

SPECIFICATION

SOLARGARD[®] ULTRA

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 ULTRA

1. Description

SOLARGARD ULTRA is a high solids, waterbased, heavy bodied elastomeric coating formulated with a proprietary acrylic latex polymer. The high build, reflective coating is VOC compliant, asbestos free, and is used primarily as a reflective surface coat and waterproofer for smooth surface asphalt BUR, modified bitumen roof systems, sprayed in place foam, and weathered single plys. **Do not use in areas that pond water per NRCA Guidelines.**

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2. Performance Requirements

Weight per gallon (ASTM D 1475)	7.2 ± 0.5 lbs	Flexibility @ -15°F after 1000 hrs (ASTM D 522)	Passes ½ inch mandrel
Specific gravity (ASTM D 1475)	0.91 ± 0.2	Tensile strength 73° F	167 ± 1 psi
Solids by weight (ASTM D 1644)	64% ± 1%	Dry time (ASTM D 1640)	1 hour to touch 24 hours to recoat
Solids by volume (ASTM D 2697)	60% ± 1%	Flash point (ASTM D 3278)	None
Elongation @ 73° F (ASTM D 2370)	290% ± 25%	Clean up	Water

2.02 Accessory Materials

- A. REPUBLIC Single Ply Primer is the recommended primer for use on weathered single ply, concrete and polyurethane foam roofs prior to the application of SOLARGARD ULTRA.
- B. SOLARGARD Seam Sealer is a single component polyurethane sealer formulated to provide a tough, flexible repair for waterproofing.
- C. PERMAFAB is a 100% stitchbond polyester fabric used in conjunction with Republic coatings for repairing torn flashings, seams, and minor surface breaks.
- D. SOLARGARD ULTRA Curative is designed specifically for use with the SOLARGARD ULTRA coating to accelerate the film formation and through dry of the applied coating.

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. Check for adhesion and compatibility of any remaining, tightly adhered, existing coating with SOLARGARD ULTRA. 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.
 3. Roof surfaces containing heavy soot, dirt, chemical contaminants, oil, grease, or wax deposits must be thoroughly cleaned and rinsed with high pressure waterblast at no less than 2,000 psi.
 4. 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.
 5. Repair flashings, blisters, and other damaged areas.

B. Flashings

Flashings can be repaired using PERMAFAB and SOLARGARD ULTRA or SOLARGARD Seam Sealer.

1. Cant strips should be provided at vertical surfaces to receive flashing.
2. PERMAFAB should be unrolled and cut to a maximum length of ten feet prior to setting in place.
3. Apply SOLARGARD ULTRA or SOLARGARD Seam Sealer to all areas.
4. Embed PERMAFAB 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". Roll or brush for proper adhesion and removal of all voids.

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5. Apply a top coat of SOLARGARD ULTRA or SOLARGARD Seam Sealer over the PERMAFAB and a minimum of 2" beyond edges.
 6. Install metal counter flashing as required.
- 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 circular roof penetrations, i.e. stacks, vents, etc., and curb penetrations must be sealed using SOLARGARD ULTRA or SOLARGARD Seam Sealer embedded into PERMAFAB.
- E. Metal Components
1. Damaged fascia, gutters, vents, flashings, etc., must be replaced.

3.02 The Protective Coating

- A. New Urethane Foam
1. New foam installation must be in accordance with foam manufacturer's specifications.
 2. REPUBLIC Single Ply Primer should be applied as soon as the foam has sufficient compressive strength to allow foot traffic on the surface without causing depressions. Depending upon weather conditions, this is normally achieved within 3 to 4 hours after application.
 3. Apply REPUBLIC Single Ply Primer at approximately 200–300 sq. ft./gal. to the roof surface including prepared flashings, blisters, etc. Allow to fully dry before applying SOLARGARD ULTRA. When REPUBLIC Single Ply Primer has been applied longer than 72 hours prior to SOLARGARD ULTRA application, REPUBLIC Single Ply 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 ULTRA.
 4. Mix each container of SOLARGARD ULTRA with a power assisted mechanical mixer before use. Mix until coating is smooth and consistent. For pails, a Jiffy Mixer attached to a low speed power drill is recommended. For drums, a 600 Series Drum Mixer is recommended. Do not hand mix.
 5. Refer to temperature/humidity chart. Do not apply at temperatures below 45°F or at Relative Humidity above 90% RH. At lower temperatures and higher humidity, use 1 quart SOLARGARD ULTRA Curative to every 5 gallon pail of SOLARGARD ULTRA to improve cure time. Check the lid to assure it is properly secured, then shake the container of SOLARGARD ULTRA Curative just prior to opening. If solids have settled within the SOLARGARD ULTRA Curative, agitate the container for 5 minutes minimum on a paint can shaker. Solid material must not be present onto the bottom of the curative container in order for this product to be effective. After adding the curative to the SOLARGARD ULTRA coating, continue mixing for 5 minutes. The mixed coating (curative added to SOLARGARD ULTRA) has a pot life of approximately 1 hour at 70°F. Higher temperatures may affect pot life.
 6. The foam should be protected with SOLARGARD ULTRA acrylic coating on the same day it is applied to prevent foam degradation.
 7. Apply SOLARGARD ULTRA over prepared and primed roof at the rate of 3 gal./100 sq. ft. (48 wet mils) in a two coat application. (1 ½ gal / 100 sq. ft. / coat) The whole surface, when finished, should have SOLARGARD ULTRA on it at a rate of 3 gal. /100 sq. ft. (48 wet mils minimum). DO NOT THIN!
 8. SOLARGARD ULTRA may be applied by brush, 1/2" nap roller or spray equipment.
 9. Vertical surfaces require a 2 coat application to obtain specified coverage rate without sag of the coating.
 10. 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.

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2. Replace damaged or saturated foam with new foam. Small spot repairs in existing foam can be made with SOLARGARD ULTRA and fabric.
3. When applying SOLARGARD ULTRA over a previously coated substrate, a test patch should be applied to determine compatibility and adhesion. Contact Republic's Technical Department for further information.
4. Apply REPUBLIC Single Ply Primer at approximately 200–300 sq. ft./gal. to the roof surface including prepared flashings, blisters, etc. Allow to fully dry before applying SOLARGARD ULTRA.
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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 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).

*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.

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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

- 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[®] ULTRA System.

