

# Topcoat Titanium Metal Specifications

## Specification Sheet

Updated: 11/02



*Quality You Can Trust Since 1886...  
From North America's Largest Roofing Manufacturer™*



**PART 1 - GENERAL**

1.01 RELATED SECTIONS / DOCUMENTS

GAF Detail Drawings, site-specific drawings and General Provisions of the contract, including General, Supplementary and Special Conditions found in Division-7 Specification Sections, apply to the work addressed in this section.

1.02 SYSTEM DESCRIPTION

Extent of GAF Roofing System work is indicated on the drawings and is further defined by provisions of this section which includes roofing, flashing and reinforcing of joints and junctions, and roof accessories integrally related to roof installation. Areas to be re-roofed include existing metal roofs as indicated on drawings. Final determination of the fitness of the GAF System, or its components, for any given metal roof may be made only by a member of GAFMC Contractor Services Department. This system available to **Master Select or Pride contractors only**.

1.03 SUBMITTALS

Submit copy of GAF's technical product data sheets, installation instructions and samples for each type of required roofing product.

1.04 QUALITY ASSURANCE

- A. **Manufacturer Qualifications:** Provide primary products, including GAF's Roofing Membrane, GAF Flashing Grade, Topester Fabric, etc., by a single manufacturer (GAFMC), which has produced this type of product successfully for not less than twenty (20) years. Provide secondary products only as approved by GAFMC for use with the specified GAF Roofing System.
- B. **Installer Qualifications:** A single Installer or Firm ("Roofer") shall perform all work addressed in this section, and shall be certified by GAFMC for installation of the GAF Roofing System.
- C. **Installer Authorization:** Installer shall possess written authorization from GAFMC, which certifies it is approved for installation of the GAF Roofing System.

1.05 REGULATORY REQUIREMENTS

- A. **FM Listing:** Provide GAF Roofing System and component materials which have been evaluated by Factory Mutual System for flame-spread and are listed in "Factory Mutual Approval Guide" for Class I construction over existing metal roofing (Flame spread must be in accordance with ASTM #E-108). Provide roof covering materials, bearing FM approval marking on package or container, which indicates that material has been subjected to FM's examination, test procedures, follow-up inspection services and approval.
- B. **UL Listing:** Provide GAF Roofing System and component materials which have been evaluated by Underwriters Laboratories for flame-spread, and are listed in "Underwriters Laboratory Roofing Materials and Systems Directory" for Class A construction over existing metal or other non-combustible roofing (Flame-spread must pass ASTM #E-108 with unlimited slope). Provide roof-covering materials, bearing UL approval marking on container, which indicates that material, has been subjected to UL's examination, test procedures and follow-up inspection service.

1.06 INSURANCE CERTIFICATES

Assist owner in preparation and submittal of roof installation acceptance certification as may be necessary in connection with extended coverage insurance on roofing and associated work.

1.07 PRE-INSTALLATION MEETING

Approximately two (2) weeks prior to scheduled commencement of roofing installation and associated work, conduct meeting at the project site with Installer, Architect/Owner, GAF/Topcoat representative and any other persons directly concerned with the performance of the work. The Installer shall record conference discussions to include decisions and agreements reached (or disagreements), and furnish copies of recorded discussions to each attending party. The main purpose of this meeting is to review foreseeable methods and procedures related to roofing work, including but not necessarily limited to the following:

- A. Tour representative areas of roofing substrates to inspect and discuss conditions of substrate, penetrations and other preparatory work to be performed.

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- B. Review GAF Roofing System requirements (GAF Specifications, Detail Drawings and other contract documents).
- C. Review required submittals, both completed and yet to be completed.
- D. Review and finalize construction schedule related to roofing work, and verify availability of materials, Installer's personnel, equipment and facilities needed to consistently make progress and avoid delays.
- E. Review required inspection(s), testing, certifying and material usage accounting procedures.
- F. Review weather and forecasted weather conditions, as well as, procedures for coping with unfavorable conditions including possibility of temporary roofing work.

