

TOPCOAT® Liquid-Applied Roofing Systems

TOPCOAT® System Specifications – Sprayed Polyurethane Foam (TOPGN160)

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

TOPCOAT® System Specifications – Sprayed Polyurethane Foam



PART 1 – GENERAL

1.01 SYSTEM DESCRIPTION

The TOPCOAT® Roofing System can be applied on sprayed urethane foam roof. This section addresses unique aspects for this type of installation. Unless otherwise specified in this section, GAF standard specifications and detail drawings shall be used for installations on urethane foam.

1.02 SUBSTRATE CONDITIONS

- A. The TOPCOAT® Roofing System is to be applied over dry, sound urethane foam only with a minimum slope of 1/2:12. Substrate should not pond water for a period longer than 48 hours after precipitation stops.
- B. Test patches shall be prepared in representative roof areas to check TOPCOAT® adhesion before application on any urethane foam roof. TOPCOAT® products will not adhere to existing silicone-based coatings over urethane foam.
- C. **The bonding surface must be free of ponding water, ice, snow, and splits.**
- D. GAF requires that a moisture scan be done by an independent source and requires it prior to issuance of GAF's limited warranty.
- E. If the moisture scan reveals more than 20% of the roof area is wet, consider other reroofing options.
- F. The TOPCOAT® Roofing System should not be used on heavy-traffic bearing substrates. If foot traffic is expected, a rooftop walkway system approved by GAF must be used.

1.03 WARRANTY

Provide Weather Stopper® Integrated System Limited Warranty* per the requirement of the Building Owner and/or Project Architect for the TOPCOAT® products installed in accordance with these specifications. Should a question arise as to the appropriateness of the TOPCOAT® Roofing System for any given polyurethane foam roof, please contact GAF's Technical Services Department.

** See limited warranty for complete coverage and restrictions.*

PART 2 – PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

GAF

2.02 MATERIALS - GENERAL

Note Drying Times: Listed drying times for various TOPCOAT® products are directly affected by environmental conditions and thickness of application. Allow additional drying time when experiencing high relative humidity, low temperatures, and/or very thick product application to prevent improper curing and/or product “wash-off.”

A. TOPCOAT® Flashing Grade

TOPCOAT® Flashing Grade is a light gray, water-based, 100% acrylic synthetic rubber sealant that is applied to seams, fasteners, flashings, and penetrations prior to the application of the TOPCOAT® Membrane. Like the TOPCOAT® Membrane, it has superior adhesion, flexibility, and resistance to ultraviolet degradation. Do not apply at temperatures below 42°F. Substrate temperatures must be below 120°F when applying product.

Application Rate (seams):	5 gallons/125 ft. (6" width)
Application Method:	Brush or caulking gun
Application Temp (air, surface):	42° - 120°F
Drying Time (75°F, 50% RH):	Approximately 24 hours
Recommended Wet Mil Thickness:	105 wet mils
Recommended Dry Mil Thickness:	60 dry mils
Total Solids (by weight):	68% ± 1%
Total Solids (by volume):	56% ± 2%
Specific Gravity:	1.44 ± 0.1
Tensile:	225 psi ± 10%
Weight per Gallon:	12.0 ± 0.5 lbs
Viscosity (75°F):	225,000 ± 22,500 cps
Clean-Up:	Water before curing

B. TOPCOAT® Flashing Fabric

TOPCOAT® Flashing Fabric is a stitchbond polyester that must be used in conjunction with TOPCOAT® Flashing Grade or FlexSeal™ at all penetrations, joints, or changes in plane that are subjected to high shear or stress.

Average Weight (ounces per square yard) :	3.4
Average Tensile Strength per ASTM D5034:	74 lbs
Average Elongation at Break per ASTM D5034:	21.3%
Trapezoidal Tear Strength per ASTM D117:	13.5 lbs
Thickness per ASTM D1777:	.018

C. TOPCOAT® Membrane

TOPCOAT® Membrane is a water-based, 100% acrylic spray-applied liquid that cures to form a seamless elastomeric roofing membrane specially designed to seal the entire roof. TOPCOAT® Membrane (white only) is an ENERGY STAR® qualified reflective product, which will help in reducing building temperatures. Meets the stringent standards set by the Cool Roof Rating CouncilSM for solar reflectance and thermal emittance (white only). It offers high tensile strength and elongation, and is virtually undamaged by extended exposure to solar ultraviolet energy. Ultraviolet rays enhance curing. It is low in VOC, non-flammable, and presents minimal hazard to the applicator and the environment. It is available in white (for maximum reflectivity) and 15 standard colors. Custom tinting is available upon request. Do not apply at temperatures below 42°F. Substrate temperatures must be below 120°F when applying product.

