

## BUILT-UP ROOF MEMBRANE REPAIRS FLASHING REPAIRS METAL ROOF REPAIRS PRODUCT SELECTION CHART

<b>MASTICS</b>						
Product	Description	Packaging				
		Gallons			Qt.	11 oz. Tube
		5	3½	1		
204 Plastic Cement	Patches leaks and seals flashings on asphalt, metal, and composition roofs on dry surfaces. <b>ASTM D2822 Type I Class I</b>	X	X	X		
208 WetPatch®	Immediate repair of roof leaks even in the rain. Easy application in cold weather. Same uses and quality as 204 but will adhere to wet surfaces even under water. <b>ASTM D2822 Type I Class II except for high temperature sag. Exceeds ASTM D3409.</b>	X	X	X	X	X
209 ElastoMastic®	High performance SEBS rubber modified mastic used for sealing end laps and perimeters of Ruftac® and other SBS modified or non-modified sheets. Ideal for roof repairs on metal joints. Non-Asbestos.	X	X	X		X
289 ElastoCaulk®	Henry #289 ElastoCaulk® is a white elastomeric acrylic patching compound specially formulated for repairing and preventing roof leaks prior to coating with an acrylic reflective coating and other water based coatings. Non-asbestos.		X	X		X
505 FlashMaster™	Modified and rubberized premium quality flashing cement for use in all temperature conditions. <b>ASTM D2822 Type I Class I</b>	X	X			
906 FlashMaster™ Plus	Modified & rubberized premium non-asbestos cement (wet/dry surface) <b>ASTMD4586 Type I &amp; D3409</b>	X	X			
<b>METALSHIELD® MASTICS</b>						
#295 Seam Sealer	Henry #295 Metal Seam Sealer is a white, rubber based, mastic grade, elastomeric sealant designed to seal critical fasteners and lap seams on metal roofing. Not for use in VOC restricted regions.	X		X	50 Gallon Drum	
#513 Flashing Compound	MetalShield #513 Flashing Compound is a white elastomeric polymer latex base flashing compound designed for use in conjunction with Henry's Metalshield Elastomeric Roofing System.	X				
<b>REINFORCEMENT FABRICS &amp; ROLL GOODS</b>						
Product	Description	Roll Size				
		4"	6"	9"	12"	Other
181 Asphalt Saturated Glass Fabric	Use to reinforce asphalt roof cements and coatings during roof repairs, for flashings, and sealing seams on metal and composition roofing.	X150'	X150'		X150'	36"x150'
183 Yellow Glass Reinforcing Fabric	Same uses as 181 but yellow color is conspicuous if not completely covered which aids quality workmanship	X150'	X 25' X150'			36"x150'
195 Polyester	Stichbonded polyester for reinforcement - Softer than 196.	X300'	X300'		X300'	40"x324'
196 Polyester	Stichbonded polyester for reinforcement. Stiffer than 195.					40"x324'
600 Ruftac®	A self-adhered SBS-modified roofing membrane reinforced with a non-woven polypropylene fabric. Use with 209 ElastoMastic.			X50'	X50'	36"x38'
609 APPatch™	A self-adhered SBS-modified roofing membrane reinforced with a non-woven polypropylene fabric. Use with 209 ElastoMastic.		X50'			
#604 25# Base Sheet	Base sheet used to install built-up roofing & repairs. Use with #902 PBA					36" x 108'
#605 80# Underlayment	Use in installation of built-up roofing and repairs.					36" x 36'

## MISCELLANEOUS

Product	Description	Packaging			
		17 oz	Gallons		
		Spray Can	1	5	55
#104Q & #104 Primer	Quick Dry Asphalt Spray Primer ASTM D41 – 1 Can average coverage 33 ft <sup>2</sup>	X			
#103 Primer	Asphalt Primer suitable for VOC restricted areas		X	X	X
#107 Asphalt Emulsion	A premium, versatile asphalt emulsion roof coating			X	X
#902 PBA – Permanent Bond Adhesive	A premium, modified and rubberized, Cold-Ap® waterproof roofing adhesive			X	X
#176 Pond Patch™	Convenient dry light weight cement mix when blended with water is used for filling and leveling roof “ponds”.	6 Gallon container covers 12.5 sq. ft. (3/4” depth)			

