

GUIDE SPECIFICATION

Elastomeric Roof Systems for Metal Roofs With White Elastomeric or Aluminum coating options

December, 2008

Metal Roofing Guide SPECIFICATIONS

GENERAL DESCRIPTION:

Enclosed is a generic guide specification for a typical lap-seam architectural metal panel roof. While requirements for each roof are different, similarities in maintenance system design allow for the list of general requirements shown below.

Installation by an approved Roof Guardian Technologies (RGT) Contractor will qualify project for a five (5) year, ten (10) year or fifteen (15) year warranty from RGT direct to the building owner. Term is based upon system selection. Warranty fees apply. All material purchases and warranty fees must be paid prior to issuance of the warranty. Per the RGT Contractor application requirements, RGT must approve the specific application prior to beginning of project to qualify for extended warranties.

The specification attached is for Roof Guardian Technologies Elastomeric Roof System and will qualify for a no-charge five (5) year limited materials warranty on RGT brand products used if installed by non-certified contractor.

ROOF GUARDIAN TECHNOLOGIES, INC. by STS

A Certified Texas HUB Manufacturer

347 Hwy 289, Comfort, TX 78013

(830)995-5177 phone (830)995-5705 fax

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As a general guideline for seams and fasteners, RG-110 Flashing Compound is applied from 0.66 to 0.75 gal/square. Side laps if 1/8" or less in width can be sealed with RG-110 Flashing Compound only per specifications.

Rusted surfaces are cleaned and treated with rust inhibiting primer compatible with final coating.

Surface coating options include:

- RG-51 Aluminum Coating offering five (5) & ten (10) year warranties
- RG-170 Elastomeric White offering five (5) & ten (10) year warranties
- RG-170 Elastomeric White with Special Flashing Details offering fifteen (15) year warranty
- RG-180 Fibered Elastomeric White offering five (5) & ten (10) year warranties
- RG-180 Fibered Elastomeric White with Special Flashing Details offering fifteen (15) year warranty

Note 1. Roof slope must be greater than 1/2" in 12"

Note 2. Special paint finishes such as fluoropolymers "Kynar™" and siliconized polyester require special consideration. Do not apply RGT products to these finishes without consulting RGT in advance for special instructions.

Roof Guardian Technologies

METAL ROOFING GUIDE SPECIFICATIONS

PART 1 - GENERAL

1.01 SUMMARY

Furnish necessary material and labor to install a Roof Guardian Technologies Roof System

1.02 SCOPE OF WORK:

- A. Remove old mastic repairs over and adjacent to laps, seams and fasteners.
- B. Remove any other foreign materials that will prevent Roof Guardian Technologies from adhering or creating a leak free roof system.
- C. Replace damaged or weakened corroded panels.
- D. Replace damaged translucent panels and skylights.
- E. Re-attach loose metal, laps and gutters with new self-sealing fasteners.
- F. Pressure wash all roof surfaces and gutters.
- G. Re-secure or replace fasteners.
- H. Remove non-functional penetrations/curbs and patch or install new panels.
- I. Replace missing or damaged foam closures.

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- J. Reseal all pipe boots, vents, gutters, AC units and roof penetrations.
- K. Treat skylight surfaces and seal.
- L. Seal all exposed fasteners.
- M. Treat panel laps and seams.
- N. Repair or replace gutters.
- O. Install reflective coating system on entire roof surface.

Provide unit pricing

- 1. Panel replacement to match existing
(\$_____/panel)
- 2. Replacement Sheet metal where required:
 - a. gutter \$_____/Lin.Ft.
 - b. downspout \$_____/Lin.Ft.
 - c. _____ \$_____/Lin.Ft.
 - d. _____ \$_____/Lin.Ft.

1.03 REFERENCES

- A. National Roofing Contractors Association (NRCA) Roofing and Waterproofing Manual
- B. Sheet Metal and Air Conditioning Contractors National Association (SMACNA)
- C. American Society of Testing & Materials (ASTM)
- D. Steel Deck Institute (SDI)
- E. Int'l Conference of Building Officials (ICBO)
- F. Uniform Building Code (UBC)
- G. Metal Building Manufacturers Association
- H. International Building Code (IBC)
- I. OSHA/NIOSH
- J. Cool Roof Council

1.04 SYSTEM DESCRIPTION

- 1. Roof Guardian Technologies Roofing System

1.05 SUBMITTALS

- 1. Applicator approval - Provide letter from manufacturer of roofing materials stating that applicator is a Certified Contractor for Roof Guardian Technologies.
- 2. Complete materials list of all items to be furnished and installed under this Section.
- 3. Copy of latest edition of the Roof Guardian Technologies material specifications and installation instructions.

