



3911 W Newberry Road
Gainesville, Florida 32607

p: 352.363.6070
f: 352.363.6071

scorpioco.com

Submittal

JOB NAME: Lake County Fire Station Wind Mitigation **DATE:** 12/22/2025

OWNER/ARCHITECT JOB#: 25-923 **SCORPIO JOB #:** 25061

SPEC SECTION: Thermoplastic Membrane Roofing **SPEC NUMBER:** 07 54 00 **REV:** 0

SUBCONTRACTOR/VENDOR: Collis Roofing

SUPPLIER: See Submittal

| CONTRACTOR COMMENTS: | CONTRACTOR'S STAMP: |
|---|---|
| TPO Roof product data sheets. | <div style="border: 2px solid black; padding: 10px;"> <p style="text-align: center;">SHOP DRAWINGS / SUBMITTAL REVIEW</p> <p style="font-size: 8px;">SUBMITTAL WAS REVIEWED FOR DESIGN AND GENERAL CONFORMANCE TO CONTRACT DOCUMENTS ONLY. THE SUBMITTING CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING DIMENSIONS AT THE JOB SITE FOR TOLERANCES, CLEARANCES, QUANTITIES, FABRICATION PROCESS AND TECHNIQUE OF CONSTRUCTION, COORDINATION OF HIS WORK WITH OTHER TRADES AND FULL COMPLIANCE WITH CONTRACT DOCUMENTS.</p> <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="font-size: 10px;"> <p>Scorpio.</p> <p>3911 W. University Ave. Gainesville, FL 32607 f: 352.363.6070</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;"><input checked="" type="checkbox"/> REVIEWED</div> <div style="text-align: center;"><input type="checkbox"/> REVIEWED W/ CHANGES</div> <div style="text-align: center;"><input type="checkbox"/> REVISE AND RESUBMIT</div> <div style="text-align: center;"><input type="checkbox"/> REJECTED</div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <p>BY Ana Palm</p> <p>DATE 12/22/25</p> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <p>SUBMITTAL# 7</p> <p>SPEC 07 54 00</p> </div> </div> |
| ARCHITECT COMMENTS: | ARCHITECT'S STAMP: |
| Install per manufacturer recommendations. | <div style="border: 1px solid red; padding: 5px; font-size: 8px;"> <p> <input type="checkbox"/> Reviewed – No Comments <input checked="" type="checkbox"/> Reviewed – See Comments <input type="checkbox"/> Revise and Resubmit <input type="checkbox"/> Rejected – Re-Submittal Required </p> <p style="font-size: 7px;">This review is only for general conformance with the design concept of the project and general compliance with the information give in the Contract Documents. Quantities and exact dimensions are the responsibility of the contractor and/or subcontractor. This review does not affect the requirements of any contract, nor imply any approval of construction methods and/or safety requirements. This review does not authorize a change in contract value.</p> <p>Forefront Architecture & Engineering, LLC FL License No. AR10253B FL License No. CA30900 Signature Date 1/7/26 Project 25-10518 Fire Station Hazard Mitigation</p> </div> |
| ENGINEER COMMENTS: | ENGINEER'S STAMP: |
| | |

Lake County Fire Stations

Wind Mitigation

Lake County, FL



TPO Membrane Roof Submittal

Fire Station 70: 531 Sunnyside Drive, Leesburg, FL 34748
Fire Station 72: 12340 County Road 44, Leesburg, FL 34788

Architect

Forefront Architecture & Engineering
1230 Oakley Seaver Drive, Suite 100

General Contractor

Scorpio
151 Southhall Ln, Suite 170
Maitland, FL 32751

Roofing Contractor



485 Commerce Way
Longwood, FL 32750



We
protect
what
matters
most™

December 1, 2025

Collis Roofing Inc
485 Commerce Way
Longwood, Florida 32750

Subject: System Certification

Project: Lake County Fire Station #70 – REV
531 Sunnyside Drive
Leesburg, FL 34748

Project Identifier: PD-00068720

To Whom It May Concern:

Please allow this letter to confirm that the contractor listed above is a GAF CoatingsPro and PlatinumElite Roofing Contractor for Restoration, Asphaltic and Single-ply Roofing Systems and is eligible to obtain the guarantee listed below.

The GAF roofing specification as listed below is eligible to obtain a 20 year EverGuard® Diamond Pledge™ NDL Roof Guarantee provided all current GAF application requirements are followed and guarantee procedures are met.

TFARN60FB - LWIC over Structural Concrete Deck (Aged) Granulated Asphaltic

- A moisture survey is strongly recommended, and in some circumstances, required to identify all wet areas. Take test cuts to verify existing roof construction and condition.
- Remove any loose gravel, dirt and debris from the existing surface.
- Inspect existing insulation and remove and replace any materials that are damaged or contain moisture. Remove all existing flashing materials.
- Existing materials and any unforeseen issues are excluded from the GAF Guarantee.
- Where insulation or roof membrane is to be adhered directly to the existing roof, an adhesion test is required to ensure substrate and adhesion quality.
- Moisture content of the lightweight concrete must be less than 15%. Any issues caused by a moisture content in excess of 15% are excluded from the guarantee.
- Adhesion tests are required where any new components are to be installed in low rise foam.

EverGuard® TPO Fleece-Back Membrane: Install EverGuard® TPO Fleece-Back Membrane 60 mil using OlyBond500 Canisters™ in a “spatter” pattern and rolled in with a 150 lb. weighted roller, in accordance with GAF application requirements.

The above listed system provides -337.5psf (675psf) of uplift resistance in the field of the roof when installed in accordance with NEMO, ETC., LLC Evaluation Report PEER-GAF-009.A.R69 for FL5293-R68 (NON-HVHZ) (R-496).

The above listed roofing system is based on GAF guarantee requirements and is not intended to modify, negate, or alter any requirements specified by the design professional, local building codes, or others.

If you have any further questions, please contact us at 877-423-7663 (Option 4, Option 3). Thank you for choosing GAF.

Sincerely,

Brittany Sanchez

Brittany Sanchez
Design Services Specialist

Design Services



Lake County Fire Station #70 – REV
531 Sunnyside Drive
Leesburg, FL 34748
SPECIFICATION: TFARN60FB

| COMPONENT | TYPE | REQUIRED | ATTACHMENT | RATE OF APPLICATION |
|---------------------|--|---|-----------------------------------|---|
| DECK | LWIC over Structural Concrete | Suitable Thickness | Per Code | N/A |
| EXISTING SUBSTRATE | (Aged) Granulated Asphaltic | Prepare existing substrate as defined below | | |
| SINGLE PLY MEMBRANE | EverGuard® TPO Fleece-Back Membrane 60 mil White ASTM D6878 Size: 10ft SRI: 94 | 1 ply | OlyBond500 Canisters™ | Applied in a “spatter” pattern and rolled in with a 150 lb. weighted roller, in accordance with GAF application requirements. Adhesion test is required to ensure substrate and attachment quality. |
| FLASHING MEMBRANE | EverGuard® TPO 60 mil White ASTM D6878 SRI: 94 | 1 ply | EverGuard™ #1121 Bonding Adhesive | 50-70 sq ft of installed membrane per gallon. Adhesive is applied to both substrate surface and the underside of the membrane. Maximum flashing height is 66". A separate counterflashing is required for guarantees over 20 years. |
| GUARANTEE | EverGuard® Diamond Pledge™ NDL Roof Guarantee | 20 year | | Guarantee fee applicable |

Applicable Codes and Testing Information

| Agency | VALUE | REPORT # | PAGE # | SYSTEM # |
|--------|--------------------|--|------------|----------|
| FBC | -337.5psf (675psf) | PEER-GAF-009.A.R69 for FL5293-R68 (NON-HVHZ) | 205 of 205 | R-496 |

Requirements above are subject to change. Always review the appropriate Application & Specification Manual to confirm that the requirements provided above are current, and to obtain additional information that is important for a successful installation. This Cut Spec specification shall not waive, supersede or alter the requirements and recommendations found in the most current Application & Specification Manual(s), printed technical bulletins or specific correspondence drafted for this project by Field Services, Design Services, or Technical Services Manager. Application & Specification Manuals and specimen copies of guarantee/warranty documents are available at www.gaf.com.
Note: Your Field Services or Technical Services Managers are the only employees who can approve any deviation from GAF's published specification manual(s).

Each roof has unique requirements. This specification is a representation of products and their installation. To properly assess specific roofing needs, code compliance, system configurations, and warranty eligibility, contact Design Services. The above listed roofing system is based on GAF guarantee requirements and is not intended to modify, negate or alter any requirements specified by the design professional or others. Fastener pullout testing should be performed to ensure acceptable attachment into substrate. Adhesion testing is required prior to guarantee registration to ensure foam adhesive will bond to a given substrate. Any wet or damaged existing decking must be removed and replaced prior to re-roofing.

This system shall be installed by a GAF PlatinumElite™ Commercial Contractor.

All GAF and EverGuard™ accessories shall be used where applicable.

Prepare substrate in accordance with GAF requirements, including but not limited to, removal and replacement of wet or damaged materials/insulation, and removal of existing flashing materials. Sweep and remove all loose gravel and clean debris from roof surface. Re-secure any existing insulation as required. Any existing single ply membrane must be cut into 10' x 10' sections. Moisture survey is recommended and in some circumstances required. If new roofing is to be adhered to any coated surface, it must be power washed to remove loose and delaminating materials. Every effort must be made to remove existing coatings as part of the cleaning process and silicone based coatings MUST be removed completely. Adhesion failures due to existing coatings are not covered by the GAF Guarantee, so it is important to test adhesion prior to proceeding with installation of new materials. Existing materials are excluded from the GAF Guarantee.

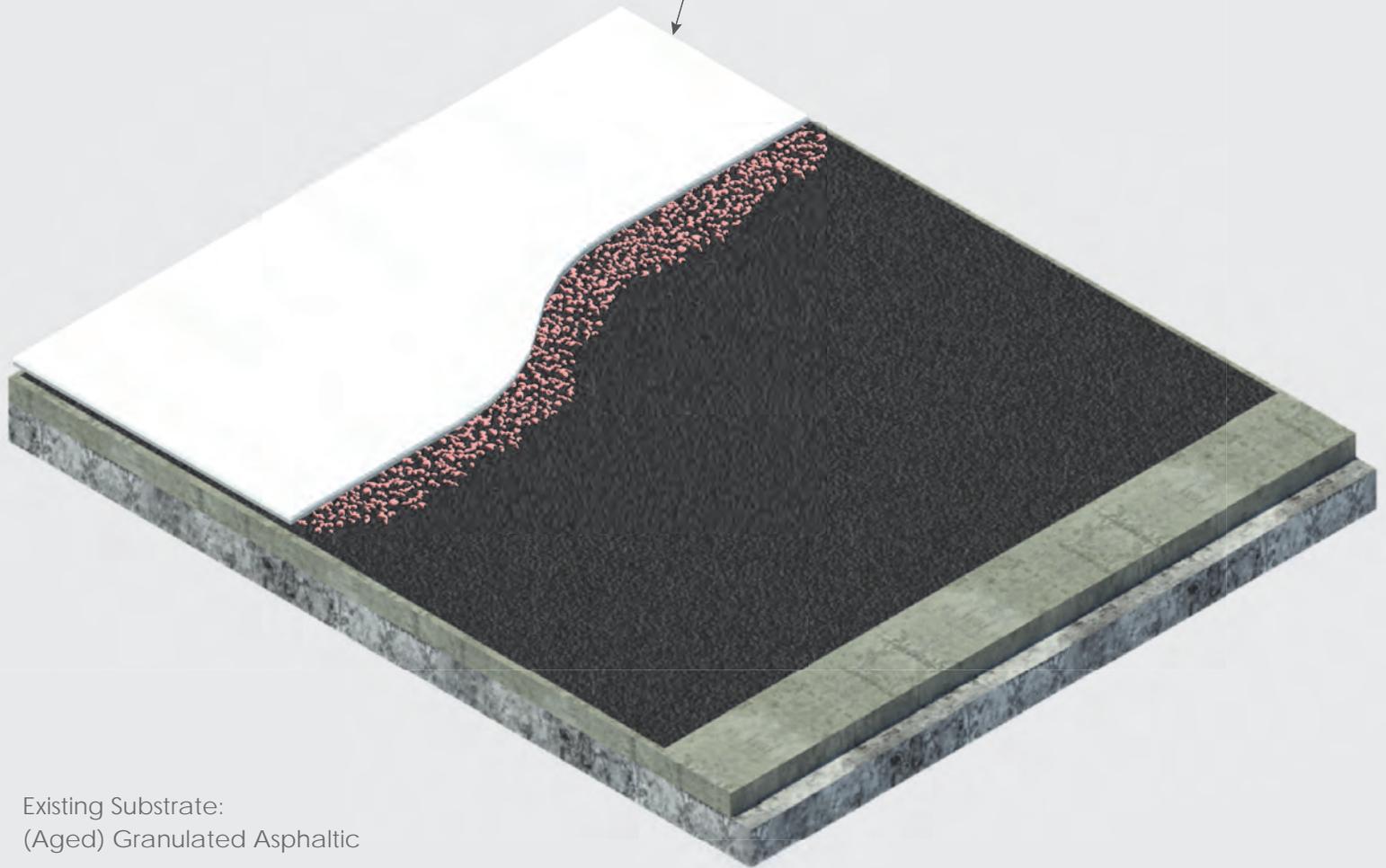
Moisture content of the lightweight concrete must be less than 15%. Any issues caused by a moisture content in excess of 15% are excluded from the guarantee.

Lake County Fire Station #70 - Leesburg, FL



SPECIFICATION # T- FA - R - N - 60FB

EverGuard® Fleece-back TPO 60 mil Membrane, ASTM D6878
Adhered with OLYBOND500 Canisters™, in Spatter Pattern



Existing Substrate:
(Aged) Granulated Asphaltic

Deck Type: LWIC over Structural Concrete

Drawing not to scale - The images shown are for illustration purposes only and may not be an exact representation of the products

Membrane: EverGuard® Fleece-back TPO 60 mil Membrane
Membrane Attachment: OLYBOND500 Canisters™ (Spatter)
Separation Layer: N/A
Cover Board: N/A
Cover Board Attachment: N/A
Existing Substrate: (Aged) Granulated Asphaltic
Deck Type: LWIC over Structural Concrete
Construction Type: Recover



We
protect
what
matters
most™

December 1, 2025

Collis Roofing Inc
485 Commerce Way
Longwood, Florida 32750

Subject: System Certification

Project: Lake County Fire Station #72 – REV
12340 County Road 44
Leesburg, FL 34788

Project Identifier: PD-00068716

To Whom It May Concern:

Please allow this letter to confirm that the contractor listed above is a GAF CoatingsPro and PlatinumElite Roofing Contractor for Restoration, Asphaltic and Single-ply Roofing Systems and is eligible to obtain the guarantee listed below.

The GAF roofing specification as listed below is eligible to obtain a 20 year EverGuard® Diamond Pledge™ NDL Roof Guarantee provided all current GAF application requirements are followed and guarantee procedures are met.

TFARN60FB - LWIC over Structural Concrete Deck (Aged) Granulated Asphaltic

- A moisture survey is strongly recommended, and in some circumstances, required to identify all wet areas. Take test cuts to verify existing roof construction and condition.
- Remove any loose gravel, dirt and debris from the existing surface.
- Inspect existing insulation and remove and replace any materials that are damaged or contain moisture. Remove all existing flashing materials.
- Existing materials and any unforeseen issues are excluded from the GAF Guarantee.
- Where insulation or roof membrane is to be adhered directly to the existing roof, an adhesion test is required to ensure substrate and adhesion quality.
- Moisture content of the lightweight concrete must be less than 15%. Any issues caused by a moisture content in excess of 15% are excluded from the guarantee.
- Adhesion tests are required where any new components are to be installed in low rise foam.

EverGuard® TPO Fleece-Back Membrane: Install EverGuard® TPO Fleece-Back Membrane 60 mil using OlyBond500 Canisters™ in a "spatter" pattern and rolled in with a 150 lb. weighted roller, in accordance with GAF application requirements.

The above listed system provides -337.5psf (675psf) of uplift resistance in the field of the roof when installed in accordance with NEMO, ETC., LLC Evaluation Report PEER-GAF-009.A.R69 for FL5293-R68 (NON-HVHZ) (R-496).

The above listed roofing system is based on GAF guarantee requirements and is not intended to modify, negate, or alter any requirements specified by the design professional, local building codes, or others.

If you have any further questions, please contact us at 877-423-7663 (Option 4, Option 3). Thank you for choosing GAF.

