

SPECIFICATION

SOLARGARD[®] HY-BUILD

WATERPROOFING SYSTEM FOR SPRAYED IN PLACE POLYURETHANE FOAM

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: Store in accordance with manufacturer's recommendations.
- B. Handling and Protection of Materials: Meet requirements of manufacturer's recommendations for handling and protection of materials during installation. Handle products 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 HYBUILD

1. Description

SOLARGARD HY-BUILD is for the waterproofing of metal roofing, new polyurethane foam, and concrete. This premium quality elastomeric roof coating is formulated from 100% acrylic resins with superior ultraviolet resistance and flexibility. SOLARGARD HY-BUILD provides durability, low temperature flexibility, and excellent resistance to weathering and dirt pick-up. SOLARGARD HY-BUILD is available in white, standard, and custom colors. **Do not use in areas that pond water per NRCA Guidelines.**

2. Requirements

SOLARGARD HY-BUILD is based on a vehicle of pure acrylic elastomeric polymer.

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3. 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 (ASTM D 2697)	51% ± 1%
Elongation @ 77° F (ASTM D 2370)	150% ± 25%

Flexibility @ 0°F (ASTM D 1737)	Passes ½ inch mandrel
Tensile strength 77° F (ASTM D 2370)	450 ± 50 psi
Dry time (ASTM D 1640)	1 hour
Flash point (ASTM D 3278)	none
Clean up	Water

2.02 Accessory Materials

- A. PERMAFAB is a 100% stitchbond polyester fabric used in conjunction with Republic coatings for repairing torn flashings, seams, and minor surface breaks.
- B. SOLARGARD Seam Sealer is a single component polyurethane sealer formulated to provide a tough, flexible repair for waterproofing.

PART 3 – Execution

3.01 Preparation For Coating

A. Cleaning

1. Remove all loose gravel, paint, dirt, dust, debris, etc., by mechanical brush, stiff broom, vacuum, power washing, etc. All surfaces must be clean and dry.
2. Flashings, blisters, and other damaged areas must be repaired and allowed to cure for 24 hours prior to applying the SOLARGARD HY-BUILD to the entire roof.
3. Previously painted surfaces must be tested for adhesion and compatibility with coating system. Contact Republic Technical Department for information.
4. 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.
5. 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.

B. Flashings

Flashings can be repaired using SOLARGARD HY-BUILD or SOLARGARD Seam Sealer at the rate of 25 - 35 lineal feet per gallon in a three course combination with PERMAFAB fabric. A three course combination consists of sealer / fabric / sealer.

1. Cant strips should be provided at vertical surfaces to receive flashing.
2. PERMAFAB fabric should be unrolled and cut to a maximum length of ten feet prior to setting in place.
3. Apply SOLARGARD HY-BUILD or SOLARGARD Seam Sealer to all areas.
4. Embed PERMAFAB fabric into the coating from 4" onto the roof surface to a minimum of 8" above roof surface. Adjacent pieces should be lapped a minimum of 4". Brush for proper adhesion and removal of all voids.
5. Apply a second coat of SOLARGARD HYBUILD or SOLARGARD Seam Sealer over the fabric and a minimum of 2" beyond edges.
6. Install metal counter flashing as required.

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C. Blisters

1. Cut out and remove any blistered areas.
2. Check surrounding areas for moisture content to ensure remaining foam is dry before coating.
3. Replace cut-out areas with new polyurethane foam. Follow foam manufacturer's recommendations for application procedures and curing times.

D. 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 25 - 35 lineal feet per gallon in a three course combination with PERMAFAB fabric. A three course combination consists of sealer/fabric/ sealer.

E. Metal Components

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

3.02 SOLARGARD Waterproofing System

A. New Urethane Foam

1. New foam installation must be in accordance with foam manufacturer's specifications.
2. SOLARGARD HY-BUILD should be applied as soon as the foam has sufficient compressive strength to allow foot traffic on the surface without causing depressions. Apply SOLARGARD HY-BUILD over prepared roof at the rate of 1 ½ gal./100 sq.ft. (24 wet mils). Allow first coat of SOLARGARD HY-BUILD to fully cure prior to the application of the second coat. Apply SOLARGARD HY-BUILD in the second coat at the rate of 1 ½ gal./100 sq.ft. (24 wet mils). The whole surface, when finished, should have SOLARGARD HY-BUILD on it at a rate of 3 gal./100 sq.ft. (48 wet mils minimum).
3. The foam should be protected with SOLARGARD HY-BUILD on the same day it is applied to prevent foam degradation.
4. Do not permit traffic on completed roof surfaces unless absolutely necessary, and only after complete cure.

B. Existing Urethane Foam

1. Power wash existing roof. Remove all loose existing coating, dirt, dust, debris, etc.
2. Replace damaged or saturated foam with new foam. Small spot repairs in existing foam can be made with SOLARGARD HY-BUILD and fabric.
3. 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. Contact Republic's Technical Department for further information.
4. SOLARGARD HY-BUILD should be applied as soon as the foam has sufficient compressive strength to allow foot traffic on the surface without causing depressions. Apply SOLARGARD HY-BUILD over prepared roof at the rate of 1 ½ gal./100 sq.ft. (24 wet mils). Allow first coat of SOLARGARD HY-BUILD to fully cure prior to the application of the second coat. Apply SOLARGARD HY-BUILD in the second coat at the rate of 1 ½ gal./100 sq.ft. (24 wet mils). The whole surface, when finished, should have SOLARGARD HY-BUILD on it at a rate of 3 gal./100 sq.ft. (48 wet mils minimum).
5. Do not permit traffic on completed roof surface unless absolutely necessary, and only after complete cure.

3.03 The Protective Coating

A. General

For optimum results, the protective coating must not be applied to wet or damp surfaces, and postponed if rain is imminent. Failure to comply can result in blistering.

B. 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 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.

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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).

*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	
Flow Rate	1.60 gpm	1.80 gpm	1.98 gpm	2.17 gpm	2.37 gpm	2.58 gpm

* 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 Clean Up

- A. As work progresses, it is essential to keep equipment in clean, working condition. If spray equipment is used, flush lines with clean water followed by mineral spirits or kerosene to keep metal parts from corroding. 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

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.