### 1.08 DELIVERY, STORAGE AND PROTECTION

Store and handle GAF materials in a manner, to ensure there is no possibility of contamination. Store in a dry, well ventilated, weather-tight place at temperatures between 50°F and 80°F until product is ready to be applied (Keep from freezing). Do not stack material pallets more than two (2) high. Do not subject existing roof to unnecessary loading of stockpiled materials. Please note that all GAF water-based products are packaged in plastic containers.

### 1.09 ENVIRONMENTAL CONDITIONS

Proceed with roofing work only when existing and forecasted weather conditions will permit work to be performed in accordance with GAFMC recommendations and guarantee requirements as follows:

- A. Do not begin work if rain is expected within twenty-four hours of application, or if temperatures are expected to fall below 42°F during the duration of the job. (NOTE: SB-900 Flashing Grade and Flexseal can be used in temperatures lower than 42°F. Therefore, they are excluded from this temperature restriction.)
- B. Upper temperature restriction (both air and substrate) for application of GAF products is 120°F. If substrate temperatures exceed 120°F, GAF products should be applied during cooler periods of the day. If this is not practical, the substrate can be cooled with water, and then GAF products applied just after the

water has flashed-off. Do not apply if any moisture is present.

- C. Taking into consideration the UV curing properties of GAF Roofing Membrane and Flashing Grade, allow for sufficient daylight hours necessary for curing of materials.

**CAUTION: Other weather and environmental conditions to consider are mist, dew, condensation and relative humidity. These factors can lengthen GAF drying times. If various GAF products are exposed to rain before they are completely dry, product may "wash-off" the roof.**

### 1.10 SUBSTRATE CONDITIONS

If any questions arise regarding the compatibility of GAF products with an existing substrate, Installer shall prepare test patches to check adhesion (addressed in Part 3 of this specification). Always contact GAFMC's Contractor Services I Department concerning questionable substrates, required additional information and recommended test patch materials.

### 1.11 GUARANTEE

Provide GAF 20 year Diamond Pledge Guarantee per the requirement of the Building Owner and/or Project Architect. In order to obtain a GAFMC 20 year Diamond Pledge System Guarantee, the following conditions apply:

- A. Determination of the appropriateness of the GAF Roofing System for any given metal roof must be obtained from GAFMC's Contractor Services Department prior to offering any GAFMC System Guarantee. **Pre Inspection by a Roof Protection Services representative will be required.** GAFMC will refuse to offer a guarantee on any GAF System installed over an unfit, unsound or inappropriate substrate.
- B. Installer must be a **Master Select or Pride** GAF Contractor. System Guarantee work cannot be sub-contracted to a non-certified applicator.
- C. GAF Roofing System must be applied to the full area of the roof. Minimum acceptable roof size is 100sq. A System Guarantee will not be issued for GAF System installations over a section of a roof unless

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approved in advance by the GAF Contractor Services Department.

- D. Immediately after contract award, Installer shall submit the appropriate section of the GAFMC Notice of Award Form to the Guarantee Services Department. Installer shall provide a copy of the roof drawing, plus a minimum of 6 photographs, which include descriptions of the roof, and all unusual flashing details, with the form along with the preinspection report
- E. Installer shall provide GAFMC Contractor Services Department at least two (2) weeks notice for scheduling of on-site technical support / inspections.
- F. **GAF Roofing Membrane must be spray-applied.** Any installation where GAF Roofing Membrane will be applied by another method must be pre-approved in writing by the GAFMC Contractor Services Department.
- G. All gutters and roof areas which pond water for more than 48 hours after precipitation ceases are excluded from coverage under the GAFMC System Guarantee.

### PART 2 - PRODUCTS

#### 2.01 ACCEPTABLE MANUFACTURERS

GAF Materials Corporation

#### 2.02 MATERIALS - GENERAL

(Note: Drying Times: Listed drying times for various GAF products are directly affected by environmental conditions and thickness of application. Additional drying time must be allowed when experiencing high relative humidity, low temperatures and/or very thick product application to prevent improper curing and/or product "wash-off".)

#### GAF MB Plus:

Water-based, low VOC, sprayable polymeric liquid which cures to form a seamless rubber membrane.

