<b>Areas installed in varying phases</b>	●	-	●	●
<b>Shaded areas</b>	●	-	●	●
<b>Areas indicating ponding water</b>	●	-	●	●
<b>Previously coated surfaces</b>				
<b>Field of existing roofing membrane</b> <ul style="list-style-type: none"> <li>• Minimum two (2) tests</li> <li>• One (1) test per every 10,000 sq.ft.</li> <li>• Worn substrates</li> </ul>	●	●	●	●
<b>Changes in existing substrates</b>	●	●	●	●
<b>Areas installed in varying phases</b>	●	●	●	●
<b>Shaded areas</b>	●	●	●	●
<b>Areas indicating ponding water</b>	●	●	●	●

- KEY**
- Adhesion Test Not Required
  - Adhesion Test Required

### 3.11 Primer

In some cases, a product’s ability to adhere to a substrate may be compromised. Adhesion enhancements are required when an assembly is unable to maintain a continuous and secure installation. For this reason, Henry® offers primers where adhesion enhancements are needed as a result of any of the following:

- Irregular surface texture
- Peel adhesion less than minimum requirements in accordance with Henry® adhesion testing parameters.

The following chart indicates available primers per product and substrate requirements.

- Refer to individual product TDS for recommended primer installation rates and cure times prior to installation. Allow primer to properly cure prior to covering. Premature membrane installation may result in failed enhancement of adhesion to the substrate.
- Avoid over-application of primer. Excessive primer may result in additional drying time.
- Surfaces primed with Pro-Grade® 941 or Rust Inhibitor Primer must be covered during the same working day.
- MB/BUR assemblies require installation of Pro-Grade® 294 Base Coat and Sealer (a stain blocking primer) prior to silicone product installation.

Recommended primers					
Products	MB/BUR	Metal	Single Ply		*Previously Coated
			EPDM	PVC, Hypalon® and TPO	
Pro-Grade® 294 Base Coat and Sealer (Stain Blocking Primer)	●	n/a	n/a	n/a	n/a
Pro-Grade® 941 Primer	n/a	○	○	○	○
Rust Inhibitor Primer	n/a	○	n/a	n/a	n/a

\* Contact Henry® Technical Services Department for compatibility confirmation and project specific primer recommendations for previously coated areas.

#### KEY

n/a Primer not applicable

○ Authorized primer - optional for areas meeting minimum adhesion test requirements (required for areas indicating adhesion test failure)

● Authorized primer - required for all installations

## 4. Installation

Pro-Grade® 988 is a solvent-free, one-component, moisture-curing silicone rubber roof coating system for use on existing smooth asphaltic BUR, smooth or granulated cap sheet, single ply roof membrane, well-adhered acrylic coating, metal, sprayed-in-place polyurethane foam and various aged membrane roofing. The system provides long-term weathering protection and resists the effects of ozone, ultraviolet radiation and temperature extremes.

### 4.01 Planning material installation

Prior to installation of the Pro-Grade® 988 roof coating system, understand installation recommendations to ensure assembly integrity, minimize waste and achieve proper sequencing.

- Install multiple courses in shingle fashion at overlaps to properly shed water and avoid reverse laps.
- Refer to the Prograde® 988 details located at [www.us.henry.com/prograde988/](http://www.us.henry.com/prograde988/) for recommended flashing and sealant applications. Products and installation requirements may vary.
- Allow sealants and reinforced coatings to fully cure prior to subsequent installations.
- Apply Pro-Grade® 294 Base Coat and Sealer as a stain blocking primer over MB/BUR substrates prior to silicone product installation.

## 4.02 Existing roof defect repair

Do not install roof coating over saturated or defective substrates, including roofing assemblies, insulation or auxiliary components.

- All areas must promote positive drainage. Contact the Henry® Technical Services Department for ponding area repair procedures.
- Allow repaired/replaced components to fully cure prior to coating installation.

### Saturated or damaged substrates

Completely remove saturated or defective substrates and replace with matching materials in accordance with the existing roofing assembly manufacturer installation requirements to ensure a continuous and flush surface. Detail seams in accordance with **Substrate repair methods** chart below.

