

REFLECTIVE COATING SYSTEM SUMMARY

This is a generic summary of IPC's more detailed **REFLECTIVE COATING SYSTEM SPECIFICATION**. For warranty purposes, Approved Applicators are responsible for studying, understanding, and following the specification. As always, contact IPC for technical assistance.

I. SURFACE PREPARATION

1. Make sure substrate has reasonable integrity and is adequately secured to the building.
2. Pressure wash surface to be coated using TSP or other suitable cleaner and rinse with water.
3. Remove all aluminized asphalt while pressure washing; use a brush if necessary.
4. Pre-treat rusty metal with **ISOPHOS[™]** and rinse with water before priming. Prime all metal surfaces to be coated with **ISOPRIME[™]**.

II. COATING APPLICATION

1. The surface to be coated must be clean and dry.
2. Apply **ACRYLINK G[™]** elastomeric roof coating with an airless sprayer or roller:
3. Use an appropriate number of coats to achieve the correct millage:
 - a. 5-year: 1.5 gallons of **ACRYLINK G[™]** per square total.
 - b. 10-year: 2.5 gallons of **ACRYLINK G[™]** per square total.
4. Allow each coat to dry, inspect and repair as necessary before applying next coat.
5. Apply 0.5 gallons per square (200 square feet per gallon) of **ACRYSHEEN[™]** surface coating as a top coat.

III. LIMITATIONS

1. No material shall be applied to wet, dirty, or frozen surfaces, or to areas of gross ponding water.
2. **ACRYLINK G[™]**, **ACRYCAULK[™]**, **ISOPRIME[™]**, and **ACRYSHEEN[™]** shall not be applied during inclement weather, when a precipitation appears imminent, when the temperature is below 45 °F, when the relative humidity exceeds 85%, or within 4 hours of sundown.
3. In order to qualify for factory warranty, applicator must have Approved Applicator status, the roof must meet the square foot minimum, the **ACRYLINK G[™]** membrane must be continuous, and the membrane must meet the TDM minimum.
4. In conjunction with the final inspection, all debris, material, and equipment are to be removed from the job site, leaving the area in an undamaged and acceptable condition.

REFLECTIVE COATING SYSTEM SPECIFICATION

Section 1.0 Scope

The intention of this specification is to outline procedures for the application of an **ACRYLINK G[™]** elastomeric coating membrane, in conjunction with **ACRYSHEEN[™]** surface coating, for the purpose of installing a solar radiation reflective and UV-resistant coating system over new or existing metal, modified bitumen, EPDM, PVC, hypalon single-ply, or other appropriate substrates. This specification describes materials, methods, and conditions necessary for the proper installation of this membrane.

- 1.1 This integrated system constitutes one of the most cost-effective methods for taking advantage of the cooling-load savings offered by highly reflective coatings. A highly reflective coating system in no way replaces mass insulation; however, it does make mass insulation more efficient.
- 1.2 Any substantial deviation from these specifications shall be referred to an authorized representative of Isothermal Protective Coatings, Inc. (IPC).

Section 2.0 Materials

All materials shall be manufactured or approved by IPC, and shall meet the following minimum specifications:

- 2.1 **ACRYLINK G[™]** Elastomeric Coating

Vehicle Type.....	Crosslinking Acrylic
Pigment to Vehicle Ratio	1.5 to 1
Solids (Volume)	63%
Elongation.....	360%
Tensile Strength.....	304 psi
Permeance @ 45 mils	2.21 perms
Reflectivity (White).....	79%
- 2.2 **ACRYCAULK[™]** Brush or Trowel Grade Sealant

Vehicle Type.....	100% Acrylic
Pigment to Vehicle Ratio	1.97 to 1
Solids (Volume)	70%
Elongation.....	325%
- 2.3 **ACRYSHEEN[™]** Surface Coating

Vehicle Type.....	100% Acrylic
Pigment to Vehicle Ratio	1.2 to 1
Gloss.....	Medium Low
Color	Bright White (tintable)
Reflectivity (untinted)	80%
- 2.4 **ISOPRIME[™]** Corrosion Inhibiting Primer

Vehicle Type.....	Phenolic Modified Alkyd
Solids (Weight)	57.5%
Weight (per gallon)	11.25 lbs.
Color	White
- 2.5 **ISOPHOS[™]** Phosphating Solution

Active Ingredient	Phosphoric Acid (H ₃ PO ₄)
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- 2.6 Delivery and Storage
 - 2.6.1 Materials shall be delivered in their original, tightly sealed containers or unopened packages, clearly labeled with the manufacturer's name, Underwriter's Laboratories file number, and product identification and lot numbers.
 - 2.6.2 Materials shall be kept from freezing, and shall be stored out of the weather, in their original tightly sealed containers or unopened packages, as recommended by the manufacturer.

