



Tropical Roofing Products-METAL – 5.0G911

Built On The Principles of Quality & Integrity

PART I – GENERAL

APPLICABLE PUBLICATIONS

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

1. American Society for Testing and Materials Publication (ASTM)
2. Underwriters Laboratories Inc. (U.L.)
3. ENERGY STAR® guidelines for energy efficiency (Roof coatings)
4. CRRC – Cool Roof Rating Council
5. California Building Standards Code - Title 24

QUALITY CONTROL

1. Contractor shall be an approved applicator by Tropical Roofing Products who has a general knowledge and understanding of standard roofing practices as defined by the NRCA and knowledge of the Tropical Roofing Products materials to be used herein this specification.
2. Prior to starting the application of the roofing system, there will be a project conference with the owner's representative to assure a clear understanding of the specifications. The conference shall be attended by the Contractor and by Tropical Roofing Products representative.
3. For all warranties, a licensed contractor, authorized by Tropical Roofing Products as an approved applicator with proven business stability should be used to ensure proper installation.

SUBMITTALS

Descriptive literature: Submit manufacturer's application instructions and technical data sheets or catalog cuts on materials.

DELIVERY, STORAGE AND HANDLING

1. Store and handle Tropical Roofing Products materials in a manner that will ensure there is no possibility of contamination.
2. Store materials in a dry, well ventilated, weather tight location at temperatures between 50°F -80°F until the materials are applied.
3. Keep product lids tightly closed on all containers when not in use.
4. Take all necessary precautions to ensure that damage and overspray will not occur. Tropical Roofing Products is not responsible for damages caused by the overspray of its products.

PROJECT CONDITIONS

1. All warranties require wet substrate components of the existing roof to be replaced. A moisture scan is recommended to validate that the underlying roof system insulation is moisture free.
2. Air intake, vents, blowers, air conditioning units and evaporative coolers shall be shut down for the duration of the project.
3. Curing time for all products is critical. Applicator must allow for sufficient cure time for each product.
4. Do not begin work if temperature fall below 50°F.

METAL

911 Eternalastic

911 Eternalastic

100% ACRYLIC ELASTOMERIC ROOF COATING SYSTEM

- Apply over Existing Roof Surface
- Water Based ; No Fumes; No Flames
- Resilient; Flexible; Durable
- Seamless; Smooth
- Energy Efficient; Cool Surface
- Renewable; Tax Benefits

MATERIAL REQUIREMENTS PER 100 SQ. FEET OF SURFACE		
System Component	Amount	Dry mils
1. #960 Metal Primer as Needed	0.5 Gal	N/A
2. #911 Eternalastic (1 st Top Coat)	2.0 Gal	17 mils
1. #911 Eternalastic (1 st Top Coat)	1.5 Gal	12.6 mils
2. #911 Eternalastic White (2 nd Top Coat)	1.5 Gal	12.6 mils
3. #950 Eternamastic or #951 fibered Eternamastic on all penetrations		
SYSTEM WET/DRY MILS & WEIGHT*		
1. Total System Wet/Dry Mils (approx.)	80/42 mils	
2. Total System Dry Weight lbs.	37 lbs.	
COMPONENT PERFORMANCE REQUIREMENT & TEST METHODS		
# 911	#960	#951
Solar Reflectance Index - 108	MAX V.O.C 50 G/L	MAX V.O.C 15 G/L
CRRC ID 0656-0002	Solids BY Wt. 47%	Solids BY Wt. 75.7%
ASTM D6083		Solids By Vol. 60%
Title 24 Compliant	Drying Time 4-6 Hrs.	Elongation 163%

**Note: Wet and Dry film values shown are approximations and can vary depending on surface conditions.*

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PART II – PRODUCTS

DESCRIPTION OF THIS COATING SYSTEM

A highly reflective Fluid Applied All Acrylic Coating System used to coat existing or new Standing Seam and Corrugated Metal Roofs. This coating system will significantly reduce roof temperatures and energy costs. When used in this specification over a new or existing metal roof, a seamless, monolithic roof system is achieved.