## ROOF, FLASHING & METAL REPAIR PROCEDURES

### I. GENERAL ROOF REPAIR REQUIREMENTS

- A. Thoroughly clean roof surface of dirt, debris, loose granules and contaminants at and around repair area extending 18” beyond perimeter of defect. On gravel roofs remove loose and embedded gravel. Surface repair with new gravel.
- B. Prime area **[#104Q] or [#104] or [#103]** and allow to dry.
- C. Extend repair a minimum of 6” beyond damage.
- D. **REPAIR METHOD 1** - Minimum repair is to be **#600 Ruftac** set in **#209 ElastoMastic**. Apply #600 Ruftac Self-Adhering SBS Modified Asphalt Membrane by peeling off the backing and pressing it onto the area to remove any entrapped air. A brush coat of emulsion or aluminum coating is required over the Ruftac if it is to remain exposed.
- E. **REPAIR METHOD 2** - 5-course application of 2 layers of **Henry reinforcing fabric: [#181], [#183], [#195] or [#196]**, sandwiched between alternating layers of **Henry Mastic: [#204] or [#208] or [#289] or [#505] or [#906]**. Apply mastic not less than 1/8” thick each layer. Increase number of layers of Henry reinforcing fabric and Henry mastic to match the number of damaged original roofing plies. Extend each layer 3 inches beyond layer below.
- F. **Follow Repair Method 1 for repair of APP roofs.**
- G. On insulated systems inspect for water infiltration. Remove wet or damaged insulation and replace with insulation of same type and thickness. Mechanically attach insulation or adhere with #111 InsulBond adhesive. Install new roof membrane in accordance with not less than Henry Specification H3-IG4C-MR.
- H. Alternate repair methods require approval of Henry Company Technical Services (800) 486-1278.

### II. MEMBRANE REPAIRS

- A. SMALL HOLES AND CRACKS
  1. See General Roof Repair Requirements
  2. Apply mastic 1/8” to 1/4” thick into the hole or crack using a roofer’s trowel or gloved hand, working the mastic into the opening and 2-4” beyond.

3. For damaged areas larger than 1/4” repair with Ruftac or 5-course with Henry reinforcing fabric and Mastic.

#### B. BLISTERS

1. See General Roof Repair Requirements
2. Cut and remove blistered material until good adhesion of the membrane is found.
3. Install the same number of plies as are removed, but not less than two plies. Fill depression with sufficient number of plies of #604 25 lb. Base Sheet set in #902 Permanent Bond Adhesive applied at rate of 2 gallons/100 ft.<sup>2</sup> to make surface flush.
4. Cover with Ruftac set in #209 ElastoMastic extending 6 inches onto existing roof.
5. Alternate Method: Make an X cut at blister, cutting only the layer(s) that is raised. Fold back plies and allow to dry. Apply selected Henry mastic between plies and press in place. Trim any overlap.

#### C. FISHMOUTHS, BUCKLES, WRINKLES, RIDGES

1. See General Roof Repair Requirements
2. Cut out defective material to an adhered area.
3. Cover with Ruftac set in #209 ElastoMastic extending 6 inches onto existing roof.

#### D. LOOSE OR DRY LAPS

1. See General Roof Repair Requirements
2. If less than one inch carefully cut off dry lap. Reinforce area with 3-course application of Henry Mastic and Henry Reinforcing Fabric.

#### E. SPLITS

1. See General Roof Repair Requirements
2. Prepare surface area 24 inches on each side of split and 36 inches beyond end of the split.
3. Cut out loose felt from the split area.
4. Extend split 12 inches further in length by cutting through the membrane.
5. Make a 6-8 inch T-cut at both ends of the split.