Sincerely,

Brittany Sanchez

Brittany Sanchez
Design Services Specialist



Lake County Fire Station #72 – REV
12340 County Road 44
Leesburg, FL 34788
SPECIFICATION: TFARN60FB

| COMPONENT | TYPE | REQUIRED | ATTACHMENT | RATE OF APPLICATION |
|---------------------|--|---|-----------------------------------|---|
| DECK | LWIC over Structural Concrete | Suitable Thickness | Per Code | N/A |
| EXISTING SUBSTRATE | (Aged) Granulated Asphaltic | Prepare existing substrate as defined below | | |
| SINGLE PLY MEMBRANE | EverGuard® TPO Fleece-Back Membrane 60 mil White ASTM D6878 Size: 10ft SRI: 94 | 1 ply | OlyBond500 Canisters™ | Applied in a “spatter” pattern and rolled in with a 150 lb. weighted roller, in accordance with GAF application requirements. Adhesion test is required to ensure substrate and attachment quality. |
| FLASHING MEMBRANE | EverGuard® TPO 60 mil White ASTM D6878 SRI: 94 | 1 ply | EverGuard™ #1121 Bonding Adhesive | 50-70 sq ft of installed membrane per gallon. Adhesive is applied to both substrate surface and the underside of the membrane. Maximum flashing height is 66". A separate counterflashing is required for guarantees over 20 years. |
| GUARANTEE | EverGuard® Diamond Pledge™ NDL Roof Guarantee | 20 year | | Guarantee fee applicable |

Applicable Codes and Testing Information

| Agency | VALUE | REPORT # | PAGE # | SYSTEM # |
|--------|--------------------|--|------------|----------|
| FBC | -337.5psf (675psf) | PEER-GAF-009.A.R69 for FL5293-R68 (NON-HVHZ) | 205 of 205 | R-496 |

Requirements above are subject to change. Always review the appropriate Application & Specification Manual to confirm that the requirements provided above are current, and to obtain additional information that is important for a successful installation. This Cut Spec specification shall not waive, supersede or alter the requirements and recommendations found in the most current Application & Specification Manual(s), printed technical bulletins or specific correspondence drafted for this project by Field Services, Design Services, or Technical Services Manager. Application & Specification Manuals and specimen copies of guarantee/warranty documents are available at www.gaf.com.

Note: Your Field Services or Technical Services Managers are the only employees who can approve any deviation from GAF's published specification manual(s).

Each roof has unique requirements. This specification is a representation of products and their installation. To properly assess specific roofing needs, code compliance, system configurations, and warranty eligibility, contact Design Services. The above listed roofing system is based on GAF guarantee requirements and is not intended to modify, negate or alter any requirements specified by the design professional or others. Fastener pullout testing should be performed to ensure acceptable attachment into substrate. Adhesion testing is required prior to guarantee registration to ensure foam adhesive will bond to a given substrate. Any wet or damaged existing decking must be removed and replaced prior to re-roofing.

This system shall be installed by a GAF PlatinumElite™ Commercial Contractor.

All GAF and EverGuard™ accessories shall be used where applicable.

Prepare substrate in accordance with GAF requirements, including but not limited to, removal and replacement of wet or damaged materials/insulation, and removal of existing flashing materials. Sweep and remove all loose gravel and clean debris from roof surface. Re-secure any existing insulation as required. Any existing single ply membrane must be cut into 10' x 10' sections. Moisture survey is recommended and in some circumstances required. If new roofing is to be adhered to any coated surface, it must be power washed to remove loose and delaminating materials. Every effort must be made to remove existing coatings as part of the cleaning process and silicone based coatings MUST be removed completely. Adhesion failures due to existing coatings are not covered by the GAF Guarantee, so it is important to test adhesion prior to proceeding with installation of new materials. Existing materials are excluded from the GAF Guarantee.

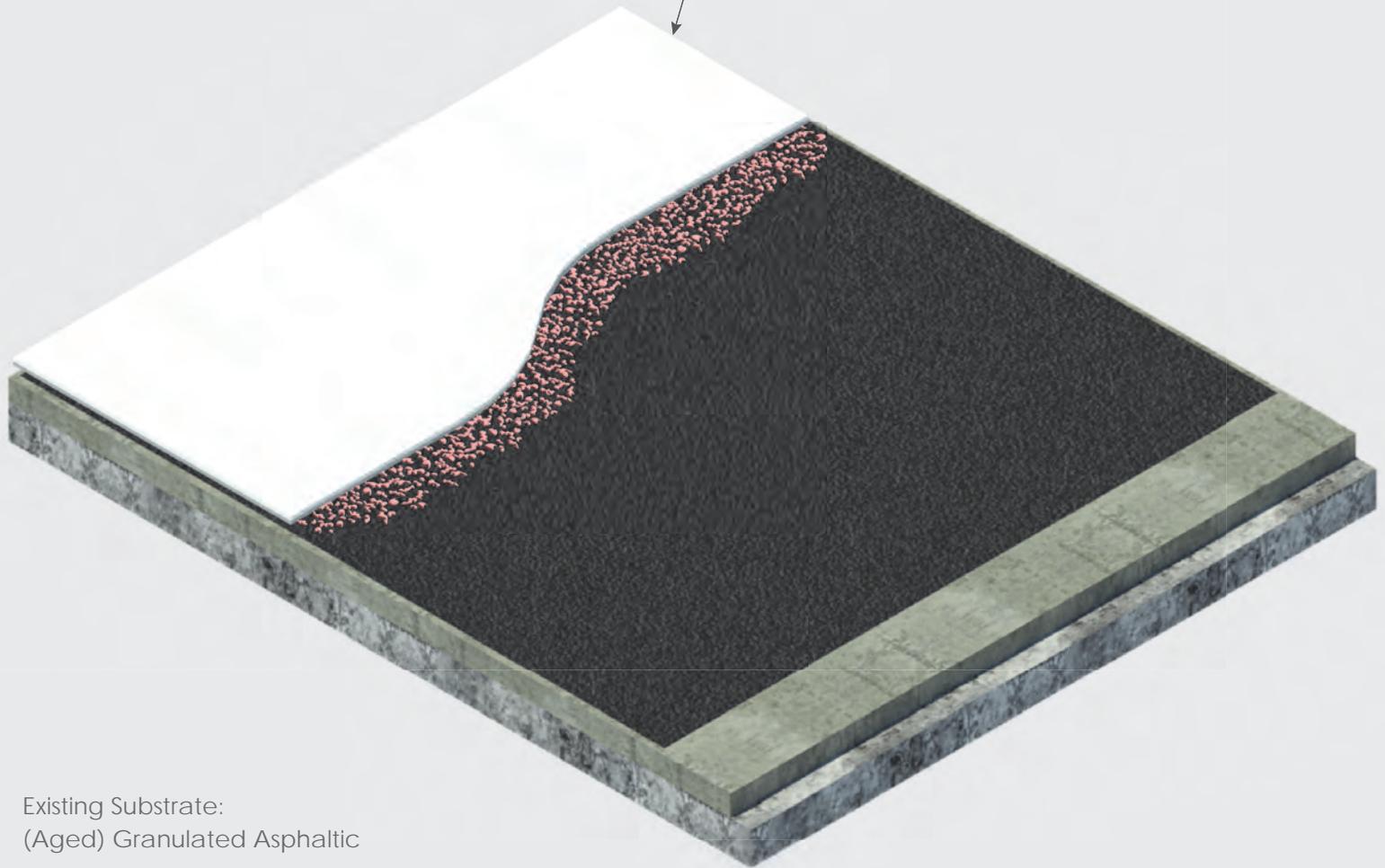
Moisture content of the lightweight concrete must be less than 15%. Any issues caused by a moisture content in excess of 15% are excluded from the guarantee.

Lake County Fire Station #72 - Leesburg, FL



SPECIFICATION # T- FA - R - N - 60FB

EverGuard® Fleece-back TPO 60 mil Membrane, ASTM D6878
Adhered with OLYBOND500 Canisters™, in Spatter Pattern



Existing Substrate:
(Aged) Granulated Asphaltic

Deck Type: LWIC over Structural Concrete

Drawing not to scale - The images shown are for illustration purposes only and may not be an exact representation of the products

Membrane: EverGuard® Fleece-back TPO 60 mil Membrane
Membrane Attachment: OLYBOND500 Canisters™ (Spatter)
Separation Layer: N/A
Cover Board: N/A
Cover Board Attachment: N/A
Existing Substrate: (Aged) Granulated Asphaltic
Deck Type: LWIC over Structural Concrete
Construction Type: Recover



NEMO | etc.

Certificate of Authorization #32455
353 Christian Street, Unit #13
Oxford, CT 06478
(203) 262-9245

ENGINEER

TEST

CONSULT

P.E. EVALUATION REPORT (PEER)

GAF

1 Campus Drive
Parsippany, NJ 07054
(800) 766-3411

PEER-GAF-009.A.R69

FL5293-R68 (NON-HVHZ)

Date of Issuance: 11/09/2005

Revision 69: 08/25/2025

SCOPE:

This P.E. Evaluation Report (henceforth 'PEER') is issued under **F.A.C. Rule 61G20-3** and the applicable rules and regulations governing the use of construction materials in the State of Florida, and the [Third-Party Evaluation Report](#) acceptance by the Texas Department of Insurance. The documentation submitted has been reviewed by Robert Nieminen, P.E. for compliance with the **8th Edition (2023) Florida Building Code and 2018 International Building Code** [sections noted herein](#).

DESCRIPTION: EverGuard® TPO Roof Systems (NON-HVHZ)

LABELING: Labeling shall be in accordance with the requirements of the Accredited Quality Assurance Agency noted herein.

CONTINUED COMPLIANCE: This PEER is valid until such time as the named product(s) changes, the referenced Quality Assurance or production facility location(s) changes, or Code provisions that relate to the product(s) change. Acceptance of our PEERs by the named client constitutes agreement to notify NEMO ETC, LLC of any changes to the product(s), the Quality Assurance or the production facility location(s). NEMO ETC, LLC requires a complete review of its PEER relative to updated Code requirements with each Code Cycle.

ADVERTISEMENT: "NEMO P.E. Evaluated" may be displayed in advertising literature. If any portion of the PEER is displayed, then it shall be in its entirety.

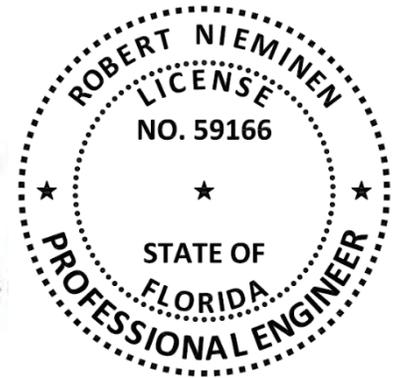
INSPECTION: Upon request, a copy of this entire PEER shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This PEER consists of pages 1 through 7, plus 205-pages of Appendix.

Prepared by:

Digitally signed by
Robert Nieminen
Date: 2025.08.25
'16:48:07 -04'00

This item has been digitally signed and sealed by Robert Nieminen, P.E. Printed copies of this document are not considered signed and sealed, and the signature must be verified on any electronic copies. Robert Nieminen, Florida P.E. 59166, FBC ANE1983 NEMO ETC, LLC, Florida CA #32455



CERTIFICATION OF INDEPENDENCE:

1. NEMO ETC, LLC does not have, nor does it intend to acquire or will it acquire, a financial interest in any company manufacturing or distributing products it evaluates.
2. NEMO ETC, LLC is not owned, operated or controlled by any company manufacturing or distributing products it evaluates.
3. Robert Nieminen, P.E. does not have nor will acquire, a financial interest in any company manufacturing or distributing products for which the PEERs are being issued.
4. Robert Nieminen, P.E. does not have, nor will acquire, a financial interest in any other entity involved in the approval process of the product.
5. Robert Nieminen, P.E. is also Registered in the State of Texas; PE-96420.
6. This is a building code evaluation. Neither NEMO ETC, LLC nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this PEER, or previous versions thereof, is/was used for permitting or design guidance unless retained specifically for that purpose.

ROOFING SYSTEMS EVALUATION:

1. SCOPE:

Product Category: Roofing
Sub-Category: Single Ply Roof Systems
Product Approval Method: Method 1, Option D: Codified Material, Evaluation by Engineer
Compliance Statement: EverGuard® TPO Roof Systems, as produced by GAF, have demonstrated compliance with the following sections of the Codes listed below through testing in accordance with the following Standards. Compliance is subject to the [Installation Requirements](#) and [Limitations of Use](#) set forth herein.

2. STANDARDS:

| CODE | SECTION | PROPERTY | STANDARD |
|----------------------------------|------------------------|---------------------|------------------------------------|
| 2023 Florida Building Code | 1504.3.1 | Wind resistance | FM 4474 |
| | 1504.6 | Physical properties | ASTM G155 |
| | 1504.7 | Impact resistance | FM 4470, Section 4.6 |
| | 1507.10.2 | Material standard | ASTM D2178, ASTM D4601, ASTM D4897 |
| | 1507.11.2 | Material standard | ASTM D6163, ASTM D6164, ASTM D6222 |
| | 1507.12.2 | Material standard | ASTM D6878 |
| 2018 International Building Code | 1504.3.1 | Wind resistance | FM 4474 |
| | 1504.6 | Physical properties | ASTM G155 |
| | 1504.7 | Impact resistance | FM 4470, Section 4.6 |
| | 1507.10.2 | Material standard | ASTM D2178, ASTM D4897 |
| | 1507.10.2, 1507.11.2.1 | Material standard | ASTM D4601 |
| | 1507.11.2 | Material standard | ASTM D6163, ASTM D6164, ASTM D6222 |
| 1507.13.2 | Material standard | ASTM D6878 | |