1.06 QUALITY ASSURANCE

Prior to bidding or before starting the work, the Contractor shall inspect

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the existing roof and other surfaces receiving the Roof Guardian Technologies restoration system, accompanied by the owner's representative. Contractor shall report in writing any unsatisfactory condition(s), which he cannot satisfactorily guarantee. The absence of any such written report shall constitute the contractor's acceptance of the surfaces and conditions and he will be responsible for a watertight installation.

1.07 MANDATORY PRE-JOB CONFERENCE

1. Prior to the beginning of work, a pre-job conference shall be held at the job site.
2. Provide ten calendar days advance written notice ensuring the attendance by competent authorized representatives of Contractor, an RGT representative, building owner, architect, consultant and subcontractors including mechanical and electrical where such penetrates the work of this Section.
3. During the pre-job conference, attendees shall review the specifications to determine any potential problems, changes, etc. Scheduling, weather conditions, unique job site conditions, installation requirements and procedures and any other information pertinent to the roof system installation shall be discussed.
4. The results of the conference shall be recorded with copies submitted to all participants.

1.08 DELIVERY, STORAGE & HANDLING

1. Delivery Requirements

Deliver material in manufacturer's original sealed and labeled containers and quantities required to permit continuity of application.

2. Storage Requirements

Store materials out of direct exposure to the elements. Protect material against moisture. Store materials in a heated area prior to use in cold weather. When ambient temperature is below 40°F (4°C), temperature sensitive materials must be stored in protected or heated areas and brought to the roof as needed for application after temperature reaches 50°F.

3. Handling Requirements

Handle material in such a manner as to preclude damage and contamination with moisture or foreign matter.

4. Handling Procedures Damaged Material

Any materials that are found to be damaged or stored in any manner other than as stated above shall be automatically rejected and shall be removed and replaced at contractor's expense.

1.09 JOB CONDITIONS

A. Protection Requirements.

1. **Prior to applying primer or coatings, schedule with building owner to shut down roof top ventilation equipment and vents to minimize introduction of fumes into building.** Contractor is responsible for

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- appropriate fume and odor protection as required by the building owner and the governing regulatory agency where the property is located.
2. Protect building and grounds from overspray, staining and mechanical damage. Contractor is responsible for any overspray damage.
 3. Contractor shall be held fully responsible for any damage done to vents, outlet boxes, flashing, etc., which is caused by the carelessness of his workmen and shall replace or repair same to the full satisfaction of the owner.
 4. Review and comply with all applicable Federal, State, Local and facility safety requirements for the installation of the Roof Guardian Technologies Roofing System.
 5. Each location where roofing material is raised or pumped to roof, or old roofing removed from roof, shall be protected to prevent damage to the building from accidental spilling of roof coating or debris.
 6. Contractor shall plank lawns, walks, etc., over which he proposes to haul roofing materials, or debris, by providing at least two 12" wide planks for each wheel track.
 7. Any damage to building or grounds done as a result of this contract shall be repaired by the roofing contractor to the full satisfaction of, and at no cost to the Owner.
 8. Contractor is responsible for keeping building being re-roofed in a watertight condition until job is completed. If Owner is responsible for tear-off or replacement of bad panels, Contractor shall not be responsible for damage that might occur due to rain or other inclement weather.

B. Environmental Requirements

1. Do not apply material during precipitation or when rain is a probability during or after application before material can set.
2. Never apply solvent-based adhesives or coatings to a damp/wet surface.
3. Minimum slope for warranted RGT Systems are 1/2" in 12".
4. Apply Water-Based (RG-130, RG-170, or RG-180) Roof Guardian Technologies Elastomeric System only when the temperature is 50°F and rising, and where no chance of precipitation will occur for 24 hours after application.
5. Protect adjacent surfaces from staining and mechanical damage during application of roofing.

1.10 WARRANTY

A. Contractor Warranty

1. Prior to acceptance of the roofing work, furnish certified written warranty signed by Contractor agreeing to make repairs and replacements required to maintain roof, including flashing, in watertight condition for two years from date of substantial completion.
2. Make repairs or replacements at no additional cost to Owner.
3. Warranty shall include temporary repair work under emergency

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condition as required to maintain water tightness of the building pending permanent repairs.

B. Manufacturers Warranty

1. Furnish Roof Guardian Technologies System Warranty.

1.11 MAINTENANCE

- A. Furnish Owner with annual maintenance requirements to preserve contractor and manufacturer's warranties.

PART 2 – PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Materials manufactured or supplied by STS Coatings, Inc.(STS), 347 Hwy 289, Comfort, TX 78013, (830)995-5177.

