

## Application guide

# Henry® Pro-Grade® Aluminum Roof Coating System

This application guide provides instructions for successfully applying a Henry® Pro-Grade® Aluminum roof coating system\* on metal, asphalt roofs (roll roofing, modified bitumen and built-up roofing) and previously coated roofs. A Pro-Grade® Aluminum roof coating system\* is a roof restoration system providing a cost-effective alternative to a full replacement. When installed according to these instructions, it is designed to provide a fluid applied roofing system supported by a variety of warranty offerings. This application guide is not intended for applications on shingles, coal tar substrates, gravel covered roofs, cold storage or cryogenic structures, and Kynar® or Hylar® coated metal roofs. Metal roofs must be greater than 28 gauge (0.015").

**FC** Foundation Coat

**TC** Top coat

**S** Sealant

**RC** Reinforced coating

**RM** Reinforced mastic

Coverage rates					
10-year Pro-Grade® Aluminum roof coating system options					
Coating assembly configuration		Granulated cap sheet	Smooth cap sheet/BUR (non-aggregate)	Metal****	
Option #1	<b>TC</b>	Pro-Grade® 586	2.50 gal./sq. (20 mil DFT)	2.00 gal./sq. (16 mil DFT)	2.00 gal./sq. (16 mil DFT)
Option #2	<b>FC</b>	Pro-Grade® 197***	5.00 gal./sq. (32 mil DFT)	4.00 gal./sq. (25 mil DFT)	n/a
	<b>TC</b>	Pro-Grade® 586	2.00 gal./sq. (16 mil DFT)	2.00 gal./sq. (16 mil DFT)	n/a
California only	<b>FC</b>	Pro-Grade® 197***	5.00 gal./sq. (32 mil DFT)	4.00 gal./sq. (25 mil DFT)	n/a
	<b>TC</b>	Pro-Grade® 588	2.00 gal./sq. (17 mil DFT)	2.00 gal./sq. (7 mil DFT)	n/a
12-year Pro-Grade® Aluminum roof coating system* options					
Option #1	<b>FC</b>	Pro-Grade® 197***	4.00 gal./sq. (25 mil DFT)	3.00 gal./sq. (19 mil DFT)	n/a
	<b>RC</b>	Henry® 195 Polyester Fabric	Reinforcement	Reinforcement	n/a
	<b>FC</b>	Pro-Grade® 197	4.00 gal./sq. (25 mil DFT)	3.00 gal./sq. (19 mil DFT)	n/a
	<b>TC</b>	Pro-Grade® 586	2.00 gal./sq. (16 mil DFT)	2.00 gal./sq. (16 mil DFT)	n/a
Option #2	<b>TC</b>	Pro-Grade® 599	2.50 gal./sq. (17 mil DFT)	2.00 gal./sq. (14 mil DFT)	2.00 gal./sq. (14 mil DFT)
Option #3	<b>FC</b>	Pro-Grade® 197***	5.00 gal./sq. (32 mil DFT)	4.00 gal./sq. (25 mil DFT)	n/a
	<b>TC</b>	Pro-Grade® 599	2.00 gal./sq. (14 mil DFT)	2.00 gal./sq. (14 mil DFT)	n/a
California only	<b>FC</b>	Pro-Grade® 197***	4.00 gal./sq. (25 mil DFT)	3.00 gal./sq. (19 mil DFT)	n/a
	<b>RC</b>	Henry® 195 Polyester Fabric	Reinforcement	Reinforcement	n/a
	<b>FC</b>	Pro-Grade® 197	4.00 gal./sq. (25 mil DFT)	3.00 gal./sq. (19 mil DFT)	n/a
	<b>TC</b>	Pro-Grade® 588	2.50 gal./sq. (9 mil DFT)	2.50 gal./sq. (9 mil DFT)	n/a
Ancillary components for all warranted assemblies					
Application		Product name	Product description	Coverage rate	
Metal seams		<b>S</b> Henry® 295 Metal Seam Sealer**	Metal seam sealer	190 linear feet per 5 gal. pail (1/8" thick at 4" wide)	
Metal fasteners/defects		<b>S</b> Henry® 295 Metal Seam Sealer**	Metal seam sealer	Varies by application	
MB cap sheet seams	Option #1	<b>RC</b> Pro-Grade® 197	Asphalt emulsion	210 linear feet per 5 gal. pail (56 mils thick at 8" wide; 3-course)	
		Henry® 195 Polyester Fabric	Reinforcement fabric	300 linear feet per 6" x 300' roll	
	Option #2	<b>RM</b> Pro-Grade® 167	Asphalt roof cement	40 linear feet per 3 gal. pail (1/4" thick at 6" wide; two coats 3-course)	
		Henry® 183 Roof Repair Fabric	Yellow fiberglass repair fabric	150 linear feet per 4" x 150' or 36" X 150' roll	
MB/BUR fasteners/defects	Option #1	<b>S</b> Pro-Grade® 167	Asphalt roof cement	Varies by application	
	Option #2	<b>S</b> Henry® 289 White Roofing Sealant	Roofing sealant	Varies by application	