3. REFERENCES:

| ENTITY | EXAM | REFERENCE | DATE | ENTITY | EXAM | REFERENCE | DATE |
|----------------|-------------------|--------------------|----------|--------------|--------------|--------------|----------|
| NEMO (TST6049) | Physicals (IN) | 4j-GAF-SSUDL-004.A | 11/19/24 | FM (TST1867) | FM 4474 | 3055904 | 10/25/18 |
| NEMO (TST6049) | ASTM D6878 | 4r-GAF-SSTHP-006 | 04/21/25 | FM (TST1867) | FM 4474 | RR215191-267 | 11/07/18 |
| NEMO | PEER | PEER-GAF-007.A&B | 08/22/25 | FM (TST1867) | FM 4474 | RR215193-267 | 11/08/18 |
| PRI (TST5878) | ASTM D6878 (TX) | GAF-584-02-01 | 11/20/15 | FM (TST1867) | FM 4474 | RR217564-267 | 02/05/19 |
| PRI (TST5878) | ASTM D6878 (TX) | GAF-585-02-01 | 11/20/15 | FM (TST1867) | FM 4474 | PR450261 | 10/22/19 |
| PRI (TST5878) | ASTM D6878 (UT) | GAF-586-02-01 | 11/20/15 | FM (TST1867) | FM 4474 | PR453601-R1 | 11/15/19 |
| PRI (TST5878) | ASTM D6878 (UT) | GAF-700-02-01 | 03/10/17 | FM (TST1867) | FM 4474 | PR453353 | 01/31/20 |
| PRI (TST5878) | ASTM D6878 (PA) | GAF-870-02-01 | 02/15/19 | FM (TST1867) | Criticality | PR452423 | 02/06/20 |
| PRI (TST5878) | ASTM D6878 (PA) | GAF-904-02-01 | 10/09/19 | FM (TST1867) | FM 4474 | RR221253-267 | 02/07/20 |
| PRI (TST5878) | ASTM D6878 (UT) | GAF-889-02-01 | 11/01/19 | FM (TST1867) | Criticality | PR452971 | 02/19/20 |
| PRI (TST5878) | ASTM D6878 (PA) | 376T0114 | 09/09/21 | FM (TST1867) | FM 4474 | RR222755-267 | 03/10/20 |
| PRI (TST5878) | ASTM D6878 (IN) | 376T0128 | 09/30/21 | FM (TST1867) | FM 4474 | PR455417 | 09/30/20 |
| PRI (TST5878) | ASTM D6878 | EXTENSION LTR | 09/27/22 | FM (TST1867) | FM 4474 | PR455417 R2 | 12/23/20 |
| PRI (TST5878) | ASTM D6878 (IN) | 376T0390 | 11/13/23 | FM (TST1867) | FM 4474 | RR227079 | 03/10/21 |
| PRI (TST5878) | ASTM D6878 (IN) | 376T0391 | 11/13/23 | FM (TST1867) | Traceability | PR459034 | 03/24/21 |
| PRI (TST5878) | ASTM D6878 (IN) | 376T0456 | 06/06/24 | FM (TST1867) | FM 4474 | RR226788 | 03/25/21 |
| PRI (TST5878) | ASTM D6878 (IN) | 376T0457 | 06/06/24 | FM (TST1867) | FM 4474 | PR458073 | 04/08/21 |
| PRI (TST5878) | ASTM D6878 (GA-V) | 376T0549 | 02/11/25 | FM (TST1867) | FM 4474 | RR227768 | 04/09/21 |
| ACRC (TST4671) | TAS 114 | 06-035 | 10/18/06 | FM (TST1867) | FM 4474 | PR457312 | 04/20/21 |
| ACRC (TST4671) | TAS 114 | 07-005 | 01/17/07 | FM (TST1867) | FM 4470 | PR459831 | 04/21/21 |
| ACRC (TST4671) | TAS 114 | 07-024 | 03/01/07 | FM (TST1867) | FM 4474 | RR227915 | 05/06/21 |
| ACRC (TST4671) | TAS 114 | 07-016 | 04/19/07 | FM (TST1867) | FM 4474 | PR456101 | 06/24/21 |
| ACRC (TST4671) | TAS 114 | 07-017 | 04/19/07 | FM (TST1867) | FM 4474 | PR461047 | 10/25/21 |
| ACRC (TST4671) | TAS 114 | 07-025 | 05/02/07 | FM (TST1867) | FM 4474 | PR458360 | 11/22/21 |
| ACRC (TST4671) | TAS 114 | 07-026 | 05/03/07 | FM (TST1867) | FM 4474 | RR232145-267 | 03/21/22 |
| ACRC (TST4671) | TAS 114 | 07-027 | 05/04/07 | FM (TST1867) | FM 4474 | PR450629 | 04/13/22 |
| ACRC (TST4671) | TAS 114 | 07-042 | 08/31/07 | FM (TST1867) | FM 4474 | RR232513-267 | 04/22/22 |
| ACRC (TST4671) | TAS 114 | 07-043 | 09/05/07 | FM (TST1867) | FM 4474 | PR459436 | 07/20/22 |
| ACRC (TST4671) | TAS 114 | 07-045 | 09/06/07 | FM (TST1867) | FM 4474 | PR460889 | 08/01/22 |
| ACRC (TST4671) | TAS 114 | 07-046 | 09/06/07 | FM (TST1867) | FM 4474 | PR460126 | 09/20/22 |
| ACRC (TST4671) | TAS 114 | 07-048 | 09/07/07 | FM (TST1867) | FM 4474 | PR461460 | 11/15/22 |
| ACRC (TST4671) | TAS 114 | 07-049 | 09/10/07 | FM (TST1867) | FM 4474 | RR235368-267 | 12/19/22 |
| ACRC (TST4671) | TAS 114 | 07-080 | 01/03/08 | FM (TST1867) | FM 4474 | PR464081 | 02/20/23 |
| ACRC (TST4671) | TAS 114 | 08-030 | 04/05/08 | FM (TST1867) | FM 4474 | RR236465-267 | 03/15/23 |
| ACRC (TST4671) | TAS 114 | 08-022 | 04/17/08 | FM (TST1867) | FM 4470/4474 | PR458321 | 03/29/23 |
| ACRC (TST4671) | TAS 114 | 08-023 | 04/17/08 | FM (TST1867) | FM 4474 | RR237233-267 | 05/30/23 |
| ACRC (TST4671) | TAS 114 | 08-033 | 04/19/08 | FM (TST1867) | FM 4474 | RR238073 | 08/07/23 |
| ACRC (TST4671) | TAS 114 | 08-032 | 04/19/08 | FM (TST1867) | FM 4474 | RR237727 | 08/17/23 |
| ACRC (TST4671) | TAS 114 | 11-004 | 03/21/11 | FM (TST1867) | FM 4474 | RR237767 | 08/30/23 |
| ACRC (TST4671) | TAS 114 | 11-011 | 03/24/11 | FM (TST1867) | FM 4474 | RR237937 | 09/13/23 |
| ACRC (TST4671) | TAS 114 | 11-012 | 04/06/11 | FM (TST1867) | FM 4474 | RR238291 | 09/21/23 |
| ACRC (TST4671) | TAS 114 | 11-013 | 04/06/11 | FM (TST1867) | FM 4474 | RR238672 | 10/12/23 |
| ACRC (TST4671) | TAS 114 | 11-019 | 04/08/11 | FM (TST1867) | FM 4474 | PR466037 | 10/20/23 |
| ACRC (TST4671) | TAS 114 | 11-020 | 04/08/11 | FM (TST1867) | FM 4474 | PR465619 | 12/05/23 |
| ACRC (TST4671) | TAS 114 | 11-021 | 04/11/11 | FM (TST1867) | FM 4474 | PR466798 | 12/20/23 |
| ACRC (TST4671) | TAS 114 | 11-040 | 08/05/11 | FM (TST1867) | FM 4474 | PR466096 | 01/22/24 |
| ACRC (TST4671) | TAS 114 | 11-041 | 08/05/11 | FM (TST1867) | FM 4474 | PR467712 | 03/01/24 |

| ENTITY | EXAM | REFERENCE | DATE | ENTITY | EXAM | REFERENCE | DATE |
|-------------------|-------------|--------------------|----------|-----------------|-------------|-----------------------|----------|
| ACRC (TST4671) | TAS 114 | 11-056 | 09/30/11 | FM (TST1867) | FM 4474 | PR467721 | 03/01/24 |
| ACRC (TST4671) | TAS 114 | 11-042-R1 | 01/27/12 | FM (TST1867) | FM 4474 | PR468487-1 (data) | 03/13/24 |
| ACRC (TST4671) | TAS 114 | 12-008 | 04/10/12 | FM (TST1867) | FM 4474 | PR468487-2 (data) | 03/13/24 |
| ACRC (TST4671) | TAS 114 | 12-012 | 04/23/12 | FM (TST1867) | FM 4474 | PR466980 | 04/10/24 |
| ACRC (TST4671) | TAS 114 | 12-013 | 04/23/12 | FM (TST1867) | FM 4474 | PR468487-3 (data) | 05/08/24 |
| ACRC (TST4671) | TAS 114 | 12-014 | 04/23/12 | FM (TST1867) | FM 4474 | PR468487-4 (data) | 05/08/24 |
| ACRC (TST4671) | TAS 114 | 12-016 | 04/24/12 | FM (TST1867) | FM 4474 | RR241598 | 05/30/24 |
| ACRC (TST4671) | TAS 114 | 12-019 | 04/25/12 | FM (TST1867) | FM 4474 | RR241361 | 05/07/24 |
| ACRC (TST4671) | TAS 114 | 12-024 | 05/09/12 | FM (TST1867) | FM 4474 | RR240890 | 05/09/24 |
| ACRC (TST4671) | TAS 114 | 12-025 | 05/09/12 | FM (TST1867) | FM 4474 | RR241387 | 05/10/24 |
| ACRC (TST4671) | TAS 114 | 12-029 | 05/23/12 | FM (TST1867) | FM 4474 | RR241586 | 05/29/24 |
| ACRC (TST4671) | TAS 114 | 12-030 | 05/23/12 | FM (TST1867) | FM 4474 | PR468487 (data) | 06/05/24 |
| ACRC (TST4671) | TAS 114 | 12-033 | 08/10/12 | FM (TST1867) | FM 4474 | RR242812 | 09/06/24 |
| ACRC (TST4671) | TAS 114 | 12-036 | 08/13/12 | FM (TST1867) | FM 4474 | RR243128 | 09/24/24 |
| ACRC (TST4671) | TAS 114 | 12-018-R1 | 01/30/13 | FM (TST1867) | FM 4474 | PR468153 | 11/04/24 |
| ACRC (TST4671) | TAS 114 | 08-022-R1 | 01/15/15 | FM (TST1867) | FM 4474 | PR470505 | 01/24/25 |
| ACRC (TST4671) | TAS 114 | 11-056-R2 | 01/23/15 | FM (TST1867) | FM 4470 | PR469851 | 01/30/25 |
| ACRC (TST4671) | TAS 114 | 16-002 | 03/04/16 | FM (TST1867) | FM 4474 | PR471562 | 02/12/25 |
| ACRC (TST4671) | TAS 114(D) | 20-016 | 11/11/20 | FM (TST1867) | FM 4474 | RR244840 | 03/18/25 |
| ACRC (TST4671) | TAS 114(D) | 20-017 | 11/11/20 | FM (TST1867) | FM 4474 | PR463218 | 03/27/25 |
| ACRC (TST4671) | TAS 114(D) | 20-019 | 11/13/20 | FM (TST1867) | FM 4474 | PR466462 | 04/03/25 |
| ACRC (TST4671) | TAS 114(D) | 20-021 | 11/13/20 | FM (TST1867) | FM 4474 | PR471563 | 04/10/25 |
| ACRC (TST4671) | TAS 114(D) | 20-022 | 11/16/20 | FM (TST1867) | FM 4474 | RR245727 | 04/14/25 |
| ACRC (TST4671) | TAS 114(D) | 20-023 | 11/16/20 | FM (TST1867) | FM 4470 | RR245882 | 04/23/25 |
| ACRC (TST4671) | TAS 114(U) | 21-006 | 03/16/21 | FM (TST1867) | FM 4474 | RR245205 | 05/05/25 |
| ACRC (TST4671) | TAS 114(D) | 23-012 | 06/16/23 | FM (TST1867) | FM 4470 | PR469015 | 05/13/25 |
| ACRC (TST4671) | TAS 114(D) | 23-013 | 06/16/23 | FM (TST1867) | FM 4470 | PR469209 | 06/03/25 |
| ACRC (TST4671) | TAS 114(D) | 23-014 | 06/16/23 | F-TEC (TST7393) | TAS 114 | 08-050183 | 06/26/08 |
| ATU/ITS (TST1558) | Criticality | G9819.02-106-31 | 05/10/17 | F-TEC (TST7393) | TAS 114 | 08-050184 | 06/26/08 |
| ATU/ITS (TST1558) | TAS 114 | G9819.03-109-44 | 08/01/17 | F-TEC (TST7393) | TAS 114 | 08-070133 | 08/04/08 |
| ATU/ITS (TST1558) | TAS 114 | H-3320.01-109-44 | 08/10/17 | F-TEC (TST7393) | TAS 114 | 08-050185 | 10/14/08 |
| ATU/ITS (TST1558) | TAS 114 | H-3314.01-109-44 | 08/14/17 | F-TEC (TST7393) | TAS 114 | 08-072805 | 02/16/09 |
| ATU/ITS (TST1558) | TAS 114 | H-3315.01-109-44 | 08/14/17 | IRT (TST7408) | TAS 114 | 02-008 | 01/18/02 |
| ATU/ITS (TST1558) | TAS 114 | H-3317.01-109-44 | 08/14/17 | IRT (TST7408) | TAS 114 | 03-0728 | 02/17/04 |
| ATU/ITS (TST1558) | TAS 114 | H-3318.01-109-44 | 08/14/17 | IRT (TST7408) | TAS 114 | 04-012 | 02/18/04 |
| ATU/ITS (TST1558) | TAS 114 | G9819.01-109-44.R1 | 08/15/17 | IRT (TST7408) | TAS 114 | 04-019 | 04/26/04 |
| ATU/ITS (TST1558) | TAS 114 | H-0730.01-109-44 | 08/16/17 | ITS (TST1558) | FM 4474 | R4151.01-109-44-R0 | 08/01/24 |
| ERD (TST6049) | TAS 114 | SC8580.11.15-4 | 11/09/15 | ITS (TST1558) | FM 4474 | R4158.01-109-44-R0 | 08/01/24 |
| ERD (TST6049) | TAS 114 | SC8580.11.15-2 | 11/18/15 | NEMO (TST6049) | FM 4474 | SC16825.12.17-3A | 01/01/18 |
| ERD (TST6049) | Criticality | SC16505.17 | 09/22/17 | NEMO (TST6049) | Physics | 4q-GAF-19-SSMBB-03.A | 05/13/19 |
| ERD (TST6049) | TAS 114 | SC16825.12.17-1 | 12/31/17 | NEMO (TST6049) | TAS 114 | 4L-CEL-18-001.12.18.2 | 07/10/19 |
| ERD (TST6049) | TAS 114 | SC16825.12.17-3B | 12/31/17 | PRI (TST5878) | TAS 114 | GAF-043-02-03 | 09/16/13 |
| FM (TST1867) | FM 4470 | 3003617 | 12/20/99 | PRI (TST5878) | TAS 114 | GAF-043-02-04 | 09/16/13 |
| FM (TST1867) | FM 4470 | 3009026 | 06/18/02 | PRI (TST5878) | Criticality | GAF-462-02-02 | 11/18/13 |
| FM (TST1867) | FM 4470 | 3013861 | 03/28/03 | PRI (TST5878) | TAS 114 | GAF-457-02-02 | 01/20/14 |
| FM (TST1867) | FM 4470 | 3014692 | 08/05/03 | PRI (TST5878) | TAS 114 | GAF-457-02-04 | 01/24/14 |
| FM (TST1867) | FM 4470 | 3014955 | 01/22/04 | PRI (TST5878) | TAS 114 | GAF-457-02-06 | 01/24/14 |
| FM (TST1867) | FM 4470 | 3012721 | 02/11/04 | PRI (TST5878) | TAS 114 | GAF-457-02-07 | 01/24/14 |
| FM (TST1867) | FM 4470 | 3015029 | 02/19/04 | PRI (TST5878) | TAS 114 | GAF-457-02-08 | 01/24/14 |
| FM (TST1867) | FM 4470 | 3015578 | 03/12/04 | PRI (TST5878) | TAS 114 | GAF-435-02-07 | 01/29/14 |
| FM (TST1867) | FM 4470 | 3019881 | 03/20/04 | PRI (TST5878) | TAS 114 | GAF-435-02-08 | 01/29/14 |
| FM (TST1867) | FM 4470 | 3020588 | 03/24/04 | PRI (TST5878) | TAS 114 | GAF-435-02-09 | 01/29/14 |
| FM (TST1867) | FM 4470 | 3016068 | 04/02/04 | PRI (TST5878) | TAS 114 | GAF-435-02-10 | 01/29/14 |
| FM (TST1867) | FM 4470 | 3105578 | 05/12/04 | PRI (TST5878) | TAS 114 | GAF-435-02-11 | 01/29/14 |
| FM (TST1867) | FM 4470 | 3013861 | 05/21/04 | PRI (TST5878) | Rupture | GAF-435-02-01 | 01/29/14 |
| FM (TST1867) | FM 4470 | 3014955 | 01/28/05 | PRI (TST5878) | TAS 114 | GAF-506-02-06 | 03/06/14 |
| FM (TST1867) | FM 4470 | 3022136 | 03/17/05 | PRI (TST5878) | TAS 114 | GAF-506-02-08 | 03/06/14 |
| FM (TST1867) | FM 4470 | 3020681 | 09/01/05 | PRI (TST5878) | TAS 114 | GAF-506-02-10 | 03/06/14 |
| FM (TST1867) | FM 4470 | 3024051 | 03/28/06 | PRI (TST5878) | TAS 114 | GAF-510-02-02 | 04/08/14 |
| FM (TST1867) | FM 4470 | 797-02093-267 | 04/26/06 | PRI (TST5878) | TAS 114 | GAF-510-02-04 | 04/08/14 |
| FM (TST1867) | FM 4470 | 3023458 | 07/18/06 | PRI (TST5878) | TAS 114 | GAF-510-02-05 | 04/08/14 |
| FM (TST1867) | FM 4470 | 3028039 | 09/11/06 | PRI (TST5878) | TAS 114 | GAF-511-02-02 | 04/08/14 |
| FM (TST1867) | FM 4470 | 3027159 | 10/03/06 | PRI (TST5878) | TAS 114 | GAF-506-02-11 | 04/14/14 |
| FM (TST1867) | FM 4470 | 3026149 | 02/05/07 | PRI (TST5878) | TAS 114 | GAF-506-02-12 | 04/14/14 |
| FM (TST1867) | FM 4470 | 3026964 | 07/25/07 | PRI (TST5878) | TAS 114 | GAF-506-02-13 | 04/14/14 |
| FM (TST1867) | FM 4470 | 3028857 | 11/02/07 | PRI (TST5878) | TAS 114 | GAF-506-02-14 | 04/14/14 |
| FM (TST1867) | FM 4470 | 3030199 | 11/05/07 | PRI (TST5878) | TAS 114 | GAF-506-02-01 | 04/22/14 |
| FM (TST1867) | FM 4470 | 3030813 | 11/05/07 | PRI (TST5878) | TAS 114 | GAF-514-02-01 | 05/12/14 |
| FM (TST1867) | FM 4470 | 3031262 | 11/30/07 | PRI (TST5878) | TAS 114 | GAF-514-02-03 | 05/12/14 |
| FM (TST1867) | FM 4470 | 3030292 | 02/25/08 | PRI (TST5878) | TAS 114 | GAF-514-02-04 | 05/12/14 |
| FM (TST1867) | FM 4470 | 797-03825-267 | 07/21/08 | PRI (TST5878) | TAS 114 | GAF-514-02-05 | 05/12/14 |
| FM (TST1867) | FM 4470 | 3033314 | 08/26/08 | PRI (TST5878) | TAS 114 | GAF-514-02-07 | 05/12/14 |
| FM (TST1867) | FM 4470 | 3034749 | 10/16/08 | PRI (TST5878) | TAS 114 | GAF-514-02-08 | 05/12/14 |
| FM (TST1867) | FM 4470 | 3032856 | 11/24/08 | PRI (TST5878) | TAS 114 | GAF-516-02-01 | 05/13/14 |
| FM (TST1867) | FM 4470 | 3033135 | 11/24/08 | PRI (TST5878) | TAS 114 | GAF-516-02-03 | 05/13/14 |
| FM (TST1867) | FM 4470 | 3032811 | 12/11/08 | PRI (TST5878) | TAS 114 | GAF-516-02-02 | 06/06/14 |
| FM (TST1867) | FM 4470 | 3033862 | 12/24/08 | PRI (TST5878) | TAS 114 | GAF-525-02-02 | 06/23/14 |
| FM (TST1867) | FM 4470 | 3034394 | 02/27/09 | PRI (TST5878) | TAS 114 | GAF-525-02-03 | 06/23/14 |
| FM (TST1867) | FM 4470 | 3033121 | 04/13/09 | PRI (TST5878) | TAS 114 | GAF-462-02-09 | 07/01/14 |
| FM (TST1867) | FM 4470 | 3035300 | 05/06/09 | PRI (TST5878) | TAS 114 | GAF-462-02-10 | 07/01/14 |
| FM (TST1867) | FM 4470 | 3036614 | 06/09/09 | PRI (TST5878) | TAS 114 | GAF-462-02-11 | 07/01/14 |
| FM (TST1867) | FM 4470 | 3034310 | 06/15/09 | PRI (TST5878) | TAS 114 | GAF-524-02-02 | 07/01/14 |
| FM (TST1867) | FM 4470 | 3036141 | 08/10/09 | PRI (TST5878) | TAS 114 | GAF-524-02-03 | 07/01/14 |
| FM (TST1867) | FM 4470 | 3037820 | 04/30/10 | PRI (TST5878) | TAS 114 | GAF-524-02-05 | 07/01/14 |
| FM (TST1867) | FM 4470 | 797-059797-267 | 08/18/10 | PRI (TST5878) | TAS 114 | GAF-540-02-02 | 08/06/14 |
| FM (TST1867) | FM 4470 | 3038215 | 09/02/10 | PRI (TST5878) | TAS 114 | GAF-540-02-03 | 08/06/14 |
| FM (TST1867) | FM 4470 | 797-05901-267 | 10/01/10 | PRI (TST5878) | TAS 114 | GAF-540-02-04 | 08/06/14 |
| FM (TST1867) | FM 4470 | 797-06003-267 | 11/11/10 | PRI (TST5878) | TAS 114 | GAF-549-02-01 | 08/08/14 |
| FM (TST1867) | FM 4470 | 3038318 | 12/10/10 | PRI (TST5878) | TAS 114 | GAF-538-02-02 | 08/13/14 |
| FM (TST1867) | FM 4470 | 797-06178-267 | 02/07/11 | PRI (TST5878) | TAS 114 | GAF-538-02-03 | 08/13/14 |
| FM (TST1867) | FM 4470 | 3040234 | 02/23/11 | PRI (TST5878) | TAS 114 | GAF-532-02-01 | 08/22/14 |