6. Cut #605 80# granulated sheet 9 inches wide and sufficient length to cover the split. Install granule side down centered over the split.
  7. Cover with Ruftac set in #209 ElastoMastic extending 6 inches onto existing roof.
- F. BARE SPOTS
1. Where granules are missing from glass SBS cap sheets, but membrane is in good condition, coat surface with #902 Permanent Bond Adhesive at rate of 3 to 3 ½ gallons per 100 ft.<sup>2</sup> and while still wet, broadcast new granules.
  2. Where gravel is missing from built-up roof, but membrane is in good condition, coat surface with #902 Permanent Bond Adhesive at rate of 6 gallons per 100 ft.<sup>2</sup> and while still wet, embed new, washed gravel.
- G. LOW SPOTS & PONDS
1. Mark low spots and prime with #107 Asphalt Emulsion.
  2. Mix #176 PondPatch per manufacturers instructions and fill low areas. Screed and finish trowel to proper height over the pond area.
  3. Allow to cure for two days. Make necessary corrections for proper slope. Remove high spots, fill low areas.
  4. After #176 PondPatch has cured two days cover with #107 Asphalt Emulsion at rate of 3 gallons per 100 ft.<sup>2</sup> over patched area, overlapping a minimum 6 inches onto the existing membrane.
  5. While the emulsion is wet, embed polyester fabric. Topcoat with #107 Emulsion surfacing.
- H. PITCH POCKETS
1. Remove dried mastic from pan, penetration and sides of the pitch pan.
  2. Fill base of pan with non-shrinking grout or prepared #176 Pond Patch to within ¾" to 1" of top of pan and allow to dry completely. Top with specified mastic or ElastoMastic. Slope to facilitate drainage away from penetration.
  3. Install a 24-gauge watertight rain collar overlapping pitch pocket. Secure with drawband and approved sealant.
- III. FLASHING REPAIR PROCEDURES**
- A. GENERAL FLASHING REPAIR REQUIREMENTS
1. Thoroughly clean base flashing and adjacent roof surface of dirt, debris, loose granules or gravel including embedded gravel, contaminates at and around repair area extending 18" beyond perimeter of defect.
  2. Prime area and allow to dry completely.
  3. Extend repair a minimum of 6" beyond damage.
  4. Repairs that extend to top of base flashings are to be mechanically fastened and three-coursed.
  5. Replace deteriorated, severely buckled, brittle or badly cracked base flashings determined to be non-repairable with Henry Specification #196.
- B. LOOSE, WRINKLED, BUCKLED, CRACKED BASE FLASHINGS
1. See General Repair Flashing Requirements
  2. Install the same number of plies as are removed, but not less than two plies.
  3. Set one ply of Ruftac in #209 ElastoMastic extending 6" beyond damage.
  4. Repeat procedure extending second ply 3" beyond previous layer.
  5. Fasten through tin discs top of the base flashing to the wall or curb 8" on center maximum.
  6. Three-course fasteners and termination edge of base flashing with Henry mastic and reinforcement fabric.
- C. OPEN LAPS
1. See General Repair Flashing Requirements Carefully cut out open lap or void at side lap or field membrane.
  2. Remove debris, clean and prime.
  3. Set one ply of Ruftac in #209 ElastoMastic extending 6" beyond damage.
  4. Repeat procedure extending second ply 3" beyond previous layer.
  5. Three-course fasteners and termination edge of base flashing with Henry mastic and reinforcement fabric.
- D. GAPS AT TOP OF BASE FLASHING
1. See General Repair Flashing Requirements
  2. Make a vertical slit in the base flashing until a bonded area is found.
  3. Carefully pull back membrane and apply #209 ElastoMastic to wall or curb and press membrane back in place.
  4. Over repair, set one ply of Ruftac in #209 ElastoMastic extending 6" on either side of repair.
  5. Repeat procedure extending second ply 3" beyond previous layer.
  6. Three-course fasteners and termination edge of base flashing with Henry mastic and reinforcement fabric.
- E. LOOSE MECHANICAL ATTACHMENT
1. Remove loose fasteners
  2. Resecure base flashings through tin discs of a larger diameter or fastened to an adjacent location (new hole).
  3. Three-course fasteners and termination edge of base flashing with Henry mastic and reinforcement fabric.
- F. DETERIORATED BASE FLASHINGS
1. Remove and replace deteriorated base flashings.
  2. Install Henry Specification #196.
- IV. BASE FLASHINGS – SPECIFICATION #196**
- A. Prime concrete surface with Henry primer and allow to dry.
- B. Install #600 Ruftac in three foot lengths using salvage edge for laps. Prime where membrane will overlap.
- C. Cut #600 Ruftac to required dimensions. Align sheet before removing release paper. Press in place. Lap