To be applied as a primary coating over all residual asphalt, modified bitumen, BUR, Hypalon, and PVC. Promotes adhesion to asphalt based products as well as resists asphalt bleed thru.

Application Rate: 1.0 to 1.5 gal /  
100 sf per coat  
Application Method: Airless sprayer  
or roller  
Application Temperature (air, surface):  
42° - 120°F  
Drying Time (75°F, 50% RH):  
Approx 24 hrs per coat  
Total Solids (by weight): 65% ± 2%  
Specific Gravity: 1.32 ± 0.1  
Weight per Gallon: 11.0 ± 0.5 lbs.  
Viscosity (75°F): 15,000 ± 2,000 cps  
Tensile Strength: 150 psi  
Elongation: 275%  
Clean-up: Water before curing

#### C. GAF MP-300 Rust Inhibitor:

Light blue-pigmented, water-based rust inhibitor to be applied over any areas of rust that remain on the substrate after pressure washing. Do not apply in temperatures under 42°F.

Application Rate: 1 gal/ 100 sf  
Application Method: Brush or airless  
sprayer  
Application Temperature (air, surface): 42° - 120°F  
Drying Time (75°F, 50% RH):  
Approximately 2 hours  
Total Solids (by weight): 50% ± 1%  
Specific Gravity / Weight per Gallon:  
1.19 / 9.9 lbs  
Viscosity (75°F): 5,000 ± 1,000 cps  
Clean-up: Water before curing

#### E. GAF Flashing Grade (Regular and Spray Formula):

Light-gray, water-based synthetic rubber sealant to be applied on all seams, fasteners, flashings and penetrations. Curing is enhanced by UV exposure. A sprayable version of Flashing Grade (Flashing Grade – Spray Formula) is available for use. Flashing Grade – Spray Formula has all the same properties as regular Flashing Grade, but is lower in viscosity. Do not apply in temperatures under 42°F.

Application Rate: 5 gal total / 125 ft

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(6" width)

Application Method: Brush or caulking gun  
(airless sprayer)

Application Temperature (air, surface):  
42° - 120°F

Drying Time (75°F, 50% RH): Approx 24 hrs

Total Solids (by weight): 68% ± 1%

Specific Gravity / Weight per Gallon: 1.44 / 12.0 lbs

Viscosity – Regular (75°F): 225,000 ± 22,500 cps

Viscosity – Spray Form (75°F): 140,000 ± 14,000 cps

Clean-up: Water before curing

### G. SB-900 Solvent-Based Flashing Grade:

White, solvent-based flashing grade compound designed for use in a wider range of temperatures. This product offers unique flow properties, which allow encapsulation of fasteners with little to no tooling.

Application Rate: 5 gal / 150  
ft. (6" width)

Application Method: Stiff-brush,  
trowel or caulking gun

Application Temperature:  
(air, surface): 20° - 120°F

Drying Time (75°F, 50% RH):  
Approximately 24 hours

Total Solids (by weight): 78.5% ± 1%

Specific Gravity / Weight per Gallon:  
1.26 / 10.5 lbs

Viscosity (75°F): 500,000 ±  
100,000 cps

### H. GAF Topester Reinforcing Fabric:

Non-woven, spun-bonded polyester fabric that must be used in conjunction with Flashing Grade, SB-900 and/or Flexseal at all seams, roof penetrations, joints or changes in plane that have high shear or stress. Use of Topester Fabric is **mandatory** on all horizontal seams and penetrations. Topester Fabric Roll Sizes: 6" x 150', 12" x 150'

### I. GAF Fastener Grade:

Light gray, water-based synthetic elastomeric sealant with unique flow properties designed to encapsulate exposed metal roof fasteners. It offers all of the advantages of GAF/Topcoat Flashing Grade including high UV resistance and water clean up. Do not apply in temperatures under 42°F. Available in 1-qt. caulking tubes for easy dispensing and application.