| ENTITY | EXAM | REFERENCE | DATE | ENTITY | EXAM | REFERENCE | DATE |
|--------------|-------------|---------------|----------|---------------|------------------|---------------|----------|
| FM (TST1867) | FM 4470 | 3040377 | 03/08/11 | PRI (TST5878) | TAS 114 | GAF-524-02-05 | 08/27/14 |
| FM (TST1867) | FM 4470 | 3041685 | 03/24/11 | PRI (TST5878) | TAS 114 | GAF-538-02-04 | 09/02/14 |
| FM (TST1867) | FM 4470 | 797-06254-267 | 03/24/11 | PRI (TST5878) | TAS 114 | GAF-559-02-11 | 10/16/14 |
| FM (TST1867) | FM 4470 | 3041535 | 06/08/11 | PRI (TST5878) | TAS 114 | GAF-559-02-12 | 10/16/14 |
| FM (TST1867) | FM 4470 | 797-06537-267 | 06/13/11 | PRI (TST5878) | TAS 114 | GAF-559-02-13 | 10/16/14 |
| FM (TST1867) | FM 4470 | 797-06538-267 | 06/13/11 | PRI (TST5878) | TAS 114 | GAF-559-02-14 | 10/16/14 |
| FM (TST1867) | FM 4470 | 3041746 | 08/17/11 | PRI (TST5878) | TAS 114 | GAF-559-02-15 | 10/16/14 |
| FM (TST1867) | FM 4470 | 797-06894-267 | 11/02/11 | PRI (TST5878) | TAS 114 | GAF-559-02-16 | 10/16/14 |
| FM (TST1867) | FM 4470 | 3042887 | 11/14/11 | PRI (TST5878) | TAS 114 | GAF-559-02-18 | 10/16/14 |
| FM (TST1867) | FM 4470 | 3038278 | 11/18/11 | PRI (TST5878) | TAS 114 | GAF-538-02-05 | 12/03/14 |
| FM (TST1867) | FM 4470 | 3042905 | 01/10/12 | PRI (TST5878) | TAS 114 | GAF-453-02-05 | 05/06/16 |
| FM (TST1867) | FM 4470 | 797-07041-267 | 02/27/12 | PRI (TST5878) | Criticality | GAF-653-02-01 | 10/20/16 |
| FM (TST1867) | FM 4470 | 797-07183-267 | 03/01/12 | PRI (TST5878) | TAS 114 | GAF-653-02-04 | 10/20/16 |
| FM (TST1867) | FM 4470 | 3044506 | 03/28/12 | PRI (TST5878) | TAS 114 | GAF-746-02-01 | 12/14/16 |
| FM (TST1867) | FM 4470 | 797-07331-267 | 04/13/12 | PRI (TST5878) | TAS 114 | GAF-746-02-02 | 12/14/16 |
| FM (TST1867) | FM 4470 | 3044862 | 05/11/12 | PRI (TST5878) | TAS 114 | GAF-746-02-05 | 12/14/16 |
| FM (TST1867) | FM 4470 | 797-07455-267 | 05/31/12 | PRI (TST5878) | TAS 114 | GAF-746-02-06 | 12/14/16 |
| FM (TST1867) | FM 4470 | 797-07474-267 | 06/11/12 | PRI (TST5878) | TAS 114 | GAF-755-02-01 | 02/02/17 |
| FM (TST1867) | FM 4470 | 797-07476-267 | 06/21/12 | PRI (TST5878) | TAS 114 | GAF-755-02-02 | 02/02/17 |
| FM (TST1867) | FM 4470 | 3045789 | 07/12/12 | PRI (TST5878) | TAS 114 | GAF-755-02-03 | 02/02/17 |
| FM (TST1867) | FM 4470 | 3045166 | 07/24/12 | PRI (TST5878) | TAS 114 | GAF-755-02-04 | 02/02/17 |
| FM (TST1867) | FM 4470 | 3045863 | 08/16/12 | PRI (TST5878) | TAS 114 | GAF-782-02-01 | 08/24/17 |
| FM (TST1867) | FM 4470 | 3041749 | 08/23/12 | PRI (TST5878) | TAS 114 | GAF-782-02-02 | 08/30/17 |
| FM (TST1867) | FM 4470 | 3046328 | 09/13/12 | PRI (TST5878) | TAS 114 | GAF-776-02-02 | 10/04/17 |
| FM (TST1867) | FM 4470 | 3046388 | 09/24/12 | PRI (TST5878) | Criticality | GAF-793-02-01 | 12/08/17 |
| FM (TST1867) | FM 4470 | 3041769 | 09/27/12 | PRI (TST5878) | TAS 114 | GAF-793-02-02 | 12/08/17 |
| FM (TST1867) | FM 4470 | 797-07744-267 | 10/17/12 | PRI (TST5878) | TAS 114 | GAF-793-02-04 | 12/08/17 |
| FM (TST1867) | FM 4470 | 797-07885-267 | 11/21/12 | PRI (TST5878) | TAS 114 | GAF-835-02-02 | 02/19/18 |
| FM (TST1867) | FM 4470 | 3046054 | 12/21/12 | PRI (TST5878) | TAS 114 | GAF-834-02-01 | 02/28/18 |
| FM (TST1867) | FM 4470 | 797-08216-267 | 04/11/13 | PRI (TST5878) | TAS 114 | GAF-835-02-03 | 02/28/18 |
| FM (TST1867) | FM 4470 | 3048122 | 04/29/13 | PRI (TST5878) | TAS 114 | GAF-835-02-04 | 02/28/18 |
| FM (TST1867) | FM 4470 | 797-08217-267 | 05/01/13 | PRI (TST5878) | TAS 114 | GAF-833-02-01 | 03/02/18 |
| FM (TST1867) | FM 4470 | 797-08264-267 | 05/23/13 | PRI (TST5878) | TAS 114 | GAF-833-02-02 | 03/02/18 |
| FM (TST1867) | FM 4470 | 3047237 | 07/15/13 | PRI (TST5878) | TAS 114 | GAF-836-02-01 | 03/02/18 |
| FM (TST1867) | FM 4470 | 3047636 | 08/08/13 | PRI (TST5878) | TAS 114 | GAF-836-02-02 | 03/02/18 |
| FM (TST1867) | FM 4474 | 797-08873-267 | 11/26/13 | PRI (TST5878) | TAS 114 | GAF-836-02-03 | 03/02/18 |
| FM (TST1867) | FM 4474 | 3048066 | 12/13/13 | PRI (TST5878) | TAS 114 | GAF-836-02-04 | 03/02/18 |
| FM (TST1867) | FM 4474 | 3041749 | 12/30/13 | PRI (TST5878) | TAS 114 | GAF-858-02-05 | 04/27/18 |
| FM (TST1867) | FM 4474 | 797-09116-267 | 01/24/14 | PRI (TST5878) | TAS 114 | GAF-858-02-01 | 05/01/18 |
| FM (TST1867) | FM 4474 | 797-09234-267 | 03/11/14 | PRI (TST5878) | TAS 114 | GAF-858-02-02 | 05/01/18 |
| FM (TST1867) | FM 4474 | 797-09317-267 | 04/18/14 | PRI (TST5878) | TAS 114 | GAF-858-02-03 | 05/01/18 |
| FM (TST1867) | FM 4474 | 797-09493-267 | 05/27/14 | PRI (TST5878) | TAS 114 | GAF-858-02-04 | 05/01/18 |
| FM (TST1867) | FM 4474 | 797-09495-267 | 05/27/14 | PRI (TST5878) | TAS 114 | GAF-858-02-06 | 05/01/18 |
| FM (TST1867) | FM 4474 | 797-09573-267 | 06/13/14 | PRI (TST5878) | TAS 114 | GAF-834-02-03 | 05/11/18 |
| FM (TST1867) | FM 4474 | 797-09497-267 | 06/23/14 | PRI (TST5878) | TAS 114 | GAF-902-02-02 | 02/27/19 |
| FM (TST1867) | FM 4474 | 797-09594-267 | 06/24/14 | PRI (TST5878) | TAS 114 | GAF-926-02-02 | 07/17/19 |
| FM (TST1867) | FM 4474 | 797-09635-267 | 07/16/14 | PRI (TST5878) | TAS 114 | 376T0014 | 08/09/19 |
| FM (TST1867) | FM 4470 | 3051408 | 08/13/14 | PRI (TST5878) | TAS 114 | 376T0016 | 08/09/19 |
| FM (TST1867) | FM 4474 | 797-09892-267 | 10/30/14 | PRI (TST5878) | TAS 114 | 376T0017 | 08/09/19 |
| FM (TST1867) | FM 4474 | 797-10123-283 | 12/17/14 | PRI (TST5878) | Criticality | 376T0006-3 | 09/06/19 |
| FM (TST1867) | FM 4474 | 797-10153-267 | 12/19/14 | PRI (TST5878) | TAS 114 | 376T0025 | 09/06/19 |
| FM (TST1867) | FM 4474 | 797-10210-267 | 02/05/15 | PRI (TST5878) | TAS 114 | 376T0026 | 09/06/19 |
| FM (TST1867) | FM 4474 | 797-10211-267 | 02/05/15 | PRI (TST5878) | TAS 114 | 376T0027 | 09/19/19 |
| FM (TST1867) | FM 4474 | 797-10212-267 | 02/05/15 | PRI (TST5878) | TAS 114 | 376T0097 | 10/26/20 |
| FM (TST1867) | FM 4474 | 797-RR20018 | 02/23/15 | PRI (TST5878) | Criticality | 376T0006-1 | 01/18/21 |
| FM (TST1867) | FM 4474 | RR200320 | 04/07/15 | PRI (TST5878) | TAS 114 | 376T0093 | 01/26/21 |
| FM (TST1867) | FM 4474 | RR200321 | 04/07/15 | PRI (TST5878) | TAS 114 | 376T0098 | 01/26/21 |
| FM (TST1867) | FM 4474 | 3055411 | 04/15/15 | PRI (TST5878) | TAS 114 | 376T0099 | 01/26/21 |
| FM (TST1867) | FM 4474 | 3047636 - LTR | 06/24/15 | PRI (TST5878) | TAS 114 | 376T0165 | 06/04/21 |
| FM (TST1867) | FM 4474 | RR202913 | 11/19/15 | PRI (TST5878) | TAS 114 | 376T0166 | 06/07/21 |
| FM (TST1867) | FM 4474 | 3054498 | 11/30/15 | PRI (TST5878) | Criticality | 376T0168 | 06/07/21 |
| FM (TST1867) | FM 4474 | 3053501 | 01/14/16 | PRI (TST5878) | TAS 114 | 376T0182 | 09/13/21 |
| FM (TST1867) | FM 4474 | 3056207 | 02/09/16 | PRI (TST5878) | TAS 114 | 376T0184 | 09/13/21 |
| FM (TST1867) | FM 4474 | 3055167 | 02/10/16 | PRI (TST5878) | FM 4474 | 376T0185 | 09/13/21 |
| FM (TST1867) | FM 4474 | RR204005 | 04/13/16 | PRI (TST5878) | TAS 114 | 410T0026 | 12/15/21 |
| FM (TST1867) | FM 4474 | RR205159 | 05/05/16 | PRI (TST5878) | FM 4474 | 376T0307 | 06/02/22 |
| FM (TST1867) | FM 4474 | RR205192 | 05/09/16 | PRI (TST5878) | TAS 114 | 376T0311 | 07/19/22 |
| FM (TST1867) | FM 4474 | RR205233 | 06/15/16 | PRI (TST5878) | TAS 114 | 376T0312 | 07/19/22 |
| FM (TST1867) | FM 4474 | RR205846 | 07/21/16 | PRI (TST5878) | FM 4474 | 376T0404.3 | 05/11/23 |
| FM (TST1867) | FM 4474 | RR205474 | 08/31/16 | PRI (TST5878) | FM 4474 | 376T0404.4 | 05/11/23 |
| FM (TST1867) | FM 4474 | RR206198 | 09/01/16 | PRI (TST5878) | FM 4474 | 376T0405.2 | 05/11/23 |
| FM (TST1867) | FM 4474 | RR206353 | 09/07/16 | PRI (TST5878) | FM 4474 | 376T0405.3 | 05/11/23 |
| FM (TST1867) | FM 4474 | RR206620 | 09/12/16 | PRI (TST5878) | FM 4474 | 376T0461 | 10/09/23 |
| FM (TST1867) | Criticality | 3040377 (LTR) | 09/21/16 | PRI (TST5878) | FM 4474 | 376T0490 | 12/14/23 |
| FM (TST1867) | FM 4470 | 3058882 | 10/13/16 | PRI (TST5878) | FM 4474 | 376T0491.2 | 01/16/24 |
| FM (TST1867) | FM 4474 | RR206351 | 10/21/16 | PRI (TST5878) | FM 4474 | 376T0470 | 02/13/24 |
| FM (TST1867) | FM 4474 | 3055491 | 12/05/16 | PRI (TST5878) | FM 4474 | 376T0488.1 | 02/13/24 |
| FM (TST1867) | FM 4474 | 3058483 | 12/09/16 | PRI (TST5878) | FM 4474 | 376T0513 | 03/19/24 |
| FM (TST1867) | FM 4474 | 3056728 LTR | 12/23/16 | PRI (TST5878) | FM 4474 | 376T0532.1 | 05/09/24 |
| FM (TST1867) | FM 4470 | 3056822 LTR | 01/04/17 | PRI (TST5878) | FM 4474 | 376T0532.2 | 05/09/24 |
| FM (TST1867) | FM 4474 | RR208456 | 02/13/17 | PRI (TST5878) | FM 4474 | 376T0565.1 | 10/16/24 |
| FM (TST1867) | FM 4474 | 3061218 | 05/10/17 | PRI (TST5878) | FM 4474 | 376T0565.2 | 10/16/24 |
| FM (TST1867) | FM 4474 | 3061218 LTR | 05/16/17 | PRI (TST5878) | Criticality | 376T0590 | 11/18/24 |
| FM (TST1867) | FM 4474 | RR209927 | 06/23/17 | PRI (TST5878) | FM 4474 | 376T0570.2 | 12/16/24 |
| FM (TST1867) | FM 4474 | RR210305 | 07/13/17 | PRI (TST5878) | FM 4474, TAS 114 | 376T0588.1 | 12/16/24 |
| FM (TST1867) | FM 4474 | OMG LTR | 12/14/17 | PRI (TST5878) | FM 4474, TAS 114 | 376T0588.2 | 12/16/24 |
| FM (TST1867) | FM 4474 | RR213506 | 03/28/18 | PRI (TST5878) | FM 4474, TAS 114 | 376T0588.3 | 12/16/24 |
| FM (TST1867) | FM 4474 | RR212730 | 04/05/18 | PRI (TST5878) | Criticality | 376T0591 | 12/16/24 |
| FM (TST1867) | FM 4474 | PR449797 | 04/24/18 | TAS 114 | 376T0589 | 01/14/25 | |
| FM (TST1867) | FM 4474 | RR213333 | 04/25/18 | PRI (TST5878) | FM 4474 | 376T0597.1 | 01/15/25 |
| FM (TST1867) | FM 4474 | 3056933 | 07/19/18 | PRI (TST5878) | Criticality | 376T0606 | 04/09/25 |

| ENTITY | EXAM | REFERENCE | DATE | ENTITY | EXAM | REFERENCE | DATE |
|--------------|---------|--------------|----------|---------------|---------|-----------------|----------|
| FM (TST1867) | FM 4474 | PR449764 | 07/25/18 | PRI (TST5878) | FM 4474 | 376T0604.1 | 04/28/25 |
| FM (TST1867) | FM 4474 | 3061784 | 07/25/18 | UL (QUA9625) | QA | Service confirm | 08/18/25 |
| FM (TST1867) | FM 4474 | RR215107-267 | 09/27/18 | UL (QUA9625) | QA | Florida BCIS | Current |