MATERIALS

- Eternalastic Elastomeric Roof coating #911:**
#911 is a professional grade 100% acrylic Elastomeric coating that exhibits maximum flexibility in cold climates and meets ASTM D 6083. In addition, #911 is Energy Star Approved, California Title 24 compliant, U.L. classified, and Miami-Dade County Approved,
- ETERNALASTIC METAL PRIMER # 960** is a professional grade, environmentally-friendly water-based primer designed for use on rusted metal surfaces. To be used when applying Eternalastic product to any structural metal surface. Promotes coating adhesion and is easily applied with roller or airless sprayer.
- Fibered Eternamastic Elastomeric Roof Mastic #951:**
#951 is a fiber-fortified, tough, durable, white elastic compound of high-grade raw materials. Easy to apply by brush, this fiber reinforced, viscous mastic is an integral part of waterproofing roofing surfaces. The #951 is a superior choice in maintenance and re-roofing situations. #951 should be used at laps, cracks, seams, directional wall changes, screw heads, or any place a roof intrusion is made.
- SEBS Elastomeric Flashing Mastic #975:**
#975 is a single component block copolymer Elastomeric mastic that forms a durable elastomeric flashing membrane. It has exceptional elongation properties, cold weather pliability, excellent weather and water resistance, good chemical resistance, and is highly reflective. It works great to patch and repair properly prepared existing EPDM, APP, SBS, BUR, PVC, Fiberglass, Concrete, and Wood. #975 forms an excellent sealant for horizontal and vertical seams and joints in a metal roofing system as well as drains and ponding susceptible areas.
- Polyester Fabric #930:**
#930 polyester fabric is non-woven, spun bonded 100% that covers 10 squares per roll, firm or soft. Tropical Roofing Products #930 is available in variable widths and must be used in conjunction with #951 fibered Eternamastic at all seams, penetrations, joints or transitions that are subjected to high shear.

PART III - EXECUTION

PREPARATION

- Acceptable metal roofs for use with this coating system must be a minimum 24 gauge steel or heavier.
- Preparation of the roof substrate is the responsibility of the installer, who shall address and correct all of the conditions listed in this section. Examine substrates to receive new roofing. Do not proceed with the installation unsatisfactory conditions have been corrected in a manner acceptable to Tropical Roofing Products.
- Sweep or blow dirt and dust from roof surface. Power wash roof with liquid detergent and rinse thoroughly with water.
- Inspect, repair or replace all roof edge detail.
- New galvanized panels weathered less than 6 months shall be cleaned with 5% hydrochloric or phosphoric acids wash to remove contamination.
- Care should be taken to rinse thoroughly with clean water and flush all residues from roof surface. Allow roof to dry completely before proceeding with priming or coating.
- Securely fasten all edge metal flashings.
- Prepare all metal prior to application of coatings.
- Replace deteriorated or structurally unsound decking.
- Loose coating, paint, rust and scale shall be removed using: wire brush & scraper, or water blasting. Remove loose rust by: water blasting at min 2,400 psi; wire brushing; power or hand sanding.
- Treatment of Ponding Water Areas:** Installer is to mechanically eliminate all ponding water areas on the roof prior to application of Tropical Roofing Products materials. The National Roofing Contractors Association (NRCA) considers ponding water on any roof undesirable and recommends that all roof systems be designed and built to ensure positive drainage. (See the NRCA Roofing and Waterproofing Manual).

APPLICATION

FLASHING APPLICATION

- After completion of substrate preparation, all flashing details, penetrations and curbs shall be flashed with #951 fibered Eternamastic and shall be feathered at the edges in order for the water to flow over the various flashing details.
- Base Flashings:** Install the base flashing over the cant strip using 6" or 12" of #930 polyester fabric as needed. Saturate into a full coat of 3 gallons per 100 sq. ft. (per ply) of #911 to achieve full saturation. Terminate at least 2" above the cant and extend at least 2" onto the deck.