### Loose or torn seams

Generously apply Pro-Grade® 923 or Pro-Grade® 957 under loose or torn seams and firmly press loose membrane into sealant. Allow sealant to fully cure and detail seam in accordance with the **Substrate repair methods** chart below.

### Defective substrates

Repair defective substrates in accordance with **Substrate repair methods** chart below when an assembly is unable to maintain a continuous and secure installation as a result of any of the following:

- Splits
- Cracks
- Blisters
- Deteriorated flashings
- Cracked metal edging

Substrate repair methods	
<b>Option #1</b>	Apply Pro-Grade® 923 or Pro-Grade® 957 using a stiff brush or sealant knife at 1/8" thick (125 wet mils) extending 3" minimum each side of seam.
<b>Option #2</b>	<ol style="list-style-type: none"> <li>1. Install one layer of roof coating at 2 gallons per square (32 wet mils) extending 4" minimum each side of seam/defect.</li> <li>2. Center 6" wide 195 Polyester Fabric over seam and fully embed into roof coating ensuring 3" of fabric on each side of seam/defect. Brush or roll fabric for proper adhesion and remove all voids.</li> <li>3. Allow roof coating to dry to touch prior to subsequent layer. Apply second layer of roof coating at 1 gallon per square (16 wet mils) extending 4" minimum each side of seam; ensure fabric is fully coated.</li> </ol>

## 4.03 Detailing and Flashing

Pre-treatment of secure and intact seams*				
Flashing options	Modified Bitumen (MB) and Single Ply		Metal	
	10- and 15-year warranties	20-year warranty	Crimped standing vertical seams	Horizontal laps, un-crimped vertical seams and ridge cap seams
<b>Option #1</b>	Apply Pro-Grade® 923 or Pro-Grade® 957 using a stiff brush or sealant knife at 1/8" thick (125 wet mils) extending 3" minimum each side of seam.		No seam pre-treatment required	Apply Pro-Grade® 923 or Pro-Grade® 957 using a stiff brush or putty knife at 1/8" inch thick (125 wet mils) extending 2" minimum each side of seam.
<b>Option #2</b>	Install one layer of coating at 1.5 gallons per square (24 wet mils) extending 3" on each side of seam.	<ol style="list-style-type: none"> <li>1. Install one layer of roof coating at 2 gallons per square (32 wet mils) extending 4" minimum on each side of seam.</li> <li>2. Center 6" wide Henry® 195 Polyester Fabric over seam and fully embed into roof coating, ensuring 3" of fabric on each side of seam. Brush or roll fabric for proper adhesion and remove all voids.</li> <li>3. Allow roof coating to dry to touch prior to subsequent layer.</li> <li>4. Apply a second layer of roof coating at 1 gallon per square (16 wet mils), extending 4" minimum on each side of seam; ensure fabric is fully coated.</li> </ol>	No seam pre-treatment required	<ol style="list-style-type: none"> <li>1. Install one layer of roof coating at 2 gallons per square (32 wet mils), extending 4" minimum on each side of seam.</li> <li>2. Center 6" wide Henry® 195 Polyester Fabric over seam and fully embed into roof coating, ensuring 3" of fabric on each side of seam. Brush or roll fabric for proper adhesion and remove all voids.</li> <li>3. Allow roof coating to dry to touch prior to subsequent layer.</li> <li>4. Apply a second layer of roof coating at 1 gallon per square (16 wet mils), extending 4" minimum on each side of seam; ensure fabric is fully coated.</li> </ol>

\*Built-Up Roof (BUR) assemblies do not require pre-treatment of secure and intact seams.

Roof curbs, parapets, and pipe penetrations for MB/BUR, Single Ply and Metal Roofs	
<b>Option #1</b>	Apply Pro-Grade® 923 or Pro-Grade® 957 using a stiff brush or sealant knife at 1/8" thick (125 wet mils) extending 4" minimum onto horizontal and vertical surfaces.
<b>Option #2</b>	1. Install roof coating at 2 gallons per square (32 wet mils) extending 4" minimum onto horizontal and vertical surfaces. 2. Center 6" wide Henry® 195 Polyester Fabric at upturn and fully embed into roof coating ensuring 3" of fabric on both horizontal and vertical surfaces. Brush or roll fabric for proper
Fastener heads for MB/BUR, Single Ply and Metal Roofs	
Completely encapsulate fastener heads with Pro-Grade® 928	
Drains for MB/BUR, Single Ply and Metal Roofs	
1. Remove strainer, ring and other drain components. 2. Apply Pro-Grade® 923 or Pro-Grade® 957 using a stiff brush or sealant knife at 1/8" thick (125 wet mils) from the drain hole opening extending 12" minimum continuously around the drain perimeter ensuring a smooth and continuous finish.	