4. PRODUCT DESCRIPTION:

This PEER covers **EverGuard® TPO Roof Systems** installed in accordance with **GAF** published installation instructions and the [Limitations of Use](#) herein.

| TYPE | PRODUCT | | MATERIAL STANDARD | | | PLANT(S) | |
|--------------------------|--|--------------------|-------------------|------------|-------|----------------------|----------------|
| | | | REFERENCE | TYPE | GRADE | | |
| ROOF COVER OR CAP PLY | EverGuard® TPO | 45, 60, 80-mil | ASTM D6878 | N/A | N/A | GA-V, IN, PA, TX, UT | |
| | EverGuard Extreme® TPO | 50, 60, 70, 80-mil | | | | IN, TX, UT | |
| | EverGuard Extreme® TPO | 50, 60, 70-mil | | | | PA | |
| | EverGuard® TPO Fleece-Back Membrane | 45, 60, 80-mil | | | | GA-V, IN, PA, UT | |
| | EverGuard® TPO Fleece-Back Membrane 100, 115 and 135 | 45, 60, 80-mil | | | | IN, PA, UT | |
| | EverGuard Extreme® TPO Fleece-Back Membrane | 50, 60, 70, 80-mil | | | | IN | |
| | EverGuard® SA TPO | 45, 60, 80-mil | | | | IN | |
| BASE SHEETS | GAFGLAS® #75 Base Sheet | | ASTM D4601 | II | N/A | AL, CA-F, GA-S | |
| | Tri-Ply® #75 Base Sheet | | | | | AL, CA-F, GA-S | |
| | GAFGLAS® #80 Ultima™ Base Sheet | | | | | AL, GA-S | |
| | GAFGLAS® Stratavent® Nailable Venting Base Sheet | | | | | AL, GA-S | |
| BASE PLYS: | Ruberoid® 20 Smooth | | ASTM D6163 | I | S | AR | |
| | Ruberoid® HW 20 Smooth | | | I | S | AR | |
| | Ruberoid® HW 25 Smooth | | | I | S | GA-S | |
| | Ruberoid® HW Smooth | | | I | S | GA-S | |
| | Ruberoid® Mop Smooth | | | ASTM D6164 | I | S | GA-S |
| | Ruberoid® Mop Smooth 1.5 | | | | I | S | GA-S |
| VAPOR BARRIER MEMBRANES: | GAFGLAS® #75 Base Sheet | | ASTM D4601 | II | N/A | AL, CA-F, GA-S | |
| | Tri-Ply® #75 Base Sheet | | | II | N/A | AL, CA-F, GA-S | |
| | GAFGLAS #80 Ultima Base Sheet | | | II | N/A | AL, GA-S | |
| | GAFGLAS® Ply 4 | | ASTM D2178 | IV | N/A | AL, CA-F, GA-S | |
| | Tri-Ply Ply 4 Ply Sheet | | | IV | N/A | AL, CA-F, GA-S | |
| | GAFGLAS® Ply 4 M | | | IV | N/A | AL | |
| | GAFGLAS® FlexPly™ 6 | | ASTM D6163 | VI | N/A | AL, GA-S | |
| | GAFGLAS® FlexPly™ 6 M | | | VI | N/A | AL | |
| | Ruberoid® 20 Smooth | | ASTM D6163 | I | S | AR | |
| | Ruberoid® HW 20 Smooth | | | I | S | AR | |
| | Ruberoid® HW 25 Smooth | | | I | S | GA-S | |
| | Ruberoid® HW 30 Smooth | | | I | S | AR | |
| | Ruberoid® HW Smooth | | | ASTM D6164 | I | S | GA-S |
| | Ruberoid® Mop Smooth | | | | I | S | GA-S |
| | Ruberoid® Mop Smooth 1.5 | | I | | S | GA-S | |
| | Ruberoid® Mop Plus Smooth | | I | | S | GA-S | |
| | Liberty™ SBS Self-Adhering Cap Sheet | | I | | G | AR, GA-S | |
| | Ruberoid® HW Granule | | I | | G | GA-S | |
| | Ruberoid® Mop Granule | | ASTM D6164 | I | G | CA-S, GA-S | |
| | Ruberoid® HW Plus Granule | | | I | G | GA-S | |
| | Ruberoid® Torch Smooth | | | II | G | GA-S | |
| | Ruberoid® Torch Granule | | | ASTM D6222 | I | S | CA-S, GA-S, IN |
| | Ruberoid® Torch Granule | | | | I | G | CA-S, GA-S, IN |
| | GAF SA Vapor Retarder XL and XL40 | | | N/A | N/A | N/A | IN |

5. LIMITATIONS:

- 5.1 This is a building code evaluation. Neither NEMO ETC, LLC nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this PEER, or previous versions thereof, is/was used for permitting or design guidance. PEERs are not to be construed as representing any attributes not specifically listed, nor are PEERs to be construed as an endorsement of the subject, or a recommendation for its use. There is no warranty by NEMO ETC, LLC or Robert Nieminen, P.E., express or implied, as to any finding or other matter in this PEER, or as to any product covered by the PEER.
- 5.2 This PEER is not for use in FBC High Velocity Hurricane Zone jurisdictions, as defined in FBC Chapter 2 (Broward and Miami-Dade Counties).
- 5.3 This PEER pertains to above-deck roof components. Roof decks and structural members shall be in accordance with requirements of the applicable Code to the satisfaction of the Authority Having Jurisdiction.
- 5.4 This PEER does not include evaluation of fire classification. Refer to **FBC or IBC 1505** for requirements and limitations regarding roof assembly fire classification. Refer to **FBC or IBC 2603** for requirements and limitations concerning the use of foam plastic insulation.
- 5.5 This PEER does not include evaluation of roof edge termination. Refer to **FBC or IBC 1504.5** for requirements and limitations regarding edge securement for low-slope roofs.
- 5.6 Refer to **FBC or IBC 1511** for requirements and limitations regarding recover installations.
- 5.6.1 For mechanically attached components over existing roof decks, fasteners shall be tested in the existing deck for withdrawal resistance. A qualified design professional shall review the data for comparison to the minimum requirements for the system. Testing shall be in accordance with [ANSI/SPRI FX-1](#) or [Testing Application Standard TAS 105](#).
- 5.6.2 For bonded insulation or membrane over existing substrates in a re-roof (tear off) or recover installation, the existing deck or existing roof surface shall be examined for compatibility with the adhesive to be installed. If any surface conditions exist that bring system performance into question, field uplift testing in accordance with [ANSI/SPRI IA-1](#), [ASTM E907](#), [FM Loss Prevention Data Sheet 1-52](#) or [Testing Application Standard TAS 124](#) shall be conducted on mock-ups of the proposed new roof assembly.
- 5.6.3 For bonded insulation or membrane over existing substrates in a recover installation, the existing roof system shall be capable of resisting project design pressures on its own merit to the satisfaction of the Authority Having Jurisdiction, as documented through field uplift testing in accordance with [ASTM E907](#), [FM Loss Prevention Data Sheet 1-52](#) or [Testing Application Standard TAS 124](#).
- 5.7 Refer to Appendix 1 for system attachment requirements for wind load resistance.
- 5.7.1 “MDP” = Maximum Design Pressure is the result of testing for wind load resistance based on allowable wind loads, and reflects the ultimate passing pressure divided by 2 (the 2 to 1 margin of safety per **FBC 1504.9** has already been applied). Refer to **FBC or IBC 1609** for determination of design wind loads.
- 5.7.2 For mechanically attached components or partially-bonded insulation, the maximum design pressure for the selected assembly shall meet or exceed at least the Zone 1 PRIME design pressure determined in accordance with **FBC or IBC Chapter 16**. Elevated pressure zones shall employ an attachment density designed by a qualified design professional to resist the elevated pressure criteria. Commonly used methods are [ANSI/SPRI WD1](#), [FM Loss Prevention Data Sheet 1-29](#), [Roofing Application Standard RAS 117](#) or [RAS 137](#). Assemblies marked with an asterisk* carry the limitations set forth in **Section 2.2.10.1 of FM Loss Prevention Data Sheet 1-29** for Zone 2/3 enhancements.
- 5.7.3 For assemblies with all components fully bonded in place, the maximum design pressure for the selected assembly shall meet or exceed critical design pressure determined in accordance with **FBC or IBC Chapter 16**. No rational analysis is permitted for these systems.
- 5.8 All components in the roof assembly shall have quality assurance audit in accordance with **F.A.C. Rule 61G20-3**. Refer to the Product Approval of the component manufacturer for components listed in Appendix 1 that are produced by a Product Manufacturer other than the report holder on [Page 1](#) of this PEER.

6. INSTALLATION:

EverGuard® TPO Roof Systems shall be installed in accordance with GAF published installation instructions, subject to the [Limitations of Use](#) noted herein.

7. BUILDING PERMIT REQUIREMENTS:

As required by the Building Official or Authority Having Jurisdiction to properly evaluate the installation of this product.

8. MANUFACTURING PLANTS:

Contact the named QA entity for manufacturing facilities covered by F.A.C. [Rule 61G20-3](#) QA requirements. Refer to [Section 4](#) herein for products and production locations having met codified material standards.

9. QUALITY ASSURANCE ENTITY:

[UL \(QUA9625\)](#): (360) 817-5512; bsai.inspections@ul.com

- THE 205-PAGES THAT FOLLOW FORM PART OF THIS PEER -

2023 FBC NON-HVHZ & 2018 IBC

APPENDIX 1: ATTACHMENT REQUIREMENTS FOR WIND UPLIFT RESISTANCE

| TABLE | DECK | APPLICATION | TYPE | DESCRIPTION | PAGE |
|--------------------|--------------------------------|-----------------------------------|------|---|------|
| 1A | Wood | New or Reroof (Tear-Off) | A-1 | Bonded Insulation, Bonded Roof Cover | 12 |
| 1B | Wood | New or Reroof (Tear-Off) | A-2 | Bonded Vapor Barrier, Bonded Insulation, Bonded Roof Cover | 13 |
| 1C | Wood | New, Reroof (Tear-Off) or Recover | B-1 | Mechanically Attached Base Insulation, Bonded Top Insulation, Bonded Roof Cover | 14 |
| 1D | Wood | New or Reroof (Tear-Off) | B-3 | Mechanically Attached Anchor Sheet, Bonded Insulation, Bonded Roof Cover | 15 |
| 1E | Wood | New, Reroof (Tear-Off) or Recover | B-3 | Mechanically Attached Anchor Sheet, Bonded Insulation, Bonded Roof Cover | 18 |
| 1F | Wood | New, Reroof (Tear-Off) or Recover | C-1 | Mechanically Attached Insulation, Bonded Roof Cover | 21 |
| 1G | Wood | New, Reroof (Tear-Off) or Recover | C-2 | Induction-Welded Roof Cover | 28 |
| 1H | Wood | New, Reroof (Tear-Off) or Recover | D-1 | Insulated, Mechanically Attached Roof Cover | 33 |
| 1I | Wood | New, Reroof (Tear-Off) or Recover | E-1 | Non-Insulated, Mechanically Attached Roof Cover | 34 |
| 1J | Wood | New, Reroof (Tear-Off) or Recover | E-2 | Non-Insulated, Mechanically Attached Base Sheet, Bonded Roof Cover | 34 |
| 2A | Steel | New or Reroof (Tear-Off) | A-1 | Bonded Insulation, Bonded Roof Cover | 36 |
| 2B | Steel | New or Reroof (Tear-Off) | A-2 | Bonded Vapor Barrier, Bonded Insulation, Bonded Roof Cover | 37 |
| 2C | Steel or Structural concrete | New, Reroof (Tear-Off) or Recover | B-1 | Mechanically Attached Base Insulation, Bonded Top Insulation, Bonded Roof Cover | 39 |
| 2D | Steel or Structural concrete | New, Reroof (Tear-Off) or Recover | B-1 | Mechanically Attached Base Insulation, Bonded Top Insulation, Bonded Base and Cap Ply | 53 |
| 2E | Steel | New or Reroof (Tear-Off) | B-2 | Mechanically Attached Thermal Barrier, Bonded Vapor Barrier, Bonded Insulation, Bonded Roof Cover | 57 |
| 2F | Steel or Structural concrete | New, Reroof (Tear-Off) or Recover | C-1 | Mechanically Attached Insulation, Bonded Roof Cover | 61 |
| 2G | Steel or Structural concrete | New, Reroof (Tear-Off) or Recover | C-1 | Mechanically Attached Insulation, Bonded Base and Cap Ply | 103 |
| 2H | Steel or Structural concrete | New, Reroof (Tear-Off) or Recover | C-1A | Thermal Barrier with Vapor Barrier, Mechanically Attached Insulation, Bonded Roof Cover | 108 |
| 2I | Steel | New, Reroof (Tear-Off) or Recover | C-2 | Induction-Welded Roof Cover | 111 |
| 2J | Steel or Structural concrete | New, Reroof (Tear-Off) or Recover | D-1 | Insulated, Mechanically Attached Roof Cover | 114 |
| 3A | Structural concrete | New or Reroof (Tear-Off) | A-1 | Bonded Insulation, Bonded Roof Cover | 120 |
| 3B | Structural concrete | New or Reroof (Tear-Off) | A-1 | Bonded Insulation, Bonded Base and Cap Ply | 141 |
| 3C | Structural concrete | New, Reroof (Tear-Off) or Recover | C-2 | Induction-Welded Roof Cover | 143 |
| 3D | Structural concrete | New or Reroof (Tear-Off) | F | Non-Insulated, Bonded Roof Cover | 143 |
| 4A | Deck with Lightweight Concrete | New or Reroof (Tear-Off) | A-1 | LWC to Deck, Bonded Insulation, Bonded Roof Cover | 144 |
| 4B | Deck with Lightweight Concrete | New or Reroof (Tear-Off) | B-3 | LWC to Deck, Mechanically Attached Anchor Sheet, Bonded Insulation, Bonded Roof Cover | 146 |
| 4C | Deck with Lightweight Concrete | New or Reroof (Tear-Off) | B-3 | LWC to Deck, Mechanically Attached Anchor Sheet, Bonded Insulation, Bonded Roof Cover | 147 |
| 4D | Deck with Lightweight Concrete | New or Reroof (Tear Off) | E-2 | LWC to Deck, Mechanically Attached Base Sheet, Bonded Roof Cover | 148 |
| 4E | Deck with Lightweight Concrete | New or Reroof (Tear Off) | F | LWC to Deck, Bonded Roof Cover | 151 |
| 4F | Deck with Lightweight Concrete | New or Reroof (Tear Off) | F | LWC to Deck, Bonded Roof Cover | 152 |
| 4G | Deck with Lightweight Concrete | New or Reroof (Tear Off) | F | LWC to Deck, Bonded Base and Cap Ply | 153 |
| 4H | Deck with Lightweight Concrete | New or Reroof (Tear Off) | F | Vapor Barrier to Deck, LWC to Vapor Barrier, Bonded Roof Cover | 153 |
| 5A | Cementitious wood fiber | New or Reroof (Tear-Off) | A-1 | Bonded Insulation, Bonded Roof Cover | 154 |
| 5B | Cementitious wood fiber | New, Reroof (Tear-Off) or Recover | C-1 | Mechanically Attached Insulation, Bonded Roof Cover | 155 |
| 5C | Cementitious wood fiber | New or Reroof (Tear-Off) | F | Non-Insulated, Bonded Roof Cover | 155 |
| 6A | Existing gypsum | Reroof (Tear-Off) | A-1 | Bonded Insulation, Bonded Roof Cover | 156 |
| 6B | Existing gypsum | Reroof (Tear-Off) | B-1 | Mechanically Attached Base Insulation, Bonded Top Insulation, Bonded Roof Cover | 159 |
| 6C | Existing gypsum | Reroof (Tear-Off) | B-3 | Mechanically Attached Anchor Sheet, Bonded Insulation, Bonded Roof Cover | 162 |
| 6D | Existing gypsum | Reroof (Tear-Off) | C-1 | Mechanically Attached Insulation, Bonded Roof Cover | 163 |
| 6E | Existing gypsum | Reroof (Tear-Off) | F | Non-Insulated, Bonded Roof Cover | 163 |
| 7A | Various | Recover | A-1 | Bonded Insulation, Bonded Roof Cover | 164 |
| 7B | Wood or Steel | Recover | C-2 | Induction-Welded Roof Cover | 202 |
| 7C | Steel | Recover | D-1 | Insulated, Mechanically Attached Roof Cover | 204 |
| 7D | Various | Recover | F | Non-Insulated, Bonded Roof Cover | 205 |

