# BUILT-UP ROOF MEMBRANE REPAIRS

## FLASHING REPAIRS

## METAL ROOF REPAIRS

### PRODUCT SELECTION CHART

#### MASTICS

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
<th>Packaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>204 Plastic Cement</td>
<td>Patches leaks and seals flashings on asphalt, metal, and composition roofs on dry surfaces. ASTM D2822 Type I Class I</td>
<td>3½ Gallons X</td>
</tr>
<tr>
<td>208 WetPatch®</td>
<td>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. ASTM D2822 Type I Class II except for high temperature sag. Exceeds ASTM D3409.</td>
<td>3½ Gallons X</td>
</tr>
<tr>
<td>209 ElastoMastic®</td>
<td>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.</td>
<td>3½ Gallons X</td>
</tr>
<tr>
<td>289 ElastoCaulk®</td>
<td>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.</td>
<td>3½ Gallons X</td>
</tr>
<tr>
<td>505 FlashMaster™</td>
<td>Modified and rubberized premium quality flashing cement for use in all temperature conditions. ASTM D2822 Type I Class I</td>
<td>3½ Gallons X</td>
</tr>
<tr>
<td>906 FlashMaster™ Plus</td>
<td>Modified &amp; rubberized premium non-asbestos cement (wet/dry surface) ASTM D4586 Type I &amp; D3409</td>
<td>3½ Gallons X</td>
</tr>
</tbody>
</table>

#### METALSHIELD® MASTICS

<table>
<thead>
<tr>
<th>Product</th>
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</tr>
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<tbody>
<tr>
<td>#295 Seam Sealer</td>
<td>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.</td>
<td>50 Gallon Drum X</td>
</tr>
<tr>
<td>#513 Flashing Compound</td>
<td>MetalShield #513 Flashing Compound is a white elastomer polymer latex base flashing compound designed for use in conjunction with Henry’s Metalshield Elastomeric Roofing System.</td>
<td>X</td>
</tr>
</tbody>
</table>

#### REINFORCEMENT FABRICS & ROLL GOODS

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<tr>
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<tr>
<td>181 Asphalt Saturated Glass Fabric</td>
<td>Use to reinforce asphalt roof cements and coatings during roof repairs, for flashings, and sealing seams on metal and composition roofing.</td>
<td>X150’ X150’ X150’ 36’x150’</td>
</tr>
<tr>
<td>183 Yellow Glass Reinforcing Fabric</td>
<td>Same uses as 181 but yellow color is conspicuous if not completely covered which aids quality workmanship</td>
<td>X150’ X25’ X150’ 36’x150’</td>
</tr>
<tr>
<td>195 Polyester</td>
<td>Stichbonded polyester for reinforcement - Softer than 196.</td>
<td>X300’ X300’ X300’ 40’x324’</td>
</tr>
<tr>
<td>196 Polyester</td>
<td>Stichbonded polyester for reinforcement. Stiffer than 195.</td>
<td>40’x324’ X50’ X50’ 36’x38’</td>
</tr>
<tr>
<td>#604 25# Base Sheet</td>
<td>Base sheet used to install built-up roofing &amp; repairs. Use with #902 PBA</td>
<td>36’ x 108’</td>
</tr>
<tr>
<td>#605 80# Underlayment</td>
<td>Use in installation of built-up roofing and repairs.</td>
<td>36’ x 36’</td>
</tr>
</tbody>
</table>
**MISCELLANEOUS**

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<thead>
<tr>
<th>Product</th>
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<tr>
<td>#104Q &amp; #104 Primer</td>
<td>Quick Dry Asphalt Spray Primer ASTM D41 – 1 Can average coverage 33 ft²</td>
<td>17 oz Spray Can X</td>
</tr>
<tr>
<td>#103 Primer</td>
<td>Asphalt Primer suitable for VOC restricted areas</td>
<td>Gallons 5 X</td>
</tr>
<tr>
<td>#107 Asphalt Emulsion</td>
<td>A premium, versatile asphalt emulsion roof coating</td>
<td>Gallons 55 X</td>
</tr>
<tr>
<td>#902 PBA – Permanent Bond Adhesive</td>
<td>A premium, modified and rubberized, Cold-Ap® waterproof roofing adhesive</td>
<td></td>
</tr>
<tr>
<td>#176 Pond Patch™</td>
<td>Convenient dry light weight cement mix when blended with water is used for filling and leveling roof “ponds”.</td>
<td>6 Gallon container covers 12.5 sq. ft. (3/4” depth)</td>
</tr>
</tbody>
</table>

**ROOF, FLASHING & METAL REPAIR PROCEDURES**

I. **GENERAL ROOF REPAIR REQUIREMENTS**
   A. Thoroughly clean roof surface of dirt, debris, loose granules and contaminates 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 ¼” thick into the hole or crack using a roofer’s trowel or gloved hand, working the mastic into the opening and 2-4” beyond.
   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 ft² to make surface flush.
      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.
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. 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.² 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.² and while still wet, embed new, washed gravel.

C. OPEN LAPS
1. See General Repair Flashing Requirements

D. GAPS AT TOP OF BASE FLASHING
1. See General Repair Flashing Requirements

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. See General Repair Flashing Requirements

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 caulking 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.