## 4.04 Pro-Grade® 988 installation procedures

Pro-Grade® 988 warranted roof coating assemblies are based off of overall roof coating dry film thickness. Confirm overall roof coating application rates and warranty term options at <https://www.us.henry.com/silicone-warranty-chart/>

- Apply Pro-Grade® 988 at minimum gallons per square to achieve minimum dry film thickness in accordance with Pro-Grade® 988 warranted assembly requirements.
- Frequently verify coverage rate during application with a wet film gauge to confirm a continuous and uniform film thickness in accordance with Pro-Grade® 988 minimum warranty requirements.
- Application rates apply to both Material Plus and Gold Seal warranties.
- Pro-Grade® 988 application options are available for both single and two (2) coat options. Confirm application allowances on product specific warranty chart.
  - Single coat applications:
    - Apply Pro-Grade® 988 at minimum gallons per square to achieve minimum dry film thickness for Pro-Grade® 988 warranted assembly requirements.
  - Two (2) coat applications:
    - Two coat roofing applications consist of a base coat and top coat.
    - Base and top coat application rates may vary. Apply both base and top coats at minimum gallons per square to achieve minimum dry film thickness for each layer in accordance with Pro-Grade® 988 warranted assembly requirements.
    - Allow base coat to dry and verify substrate is thoroughly clean and free of debris or contamination prior to subsequent coating application.
    - Apply top coat perpendicular to cured base coat.

## 4.05 Optional walkways

Henry® offers optional walkways over MB/BUR and singly ply roofing for added traction where areas anticipate periodic traffic due to roof or mechanical equipment maintenance.

- Prior to walkway installation, verify overall Pro-Grade® 988 assembly is in accordance with Pro-Grade® 988 warranty requirements and substrate is clean and free of debris or contamination.
- Apply additional Pro-Grade® 988 at traffic areas at a minimum of one (1) gallon per square (sixteen (16) wet mils).
- Apply Permax® Roof Granules uniformly into wet Pro-Grade® 988 at a rate of 20-30 pounds per 100 square feet.
- Allow Pro-Grade® 988 to dry.
- Remove loose particles to avoid clogging drains.

## 5. Final inspection

A Henry® authorized representative must conduct a final inspection prior to issuance of a Henry® Gold Seal warranty. Contact Henry® Technical Support or a local sales representative to schedule an on-site final inspection. Final inspection measures may include, but are not limited to, the following:

- Visual verification
- Mil thickness verification
- Optical comparator inspection

## 6. Care and maintenance

A systematic inspection and maintenance program is essential to the satisfactory long-term performance of any roof coating membrane. Through such a program, potential problems can be found in their early stages or prevented altogether. Henry® offers information intended as a guide to assist the building owner or manager in achieving the maximum benefit for a Henry® issued warranty on the membrane system and complying with the owners responsibilities outlined in that warranty.

Care and maintenance instructions are provided upon warranty issuance. Refer to Addendum A - Henry® Maintenance Guidelines located within the warranty package.

## 7. Details

Drawings are available that indicate typical conditions for installing Pro-Grade® 988 assemblies. Prior to installation, verify unique requirements of local codes, laws, statutes or regulations that may be applicable for a specific installation. Henry® assumes no liability for the accuracy, completeness or appropriateness of the drawings included in this installation manual for a specific installation or purpose. Confirm project specific conditions with a local licensed design professional in order to assure compliance with all legal requirements. Henry® is not licensed to provide professional engineering or architectural services.

A complete selection of Pro-Grade® 988 application guides, guide specifications and details are located at [www.us.henry.com/prograde988/](http://www.us.henry.com/prograde988/)

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