Application Rate: Approx. 275

fasteners / 1-qt. tube

Application Method: Caulking gun

Application Temperature:  
(air, surface): 42° - 120°F

Drying Time (75°F, 50% RH):  
Approximately 24 hours

Total Solids (by weight): 69% ± 1%

Specific Gravity / Weight per Gallon:  
1.47 / 12.2 lbs

Viscosity (75°F): 60,000 ± 6,000 cps

### K. GAF Roofing Membrane:

Water-based, spray-applied liquid roofing membrane. Curing is enhanced by UV exposure. Available in white, gray, patina green and other standard as well as custom colors. Do not apply in temperatures under 42°F.

Application Rate: 1.0 to 1.5 gal / 100 sf per coat

Application Method: Airless sprayer

Application Temperature (air, surface): 42° - 120°F

Drying Time (75°F, 50% RH): Approximately 24

hours per coat

Total Solids (by weight): 71 ± 3%

Specific Gravity: 1.48 ± 0.06

Weight per Gallon: 12.3 ± 0.5 lbs

Viscosity (75°F): 19,000 ± 3,000 cps

pH: 10.0 ± 1.0

Elongation: 375% ± 25%

Tensile Strength: 275 ± 25 psi

Water Permeability: 0.003 perm inch  
(ASTM E96-80)

Freeze-Thaw Stability: Passes five (5)  
cycles

Low Temperature Flexibility: 35 mil  
dry film will bend 180° @

-30°F without fracturing

Weatherability -1,000 hours Atlas

Weather-o-meter® exposure per ASTM G-26

Tensile Strength: 150% of original

Elongation: 85% of original

2,000 hours Atlas Weather-o-meter®

exposure per ASTM G-26

No cracking, embrittlement, loss of

adhesion or discoloration

6,000 hours QUV® exposure, type

UVB bulb, per ASTM G-53

No cracking, embrittlement, loss of

adhesion or discoloration

### L. GAF SKY-LITE:

Clear, solvent-based synthetic rubber sealer designed to protect and waterproof porous, deteriorated

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fiberglass skylight panels. Also available in a water-based version.

Application Rate: 2 coats at 1 gallon / 100 sf per coat  
Application Method: Roller or brush  
Application Temperature (air, surface): 42° - 120°F  
Drying Time (75°F, 50% RH):  
Approximately 1 hour per coat  
Total Solids (by weight): 40.2% ± 2%  
Specific Gravity / Weight per Gallon:  
0.91 / 7.6 lbs  
Viscosity (75°F): 3,000 ± 400 cps  
Clean-up: Mineral spirits

M. GAF Flexseal (Regular and Low Viscosity – LV):

White, solvent-based synthetic elastomeric compound designed to line and waterproof interior and exterior gutters typically found in metal buildings. FlexSeal is capable of withstanding ponding water. This product is easiest to apply at temperatures over 42°F. A low viscosity version of FlexSeal (FlexSeal LV) is available for use in cold temperatures. FlexSeal LV can also be used on relatively flat metal surfaces because it is self-leveling.

Application Rate: 5 gal / 100 sf  
Application Method: Trowel or stiff-bristle brush  
Application Temperature (air, surface): 20° - 120°F  
Drying Time (75°F, 50% RH): Approximately 24 hours  
Dry Mil Thickness: 50  
Total Solids (by weight): 77% ± 2%  
Specific Gravity / Weight per Gallon:  
1.24 / 10.3 lbs  
Viscosity – Regular (75°F): 500,000 ± 100,000 cps  
Viscosity – LV (75°F): 150,000 ± 15,000 cps

O. Fasteners: EverTite™ self-drilling stitching screws; hex-head, zinc-coated.

P. Airless Sprayer and Accessories:  
As recommended by GAFMC's Contractor Services Department for application of sprayable GAF/Topcoat products