2.02 PRODUCT DELIVERY

- A. Bulk delivery material shall be accompanied by a STS bill of lading.

2.03 MATERIALS

A. FASTENER SEALANT

1. RG-110 Flashing Compound -(approx. 500 fasteners/gal).

B. SIDE LAP SEALANT WITH FLASHING COMPOUND

1. RG-110 Flashing Compound 70-75 lin ft/gal.

C. SEAM/LAP SEALANT WITH UT-40 UNIVERSAL TAPE® SYSTEM

1. UT-40 Universal Tape® 4" wide for end laps, ridge, rake, skylight panels and 6" wide or greater as required on all other penetrations.

2. UT-40 Universal Tape 2" wide on side laps is optional in lieu of RG-110.

D. RUST TREATMENT

1. RG-100 Rust Inhibiting Primer - 200 to 250 sq.ft. per gallon.

E. PRIMER

1. RG-400 Universal Bonding Primer is **required** for all Kynar applications and as a barrier coat over asphaltic residue on other surfaces.

E. REFLECTIVE COATING –[Select one]

1. [For 5 year warranty - 3 options]

(A) RG-170 White Elastomeric Finish Coating - one (1) application of 1.5 gallons per 100 sq. ft. Rust and seam/lap treatment as required (or)

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- (B) RG-180 Fibered White Elastomeric Finish Coating - one (1) application of 1.25 gallons per 100 sq. ft. Rust and seam/lap treatment as required (or)
 - (C) RG-51 Aluminum Coating – one application of 1.5 gallons per 100 sq. ft. Rust and seam/lap treatment as required.
- 2. [10 year warranty option – 3 options]
 - (A) Roof Guardian Technologies Elastomeric Roof System including – one application of each product (RG-130 Gray & RG-170 White) at 1.5 gallons per 100 sq.ft. for a total of 3 gallons per 100 sq. ft. Gray is required as the base coat and White as the final or weathering coat. Rust and seam/lap treatment as required (or)
 - (B) RG-180 Fibered White Elastomeric Coating – one application of 2.0 gallons per 100 sq. ft. Rust and seam/lap treatment as required (or)
 - (C) RG-51 Aluminum Coating – one application of 2.0 gallons per 100 sq. ft. Rust and seam/lap treatment as required
 - 3. [15 year warranty option – 2 options]
 - (A) RG-130 and RG-170 Roof Guardian Technologies Elastomeric Roof Coatings – one application of each product 2 gallons per 100 sq. ft. for a total of 4 gallons per 100 sq. ft. Gray is required as the base coat and White as the final or weathering coat. Rust and seam/lap treatment are required using SP Universal Tape® System only (or)
 - (B) RG-130 Gray Elastomeric Base Coat at 1 gallon per 100 sq. ft. then RG-180 Fibered White Elastomeric at 2 gallons per 100 sqft. for a total of 3 gallons per 100 sq. ft. Rust and seam/lap treatment are required using UT-40 Universal Tape® System only

E. MISCELLANEOUS PRODUCTS

- 1. Approved self-drilling mechanical fasteners with self-sealing washers.
- 2. Closure filler/replacement options
 - a. Pre-formed foam closures matching panel profile
 - b. Spray-in-place urethane foam, field cut and formed to profile
 - c. ISO insulation, field cut to fill closure and coated with RG-110 Flashing Compound.
- 3. Saf-T-Screen skylight fall protection device, OSHA Compliant.

PART 3 - APPLICATION

3.01 GENERAL

- A. Roof Guardian Technologies general requirements and Product Data are part of this specification.

3.02 EXAMINATION

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- A. Inspect deck and advise Owner's Representative, in writing, of any required before proceeding with roofing.

3.03 PREPARATION

- A. Reattach loose metal or excessive gaps with new self-drilling, fasteners with self-sealing washers.
- B. Replace missing and tighten all exposed fasteners. Replace stripped fasteners with oversized of similar design as original.
- C. Replace damaged, dried, cracked or missing foam closures with either pre-formed closures matching panel profile or field install spray urethane foam, cut and formed to profile at gutter/roof panel overhang. All closures to be sealed with RG-110 Flashing Compound to metal. Foam each high rib void at end panels where they overhang gutters.
- D. Pressure wash roof surface with water using a minimum working pressure of 2,000 psi to remove all dirt, dust, and waste products including, but not limited to oil, rust, scale, chalkiness and unstable portions of existing coating, rice dust, solvent, grease, animal fats, etc.
- E. Special treatment of fluoropolymer (Kynar™) finishes. Consult manufacturer on each condition for specified details.

3.04 FASTENER SEALING:

- A. Encapsulate each fastener with 1" diameter (2.5 cm) cap of RG-110. Allow to dry prior to applying reflective coating.