The following notes apply to the systems outlined herein:

- The roof system evaluation herein pertains to above-deck roof components. Roof decks and structural members shall be in accordance with requirements of the applicable Code to the satisfaction of the Authority Having Jurisdiction.
- Unless otherwise noted, fasteners and stress plates shall be as follows. Recessed plates are not for use with cement-based or gypsum-based hardboard coverboards. Fasteners shall be of sufficient length for the following engagements:

| FASTENER/PLATE OPTIONS | | | | |
|------------------------|-------|---|--|--|
| DECK TYPE | BY | PARTS | | MINIMUM ENGAGEMENT |
| | | LOOSE PARTS | PRE-ASSEMBLED PARTS | |
| Wood | GAF | Drill-Tec #12 Fastener, Drill-Tec #12 DP Fastener, Drill-Tec #12 DPH Fastener, Drill-Tec #14 Fastener or Drill-Tec #14 HD Fastener with Drill-Tec 3" Standard Steel Plate, Drill-Tec 3" Steel Plate, Drill-Tec AccuTrac Flat Plate, Drill-Tec AccuTrac Recessed Plate (insulation only), Drill-Tec 3" Flat Steel Plate or Drill-Tec 3" Recessed Steel Plate | Drill-Tec 3" ASAP Flat, Drill-Tec 3" ASAP Recessed, Drill-Tec ASAP 3S or Drill-Tec Heavy Duty ASAP Roofing Fastener Assembled with a 3" Metal Plate | Minimum ¼-inch plywood penetration or minimum 1-inch wood plank embedment |
| Steel | GAF | Drill-Tec #12 Fastener, Drill-Tec #12 DP Fastener, Drill-Tec #12 DPH Fastener, Drill-Tec #14 Fastener, Drill-Tec #14 HD Fastener, Drill-Tec XHD Fastener or Drill-Tec #15 EHD Fastener with Drill-Tec 3" Standard Steel Plate, Drill-Tec 3" Steel Plate, Drill-Tec AccuTrac Flat Plate, Drill-Tec AccuTrac Recessed Plate (insulation only), Drill-Tec 3" Flat Steel Plate or Drill-Tec 3" Recessed Steel Plate | Drill-Tec 3" ASAP Flat, Drill-Tec 3" ASAP Recessed, Drill-Tec ASAP 3S, Drill-Tec Heavy Duty ASAP Roofing Fastener Assembled with a 3" Metal Plate or Drill-Tec Extra Heavy Duty ASAP Roofing Fastener – Insulation | Minimum ¾-inch steel penetration and engage the top flute of the steel deck |
| | Note: | Unless otherwise noted, Drill Tec #12 DF Fastener or Drill Tec #14 DF Fastener with Drill Tec 3" DF Steel Insulation Plate may be used in place of Drill-Tec #12 Fastener or Drill-Tec #14 Fastener with Drill-Tec 3" Standard Steel Plate when used to secure DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board or SECUROCK Ultralight Coated Glass-Mat Roof Board to steel deck, up to a maximum allowable design pressure (MDP) of -120.0 psf. | | |
| | Note: | Unless otherwise noted, Drill Tec #12 DF Fastener or Drill Tec #14 DF Fastener with Drill Tec 3" DF Steel Insulation Plate may be used in place of Drill-Tec #12 Fastener or Drill-Tec #14 Fastener with Drill-Tec 3" Standard Steel Plate when used to secure min. 0.5-inch thick Structodek High Density Fiberboard Roof Insulation, EnergyGuard HD Polyiso Cover Board or EnergyGuard HD Plus Polyiso Cover Board or min. 1.5-inch EnergyGuard Polyiso Insulation or EnergyGuard Ultra Polyiso Insulation to steel deck. | | |
| Structural Concrete | GAF | Drill-Tec #14 Fastener, Drill-Tec #14 HD Fastener or Drill-Tec CD-10 with Drill-Tec 3" Standard Steel Plate, Drill-Tec 3" Steel Plate, Drill-Tec AccuTrac Flat Plate, Drill-Tec AccuTrac Recessed Plate (insulation only), Drill-Tec 3" Flat Steel Plate or Drill-Tec 3" Recessed Steel Plate | Drill-Tec 3" ASAP Flat (#14 only) or Drill-Tec Heavy Duty ASAP Roofing Fastener Assembled with a 3" Metal Plate | Minimum 1-inch embedment. Fasteners installed with a pilot hole in accordance with the fastener manufacturer's published installation instructions |
| | Note: | Unless otherwise noted, Drill Tec #14 DF Fastener with Drill Tec 3" DF Steel Insulation Plate may be used in place of Drill-Tec #14 Fastener with Drill-Tec 3" Standard Steel Plate when used to secure min. DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board or SECUROCK Ultralight Coated Glass-Mat Roof Board to structural concrete deck, up to a maximum allowable design pressure (MDP) of -120.0 psf. | | |
| | Note: | Unless otherwise noted, Drill Tec #14 DF Fastener with Drill Tec 3" DF Steel Insulation Plate may be used in place of Drill-Tec #14 Fastener with Drill-Tec 3" Standard Steel Plate when used to secure min. 0.5-inch thick Structodek High Density Fiberboard Roof Insulation, EnergyGuard HD Polyiso Cover Board or EnergyGuard HD Plus Polyiso Cover Board or min. 1.5-inch EnergyGuard POLYISO INSULATION or EnergyGuard Ultra Polyiso Insulation to structural concrete deck. | | |

- Unless otherwise noted, insulation may be any one layer or combination of FBC Approved (Local or Statewide) board(s) that meet FBC or IBC 1505 and, for foam plastic, FBC or IBC Chapter 26, when installed with the roof cover.
- Minimum 200 psi, minimum 2-inch thick FBC Approved lightweight insulating concrete may be substituted for, or installed below, rigid insulation board for System Types B-1, C-1, C-2, D-1 or D-2, whereby fasteners are installed through the lightweight insulating concrete to engage the structural deck. The structural deck shall be of equal or greater type, thickness and strength to the steel and structural concrete deck listings. Roof decks and structural members shall be in accordance with requirements of the applicable Code to the satisfaction of the Authority Having Jurisdiction. This is a wind uplift resistance allowance and does not purport to address non-wind-uplift-related issues, such as deck venting or moisture levels within the LWIC and the potential effect on overlying components.
- Preliminary insulation attachment: Unless otherwise noted, use FBC Approved roofing fasteners and plates and refer to Section 2.2.10.1.3 of [FM Loss Prevention Data Sheet 1-29](#).

- 6 Unless otherwise noted, insulation adhesive application rates are as follows.
- ✓ Ribbon or bead width is at the time of application; the ribbons/beads shall expand as noted in the manufacturer's published instructions.
 - ✓ If applying hot asphalt to concrete deck, deck shall be primed with ASTM D41 primer.
 - ✓ When multiple layers(s) of insulation and/or coverboard are installed in ribbon-applied adhesive, board joints shall be staggered.
 - ✓ The maximum edge distance from the adhesive ribbon to the edge of the insulation board shall be not less than one-half the specified ribbons spacing.

| INSULATION ADHESIVE REFERENCES | | | | |
|--------------------------------|-------------------------------|------------------|-----------------|--|
| By | ADHESIVE | REFERENCE | FBC FILE OR NOA | MINIMUM RATE |
| GAF | GAF LRF Adhesive M | 'LRF-M' | N/A | Continuous 0.75 to 1-inch ribbons, 12-inch o.c. |
| GAF | GAF LRF Adhesive M Canister | 'LRF-M Canister' | N/A | Continuous 1 to 1.5-inch ribbons, 12-inch o.c. |
| GAF | GAF LRF Adhesive XF | 'LRF-XF' | N/A | Continuous 0.75 to 1-inch ribbons, 12-inch o.c. |
| OMG, Inc. | OlyBond 500 Adhesive Fastener | 'OB500' | FL1608 | Continuous 0.75-inch wide ribbons, 12-inch o.c. (PaceCart, SpotShot or Canister) |
| Generic, ASTM D312, Type IV | hot asphalt | N/A | N/A | Full coverage at 25-30 lbs/square |

- 7 Unless otherwise noted, all insulations are flat-stock or taper board of the minimum thickness noted. Tapered polyisocyanurate at the following thickness limitations may be substituted with the following Maximum Design Pressure (MDP) limitations. In no case shall these values be used to 'increase' the MDP listings in the tables; rather if MDP listing below meets or exceeds that listed for a particular system in the tables, then the thinner board listed below may be used as a drop-in for the equivalent thicker material listed in the table.

| MDP LIMITATIONS FOR TAPERED POLYISOCYANURATE INSULATIONS | | | | |
|--|--|-----------------|-----------------------------|-----------|
| ADHESIVE | INSULATION | | MIN. TAPERED THICKNESS (IN) | MDP (psf) |
| | LISTED PRODUCT | FBC FILE OR NOA | | |
| LRF-M | EnergyGuard Polyiso Insulation, EnergyGuard Ultra Polyiso Insulation | FL16311 | 0.5 | -232.5 |
| LRF-XF | EnergyGuard Polyiso Insulation, EnergyGuard Ultra Polyiso Insulation | FL16311 | 0.5 | -292.5 |
| LRF-XF | EnergyGuard RA | 25-0123.02 | 0.5 | -487.5 |
| OB500 | EnergyGuard Polyiso Insulation, EnergyGuard Ultra Polyiso Insulation | FL16311 | 0.5 | -292.5 |
| OB500 | EnergyGuard RA | 25-0123.02 | 0.5 | -487.5 |
| Hot asphalt | Any EnergyGuard polyisocyanurate listed with adhesive herein | Various | 0.5 | -240.0 |

- 8 For adhered roof insulation and board-size: Unless otherwise noted, refer to Section 2.2.10.6.2 of [FM Loss Prevention Data Sheet 1-29](#).
- 9 For mechanically attached components or partially-bonded insulation, the maximum design pressure for the selected assembly shall meet or exceed at least the Zone 1 PRIME design pressure determined in accordance with FBC or IBC Chapter 16. Elevated pressure zones shall employ an attachment density designed by a qualified design professional to resist the elevated pressure criteria. Commonly used methods are [ANSI/SPRI WD1](#), [FM Loss Prevention Data Sheet 1-29](#), [Roofing Application Standard RAS 117](#) and [RAS 137](#). Assemblies marked with an asterisk* carry the limitations set forth in Section 2.2.10.1 of [FM Loss Prevention Data Sheet 1-29](#) for Zone 2/3 enhancements.
- 10 For assemblies with all components fully bonded, the maximum design pressure for the selected assembly shall meet or exceed critical design pressure determined in accordance with FBC or IBC Chapter 16. No rational analysis is permitted for these systems.
- 11 For mechanically attached components over existing decks, fasteners shall be tested in the existing deck for withdrawal resistance. A qualified design professional shall review the data for comparison to the minimum requirements for the system. Testing and analysis shall be in accordance with [ANSI/SPRI FX-1](#) or [Testing Application Standard TAS 105](#).

12 For bonded insulation or membrane over existing substrates in a re-roof (tear off) or recover installation, the existing deck or existing roof surface shall be examined for compatibility with the adhesive to be installed. If any surface conditions exist that bring system performance into question, field uplift testing shall be conducted on mock-ups of the proposed new roof assembly. For bonded insulation or membrane over existing substrates in a recover installation, the existing roof system shall be capable of resisting project design pressures on its own merit to the satisfaction of the Authority Having Jurisdiction, as documented through field uplift testing. Field uplift testing shall be in accordance with ASTM E907, [FM Loss Prevention Data Sheet 1-52](#) or [Testing Application Standard TAS 124](#).

12A Reference to “Existing gravel-surfaced asphaltic built-up roof, brushed / spudded and vacuumed to remove loose gravel” in Table 7A is intended to convey an as-tested condition whereby any loose-gravel that does not remain embedded in the asphalt flood coat after brushing and/or spudding be removed. The gravel that remains embedded in the asphalt flood coat remains.



13 Refer to FBC or IBC 1511 for requirements and limitations regarding recover installations. For Structural Concrete Deck or Recover Applications using System Type C-1 the base insulation layer is optional and for System Type C-2, D-1 or D-2, the insulation is optional. Alternatively, an FBC Approved insulation board or coverboard may be used as a separation layer. Board products shall be preliminarily attached prior to roof cover installation ([Note 5](#)). The separator component shall be documented as meeting FBC or IBC 1505 and, for foam plastic, FBC or IBC Chapter 26, when installed with the roof cover in Recover applications.

14 Lightweight insulating concrete (LWIC) shall be cast in accordance with FBC Section 1917 to the satisfaction of the Authority Having Jurisdiction. For systems where specific LWIC is referenced, refer to current LWIC Product Approval for specific deck construction and limitations. Unless otherwise noted, for systems where specific LWIC is not referenced, the minimum design mix shall be 300 psi. In all cases, the minimum top-coat thickness is 2-inches. For LWIC over structural concrete, reference is made to FBC Section 1917.4.1, Point 1.

For “pre-existent” LWIC references, listings were established through testing over lightweight concrete cast using only foaming agent (ASTM C896), water and Portland cement (ASTM C150), with no proprietary additives, in accordance with procedures adopted by Miami-Dade BCCO (FBC CER1592). Use of these listings in new construction or re-roof (tear-off) applications is at the discretion of the Designer or Record and Authority Having Jurisdiction.