Section 3.0 Contractor

- 3.1 The **ACRYLINK G[™]** reflective coating system membrane shall be applied by a single, experienced, and competent contractor or applicator, approved by IPC.
- 3.2 Contractor or applicator shall be responsible for selecting and supplying all labor and supervision, and shall be responsible for furnishing all materials required to complete the job satisfactorily, in accordance with manufacturer's specifications.
- 3.3 Contractor or applicator shall be responsible for addressing and removing areas of gross water ponding before coating application commences.

Section 4.0 Surface Preparation—Cleaning

Preparations shall include all requirements specified by IPC to ensure adequate adhesion of the **ACRYLINK G[™]** elastomeric coating membrane to the substrate surface. Preparation shall include, but shall not be limited to, the following:

- 4.1 All unnecessary and non-functional equipment, conduit, and debris shall be removed from the roof.
- 4.4 All masonry surfaces to be coated shall be wire-brushed before pressure washing in order to remove all dust.
- 4.5 All oxidized metallic surfaces to be coated shall be wire-brushed or otherwise abraded before pressure washing in order to remove as much rust and scale as possible.
- 4.6 The anti-blocking agent present on new, non-granulated modified bitumen shall be removed as recommended by modified bitumen manufacturer.
- 4.7 The entire surface to be coated shall be pressure washed in order to remove all dust, dirt, debris, chalk, oil, tar, and the like from the substrate surface. A suitable cleaner, such as TSP, and a broom shall be used as necessary. If a cleaner is required, the surface shall be rinsed with water to remove residue.
- 4.8 Special care shall be taken with surfaces coated with aluminized asphalt. All poorly adhered leafed aluminum shall be removed by vigorous brushing in addition to pressure washing.

Section 5.0 Surface Preparation—Priming

Preparations shall include all requirements specified by IPC to ensure adequate adhesion of the **ACRYLINK G[™]** elastomeric coating membrane to the substrate surface. Preparations shall include, but shall not be limited to, the following:

Metallic Surfaces:

- 5.1 All oxidized metallic surfaces to be coated shall be prepared according to the following procedure:
 - 5.1.1 As much loose rust and scale as possible shall already have been removed by abrasion (wire brush or other suitable instrument) from oxidized areas that are to be coated.
 - 5.1.2 All oxidized areas shall be pre-treated with **ISOPHOS[™]** phosphating solution, or equal, according to the following procedure:
 - 5.1.2.1 **ISOPHOS[™]** may be applied by brush, mop, low-pressure hand pump sprayer, or other suitable instrument.
 - 5.1.2.2 **ISOPHOS[™]** shall be applied to all oxidized areas and these surfaces shall be kept wet with **ISOPHOS[™]** until the reddish color of the rust turns grayish in color. The amount of time required to complete this procedure will vary as the amount and degree of oxidation varies.
 - 5.1.2.3 After the reaction has been completed, the areas treated with **ISOPHOS[™]** shall be rinsed clean with water.
 - 5.1.3 Phosphated surfaces shall be allowed adequate time to dry before primer application commences.

- 5.2 Primer application shall not commence during inclement weather, when a precipitation appears imminent, when the temperature is below 45 °F, or when the relative humidity exceeds 85%. To provide adequate curing time, primer application shall terminate a minimum of two (2) hours before sundown.
- 5.3 All surfaces to be primed shall be free of dust, dirt, tar, oil, moisture, frost, or any other material that would impair the adhesion of the primer to the substrate surface.
- 5.4 Using conventional airless spray equipment or a brush, all galvanized, phosphated, and non-painted metallic surfaces that are to be coated shall be primed with **ISOPRIME™** corrosion inhibiting primer at a rate of 250 to 400 square feet per gallon. When estimating materials, assume an application rate of 0.4 gallons per 100 square feet (250 square feet per gallon).
- 5.5 Primer shall be allowed to cure for approximately two (2) hours, depending upon temperature and relative humidity, after which an inspection shall be performed. Additional **ISOPRIME™** shall be applied to any areas where there are voids in the primer coat, in order to make the coat continuous.

Aluminized Surfaces:

- 5.6 If aluminized asphalt cannot be completely removed by pressure washing and vigorous scrubbing, the area coated with aluminized asphalt may require priming with cutback asphalt or asphaltic primer before coating application commences. An authorized representative of IPC may be consulted for technical assistance in such matters.