\*Authorized Henry® Pro-Grade® Aluminum roof coatings include: Pro-Grade® 586, Pro-Grade® 588 or Pro-Grade® 589. Contact Henry® Company for project specific recommendations.

\*\*Use Henry® 289 White Roofing Sealant in areas where Henry® 295 Metal Seam Sealer does not meet local VOC requirements.

\*\*\*Recommended when existing roof surface is "alligatored" or heavily textured. Built-Up Roof (BUR) and reinforced foundation coat assemblies do not require pre-treatment of secure and intact seams.

\*\*\*\*For slopes greater than 3:12 contact Henry® Technical Support or your local Henry® sales representative. Include a stretch factor increase of 15 to 30% when calculating metal roof surface area

DFT = Dry Film Thickness (minimum requirement)

**Warranty:** Henry® Pro-Grade® Aluminum roof coating system\* warranty durations are based on overall coating thicknesses. See coverage rate chart for requirements. Coverage rates do not account for material loss due to spraying, surface texture, waste, etc. Coverage rates are applicable for previously coated and non-coated roofs. Actual product quantity requirements may vary and are the responsibility of the contractor.

**Safety statements:** Use caution when applying and walking on coated surfaces. Coated surfaces can be extremely slippery and can create a fall hazard resulting in injury or death. All air intake ventilation equipment should be turned off to prevent fumes from entering building.

## STEP 1: Substrate examination

### I. Suitability of substrate:

- A. Conduct a visual inspection to ensure substrate suitability.
  - 1. Roofs must have positive drainage.
  - 2. Substrate, insulation and all surfaces must be sound, dry, clean and free of oil, grease, rust, dirt, excess mortar, frost, laitance, loose and flaking particles or contaminants.

- C. Do not install Pro-Grade® Aluminum roof coating\* over saturated insulation or substrates.
- D. Moisture survey includes a visual inspection and one or more of the following:
  - 1. Infrared thermography
  - 2. Nuclear scan
  - 3. Electric capacitance/impedance testing
  - 4. Roof core cut samples

### II. Adhesion tests:

- A. Granulated modified bitumen: not required
- B. Metal:
  - 1. Non-previously coated: not required
  - 2. Previously coated: required
    - a. Conduct ASTM D3359 tape test.
      - 1. Slice existing coating in an x-cut.
      - 2. Fully adhere semitransparent pressure sensitive tape over x-cut intersection.
      - 3. Remove tape by pulling rapidly back over itself at a 180° angle.
      - 4. Adhesion results indicating removal of coating are not acceptable.
- C. Adhesion test requirements:
  - 1. Conduct at least two tests in the field of existing roof membrane, one every 10,000 sq. ft., plus any area of worn roofing, such as cracked or abraded surfaces.
  - 2. Any change in roof substrate
  - 3. Existing roof areas installed in phases
  - 4. Shaded areas
  - 5. Areas indicating ponding water
- D. Contact [Henry® Product Support](#) or your [sales representative](#) where adhesion test results indicate jagged coating removal along incision.

### III. Moisture survey:

- A. The installing contractor must verify the existing roofing assembly is dry and leak free prior to installation.
- B. Evaluate existing roof assembly for moisture, including saturated insulation, roof deck, roof components and defective roofing. Repair and replace in accordance with National Roofing Contractors Association (NRCA).

### IV. Repair or replace defective existing roofing:

- A. Ensure skylights, scuppers, gutters, penetrations and structures are firmly secured, watertight and in good working condition.
- B. Ensure fasteners are secure and tight; replace loose fasteners with larger diameter fastener.
- C. Metal:
  - 1. Replace damaged, weakened or corroded metal panels, fascia, gutters, vents, ridge caps or flashings compromising structural integrity.
  - 2. Remove loose rust with wire brush, sandblast or mechanical abrasion until substrate is smooth and free of loose rust.
  - 3. Remove old and damaged mastic, sealant and coating at laps, seams and metal fasteners.
- D. Modified Bitumen/Smooth BUR:
  - 1. Remove and replace wet insulation and/or defective materials with like-materials and tie into existing roofing in accordance with NRCA.