3.05 SEALING SIDE/LAPS/SKYLIGHTS:

- A. 1. RG-110 Flashing Compound: Side laps under 1/8" wide, "flow coat" via bulk pump or spray rig without tip, 1/2" bead up-slope of lap brush Flashing Compound over lap, bridging both sides equally or apply 2" UT-40 Universal Tape to all vertical seams.

2. UT-40 Universal Tape® 4" or 6" UT-40 Universal Tape® to all horizontal seams, around all penetrations, ridge and rake conditions, and skylights (mandatory on 15 year warranty).
- B. Skylight panels to be cleaned and inspected for structural strength. Defective panels should be noted to owner in writing prior to bid by contractor and replacement noted as separate line item. All existing mastic to be scraped clean and removed. Fasteners to be sealed as above, and entire perimeter of skylight flashed with 4" UT-40.

3.06 RUST TREATMENT:

- A. Scaling rust to be wire brushed or sanded until smooth, cleaned and treated with the appropriate RG-100 Rust Inhibiting Primer and allowed to completely dry.

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3.07 GUTTER AND DRAINS:

- A. All gutters, scuppers, and roof drains must be cleaned, repaired or replaced and securely attached to structure. Inside of gutters to receive rust treatment with appropriate Roof Guardian Technologies Primer after joints are sealed with a polyether sealant, such as GreatSeal PE-150.

3.08 PRIMER

1. For Kynar surfaces apply RG-400 to entire roof surface. Follow important instructions and limitations on RGT's product data sheet.

3.09 REFLECTIVE COATING:

A. Preparation:

1. Cover skylights, ventilator units and all other areas not scheduled for coating.
2. Hose down surface to remove any accumulated surface dust or dirt. Allow to dry completely. Repeat procedure as required. Be sure to use wet mil gauge to ensure proper coating requirement

B. Finish Coating – [Select one]

1. [5 year warranty - 3 options]

- (a) Spray application one (1) coat RG-170 White Elastomeric Finish Coating at minimum 1.5 gallons per 100 sq. ft. of roof surface. Follow important instructions and limitations on RGT's product data sheet (or)
- (b) Spray application one (1) coat RG-180 Fibered White Elastomeric Finish Coating at minimum 1.25 gallons per 100 sq. ft. of roof surface. Follow important instructions and limitations on RGT's product data sheet (or)
- (c) Spray application one (1) coat RG-51 Aluminum Roof Coating at minimum 1.5 gallons per 100 sq. ft. of roof surface. Follow important instructions and limitations on RGT's product data sheet.

2. [10 year warranty option – 3 options]

- (a) Spray application one (1) coat each (RG-130 Gray and RG-170 White) at 1.5 gallons per 100 sq. ft. of roof surface for a total of 3.0 gallons per 100 sq.ft. Grey is required as the base coat and White as the final or weathering coat. Allow first coat to dry. Apply second coat at right angles to first to obtain uniform coverage. Follow important instructions and limitations on RGT's product data sheet (or)
- (b) Spray application one (1) coat RG-180 Fibered White Elastomeric Finish Coating at minimum 2.0 gallons per 100 sq. ft. of roof surface. Follow important instructions and limitations on RGT's product data sheet (or)

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- (c) Spray application one (1) coat RG-51 Aluminum Roof Coating at minimum 2.0 gallons per 100 sq. ft. of roof surface. Follow important instructions and limitations on RGT's product data sheet.
3. [15 year warranty - 2 options]
- (a) Spray application one (1) coat each (RG-130 Gray and RG-170 White) at 2.0 gallons per 100 sq. ft. of roof surface for a total of 4.0 gallons per 100 sq.ft. Grey is required as the base coat and White as the final or weathering coat. Allow first coat to dry. Apply second coat at right angles to first to obtain uniform coverage. UT-40 Universal Tape System is required for all 15-year warranties. Follow important instructions and limitations on RGT's product data sheet (or)
 - (b) Spray application one (1) coat RG-130 Gray Elastomeric Base Coat at 1.0 gallon per 100 sq.ft. then one (1) coat RG-180 Fibered White Elastomeric Finish Coating at minimum 2.0 gallons per 100 sq. ft. of roof surface. Allow first coat to dry. Apply second coat at right angles to first to obtain uniform coverage. UT-40 Universal Tape System is required for all 15-year warranties. Follow important instructions and limitations on RGT's product data sheet

C. Apply with a soft brush (avoid excessive brushing), roller or airless spray. If using airless spray equipment, recommended air pressure of 2,000 at the tip. Tip size of .35 - .45 and hose size 3/4" to 1/2".

- END -

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