**PART 3 - EXECUTION**

3.01 PREPARATION OF SUBSTRATE

- A. Examine Substrates to receive new roofing. Do not proceed with installation of the GAF Roofing System until unsatisfactory conditions have been corrected in a manner acceptable to the manufacturer (GAFMC).
- B. Preparation of the Roof Substrate is the responsibility of the Installer. Installer shall address and correct all of the following:
- Treatment of excessive gaps
  - Installation of sheet metal crickets
  - Treatment of ponding water areas
  - Repair of dented / damaged panels
  - Re-tightening and replacement of fasteners
  - Thorough cleaning / Removal of existing paints and coatings
  - Treatment of residual asphalt
  - Treatment of rust areas
- C. Treatment of Excessive Gaps: All large or excessive gaps existing between roof panels must be closed or made flush with EverTite™ self-drilling fasteners. **Closed-celled foam strips or polyurethane foam may be used to pre-fill voids larger than 1/4 inch** before applying GAF Flashing Grade. Foam shall be shaped with a utility knife or other method to create a cant strip which facilitates both GAF adhesion and water drainage, as well as, prevents shearing of Topester Fabric on metal edges.
- D. Installation of Sheet Metal Crickets: (Required)  
Sheet metal crickets must be installed according to Manufacturer's specifications (minimum 26 gauge Metal - heavier gauge required for larger crickets) on the high side of all curb units. Vertical ribs shall be cut a minimum of 2" from the cricket to allow both the cricket flanges to mount flush to the metal panel and facilitate water drainage. Cut vertical ribs shall then be treated in the same fashion as a void larger than a 1/4 inch. New crickets shall be "sealed" by placing a continuous bead of GAF Flexseal under the flanges before they are mechanically attached to the curb unit and metal roof panel. The cricket flanges must then be stitch-screwed to the curb unit and metal roof panel while the Flexseal is still wet using EverTite™ fasteners. This procedure shall apply to installation of all new crickets and curbs.
- E. Treatment of Ponding Water Areas: Installer shall make every effort to mechanically eliminate all ponding water areas on the roof prior to application of GAF products ("ponding water" is defined as water which does not properly drain and remains for more than 48 hours after precipitation stops). Ponding water areas, which cannot be eliminated, shall be treated with FlexSeal LV prior to application of other GAF products.
- F. Repair of Dented / Damaged Panels: Installer shall repair dented and/or damaged metal roof panels. Dents shall be mechanically removed to the maximum extent possible. If ribs are broken, Installer shall cover the broken rib area with a sheet metal cap. Sheet metal rib caps must be "sealed" to the roof by applying GAF Flashing Grade over the entire broken rib area to be capped prior to attaching the cap with EverTite™ fasteners. Then, GAF Flashing Grade shall be used to seal all the newly created rib cap seams and fasteners. Should roof panels be severely damaged, Installer shall remove and replace damaged areas prior to application of GAF products.
- G. Re-tightening and Replacement of Fasteners: All fasteners must be re-tightened, secured or replaced, as necessary. All stripped fasteners must be replaced with larger diameter fasteners, and the area re-secured by adding a new fastener next to the one, that was stripped. All missing fasteners must be replaced. In evaluating a roofing substrate for the application of the GAF Titanium Roofing System, it is important to evaluate the manner in which the roof is fastened. The fastening pattern may have to be modified / altered to facilitate the proper installation of the system.
- H. Thorough Cleaning / Removal of Existing Paints and Coatings: Metal substrate must be pressure-washed with water. A minimum working pressure of 3,000 psi shall be used to remove all dirt, dust, previous paints / coatings which are delaminating and waste products (oil, oil-based roof cements, solvents, grease, animal fats, etc.). Roto-spray tip is required to expedite metal panel cleaning. All existing silicone-based sealants must be completely removed from roof substrate prior to application of GAF products. In some cases, a sand injection system may



be required during the pressure washing to obtain proper adhesion for GAF products. When encountering roof substrates that have living organisms such as algae, mold or fungus, a bleach solution shall be used to kill / remove these organisms during the roof cleaning.