15 For bonded membrane applications, unless otherwise noted, refer to the following.

| MEMBRANE / ADHESIVE COMBINATIONS ROOF COVERS | | | | |
|---|------------------|---|----------------------|--|
| REFERENCE | MEMBRANE | ADHESIVE | APPLICATION | RATE |
| TPO-SA | EverGuard SA TPO | self-adhering | self-adhering | self-adhering |
| TPO-1121 | EverGuard TPO | EverGuard TPO 1121 Bonding Adhesive | Contact (both sides) | 0.8 to 1.0 gal/square/surface. For use over SECUROCK Gypsum-Fiber Roof Board, the application rate changes to 1.2 to 1.67 gal/sq/surface |
| TPO-3SQ | EverGuard TPO | EverGuard TPO 3 Square Low VOC Bonding Adhesive | Contact (both sides) | 0.84 gal/square/surface |
| TPO-6SQ | EverGuard TPO | EverGuard TPO 6 Square Low VOC Bonding Adhesive | Contact (both sides) | 0.46 gal/square/surface |
| TPO-QSA | EverGuard TPO | EverGuard TPO Quick Spray Adhesive | Contact (both sides) | Total application rate: ~0.71 lbs/sq (dry rate). |

| MEMBRANE / ADHESIVE COMBINATIONS ROOF COVERS | | | | |
|---|---|--|----------------------|--|
| REFERENCE | MEMBRANE | ADHESIVE | APPLICATION | RATE |
| TPO-QSALV50 | EverGuard TPO | EverGuard TPO Quick Spray Adhesive LV 50 | Contact (both sides) | Total application rate: ~0.84 lbs/sq (dry-rate). |
| | | | Note: | Detec Systems "TruGround Conductive Primer", applied at 0.4 gal/square to USG "SECUROCK Gypsum-Fiber Roof Board" prior to TPO-QSALV50 installation, has the following MDP Limitations. The lesser of the system listing vs. MDP below applies: <ul style="list-style-type: none"> ➢ Air Permeable Decks (wood, steel, CWF): MDP = -90.0 psf ➢ Monolithic Decks (structural concrete, poured gypsum, recover): MDP = -382.5 psf |
| TPO-WB | EverGuard TPO | EverGuard WB181 Bonding Adhesive | Contact (both sides) | To polyisocyanurate or Structodek High Density Fiberboard Roof Insulation at 0.63 gal/square and roof cover underside at 0.21 gal/square. To DensDeck Prime, DEXcell FA Glass Mat Roof Board or SECUROCK Gypsum-Fiber Roof Board at 0.63 to 0.75 gal/square and roof cover underside at 0.21 to 0.25 gal/square |
| TPOFB-HA1 | EverGuard TPO Fleece-Back Membrane | hot asphalt | Wet lay (substrate) | 25 lbs/square |
| TPOFB-HA2 | EverGuard TPO Fleece-Back Membrane 100, 115 or 135 | | | |
| TPOFB-LM1 | EverGuard TPO Fleece-Back Membrane | GAF LRF Adhesive M | Wet lay (substrate) | 1-inch wide ribbons spaced as noted in tables herein. Note: The adhesive ribbons are located directly over the adhesive ribbons used to secure the insulation when the cover is bonded to insulation less than 1.5-inch thick or "spatter pattern" at 0.55 to 0.75 gal/square. |
| TPOFB-LM2 | EverGuard TPO Fleece-Back Membrane 100, 115 or 135 | | | |
| TPOFB-LMC1 | EverGuard TPO Fleece-Back Membrane | GAF LRF Adhesive M Canister | Wet lay (substrate) | "Spatter pattern" at 0.3 gal/square. Notes: TPOFB-LMC1 (spatter) is an acceptable alternate to TPOFB-LM1 (ribbons). Limited to MDP -90.0 psf over air permeable decks (wood, steel and CWF). |
| TPOFB-LMC2 | EverGuard TPO Fleece-Back Membrane 100, 115 or 135 | GAF LRF Adhesive M Canister | Wet lay (substrate) | "Spatter pattern" at 0.3 gal/square. Notes: TPOFB-LMC2 (spatter) is an acceptable alternate to TPOFB-LM2 (ribbons). Limited to MDP -90.0 psf over air permeable decks (wood, steel and CWF). |
| TPOFB-LO1 | EverGuard TPO Fleece-Back Membrane | GAF LRF Adhesive O | Wet lay (substrate) | 1-inch wide ribbons spaced as noted in tables herein. Note: The adhesive ribbons are located directly over the adhesive ribbons used to secure the insulation when the cover is bonded to insulation less than 1.5-inch thick. |
| TPOFB-LO2 | EverGuard TPO Fleece-Back Membrane 100, 115 or 135 | | | |
| TPOFB-OB1 | EverGuard TPO Fleece-Back Membrane | OlyBond 500 Canister | Wet lay (substrate) | "Spatter pattern" at 0.32 gal/square (to insulation, coverboard or Tectum) "Spatter pattern" at 0.83 gal/square (to asphaltic base ply membrane). Note: TPOFB-OB1 (spatter) is an acceptable alternate to TPOFB-LO1 (ribbons). |
| TPOFB-OB2 | EverGuard TPO Fleece-Back Membrane 100, 115 or 135 | OlyBond 500 Canister | Wet lay (substrate) | "Spatter pattern" at 0.32 gal/square (to insulation, coverboard or Tectum) "Spatter pattern" at 0.83 gal/square (to asphaltic base ply membrane). Note: TPOFB-OB2 (spatter) is an acceptable alternate to TPOFB-LO2 (ribbons). |
| TPOFB-XF1 | EverGuard TPO Fleece-Back Membrane | GAF LRF Adhesive XF | Wet lay (substrate) | "Spatter pattern" at 3.0 lbs/sq. |
| TPOFB-XF2 | EverGuard TPO Fleece-Back Membrane 100, 115 or 135 | | | |
| TPOFB-WB | EverGuard TPO Fleece-Back Membrane | EverGuard WB181 Bonding Adhesive | Wet lay (substrate) | 0.83 to 1.0 gal/square |
| SBS-CA | Ruberoid 20 Smooth, Ruberoid Mop Smooth 1.5, Ruberoid Mop Smooth or Ruberoid Mop Plus Smooth | Matrix 102 SBS Membrane Adhesive | | 1.5 gal/square |
| SBS-CA1 | Ruberoid 20 Smooth, Ruberoid Mop Smooth 1.5, Ruberoid Mop Smooth or Ruberoid Mop Plus Smooth | Matrix 101 Premium SBS Membrane Adhesive | | 1.5 – 2.0 gal/square |
| BP-AA | One or two plies GAFGLAS #75 Base Sheet, Tri-Ply #75 Base Sheet or GAFGLAS #80 Ultima Base Sheet | Hot asphalt | | 25 lbs/square |
| SBS-AA | One or two plies Ruberoid 20 Smooth, Ruberoid Mop Smooth 1.5, Ruberoid Mop Smooth or Ruberoid Mop Plus Smooth | Hot asphalt | | 25 lbs/square |
| SBS-SA | LIBERTY SBS Self-Adhering Cap Sheet | Self-adhering | | Full bond |

| MEMBRANE / ADHESIVE COMBINATIONS ROOF COVERS | | | | |
|---|---|---------------|-------------|-----------|
| REFERENCE | MEMBRANE | ADHESIVE | APPLICATION | RATE |
| SBS-TA | One or two plies Ruberoid HW 20 Smooth, Ruberoid HW 25 Smooth or Ruberoid HW Smooth | Torch-applied | | Full bond |

| MEMBRANE / ADHESIVE COMBINATIONS VAPOR BARRIERS | | |
|--|--|---|
| REFERENCE | MATERIAL | APPLICATION |
| VB-APP-TA (smooth) | Ruberoid Torch Smooth | Torch-applied |
| VB-APP-TA (granule) | Ruberoid Torch Granule | Torch-applied |
| VB-BP1-AA | One or more GAFGLAS #75 Base Sheet, Tri-Ply #75 Base Sheet, GAFGLAS #80 Ultima Base Sheet | Hot asphalt at 25 lbs/square. |
| VB-BP2-AA | One or two plies, GAFGLAS Ply 4, GAFGLAS Ply 4 M, Tri-Ply Ply 4 Ply Sheet, GAFGLAS FlexPly 6 or GAFGLAS FlexPly 6 M | Hot asphalt at 25 lbs/square. |
| VB-SBS-AA | Ruberoid 20 Smooth, Ruberoid Mop Smooth, Ruberoid Mop Smooth 1.5, Ruberoid Mop Plus Smooth or Ruberoid Mop Granule | Hot asphalt at 25 lbs/square. |
| VB-SBS-CA | Ruberoid 20 Smooth, Ruberoid Mop Smooth, Ruberoid Mop Smooth 1.5, Ruberoid Mop Plus Smooth or Ruberoid Mop Granule | Matrix 102 SBS Membrane Adhesive at 1.5 gal/sq. |
| VB-SBS-SA | Liberty SBS Self-Adhering Cap Sheet | Self-adhering |
| VB-SBS-TA | Ruberoid HW 20 Smooth, Ruberoid HW 25 Smooth, Ruberoid HW 30 Smooth, Ruberoid HW Smooth, Ruberoid HW Granule or Ruberoid HW Plus Granule | Torch-applied |

- 15A For single-ply membranes in System Type D-1 steel deck applications, the roof membrane shall be run with its length perpendicular to the steel deck flutes.
- 15B For System Type C-2 (induction weld):
- 15B.1 Care shall be taken to ensure that the plates do not line-up with membrane seams. This condition may preclude proper induction welding of the membrane to the plates.
- 15B.2 For assemblies using Drill-Tec RhinoBond PVC XHD Tread Safe Plate:
- ✓ Drill-Tec Tread Safe Tubes are installed through the center hole of the Drill-Tec RhinoBond XHD Tread Safe Plate.
 - ✓ The insulation thickness shall be not less than 2-inches.
 - ✓ When rigid cement-board or gypsum-board is present, a 5/8-inch diameter hole shall be pre-drilled through the coverboard through which the Drill-Tec Tread Safe Tube is inserted prior to fastener installation.
- 15C The “Triposite Roofing System” noted herein consists of loose-laid GAFGLAS Stratavent Perforated Venting Base Sheet, followed by asphalt-applied one (1) or two (2) plies of Ruberoid 20 Smooth or three (3) plies of GAFGLAS FlexPly 6 or GAFGLAS FlexPly 6 M, followed by asphalt-applied EverGuard TPO Fleece-Back Membrane or EverGuard TPO Fleece-Back Membrane 100, 115 or 135 with 1-5/8” heat welded side laps.
- 15D Unless otherwise noted, the “Hybrid Roofing System” noted herein consists of asphalt-applied Ruberoid 20 Smooth, Ruberoid Mop Smooth, Ruberoid Mop Smooth 1.5, GAFGLAS #75 Base Sheet, Tri-Ply #75 Base Sheet or GAFGLAS #80 Ultima Base Sheet followed by asphalt-applied EverGuard TPO Fleece-Back Membrane or EverGuard TPO Fleece-Back Membrane 100, 115 or 135.
- 15E TruGround® Conductive Primer by Detec Systems, applied at 0.4 gal/square, may be applied to the substrate prior to membrane application for System Types C-2, D-1 or D-2 with no adverse effect on wind uplift resistance. For System Type C-2, do not contaminate the induction weld stress plate with primer.

15F TruGround® Conductive Primer by Detec Systems, applied at 0.4 gal/square, may be applied to the substrate prior to membrane-adhesive application with the following Maximum Design Pressure (MDP) limitations. In no case shall these values be used to 'increase' the MDP listings in the tables; rather if MDP listing below meets or exceeds that listed for a particular system in the tables, then the optional use of TruGround Conductive Primer is permissible.

| LIMITATIONS FOR TRUGROUND® CONDUCTIVE PRIMER | | | | |
|---|---------------------------|--|--|-----------|
| DECK TYPE | SYSTEM TYPE | SUBSTRATE OPTIONS | MEMBRANE/ADHESIVE OPTIONS (NOTE 15) | MDP (psf) |
| Any | A-1, B-1, B-2, B-3 or C-1 | EnergyGuard HD Polyiso Cover Board, EnergyGuard HD Plus Polyiso Cover Board or Ultra HD Composite Insulation | TPO-SA, TPO-3SQ, TPO-QSALV50, TPOFB-OB1, TPOFB-OB2, TPOFB-XF1 or TPOFB-XF2 | -142.5 |
| | | DensDeck Prime | | |
| | | DEXcell FA Glass Mat Roof Board | | |
| | | SECUROCK Gypsum-Fiber Roof Board | | |
| Monolithic (structural concrete, lightweight concrete, recover) | A-1 | EnergyGuard HD Polyiso Cover Board, EnergyGuard HD Plus Polyiso Cover Board or Ultra HD Composite Insulation | TPO-SA, TPO-3SQ or TPO-QSALV50 | -285.0 |
| | | | TPOFB-OB1, TPOFB-OB2, TPOFB-XF1 or TPOFB-XF2 | -382.5 |
| | | DensDeck Prime | TPO-3SQ, TPO-QSALV50, TPOFB-XF1 or TPOFB-XF2 | -285.0 |
| | | | TPO-SA, TPOFB-OB1 or TPOFB-OB2 | -382.5 |
| | | DEXcell FA Glass Mat Roof Board | TPO-SA, TPO-3SQ or TPO-QSALV50 | -285.0 |
| | | | TPOFB-OB1, TPOFB-OB2, TPOFB-XF1 or TPOFB-XF2 | -382.5 |
| | | SECUROCK Gypsum-Fiber Roof Board | TPOFB-XF1 or TPOFB-XF2 | -285.0 |
| | | | TPO-SA, TPO-3SQ, TPO-QSALV50, TPOFB-OB1 or TPOFB-OB2 | -382.5 |

16 **Thermal Barrier and/or Vapor Barrier Options:**

16A **Structural Concrete Decks:** The lesser of the MDP listings below vs. that for the selected assembly applies.

| STRUCTURAL CONCRETE DECK: VAPOR BARRIER FOLLOWED BY ADHERED INSULATION | | | | | |
|--|--|---|--|----------------------------------|-----------|
| OPTION # | PRIMER | VAPOR BARRIER (NOTE 15) | | INSULATION ADHESIVE PER TABLE 3A | MDP (PSF) |
| | | TYPE | APPLICATION | | |
| C-VB-1. | Matrix 307 Premium Asphalt Primer or ASTM D41 primer | VB-APP-TA (granule) | Torch-applied | Hot asphalt | -225.0 |
| C-VB-2. | Matrix 307 Premium Asphalt Primer or ASTM D41 primer | VB-BP-AA1 | Hot asphalt applied | Hot asphalt | -360.0 |
| C-VB-3. | Matrix 307 Premium Asphalt Primer or ASTM D41 primer | VB-BP2-AA or VB-SBS-AA | Hot asphalt applied | Hot asphalt | -495.0 |
| C-VB-4. | None | GAF SA Vapor Retarder XL | Self-adhering | LRF-M, 12-inch o.c. | -180.0 |
| C-VB-5. | Matrix 307 Premium Asphalt Primer or ASTM D41 primer | VB-APP-TA (granule), VB-SBS-AA, VB-SBS-CA, VB-SBS-SA or VB-SBS-TA | See Note 15 | LRF-M, 12-inch o.c. | -180.0 |
| C-VB-6. | GAF SA Primer | GAF SA Vapor Retarder | Self-adhering | LRF-M, 12-inch o.c. | -202.5 |
| C-VB-7. | Matrix 307 Premium Asphalt Primer or ASTM D41 primer | VB-BP1-AA, VB-BP2-AA or VB-SBS-AA | Hot asphalt applied | LRF-M, 12-inch o.c. | -495.0 |
| C-VB-8. | Matrix 307 Premium Asphalt Primer or ASTM D41 primer | VB-APP-TA (granule) | Torch-applied | LRF-XF, 12-inch o.c. | -169.0 |
| C-VB-9. | None | GAF SA Vapor Retarder XL | Self-adhering | LRF-XF 12-inch o.c. | -180.0 |
| C-VB-10. | Matrix 307 Premium Asphalt Primer or ASTM D41 primer | VB-APP-TA (granule), VB-SBS-AA, VB-SBS-CA, VB-SBS-SA or VB-SBS-TA | See Note 15 | LRF-XF, 12-inch o.c. | -180.0 |
| C-VB-11. | GAF SA Primer | GAF SA Vapor Retarder | Self-adhering | LRF-XF, 12-inch o.c. | -202.5 |
| C-VB-12. | Matrix 307 Premium Asphalt Primer or ASTM D41 primer | VB-SBS-SA | Self-adhering | LRF-XF, 12-inch o.c. | -250.0 |
| C-VB-13. | Matrix 307 Premium Asphalt Primer or ASTM D41 primer | VB-BP1-AA, VB-BP2-AA or VB-SBS-AA | Hot asphalt applied | LRF-XF, 12-inch o.c. | -262.5 |
| C-VB-14. | Matrix 307 Premium Asphalt Primer or ASTM D41 primer | Ruberoid 30 | Hot asphalt applied | LRF-XF, 12-inch o.c. | -270.0 |
| C-VB-15. | Matrix 307 Premium Asphalt Primer or ASTM D41 primer | VB-APP-TA (smooth) | Torch-applied | OB500, 12-inch o.c. | -165.0 |
| C-VB-16. | None | GAF SA Vapor Retarder XL | Self-adhering | OB500, 12-inch o.c. | -180.0 |
| C-VB-17. | Matrix 307 Premium Asphalt Primer or ASTM D41 primer | VB-SBS-AA, VB-SBS-CA, VB-SBS-SA or VB-SBS-TA | See Note 15 | OB500, 12-inch o.c. | -180.0 |
| C-VB-18. | Matrix 307 Premium Asphalt Primer or ASTM D41 primer | VB-SBS-SA | Self-adhering | OB500, 12-inch o.c. | -187.5 |
| C-VB-19. | Matrix 307 Premium Asphalt Primer or ASTM D41 primer | Ruberoid 20 Smooth | Matrix 102 SBS Membrane Adhesive at 1.5 gal/square | OB500, 12-inch o.c. | -202.5 |

| STRUCTURAL CONCRETE DECK: VAPOR BARRIER FOLLOWED BY ADHERED INSULATION | | | | | |
|--|--|-----------------------------------|---------------------|----------------------------------|-----------|
| OPTION # | PRIMER | VAPOR BARRIER (NOTE 15) | | INSULATION ADHESIVE PER TABLE 3A | MDP (PSF) |
| | | TYPE | APPLICATION | | |
| C-VB-20. | GAF SA Primer | GAF SA Vapor Retarder | Self-adhering | OB500, 12-inch o.c. | -202.5 |
| C-VB-21. | Matrix 307 Premium Asphalt Primer or ASTM D41 primer | VB-APP-TA (granule) | Torch-applied | OB500, 12-inch o.c. | -225.0 |
| C-VB-22. | Matrix 307 Premium Asphalt Primer or ASTM D41 primer | Ruberoid HW Smooth | Torch-applied | OB500, 12-inch o.c. | -232.5 |
| C-VB-23. | Matrix 307 Premium Asphalt Primer or ASTM D41 primer | VB-BP1-AA, VB-BP2-AA or VB-SBS-AA | Hot asphalt applied | OB500, 12-inch o.c. | -352.5 |