### V. Weather considerations:

- A. Substrate must remain dry 12 hours after installation.
- B. Refer to minimum application temperature chart.

Minimum application temperature	
Product name	Substrate temperature
Pro-Grade® 586	40 °F (4 °C)
Pro-Grade® 588	50 °F (10 °C)
Pro-Grade® 599	40 °F (4 °C)
Pro-Grade® 197	50 °F (10 °C)
Henry® 295 Metal Seam Sealer**	35 °F (2 °C)
Pro-Grade® 167	-20 °F (-28 °C)

## STEP 2: Substrate preparation

### I. Clean:

- A. Confirm local water run-off ordinances and restrictions prior to cleaning roof.
- B. Surface cleaning:
  1. MB/smooth BUR and metal:
    - a. Carefully pressure wash roof surfaces with greater than 2,000 psi pressure to remove loose granules, debris, rust, scale, dirt, dust, chalking, peeling or flaking coatings, etc. Do not force water into the roof system or damage roof surfaces.
    - b. Remove grease, oils or contaminants which may interfere with adhesion using warm water and mild detergent.
    - c. Treat areas of algae, mildew or fungus with a solution of household bleach and water.
    - d. Rinse roof to ensure removal of all detergent or anything else that could affect adhesion.

### II. Primers:

- A. Metal roof and metal components:
  1. Optional rust primer: Install a commercial grade rust-inhibitive primer per primer manufacturer recommendation.

### III. Flashing and details:

- A. Complete flashings and details prior to Pro-Grade® Aluminum roof coating\* installation.
- B. Mix Pro-Grade® Aluminum roof coating\* with drill and mixer blade prior to, and during use as needed, to maintain consistent viscosity and uniform distribution of aluminum content throughout application.
- C. Refer to charts below for pre-treatment guidelines.
- D. Metal seams:
  1. Horizontal laps, un-crimped vertical seams and ridge cap seams:
    - a. Apply foot pressure to under lapping panel next to horizontal lap or vertical seam and stitch-fasten gaps opening more than 1/8" wide on metal panel lap to ensure a continuous substrate and eliminate gaps.

Pre-treatment of MB/BUR defects and loose or torn seams		
<b>MB/BUR</b>		
1. Install Pro-Grade® 167 at 1/8" thick (125 mils), extend 3" minimum on each side of seam. 2. Center 4" wide Henry® 183 Roof Repair Fabric over seam and fully embed into roof mastic, ensuring 2" of fabric on each side of seam. Brush or roll fabric for proper adhesion and remove all voids. 3. Apply Pro-Grade® 167 at 1/8" thick (125 mils) minimum, extend 3" on each side of seam; ensure fabric is fully coated.		
Pre-treatment of secure and intact seams***		
Modified Bitumen (MB)	Metal	
Unreinforced foundation coat assemblies	Crimped standing vertical seams	Horizontal laps, un-crimped vertical seams and ridge cap seams
1. Install Pro-Grade® 197 at 3 gallons per square (48 wet mils), extend 4" minimum on each side of seam. 2. Center 6" wide Henry® 195 Polyester Fabric over seam and fully embed into foundation coat, ensuring 3" of fabric on each side of seam. Brush or roll fabric for proper adhesion and remove all voids. 3. Apply Pro-Grade® 197 at 3 gallons per square (48 wet mils), extend 4" minimum on each side of seam; ensure fabric is fully coated..	No seam pre-treatment required.	Apply Henry® 295 Metal Seam Sealer** at 1/8" thick (125 wet mils), extend 2" minimum each side of seam.
Roof curbs, parapets and pipe penetrations for MB/BUR and metal roofs		
Flashing Options	MB/BUR	Metal
<b>Option #1</b>	Apply Pro-Grade® 167 using a trowel at 1/8" thick (125 wet mils), extend 4" minimum onto horizontal/vertical surfaces.	Apply Henry® 295 Metal Seam Sealer** at 1/8" thick (125 wet mils), extend 4" minimum onto horizontal/vertical surfaces.
<b>Option #2</b>	1. Install one layer of Pro-Grade® 197 at 2 gallons per square (32 wet mils), extend 4" minimum onto horizontal/vertical surfaces. 2. Center 6" wide Henry® 195 Polyester Fabric at upturn and fully embed into foundation coat, extend 3" on both horizontal/vertical surfaces. Brush or roll fabric for proper adhesion and remove all voids. 3. Apply second layer of Pro-Grade® 197 at 2 gallons per square (32 wet mils), extend 4" minimum onto horizontal/vertical surfaces; ensure fabric is fully coated.	