- I. Treatment of Residual Asphalt: Installer shall make every effort to remove asphaltic roofing elements. Removal efforts must include use of methods such as pressure-washing, scrapers, wire brushes, electrical drill wire-wheels, or other similar tools. Residual asphalt is defined as asphaltic material remaining after the exercise of all required removal efforts, and exists when there is asphaltic material greater in thickness than 3 mils over an area greater than 1 square foot. Residual asphaltic areas are to be treated with MB+. Apply GAF MB+ at a rate of 1 gal per sq. to the entire asphaltic area to be treated. **Asphaltic area not to exceed 20% of the total roof area.**
- J. Treatment of Rust Areas: All rust areas must be treated with GAF MP-300 to prevent further deterioration of the metal roof panels. Prior to MP-300 application, remove all loose, flaking or powdery rust by wire brushing if it has not been removed during the pressure washing. All rust shall be completely covered by the MP-300. **Roof surface shall have no more than 20% rust to be eligible for the Titanium System warranty**

Miscellaneous Items:

- Neoprene Pipe Boots: GAFMC recommends installation of neoprene boots prior to flashing work being performed for certain types of pipe penetrations. Neoprene boots must first be sealed to the roof using a bead of FlexSeal prior to mechanical attachment with EverTite™ fasteners. Contact GAF's Contractor Services Department for particulars.
- Open Ridge Vents: Open ridge vents (as shown in Detail Drawings) start to corrode on the inside, and over time, begin to leak. GAFMC strongly recommends either replacement or installing sheet metal caps over the open ridge vents when they are rusted on the inside and/or located in a harsh environment (e.g., salt water areas). Also, sheet metal caps shall be installed when leaks are suspected from the vents.

Installation of a cap on the ridge vent will prevent water entry while allowing air to continue to flow through the vent. Do not seal weep holes on the vents. Inadequate roof ventilation may cause blistering in the GAF Roofing System due to inside air "blowing-out" through roof panel seams. When this condition occurs, it may not allow for proper curing of the Flashing Grade material which may cause blisters

- Condensate Lines: GAFMC recommends installation of condensate lines from HVAC units to gutters as part of the overall roofing contract. Type of piping used for condensate lines may vary depending on local building codes. Lines must be securely fastened to panel ribs.

3.02 APPLICATION AND INSPECTION INFORMATION

- A. Preliminary Work / Flashing Details: Preliminary work consists of substrate preparation (addressed earlier in specifications) and all flashing details. After completion of substrate preparation, all flashing details, horizontal seams, penetrations and curbs must be flashed with either 6" or 12" Topester Fabric and GAF Flashing Grade in accordance with GAF Detail Drawings. Flashing Grade must be feathered at the edges so that water can easily flow over the various flashing details. Additional flashing requirements are as follows (see also current GAF Detail Drawings):
1. Fasteners: All fasteners must be totally encapsulated in GAF Fastener Grade, Flashing Grade or SB-900. In some cases, brushing may be required to obtain the proper feathering around fasteners. For fasteners found in the field of the roof (i.e., not at seams or roof penetrations), GAFMC recommends use of SB-900 for colder climates, and Fastener Grade for warmer / hot climates.
  2. Gutter Straps: All gutter straps that are fastened above roof panels must be totally encapsulated with GAF Flashing Grade, including the fasteners.
  3. Vertical Seams:
    - a. Ribbed: All ribbed panel vertical seams must be sealed with GAF Flashing Grade. Feather Flashing Grade until seam is no longer visible while brushing in the direction parallel to the seam.
    - b. Standing Seam: All standing vertical seams must be sealed with a 1/2" bead of GAF Flashing Grade.



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Feather Flashing Grade until seam is no longer visible while brushing in the direction parallel to the seam. (NOTE: This does not apply to inverted "J" standing seams – see below for details on this type of seam) Contact GAFMC's Contractor Services Department for details on specific standing seam panels.