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3. **Wall Flashings:** Install the wall flashing using one full ply of #930 polyester fabric set into a full coat of 3 gallons per 100 sq. ft. (per ply) of #911, achieving full saturation. #930 polyester fabric shall extend over cant strip onto deck and continue up wall to terminate as necessary-- under counter flashing, reglets or wall cap flashing. Wall flashing shall extend out onto the deck at least 2" beyond the termination of the base flashing.
4. **Edge Flashings:** Replace gravel stops and metal edge where necessary. Where gravel stop is replaced, replace with low or no rise metal edge. Metal edge shall be nailed at 4" on center. Strip-in the metal with #930 polyester fabric and #951 fibered Eternamastic ensuring all the nails are completely covered. Where edge flashing is left in place, cut back roofing 2" from rise and strip-in with #930 polyester fabric and #951 fibered Eternamastic providing positive attachment of the metal edge to the new coating system.
5. **Roof Drains:** Remove clamping ring and clean all existing build-up from around the drains and sumps. Apply #951 fibered Eternamastic or #975 SEBS Elastomeric mastic in a three course fashion across the entire drain/sump area. Extend the application into the drain bowl from center of drain onto the deck 6" beyond drain sump. Allow to cure. Replace clamping ring. The base coat application shall be applied overlapping onto the reinforced #951 fibered Eternamastic or #975 SEBS Elastomeric mastic and cut around the clamping ring.
6. **Curb Flashings:** All curb flashings shall be flashed with at least a 2" wide x 1/16" thick of #951 fibered Eternamastic.
7. **Fasteners:** Encapsulate all fasteners using #951 fibered Eternamastic with #930 polyester which shall be cut around all fasteners so fabric lies flat.
8. **Penetrations:** #951 fibered Eternamastic along with #930 polyester fabric shall be applied around the base of the penetration, extending at least 4" onto the vertical and 4" onto the base. Embed a 6" width of #930 polyester fabric using additional #951 fibered Eternamastic as necessary to accommodate the shape of the penetration.
9. **Seams:** All seams and areas around roof protrusions (vents, scuttle hatches, etc.) are to be treated with #951 fibered Eternamastic along with 6" #930 polyester fabric in a 3 course manner.
10. **Protrusions:** All roof protrusions (vents, scuttle hatches, etc.) are to be treated with #951 fibered Eternamastic along with 6" #930 polyester fabric in a 3 course manner.
11. **Horizontal Seams:** All horizontal seams, are to be treated with #951 fibered Eternamastic along with 12" #930 polyester fabric in a 3 course manner.
12. **Vertical Seams:** All vertical seams, are to be treated with #951 fibered Eternamastic along with 6" #930 polyester fabric in a 3 course manner.

12. **Pitch Pans:** Pitch pans shall be sealed using #951 fibered Eternamastic with #930 reinforcing fabric in a three course fashion (refer to flashing section for details).
13. **Condensation Lines:** Condensation lines shall be installed from HVAC units to gutters as part of the overall drainage system. The type of piping used for condensation lines may vary depending on local building codes.
13. **Skylights & Curbed AC Units:** Curb skylights shall be treated in the same fashion as curb flashings. The perimeter shall be flashed with a 4" of #930 polyester fabric along with #951 fibered Eternamastic. The 4" #930 polyester fabric is divided 2" evenly between the vertical and the roof surface. All exposed skylight fasteners shall be encapsulated with #951 fibered Eternamastic.
14. Inspect Preliminary Work / Flashing Details for problem areas (e.g., gaps, cracks, fish mouths, air pockets, etc.)

