

**ALUMANATION<sup>®</sup> 301 / GEOGARD<sup>®</sup> SEAM SEALER**

RUSTPROOF/WATERPROOFING FOR METAL 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: 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.
- D. Exercise caution when working with solvent based materials within the limitations described by the manufacturer.

**PART 2 – Products as Manufactured by Republic Powdered Metals, Inc.****2.01 Coating System**

## A. ALUMANATION 301

## 1. Description

ALUMANATION 301 is a metallic pigmented, industrial maintenance self-priming aluminum coating formulated with selected high solids, asphaltic liquids, non-drying oils, a blend of natural and synthetic fibers, and fine aluminum pigment. The asphaltic vehicle has a minimum of 60% solids. The aluminum pigment exceeds Federal Specification TT-P-320D, Type 2. ALUMANATION 301 contains NO ASBESTOS or glass fibers. Exceeds performance standards as set forth in Federal Specifications TT-C-1079, TT-C-498, ASTM-D-2824, and Canadian Specification 37G P42 M, containing no asbestos.

## 2. Performance Requirements

Weight per gallon (ASTM D 1475)	8.8 ± 0.2 lbs.
Specific gravity (ASTM D 562)	1.00 ± 0.02
Solids (% by Weight)	61% ± 1%
Solids (% by Volume)	47% ± 1%
Viscosity	126 ± 2 K.U.
Metallic Content (ASTM D 2824)	Min. 15%
Flexibility @ 32°F (ASTM D 1737)	Passes ¼ inch mandrel bend
Dry time (ASTM D 1640)	24 hrs
Flash point (ASTM 3278)	105° F
Reflectivity	> 60%
Clean up	Mineral spirits

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## 2.02 Accessory Materials

- A. GEOGARD<sup>®</sup> Seam Sealer is a gray single component, urethane industrial maintenance coating for waterproofing metal building seams and fasteners.
- B. PERMAFAB is a 100% stitchbonded polyester fabric used as a reinforcement in flashings and faulty seam repairs.
- C. DURATHANE is a premium grade, moisture cured, one component polyurethane sealant, for use in sealing smaller openings.

## PART 3 – Execution

### 3.01 Preparation For Coating

- A. Roof Panels
  1. Loose rust, mill scale, and paint must be removed by any of the following: HAND TOOL CLEANING to include scraping, sanding, and wire brushing; POWER TOOL CLEANING to include power sanding, power wire brushing, or power grinding; WATER BLASTING to include high pressure water blast at not less than 2,000 psi.
  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 water blast. Note: New galvanized panels must be weathered a minimum of six months or treated with a phosphoric acid wash to remove factory oil film.
  3. Severe chalking, if evident, must be removed to ensure adhesion, as must all debris, dust and dirt by using high pressure water wash.
  4. Remove all existing acrylic and asphalt coatings and all existing sealants and mastics prior to installing GEOGARD Seam Sealer.
  5. If metal panel finish is Kynar 500 or similar, please contact the Republic Technical Department for surface preparation recommendations.
  6. If previously coated, check for adhesion and compatibility of any remaining, tightly adhered, existing coating with ALUMANATION 301. 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.
  7. No priming is necessary because of the high amount of rust inhibiting oils in ALUMANATION 301.
  8. Roof panels exhibiting holes and/or posing safety concerns should be replaced with new metal panels with a similar panel design.
  9. Closely inspect underside of all metal panels for corrosion at endlaps, curbs and penetrations. Replace as required.
- B. Roof Penetrations
  1. The base of all roof penetrations and curbs, i.e. stacks, vents, etc., must be sealed using GEOGARD Seam Sealer at the rate of 30-40 lineal ft./gal. in a three course combination with PERMAFAB. A three course combination consists of sealer/fabric/sealer.
- C. Seams
  1. All end-lap (horizontal) and faulty side-lap (vertical) seams must be treated with GEOGARD Seam Sealer back-brushed into any open seam areas. GEOGARD Seam Sealer is best applied by brush. (In typical situations one (1) gallon will cover approximately 60-100 lineal feet of seams at a thickness of 1/8"). Seams with openings between 1/8 – 1/4 inch, reinforce GEOGARD Seam Sealer with PERMAFAB in a three course combination. Approximate coverage for GEOGARD Seam Sealer will be 30-40 lineal ft./gal. Seams with greater than 1/4 inch openings must be drawn together with a self tapping sheet metal screw and neoprene washer.
- D. Ridge Caps
  1. All seams on and around ridge cap must be sealed using GEOGARD Seam Sealer and PERMAFAB in a three course combination. Approximate coverage for GEOGARD Seam Sealer will be 30-40 lineal ft./gal.
  2. All seams around ridge ventilators must be sealed using GEOGARD Seam Sealer and PERMAFAB in a three course combination. Approximate coverage for GEOGARD Seam Sealer will be 30-40 lineal ft./gal.
- E. Fasteners
  1. Encapsulate all fasteners with GEOGARD Seam Sealer. (One gallon will encapsulate approximately 200 fasteners.)
  2. Replace stripped or missing fasteners using an oversize "repair type" fastener; BUILDEX TRAXX<sup>®</sup> or TEKS<sup>®</sup>, FABCO<sup>®</sup>, FAB-LOK<sup>®</sup>, or equivalent. Add additional fasteners, where necessary, to draw uplifted sheets together.
- F. Metal Components

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1. Damaged fascia, gutters, vents, ridge caps, flashings, etc., should be replaced.

## 3.02 The Protective Coating

### A. General

For optimum results, the protective coating must be applied after the morning dew has dried on a sunny day and postponed if rain is imminent.

### B. Application

Using heavy-duty spray equipment, roller or brush, ALUMANATION 301 should be applied at the rate of 2 gal./100 sq. ft. (32 wet mils). Mix well using a power-assisted mixer.

#### 1. 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 – ¼" (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. After each days spraying, equipment should be cleaned as follows:

1. Flush lines with mineral spirits or kerosene.
2. Clean outside of pump and hoses 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 ALUMANATION<sup>®</sup> 301 System for metal roofs.