Section 6.0 Coating Application

- 6.1 Coating application shall not commence during inclement weather, when a precipitation appears imminent, when temperature is below 45 °F, or when relative humidity exceeds 85%. To provide adequate curing time, coating application shall terminate at least four (4) hours before sundown.
- 6.2 Entire surface to be coated shall be free of dust, dirt, tar, oil, moisture, frost or any other material that would impair the adhesion of **ACRYLINK G™** elastomeric coating to the substrate surface.
- 6.3 All metallic or aluminized surfaces to be coated shall have been prepared in accordance with the procedures specified in sections 4.0-5.0 of this specification.
- 6.4 **ACRYLINK G™** elastomeric coating: Base Coat
 - 6.4.1 The base coat of white **ACRYLINK G™** shall be applied at a minimum rate of 1½ gallons per 100 square feet using conventional airless spray equipment or rollers.
 - 6.4.2 Coating shall be applied so as to cover the substrate uniformly, and shall completely mask the color of the substrate.
 - 6.4.3 The base coat may be applied in more than one pass, if desired, to accelerate curing, provided adequate curing time has been allowed between passes to prevent damage from being done to the membrane when it is walked upon.
 - 6.4.4 If sprayed, the base coat (the first pass of the base coat if applied in multiple passes) shall be backrolled as it is being applied in order to maximize adhesion to the substrate and to eliminate voids.
 - 6.4.5 The base coat shall be allowed to cure for at least two (2) hours, depending on temperature and humidity conditions, after which an inspection shall be performed. Any defects in the coating membrane shall be repaired with **ACRYLINK G™** or an approved building sealant.
 - 6.4.6 If the 10-year reflective coating system application is desired, a second coat of white **ACRYLINK G™** shall be applied at a minimum rate of one (1) gallon per 100 square feet. This coat may be applied in more than one pass if desired, but shall be applied at a right angle to the direction in which the previous coat was applied.
- 6.5 **ACRYSHEEN™** surface coating: Top Coat
 - 6.5.1 A top coat of **ACRYSHEEN™** surface coating shall be applied by conventional airless spray or roller at a minimum rate of ½ gallon per 100 square feet.
 - 6.5.2 Surface coat may be applied in more than one pass, if desired, to accelerate curing. Adequate curing time shall be allowed between passes.
 - 6.5.3 Surface coat shall be applied at a right angle to the direction in which the previous coat was applied. Surface coat shall completely mask the color of the previous coat.
 - 6.5.4 Surface coat shall be allowed to cure for at least four (4) hours, and inspected and repaired as necessary, before a subsequent coat is applied.
- 6.6 The cured **ACRYLINK G™** reflective coating system membrane shall be TDM minimum in all areas and shall be free of all pinholes and defects.
- 6.7 Required spread rates for the **ACRYLINK G™** reflective coating system membrane are as follows:
 - 6.7.1 5-year application: 1.5 gallons per 100 square feet of **ACRYLINK G™** and 0.5 gallons per 100 square feet of **ACRYSHEEN™** total (17.7 dry mil average, 15.2 dry mil minimum).
 - 6.7.2 10-year application: 2.5 gallons per 100 square feet of **ACRYLINK G™** and 0.5 gallons per 100 square feet of **ACRYSHEEN™** total (27.5 dry mil average, 25 dry mil minimum).
- 6.8 Having completed the procedures specified above, and having achieved the TDM minimum in all areas, the **ACRYLINK G™** reflective coating membrane shall be given adequate time to cure.
- 6.9 For a minimum of thirty (30) days after the **ACRYLINK G™** membrane has been applied, contractor shall be responsible to inspect the membrane after every precipitation.
 - 6.9.1 Contractor shall carefully remove water from small ponding areas ("birdbaths") with an air blower, without damaging the **ACRYLINK G™** membrane.
 - 6.9.2 Contractor shall have addressed and removed areas of gross ponding water before coating application commences.

Section 7.0 Clean-Up

Upon completion of all work covered in this specification, and before the job is inspected, the contractor shall remove all equipment, material, and debris, leaving the area in an undamaged and acceptable condition. In no case shall the job be considered complete before the job site has been properly cleaned.

Section 8.0 Limitations

This system is to be used only in conjunction with commonly accepted waterproofing and roofing standards including but not limited to the following:

- 8.1 In order to qualify for a factory warranty, applicator must have Approved Applicator status, the roof must meet the square foot minimum, the **ACRYLINK G™** membrane must be continuous, and the membrane must meet the TDM minimum.
- 8.2 No application of component materials shall commence during inclement weather, when a precipitation appears imminent, when temperature is below 45°F, or when relative humidity exceeds 85%.
- 8.3 No material shall be applied to wet, dirty, or frozen surfaces.

- 8.4 Coating application shall not commence until all other trades are off of the roof.
- 8.5 Coating shall not be applied to areas of gross ponding water. Contractor shall address and eliminate areas of gross ponding water prior to coating application.
- 8.6 In conjunction with the final inspection, all debris, material, and equipment are to be removed, leaving the area in an undamaged and acceptable condition.