

SPECIFICATION

SOLARGARD[®] HY-BUILD

WATERPROOFING SYSTEM FOR STRUCTURAL CONCRETE ROOFS

PART 1 – General

1.01 General

- A. This document is intended to provide only **general** guidelines regarding the application of listed materials as furnished by Republic Powdered Metals, Inc. These general guideline specifications are **NOT** intended as project-specific specifications and should not be used as such. The information contained herein may be used, and modified where necessary, by the owner, architect, and contractor in preparing specifications for particular roofing projects. It is the responsibility of the owner, architect, and/or contractor to ensure that these general guideline specifications are consistent with the contractual and construction requirements relating to the project.

1.02 Quality Assurance

- A. Applicator's Qualifications
1. Applicator shall have knowledge and general understanding of building design as well as Republic's products specified for the project.
 2. Applicator shall have business stability and own, or have access to, the equipment necessary for successful completion of the project.
 3. Technical service on application and suitability of Republic's materials is available by contacting Republic Powdered Metals, Inc., 2628 Pearl Road, Medina, Ohio 44256.

1.03 Submittals

- A. In the normal course of bidding, descriptive literature and technical data on all materials proposed for usage under this specification will be submitted. A roof survey shall be submitted by the bidder identifying total area to be coated, along with pictures of panel profile, seams, and details including any repairs to seams, protrusions, and general conditions of the existing roof along with a completed Notice of Award to Republic.

1.04 Product Storage And Handling

- A. Storage of materials:
1. Store materials in accordance with manufacturer's recommendations.
 2. Store acrylic emulsion materials so that they will not freeze.
- B. Handling and Protection of Materials: Meet requirements of manufacturer's recommendations for handling and protection of materials during installation. Handle materials so that they are not contaminated by foreign materials.
- C. Damaged materials: Contaminated or damaged materials shall not be used in the installation and shall be immediately removed from site upon discovery.

PART 2 – Products as Manufactured by Republic Powdered Metals, Inc

2.01 Coating System

A. SOLARGARD HY-BUILD

1. Description

SOLARGARD HY-BUILD is a water-based, acrylic, elastomeric roof and wall coating formulated to provide a tough, durable, flexible, breathing film for the protection of previously painted or repainted masonry, metal, and foam roofing substrates. SOLARGARD HY-BUILD will resist the effects of weather, water, abrasion, and substrate movement. **Do not use in areas that pond water per NRCA Guidelines.**

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2. Performance Requirements

Weight per gallon (ASTM D 1475)	11.1 ± 0.2 lbs.
Specific gravity (ASTM D-1475)	1.33 ± 0.02
Solids by weight (ASTM D-1353)	63% ± 1%
Solids by volume	51% ± 1%
Elongation @ 77°F (ASTM D-2370)	150% ± 25%
Flexibility @ 0°F (ASTM D-1737)	Passes 1/8 inch mandrel
Tensile Strength @ 77°F (ASTM D-2370)	450 ± 50 psi
Shore "A" Hardness (ASTM D-2240)	70 ± 10
Dry time (ASTM D-1640)	1 hour
Flash point (ASTM D-3278)	None
Clean-up	Water

2.02 Accessory Materials

- A. SOLARGARD Seam Sealer is a white, single component, urethane industrial maintenance coating used for making repairs to a variety of roof substrates.
- B. PERMAFAB is a 100% stitchbonded polyester fabric used in conjunction with Republic coatings as a reinforcement to seal roof penetrations.
- C. SOLARGARD Masonry Primer is a high quality acrylic latex paint formulated from durable 100% acrylic resins.

PART 3 – Execution

3.01 Preparation For Coating

- A. Surface Preparation – Cleaning
 1. All surfaces are to be free of loose mortar, laitance, dirt, grease, oil, loose paint and other foreign matter which could prevent proper adhesion.
 2. Roof surfaces containing heavy soot, dirt, chemical contaminants, oil, grease, or wax deposits must be cleaned with a surface cleaner and rinsed thoroughly with high pressure waterblast at no less than 2,000 psi. All surfaces must be completely dry prior to application of coating/coating system
 3. Mold or mildew must be removed. Scrub surfaces with a solution of one quart household bleach to three quarts of water. Wear protective goggles and rubber gloves. Scrub well with brush and allow solution to remain on the surface for ten minutes then rinse thoroughly with clean water.
 4. Previously painted surfaces shall be thoroughly cleaned with a high pressure waterblast to remove loose paint or excessive chalking.
 5. Check for adhesion and compatibility of any remaining, tightly adhered, existing coating with SOLARGARD. A test application is the best method of determining compatibility with and adhesion to a previously coated surface. An X-Cut Tape Test is used to determine adhesion of the existing coating to the substrate. Contact Republic's Technical Department for further information.

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6. Concrete shall be a minimum 28 days old. If a curing compound or sealer was used, a test for adhesion and compatibility with coating system must be made.

