

METAL ROOF RESTORATION, GENERAL GUIDE

Part 1-General

1.01 General: This document is intended to provide only general guidelines regarding the application of listed materials. 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/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. Applicators Qualifications

1. Applicator shall have knowledge and understanding of metal building design as well products and application methods 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.

1.03 Submittals: 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, including any repairs to seams and protrusions, and the general conditions of the existing roof.

1.04 Product Storage and Handling

A. Storage of Materials:

- A1. Store materials in accordance with the manufacturer's recommendations.
- A2. Store acrylic latex materials so that they will not freeze.

B. Handling and Protection of Materials: Meet requirements of manufacturers recommendations for handling and protection of materials during installation. Handle materials so 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

2.01 Coating System

A. UltraShield 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 masonry, metal and built-up roofing substrates. Ultra Shield resists the effects of weather, water, abrasion, and substrate movement.

1. Elongation:

- a. Initial Elongation @ 73° F D-2370 = 400%
- b. Initial Elongation @ 0° F D-2370 = 16%

2. Tensile:

- a. Tensile Strength @ 73° F D-2370 = 210 PSI
3. Permeance D-1653 = 7.03 perms
4. Water Weight Gain, ASTM E-96 = 8.5%

5. Fungi Resistance G-21 = zero
6. Tear Resistance D-624 = 63.041 BF
7. Low Temp Flexibility (after aging) D-522 = Pass $\frac{1}{2}$ mandrel bend.
8. Weathering (1000 hrs xenon) = Pass no cracking or checking.

2.02 Accessory Materials

A. Super Putty is a white trowel grade acrylic sealant for use in sealing penetrations and sealing fastener heads.

B. Metal Roofing Primer containing rust inhibitive pigments.

C. Tietex is a 100% stitch-bond polyester used in conjunction with Super Putty as a reinforcement for horizontal and vertical seams.

Part 3-Execution

3.01 Preparation for Coating

A. Roof Panels

A1. Loose rust, mill scale, and loose, flaking 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.

A2. Severe chalking, if evident, must be removed to ensure adhesion as must all debris, dust and dirt by using high pressure power wash.

A3. 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.

A4. Rusted areas, once cleaned must be immediately primed.

Previously painted surfaces that exhibit no rust or corrosion need not be primed.

B. Roof Penetrations

B1. The base of all roof penetrations, i.e. stacks, vents, etc., must be sealed using Super Putty.

B2. The base of all curb penetrations must be sealed using Tietex and Super Putty.

C. Seams

C1. Apply Super Putty to all horizontal and vertical seams, fasteners and penetrations. Install Tietex where voids of greater than $\frac{1}{8}$ " exist.

C2. All end lap (horizontal) seams, including both sides of the ridge cap, and around skylights must be sealed using Super Putty. Any faulty side lap (vertical) seams must be sealed with Tietex and Super Putty.

D. Ridge Caps

D1. Apply Super Putty to seams on and around the ridge caps. Install Tietex where voids of greater than $\frac{1}{8}$ " exist.

D2. All seams on and around ridge cap must be sealed using min. 6" Tietex.

D3. All seams around ridge ventilators must be sealed using min. 6" Tietex. Curbed units require Tietex.

E. Fasteners

1. Where loose fasteners are evident, tighten and encapsulate with Super Putty.
2. Replace stripped or missing fasteners using an oversize "repair type" fastener. Add additional fasteners, where necessary, to draw uplifted sheets together.

F. Metal Components

F1. Damaged fascia, gutters, vents, ridge caps, flashings, etc., must be replaced.

3.02 Application of 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 of UltraShield Elastomeric Roof Coating

B1. UltraShield shall be applied by airless spray or 3/4 inch to 1-1/4 inch nap roller.

Spray Equipment Recommendations: UltraShield is best applied by air powered, gasoline powered or electric powered airless spray units. Examples would be Graco 30:1 Bulldog or 45:1 King, Graco GH533 or GH733 gas powered or equivalent models. Tip sizes from 0.35 - .043. A recommended hose is 3/8 inch nylon high pressure type hose for lengths up to 75 feet. From 75 feet to 200 feet, use 1/2 inch hose added to existing 3/8 inch hose to maintain pressure and delivery. Over 200 feet, use 5/8 inch to 3/4 inch.

B2. Coverage: UltraShield is to be applied in two coats at the rate of 1-1/2 gallons per 100 square feet EACH COAT. On metal roofs with irregular panel design, multiply square footage x 1.15 to calculate actual surface area to be coated.

B3. Skill and experience of the spray applicator are important to the success of the coating application. Periodic checking of the film build is necessary to ensure best results.

B4. Develop a systematic method for application of coating to surface.

B5. 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 clean, working condition. After each days spraying, equipment should be cleaned as follows:

A1. Flush lines with clean water, followed by mineral spirits or kerosene, to keep metal parts from corroding.

A2. 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.