#960 ETERNALASTIC METAL PRIMER APPLICATION

1. For spot rusted areas, clean with wire brush before the application of #960 Eternalastic metal primer.
2. Apply #960 Eternalastic metal primer using a roller or sprayer at a ratio of 0.5 gallon per 100 sq. ft. **only on rusted metal surfaces.**
3. If rusting is prevalent throughout the roof surface, #960 should be applied with an airless sprayer.
1. Allow for proper curing time of 2-4 hours dependent on temperature and humidity.

BASE COAT APPLICATION

1. Apply Base Coat of #911 Eternalastic coating (gray or white) at a coverage rate of 2.0 gallons per 100 sq. ft. on warm, sunny days, preferably in the morning hours to provide maximum cure time.
2. Allow a minimum of 12 hours drying time prior to any foot traffic or inspections. (Weather dependent)
3. Note: Temperature, coating type, applicator technique, substrate, as well as other factors will affect coating thickness. Verify proper coating application rates per specification table on page 1.
4. Allow the entire base coat surface to dry completely prior to proceeding to apply the top coat.

PIPE FLASHINGS & PENETRATIONS – SURFACE TREATMENT

After the base coat is cured and prior to the application of the top coat:

1. Apply #951 fibered Eternamastic and #930 polyester fabric in a three course fashion to all pipe flashings, cones, exposed metal joints and flanges.
2. Apply #951 fibered Eternamastic to all corners at curbs and skylight flashings or any area that has been previously repaired with roofing mastic.

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PONDED AREAS & DRAINS APPLICATION

After the base coat is cured and prior to the application of the top coat:

1. All areas around drains and scuppers shall be treated with a second layer of #930 polyester fabric saturated in the #911 Eternalastic coating.
2. Waterways and any locations where water ponds for more than 48 hours shall be treated with a second layer of #930 polyester fabric embedded in the #911 Eternalastic coating. The #930 polyester fabric shall extend 12 inches beyond the designated ponding area or as necessary to extend beyond the drain sump. In this area, saturate the #930 polyester fabric into a 3 gallon per 100 sq. ft. application of #911 and brush lightly to achieve full saturation without wrinkles or voids.

TOP COAT APPLICATION

1. A visual inspection of the entire base coat should be performed to confirm an acceptable surface / substrate to accept the top coat. Any deficiencies must be repaired prior to application of the top coat.
2. Apply the first top coat with #911 Eternalastic at an application rate of 1.5 gallon per 100 sq. ft. to achieve required DFT of 12.5 mils or 24 of mils wet.
3. The top coat shall completely cover the base coat including expansion joint covers, parapets and flashings.
4. Allow a minimum of 12 hours drying time prior to any foot traffic or inspections. (Weather dependent).
5. Apply the 2nd top coat with #911 Eternalastic at an application rate of 1.5 gallon per 100 sq. ft. to achieve required DFT of 12.5 mils or 24 of mils wet.
6. Allow a minimum of 12 hours drying time prior to any foot traffic or inspections. (Weather dependent).
7. After curing, inspect for defects and repair as necessary.
8. Note: Total minimum coating System Dry Film Thickness (DFT) for the entire coating system shall be 42 mils nominally.

INSTALLATION OF WALKWAYS (OPTIONAL):

In high-traffic areas and around mechanical equipment, walkways should be installed to protect the coating system from damage.

INSTALLATION OF WALKWAYS (OPTIONAL):

1. Maintain Job Progress Report / Daily Log of work completed as required to assure installation is in accordance with manufacturer requirements.
2. Provide on-the-job inspections, technical assistance and material application guidance as may be necessary to complete roofing material application in accordance with Tropical Roofing Products warranty requirements.