B. Surface Repairs

1. Large cracks (thickness of a credit card, 30+ mils)
 - a. Use SOLARGARD Seam Sealer at the rate of 30-40 lineal ft./gal. in a three course combination with PERMAFAB fabric. A three course combination consists of sealer / fabric / sealer.
2. Spalled or Deteriorated Concrete
 - a. To be repaired using a concrete patching and resurfacing compound.

C. Roof Penetrations

1. The base of all roof penetrations and curbs, i.e. stacks, vents, etc., must be sealed using SOLARGARD Seam Sealer at the rate of 30 - 40 lineal ft./gal. in a three course combination with PERMAFAB fabric. A three course combination consists of sealer / fabric / sealer.

D. Metal Components

1. Damaged fascia, gutters, vents, flashings, etc., must be replaced.

3.02 The Protective Coating

- A. General For optimum results, the protective coating must be applied after the morning dew has dried and postponed if rain is imminent.

B. Application

1. Extremely porous masonry, concrete and stucco must be primed using SOLARGARD Masonry Primer at approximately 300 sq. ft./gal. The porosity of the surface to be coated may cause coverage to vary. When SOLARGARD Masonry Primer has been applied longer than 72 hours prior to SOLARGARD Hy-Build application, SOLARGARD Masonry Primer may need to be reapplied. All surfaces, which have been primed, must be clean and free of dirt, grease, oil and other foreign matter, which could prevent proper adhesion of SOLARGARD Hy-Build.
2. SOLARGARD HY-BUILD elastomeric coating shall be applied by brush, long nap roller or spray to specified coverage rates. For brush application use a wide, long bristle brush and "lay-on" the coating—do not spread too thin.
3. If roller application is used, care must be exercised, otherwise there is a tendency to spread SOLARGARD HY-BUILD too thin. A ½"- 3/4" nap roller is recommended, depending upon texture of surface. If the application is by brush or roller, we suggest the tools be soaked in water prior to use. Mix well before using. Do not dilute or thin SOLARGARD HY-BUILD.
4. SOLARGARD HY-BUILD is to be applied in one coat at the rate of 2 gal./100 sq. ft. (32 wet mils) The coverage rate shown is intended as the minimum application requirement. The surface dictates the actual coverage needed.
5. Do not permit traffic on completed roof surfaces unless absolutely necessary, and only after complete cure.
6. No ponding is acceptable.

C. Spray Equipment Recommendation

Pumps: Graco King 45:1, Graco Bulldog 30:1 or gas powered equivalents. Graco GH733, HydraMax 350 or GMax 7900 or other manufacturers' equivalents.

Hose/Pressure: 50'–300' length (depending on spray rig pressure). When using hoses longer than spray rig pressure). When using hoses longer than 100' use the next larger hose ID every 50'. Every 50' of hose will reduce the spray pressure of the rig by 10% at the gun tip.

i.e., 300' hose – 3/4" (50/100') to 5/8" (50/100') to 1/2" (50/100') to 3/8" (50')

Good results are generally obtained @ 2000–3000 psi at spray tip.

Gun: Graco Contractor Gun, Graco Contractor FTx gun, Graco Silver Plus or equivalent. (Tip extrusions or pole guns can be used).

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*Tip Sizes:

Fan Width (in)	.039	.041	.043	.045	.047	.049
10"–12"	539	541	543	545	547	549
12"–14"	639	641	643	645	647	649
14"–16"	739	741	743		747	749
16"–18"	839	841	843		847	
<i>Flow Rate</i>	<i>1.60 gpm</i>	<i>1.80 gpm</i>	<i>1.98 gpm</i>	<i>2.17 gpm</i>	<i>2.37 gpm</i>	<i>2.58 gpm</i>

* Graco Heavy - Duty RAC Switch tips (GHDXXX) Grey

- * Skill and experience of the spray applicator is important to the success of the coating application. Periodic checking of the film build is necessary to ensure best results.
- * Do not permit traffic on completed roof surfaces unless absolutely necessary, and only after complete cure.

3.03 Material Requirements

3.04 Clean Up

- A. As work progresses, it is essential to keep equipment in clean, working condition.
 - 1. If spray equipment is used, flush lines with clean water followed by mineral spirits or kerosene to keep metal parts from corroding.
 - 2. General clean-up with same.
- B. At the conclusion of the project, all equipment should be cleaned and returned to its designated location. Disposal of empty, partially full or full drums should be discussed with the building owner, contractor, or engineer.

PART 4 – File Data

4.01 Enclosures

4.02 Warranty Disclaimer

- A. Please note that if Republic Powdered Metals has been requested to furnish a warranty, the contractor/owner must comply with the conditions for warranty issuance set forth on the reverse side of the warranty document, a sample copy of which is available upon request. Republic Powdered Metals reserves the right to refuse issuance of a warranty pursuant to such conditions.

Contact Republic Powdered Metals, Inc. for details regarding available warranties on the SOLARGARD[®] HY-BUILD System.