- c. Standing "T" Seam: Both vertical seams of the standing "T" must be flashed with a ½" bead of GAF Flashing Grade brushed into the seams.
- d. Inverted "J" Seam: In snowy climates and/or when roof leaks are suspected from this type of vertical seam, GAF requires re-crimping the short leg of the seam all the way under the horizontal portion of the inverted "J" seam. Then brush or trowel apply GAF Flashing Grade over the newly created single lock vertical seam. Portable seamers can be purchased or leased to do the re-crimping.
- e. Corrugated: All corrugated panel vertical seams must be sealed with GAF Flashing Grade. Feather Flashing Grade until seam is no longer visible while brushing in the direction parallel to the seam.
- f. Batten: Both vertical seams of the batten must be flashed with a ½" bead of GAF Flashing Grade. Feather Flashing Grade until seam is no longer visible while brushing in the direction parallel to the seam.
4. Horizontal Seams: All horizontal seams must be reinforced with at least a 6" wide layer of GAF Flashing Grade, one (1) layer of Topester Fabric and then a final layer of GAF Flashing Grade to completely encapsulate the Fabric. Flashing Grade must be feathered at least 1" beyond each side of the 6" width to allow water to flow over the seam. Topester Fabric must be cut around all fasteners so it lies flat. For ribbed roof panels, the Topester Fabric must be applied over panel ribs in continuous lengths. A minimum 2" overlap is required for all splices in Topester Fabric. (NOTE: Topester Fabric is not required for horizontal seams on corrugated roofing panels. Horizontal seams must be secured with EverTite™ fasteners on the high side of every other corrugation spaced no more than 6" on center.)
5. Cinch Straps at Panel Endlaps: Re-tighten cinch straps, as necessary. Surround each strap and fastener head with a bead of SB-900 or FlexSeal. Fully inject SB-900 or FlexSeal into the cinch strap water channel to displace all air and moisture within the channel. Then seal the entire lap, strap and fastener heads with a minimum 6" width of SB-900 or FlexSeal. Feather the SB-900 or FlexSeal to prevent ponding water at the high side of the lap. Use of Topester Fabric is not required for cinch straps at panel endlaps.
6. Ridge Caps: Except as noted, all ridge caps must be flashed with a 6" or 12" width of Topester Fabric and GAF Flashing Grade. All voids and open areas in ridge cap must be filled with polyurethane foam prior to application of Topester Fabric and Flashing Grade. (NOTE: In the case of metal "Z" closures which are located within 2" of the ridge cap edge, remove all exposed existing sealant and apply a liberal bead of GAF Flashing Grade to all sides of the "Z" closure where they intersect with both the roof panel and ridgecap.)
7. Rakes: All fixed rake details for the roof must be secured and sealed with a 6" minimum width of GAF Flashing Grade and Topester Fabric. If fixed rake metal is fastened to top of roof panel rib and extends back onto roof, trim off excess metal and follow horizontal seam flashing procedures. All voids and open areas must be filled with polyurethane foam prior to application of Topester Fabric and Flashing Grade. For standing seam roof panels, contact GAFMC's Contractor Services Department for particulars.
8. Parapet Walls: All parapet wall details for the roof must be secured and sealed with a 6" minimum width of GAF Flashing Grade and Topester Fabric. If parapet wall flashing metal is fastened to top of roof panel rib and extends back onto roof, trim off excess metal and follow horizontal seam flashing procedures. All voids and open areas must be filled with polyurethane foam prior to application of Topester Fabric and Flashing Grade. For standing seam roof panels, contact GAFMC's Contractor Services Department for particulars.
9. Curb Flashings: All curb flashings, including cricket details, must be flashed with at least a 6" width of Topester Fabric and Flashing Grade. Encapsulate all fasteners using GAF Flashing Grade. Do not bridge fasteners. Topester must be cut around all fasteners so Fabric lies flat.
10. Penetrations: GAF Flashing Grade shall be applied around base of unit extending at least 4" on vertical and 4" on base. Embed 6" width of Topester Fabric using additional Flashing Grade, as necessary. Cut Topester Fabric to accommodate the shape of the penetration. Both the top and bottom of neoprene

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pipe boots shall be flashed using GAF Flashing Grade and Topester Fabric as described above.

11. Skylights: Curb skylights shall be treated in the same fashion as Curb Flashings. The entire perimeter of flush-mounted skylights must be flashed with a minimum 6" width of GAF Flashing Grade and Topester Fabric. All exposed skylight fasteners shall be encapsulated with GAF Flashing Grade. Do not bridge fasteners. Topester must be cut around all fasteners so Fabric lies flat. After flashing work has been completed and Flashing Grade has cured, treat deteriorated fiberglass skylight panels with GAF SKY-LITE material.
12. Gutters: Trowel / brush apply FlexSeal to the interior or exterior gutter incorporating 6" Topester Fabric at all gutter seams. Ensure gutter is completely clean and dry before applying FlexSeal.
13. Ponding Water Areas:  
Contact the GAFMC Contractor Services Department for particulars.