JOB COMPLETION

1. Inspect completed coating system and correct all defects to meet the specification and/or warranty requirements.
2. **Transparent or Thin Areas:** If areas appear to be undercoated, recoating may be needed to ensure final thickness to meet the Tropical Roofing Products specifications Total Dry Mills.
3. **Delamination:** Verify that all coated areas appear to be fully adhered to the substrate. A visual inspection looking for typical signs of poor adhesion such as flaking, blistering etc. should be made. Re-priming and/or recoating will be required if such areas are apparent.
4. **Pin Holing:** Certain job or site conditions may result in pin holing or out gassing during curing or cause pin holes in the substrate. Again, a visual inspection looking for typical signs of out gassing such as excessive pockmarks, pinholes etc. should be done.
5. **Delaminating:** Delamination is caused when water-based coatings freeze, or solvent entrapment in solvent based coatings occur. The coating surface may exhibit extreme wrinkles, small blisters and may have loss of adhesion. These areas will not "self-heal" and must be removed, power washed and a new coating must be applied.
6. **Texture Finish:** Heavy patterns, blistering, "skinning," etc. may appear in the final finish. These may be indicators that the coat is too thick, a build-up has occurred or another application problem. Check with Tropical Roofing Products Technical Representative for remedial advice.
7. A Tropical Roofing Products Technical Representative will inspect the completed coating system and notify the contractor of any defects in the application.
8. Restrict construction traffic and equipment movement on the completed coating system to only essential personnel. Provide appropriate protection against traffic and construction activities on completed roofs. Damage to the roof by other trades shall not be the responsibility of Tropical Roofing Products.

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HOUSEKEEPING ITEMS

1. Contractor shall take photographs of representative roof areas, including detail work before work commences, after the surface has been properly prepared, after all flashing and detail work has been performed, and after the application of the #911 Eternalastic coating membrane.
2. Installer shall provide the following support for on-site inspections by a representative from Tropical Roofing Products (list is not comprehensive):
 - a. Representative from the contractor's company who has authority to make binding decisions.
 - b. Required means to access all areas of the treated roof.
 - c. Previous photographs of the roof.
3. Access must be granted to all areas of the restored roof system.
4. Installer shall take special care when moving spray hoses and other equipment on the roof in order to prevent damage to the flashing work and encapsulated fastener heads. Also, all spray equipment shall remain on the ground for the duration of the job.
5. If there will be an extended period of time (6 months or greater) between application of base and finish coats, the use of #911 Eternalastic (white) for the base coat (versus gray) is recommended. The base coat shall be thoroughly cleaned before applying the finish coat.

REPAIRS

1. In the event that the #911 Eternalastic membrane is damaged or punctured, repairs are to be performed using #951 fibered Eternamastic along with #930 polyester fabric (where necessary) as follows:
 - a. Damaged areas are to be cut, cleaned and dried.
 - b. Apply #951 fibered Eternamastic, and feather out onto the existing #911 Eternalastic membrane with a minimum of 2-4 inches beyond the existing coating.
 - c. If a new penetration area has been cut, embed #930 polyester fabric into the #951 fibered Eternamastic according to standard Tropical Roofing Products specifications.

CLEAN UP

1. Remove masking and protection tapes.
2. The HVAC vents and units can be opened and restarted once the spray operation is complete.
3. Remove all roof related trash and debris from jobsite.
4. Dispose of containers in accordance with local regulations.
5. For application questions, please contact Tropical Roofing Products at 1-877-827-2622.

ENGINEERING

Tropical Roofing Products does not practice Engineering or Architecture. Any review of the building's construction or inspection of roof plans or inspection of the building's structural roof deck by Tropical Roofing Products representatives shall not constitute any warranty by Tropical Roofing Products of such plans, specifications or construction. Any roof inspections are solely for the benefit of Tropical Roofing Products.

MAINTENANCE

To maintain your warranty coverage and in order to ensure that your roof will continue to perform to its fullest during the entire time of the warranty, always adhere to Tropical Roofing Products Care and Maintenance program and guidelines.

IMPORTANT:

The applicators strict adherence to this specification is the only way Tropical can ensure that this product will perform as intended. Accordingly, any changes made to specifications must be reviewed, approved in writing and signed by Tropical Roofing Products Director of Manufacturing & Technical Services prior to application.

End of Section
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