Application Rate:	1.0 to 3.0 gallons/100 sq. ft. total
Application Method:	Airless sprayer
Application Temp (air, surface):	42° - 120°F
Drying Time (75°F, 50% RH):	Approximately 24 hours per coat
Wet Mil Thickness:	(1.0 Gallon/100SF) - 16 wet mils
Dry Mil Thickness:	(1.0 Gallon/100SF) - 9 - 10 dry mils
Total Solids (by weight):	71% ± 3%
Total Solids (by volume):	58% ± 2%
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:	5.28 perm inch (ASTM D1653)
Freeze-Thaw Stability:	Passes five cycles
Low Temp Flexibility:	35 mil dry film will bend 180° @ -30°F without fracturing



Weatherability :

- 1,000 hours Atlas Weather-o-meter® exposure per ASTM D412, ASTM G26.
- 1,500 hours Atlas Weather-o-meter® exposure per ASTM D412, ASTM G26. No cracking, embrittlement, loss of adhesion, or discoloration.
- 2,000 hours UV exposure, type UV bulb, per ASTM G53. No cracking, embrittlement, loss of adhesion, or discoloration.

Tensile Strength:

150% of original

Elongation:

85% of original

Clean-Up:

Water and mild soap

PART 3 – EXECUTION

3.01 PREPARATION OF SUBSTRATE

- Examine substrate to receive new roofing. Do not proceed with new roofing until adhesion has been verified by test patches and other preparatory work has been completed or until unsatisfactory conditions have been corrected in a manner acceptable to GAF.
- Pressure Washing: Substrate must be pressure-washed with water. A minimum working pressure of 2,000 psi is to be used to remove all dirt, dust, chalking and waste products (oil, oil-based roof cements, solvents, grease, animal fats, etc.).
- Treatment of Deteriorated Foam: All areas where the urethane foam has degraded must be refoamed to bring the substrate to a smooth, workable surface. Any areas where foam has become wet must be removed and refoamed.
- Substrate must be clean, dry, and free of any debris before application of TOPCOAT® products.

3.02 APPLICATION

- All penetration areas and splits must be treated with a 6" wide area of TOPCOAT® Flashing Grade, one layer of TOPCOAT® Flashing Fabric, and a final layer of Flashing Grade to completely embed the Fabric. Feather the Flashing Grade onto the existing urethane foam substrate.
- After at least 24 hours drying time, inspect preparatory/flashing work for problem areas (i.e., gaps, cracks, fishmouths, air pockets, etc.) to ensure that work is complete and satisfactory. Repair any deficiencies using TOPCOAT® Flashing Grade and TOPCOAT® Flashing Fabric, as required.
- Coating Applications:
 - For new urethane foam roofs or foam roofs where the existing coating is in relatively good condition:
 - Spray-apply base coat (White) of TOPCOAT® Membrane at a rate of 1.25 gallon per 100 sq. ft. Allow at least 24 hours drying time and inspect the base coat for defects, flaws or gaps. Correct any unsatisfactory conditions prior to proceeding.
 - Spray-apply finish coat (White) of TOPCOAT® Membrane at a rate of 1.75 gallon per 100 sq. ft. Finish coat should not be applied unless the base coat is clean and dry and will provide proper adhesion.
 - Allow at least 24 hours drying time prior to allowing foot traffic or inspection of the roof. After 24 hours have elapsed, inspect the final roof surface for flaws, gaps, insufficient thickness, etc., and repair any unsatisfactory conditions. Specified membrane thicknesses are minimum 28–30 mils field and 80 mils on penetration details.

For application questions, please contact GAF Technical Services at 1-800-766-3411.

Note: Repair leaks promptly to avoid adverse effects, including mold growth.