- sides 4". Set termination edges in #209 ElastoMastic. Extend onto field 4".
- D. On plywood walls nail #600 Ruftac 9 inches o.c. in both directions.
  - E. Flashing Cap. Cut #196 Polyester to extend not less than 2" above the Ruftac ply and 6" onto the field of the roof. Coat the surface to receive the polyester with #107 Asphalt Emulsion and embed the polyester. Lap ends 4". Stagger laps with layer below. Extend onto field 6".
  - F. Nail top of completed base flashings 8" o.c.
  - G. 3-course top edge with specified mastic and #183 Yellow Glass.
    - 1. Prime wall surface at least 3" above termination edge of the base flashing.
    - 2. Over completed base flashing trowel a 5 inch wide layer of plastic cement 1/8" thick to completely cover nails and top edge of base flashing.
    - 3. Embed a 4" wide strip of Yellow Glass Fabric and apply another 1/8" troweling of plastic cement covering fabric completely. Bring to a feather edge and finish in a straight line.
  - H. Install counterflashing.
  - I. Apply surfacing and reflective coat.
  - J. Maximum allowable flashing height is 24 inches. For higher requirements install base flashings and complete wall with wall flashing.

## **V. METAL ROOF REPAIR**

### **A. PREPARATION**

- 1. Reattach loose metal or excessive gaps with new self-drilling, fasteners with self-sealing washers.
- 2. Replace missing and tighten all exposed fasteners. Replace stripped fasteners with oversized of similar design as original.
- 3. Replace damaged, dried, cracked or missing foam closures with either pre-formed closures matching panel profile or field install spray urethane foam, cut and formed to profile at gutter/roof panel overhang All closures to be sealed with 1/4" bead of seam sealer to metal. Foam each high rib void at end panels where overhangs gutters.
- 4. Pressure wash roof surface with water using a minimum working pressure of 2,000 psi to remove all dirt, dust, and waste products including, but not limited to oil, rust, scale, chalkiness and unstable portions of existing coating, rice dust, solvent, grease, animal fats, etc. Alternative to pressure washing is wire brushing area to be sealed then cleaning with high pressure air.

### **B. FASTENER SEALING:**

- 1. Encapsulate each fastener with 1" diameter cap of #295 or #513. Common method is bulk caulk gun or bulk applicator such as spray gun with tip removed. Allow to dry prior to applying reflective coating.

### **C. SEALING SEAMS/LAPS/SKYLIGHTS:**

- 1. #295 Metal Seam Sealer OR #513 MetalShield Flashing Compound: laps over 1/8" wide, brush apply 4" or 6" wide by 1/16" thick along seam and immediately embed 4" or 6" polyester respectively, then surface with second application of equal volume. (For #295 use only: Laps under 1/8" wide, "flow coat" via bulk pump or spray rig without tip, 1/2" bead up-slope of lap and back-brush sealer to flow over lap, bridging both sides equally. Polyester reinforcement is not required in this situation).
- 2. Skylight panels to be cleaned and inspected for structural strength. Defective panels should be noted to owner in writing prior to bid by contractor and replacement noted as separate line item. All existing mastic to be scraped clean and removed. Fasteners and side laps to be sealed as above. Coat with approved skylight panel sealer.

### **D. GUTTERS**

- 1. All gutters, scuppers, and roof drains must be cleaned, repaired or replaced and securely attached to structure. Inside of gutters to receive rust treatment with appropriate MetalShield™ Primer after joints are sealed with #295 Seam Sealer or #513 Flashing Compound reinforced with polyester fabric.