Fastener heads for metal roofs and metal components on MB/BUR roofs	
MB/BUR	Metal
Completely encapsulate fastener heads with Pro-Grade® 167.	Completely encapsulate fastener heads with Henry® 295 Metal Seam Sealer**.
Drains for MB/BUR roofs	
Flashing Options	MB/BUR
Option #1	<ol style="list-style-type: none"> <li>1. Remove and clean strainer, ring and other drain components.</li> <li>2. Install one layer of Pro-Grade® 197 at 3 gallons per square (48 wet mils) from the drain hole opening, extend 14" minimum beyond drain.</li> <li>3. Fully embed Henry® 195 Polyester Fabric into foundation coat, extend 12" beyond drain hole. Brush or roll fabric for proper adhesion and remove all voids.</li> <li>4. Apply second layer of Pro-Grade® 197 at 3 gallons per square (48 wet mils) from the drain hole opening; ensure fabric is fully coated.</li> </ol>
Option #2	<ol style="list-style-type: none"> <li>1. Remove and clean strainer, ring and other drain components.</li> <li>2. Apply Pro-Grade® 167 using a trowel at 1/8" thick (125 wet mils) into the drain hole and completely encapsulating the drain bowl.</li> <li>3. Fully embed Henry® 183 Roof Repair Fabric into Pro-Grade® 167, extend 12" beyond drain hole. Brush or roll fabric for proper adhesion and remove all voids.</li> <li>4. Apply second layer of Pro-Grade® 167 over fabric at 1/8" thick (125 wet mils); ensure fabric is fully coated and extend roof coating 14" minimum beyond drain.</li> </ol>

## STEP 3: Roof coating application

### I. Application of roof coating: Refer to the Coverage Rate Chart for warranted minimum requirements.

- A. Mix Pro-Grade® Aluminum roof coating\* with drill and mixer blade, prior to and during use as needed, to maintain consistent viscosity and uniform distribution of aluminum content throughout application.
- B. Clean/prepare substrate in accordance with **Step 2: Substrate preparation** of this application guide.
- C. Refer to **coverage rate chart** for coating assembly configuration and coverage rates.
  1. No foundation coat: proceed to **Step D**.
  2. Unreinforced foundation coat assemblies:
    - a. Apply Pro-Grade® 197, starting installation at low point of roof; extend 8" up vertical surfaces.
    - b. Allow Pro-Grade® 197 to dry prior to subsequent layer.
    - c. Proceed to **Step D**.
  3. Reinforced foundation coat assemblies:
    - a. Apply one layer of Pro-Grade® 197, starting installation at low point of roof; extend 8" up vertical surfaces.
    - b. Install Henry® 195 Polyester Fabric perpendicular to roof slope and fully embed into Pro-Grade® 197; ensure 4" overlap at seams. Brush or roll fabric for proper adhesion and remove all voids. Dry fabric overlap is not acceptable.

- c. Immediately apply Pro-Grade® 197 onto Henry® 195 Polyester Fabric; ensure fabric is fully coated. Do not walk on wet Pro-Grade® 197. Allow to dry prior to coating application. Proceed to **Step D**.
- D. Install Pro-Grade® Aluminum roof coating\* in accordance with this application guide.
  1. Installation tips:
    - a. Application to damp surface will cause Pro-Grade® Aluminum roof coating\* discoloration.
    - b. Install coating to optimize "leaf action"; aluminum flakes floating to surface after initial application:
      1. Do not over brush/roll Pro-Grade® aluminum roof coating\*. Over brushing will cause aluminum flake disorientation and decrease reflectivity.
      2. Utilize high quality soft bristled brush, heavy nap roller, or commercial grade spray equipment.
      3. Apply at a consistent/liberal rate.
      4. Brush in one direction.
  2. Install Pro-Grade® Aluminum roof coating\*, extend 8" minimum up vertical surfaces.

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