**Inspection of Preliminary Work / Flashing Details by a Roof Protection Services Inspector for problem areas (e.g., gaps, cracks, fishmouths, air pockets, etc.) to ensure that work is complete and satisfactory.**

Titanium System:

1. Spray-Apply Base Coat (gray) of GAF Roofing Membrane at the rate of 1.50 gal per 100 square feet. Base coat shall be applied parallel to the ribs of roof panels. Allow at least 24 hours drying time, then inspect the base coat for defects, flaws or holidays. Correct any unsatisfactory conditions.
2. Spray-Apply Intermediate Coat (white) of GAF Roofing Membrane at the rate of 1.50 gal per 100 square feet. Intermediate coat shall be applied parallel to the ribs of the roof panels. It should not be applied unless the base coat is clean and will provide proper adhesion. Allow a minimum of 24 hours drying time prior to allowing foot traffic or inspection of roof surface.
3. Spray-Apply Final Coat (white) of GAF Roofing Membrane at the rate of 1.50 gal per 100 square feet. Finish coat shall be applied parallel to the ribs of the roof panels. It should

not be applied unless the intermediate coat is clean and will provide proper adhesion. Allow a minimum of 24 hours drying time prior to allowing foot traffic or inspection of roof surface.

After at Least 24 Hours Has Elapsed, inspect the final roof surface for flaws, holidays, insufficient thickness, etc. Specified GAF Titanium System dry membrane thicknesses are 42 mils field and 90 mils on seams and flashing details. At completion of all work, seams should not be visible on the roof. All unsatisfactory areas must be repaired.

4. Inform Project Architect and GAF Warranty Department when all preliminary work and flashing details will be complete and the Installer is ready to proceed with application of GAF Roofing Membrane. Allow a minimum of two (2) weeks for the interim inspection.

Any final roofing installation prior to this interim inspection is subject to rejection by the Project Architect and/or the GAFMC. Please be advised that Technical On-Site Support for instructing Certified Contractors in the proper application of the GAF Roofing System is available. The first day of instruction is at no-charge to the Certified Contractor.

### 3.03 OTHER ITEMS

- A. Installer shall take photographs of representative roof areas, including detail work, at the following intervals (minimum):
  - Before work commences
  - After roof has been thoroughly cleaned and prepared for application of GAF Roofing System products
  - After all flashing and detail work has been performed
  - After spray application of GAF Roofing Membrane
- B. Installer shall provide the following support for on-site inspections by a representative from GAFMC's Contractor Services Department (list is not comprehensive):
  - Representative from Installer's company who has authority to make binding decisions
  - Required means to access all areas of the treated roof (e.g., various ladders)
  - Previous photographs of the roof including test patch results, as applicable
  - GAF products and application equipment required to repair roof areas where destructive tests are to be

## *Topcoat Titanium Metal Specifications*



performed by the GAFMC's Contractor Services Department

- C. Special care must be taken to avoid shading when spraying dark GAF Roofing Membrane colors. When applying a dark membrane color, Installer must be very careful to always spray wet material onto wet material so that spray lines do not appear. GAF strongly recommends installation of any dark-colored finish coat by spraying two lighter coats (instead of one heavy coat) using a smaller orifice spray tip. Installer should also use the roof ribs or standing seams to terminate each spray pass.
- D. Installer shall take special care when moving spray hoses and other equipment on the roof so that flashing work and encapsulated fastener heads are not damaged. Also, all spray equipment shall remain on the ground for the duration of the job.
- E. If there will be an extended period of time (6 months or greater) between applications of base and finish coats, recommend use of GAF white for the base coat (versus gray). Also, base coat must be thoroughly cleaned before application of the finish coat.
- F. It is strongly recommended that walkways designed for metal roofing systems be installed in all high traffic areas. Contact the GAFMC's Contractor Services Department for recommendations.