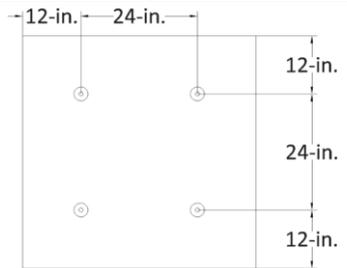
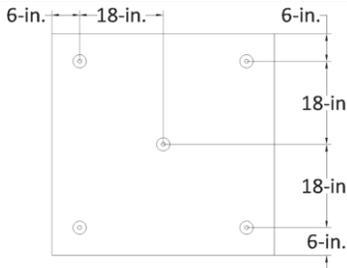
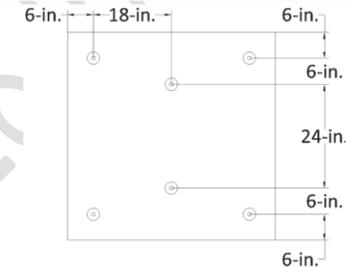
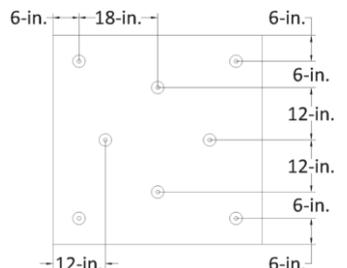
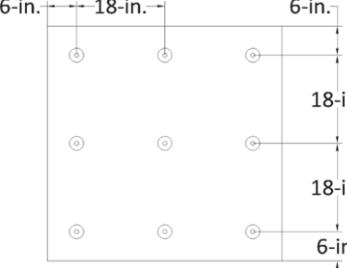
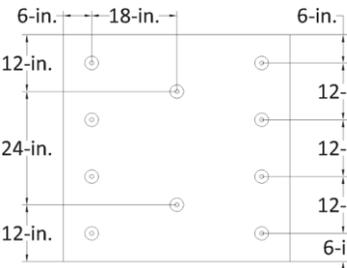
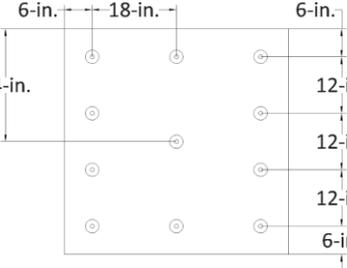
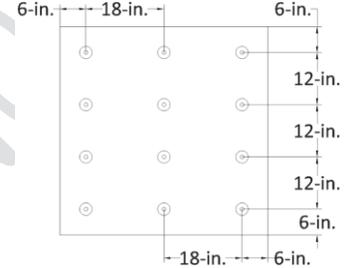
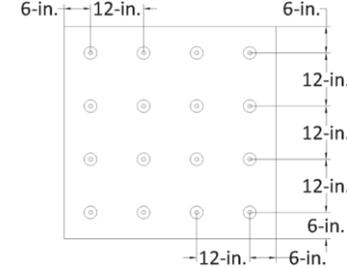
16B Decks followed by Vapor Barrier followed by Lightweight Concrete (LWC): The lesser of the MDP listings below vs. that for the selected assembly from the Lightweight Concrete tables applies:

| VAPOR BARRIER OPTIONS; STRUCTURAL CONCRETE DECK FOLLOWED BY CELLULAR LIGHTWEIGHT INSULATING CONCRETE | | | | | |
|--|--|---|--------|---|-----------|
| OPTION # | PRIMER | VAPOR BARRIER | | LIGHTWEIGHT CONCRETE PER TABLE 4A-4G (Note 14) | MDP (psf) |
| | | TYPE | ATTACH | | |
| LWC-VB-1. | Matrix 307 Premium Asphalt Primer or ASTM D41 primer | Base Ply (Optional): One or two plies Ruberoid HW 20 Smooth, Ruberoid HW 25 Smooth, Ruberoid HW Smooth Cap Ply: Ruberoid HW Granule, Ruberoid HW Granule FR, Ruberoid HW Plus Granule, Ruberoid HW Plus Granule FR | | Min. 200 psi Mearlcrete (FL13492) | -82.5 |
| LWC-VB-2. | Matrix 307 Premium Asphalt Primer or ASTM D41 primer | Base Ply (Optional): One or two plies Ruberoid HW 20 Smooth, Ruberoid HW 25 Smooth, Ruberoid HW Smooth Cap Ply: Ruberoid HW Granule, Ruberoid HW Granule FR, Ruberoid HW Plus Granule, Ruberoid HW Plus Granule FR | | Min. 300 psi Celcore Cellular Concrete (FL2037) | -135.0 |
| LWC-VB-3. | Matrix 307 Premium Asphalt Primer or ASTM D41 primer | Base Ply (Optional): One or two plies Ruberoid HW 20 Smooth, Ruberoid HW 25 Smooth, Ruberoid HW Smooth Cap Ply: Ruberoid HW Granule, Ruberoid HW Granule FR, Ruberoid HW Plus Granule, Ruberoid HW Plus Granule FR | | Min. 300 psi Elastizell (FL4994) | -302.5 |
| LWC-VB-4. | Matrix 307 Premium Asphalt Primer or ASTM D41 primer | Ruberoid HW 20 Smooth, Ruberoid HW 25 Smooth, Ruberoid HW Smooth | | Min. 540 psi pre-existent cellular LWC | -358.0 |

16C For System Types B-1, B-2, C-1, C-2, D-1 or D-2, GAF SA Vapor Retarder or GAF SA Vapor Retarder XL may be installed atop the roof deck, or to a loose-laid thermal barrier of DensDeck, DensDeck Prime, DensDeck StormX Prime, DEXcell Glass Mat Roof Board, DEXcell FA Glass Mat Roof Board, DEXcell Cement Roof Board, SECUROCK Gypsum-Fiber Roof Board, SECUROCK Ultralight Coated Glass Mat Roof Board or SECUROCK Cement Roof Board, prior to installation of the insulation and roof cover. When adhering GAF SA Vapor Retarder to structural concrete, the substrate shall be primed with GAF SA Primer, TPO QSA or TPO QSA LV50. When adhering GAF SA Vapor Retarder to gypsum or cement boards, the substrate shall be primed with GAF SA Primer, TPO QSA, TPO QSA LV50 or Matrix 307 Premium Asphalt Primer. Refer to [FM Loss Prevention Data Sheet 1-29](#) for design and installation limitations.

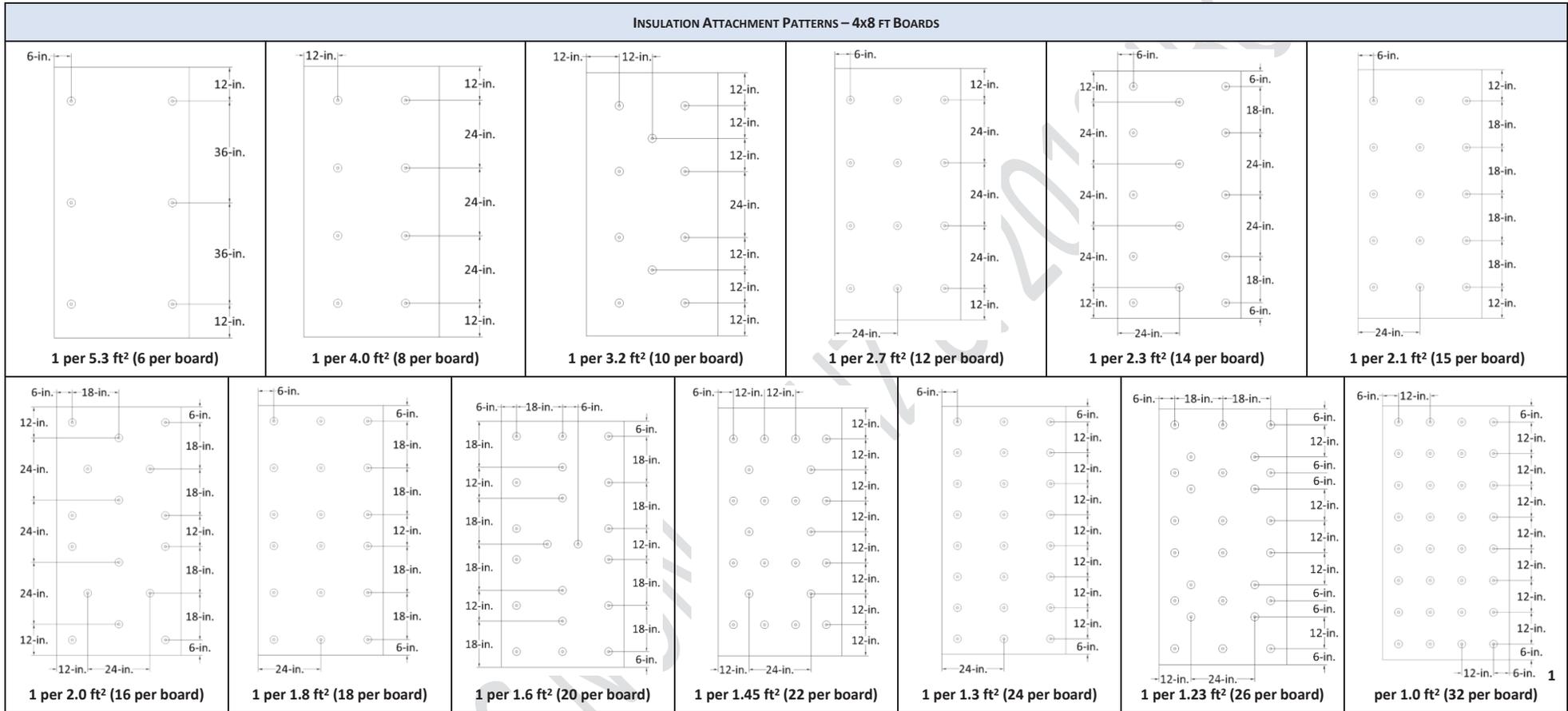
16D Fire barrier of VersaShield Solo™ Fire-Resistant Slip Sheet is optional in all assemblies when overlying components are mechanically fastened.

17 Unless otherwise noted, insulation or coverboard attachment patterns for Type B-1, Type B-2, Type C-1 and C-2 systems are as outlined below.

| INSULATION ATTACHMENT PATTERNS – 4x4 FT BOARDS | | |
|---|---|--|
|  <p>1 per 4.0 ft² (4 per board)</p> |  <p>1 per 3.2 ft² (5 per board)</p> |  <p>1 per 2.7 ft² (6 per board)</p> |
|  <p>1 per 2.0 ft² (8 per board)</p> |  <p>1 per 1.8 ft² (9 per board)</p> |  <p>1 per 1.6 ft² (10 per board)</p> |
|  <p>1 per 1.45 ft² (11 per board)</p> |  <p>1 per 1.3 ft² (12 per board)</p> |  <p>1 per 1.0 ft² (16 per board)</p> |



INSULATION ATTACHMENT PATTERNS – 4x8 FT BOARDS



18 The following products are interchangeable within the scope of this PEER:

| ACCEPTABLE ALTERNATES | | | | |
|-----------------------|-----------------------------|-----------------|---|--|
| SUB-CATEGORY | MANUFACTURER | FBC FILE OR NOA | LISTED PRODUCT HEREIN | ALTERNATE |
| ROOFING INSULATION | GAF | FL16311 | EnergyGuard Polyiso Insulation | EnergyGuard NH Polyiso Insulation |
| | | | EnergyGuard Ultra Polyiso Insulation | EnergyGuard NH Ultra Polyiso Insulation |
| | | | EnergyGuard HD Polyiso Cover Board | EnergyGuard HD Barrier Polyiso Cover Board, EnergyGuard NH HD Polyiso Cover Board or EnergyGuard NH HD Barrier Polyiso Cover Board |
| | | | EnergyGuard HD Plus Polyiso Cover Board | EnergyGuard NH HD Plus Polyiso Cover Board |
| | Georgia-Pacific Gypsum, LLC | FL1250 | DensDeck Prime | DensDeck StormX Prime Roof Board |
| VAPOR BARRIER | GAF | N/A | GAF SA Vapor Retarder XL | GAF SA Vapor Retarder XL40 |

19 “MDP” = Maximum Design Pressure is the result of testing for wind load resistance based on allowable wind loads. Refer to FBC or IBC 1609 for determination of design wind loads. [\(Notes 9 and 10\)](#)

TABLE 7c: STEEL - RECOVER
SYSTEM TYPE D-1: INSULATED, MECHANICALLY ATTACHED ROOF COVER

(All areas where the existing metal panels do not lay flush on the underlying purlin shall have a 0.25-inch diameter pilot hole pre-drilled into the panel prior to driving the Purlin Fastener into the purlin.)

| System No. | Deck (Note 1) | Insulation (Note 5) | Separator Sheet (Optional) | Roof Cover (Note 15A) | | | MDP (psf) |
|------------|---|---|--|---------------------------------------|---|--|---------------------------|
| | | | | Membrane | Fastener (Note 11) | Attachment | |
| R-485. | Existing standing seam or lap seam metal roof covers having min. 16 gauge (0.0598 inch), 50 ksi or min. 12 gauge (0.105 in.), 36 ksi steel purlins spaced max. 114-inch o.c. | One or more layers, any combination, prelim. attached | EverGuard Polymat Separation Layer (3 oz/yd ² or 6 oz/yd ²) | EverGuard TPO | Drill-Tec Hex Head Purlin Fastener and Drill-Tec 2 in. Double Barbed XHD Plate, Drill-Tec 2-3/8 in. Barbed XHD Plate, Drill-Tec 2-3/8 in. Double Barbed XHD Plate, Drill-Tec Eyehook AccuSeam Plate or Drill-Tec #12 Purlin Fastener with Drill-Tec 2.4" Barbed Seam Plate or Drill-Tec 2.4" Scoop Seam Plate | 6-inch o.c. in rows spaced max. 114-inch o.c. to engage steel purlin. An 8-inch wide cover strip is heat welded over the stress plates. | -52.5 |
| R-486. | Existing standing seam or lap seam metal roof covers having min. 14 gauge (0.0747 inch), 50 ksi or min. 12 gauge (0.105 in.), 36 ksi steel purlins spaced max. 84-inch o.c. | One or more layers, any combination, prelim. attached | EverGuard Polymat Separation Layer (3 oz/yd ² or 6 oz/yd ²) | EverGuard TPO | Drill-Tec Purlin Fastener and Drill-Tec 2-3/4 in. Barbed SXHD Plate | 6-inch o.c. within min. 6-inch wide laps spaced max. 84-inch o.c. to engage steel purlin. Laps sealed with 1.5-inch heat weld. | -60.0 |
| R-487. | Existing standing seam or lap seam metal roof covers having min. 16 gauge (0.0598 inch), 50 ksi or min. 12 gauge (0.105 in.), 36 ksi steel purlins spaced max. 63-inch o.c. | One or more layers, any combination, prelim. attached | EverGuard Polymat Separation Layer (3 oz/yd ² or 6 oz/yd ²) | EverGuard TPO, min. 60-mil | Drill-Tec Hex Head Purlin Fastener and Drill-Tec 2" Metal Seam Plate | 3-inch o.c. in rows spaced max. 63-inch o.c. to engage steel purlin. An 8-inch wide cover strip over the stress plates, sealed with 1.5-inch heat weld on all sides. | -195.0 |

TABLE 7D: RECOVER APPLICATIONS
SYSTEM TYPE F: NON-INSULATED, BONDED ROOF COVER

^ The reported MDP documents the allowable maximum design pressure of the new roof cover when adhered to the substrate, irrespective of the deck type (See Note 1) or performance of the substrate (See Note 12). The deck and substrate shall be capable of resisting the project design pressure requirements, not to exceed the noted MDP, to the satisfaction of the Authority Having Jurisdiction.

| System No. | Substrate (Note 1 and Note 12) | Roof Cover (Note 15) | MDP (psf) ^A |
|------------|--|---|--|
| R-488. | Existing fully adhered TPO single ply roof cover | TPO-1121, TPO-3SQ or TPO-6SQ | -157.5 |
| R-489. | Existing fully adhered TPO single ply roof cover | TPO-QSA or TPO-QSALV50 | -135.0 |
| R-490. | Existing fully adhered granule-surfaced asphaltic roof cover, existing fully adhered granule-surfaced SBS modified bitumen or existing fully adhered granule-surfaced APP modified bitumen | TPOFB-LM1, TPOFB-LM2, TPOFB-LO1 or TPOFB-LO2 (12-inch o.c.) | -60.0 |
| R-491. | Existing fully adhered granule-surfaced asphaltic roof cover | TPOFB-LM1 or TPOFB-LM2 (6-inch o.c.) | -67.5 |
| R-492. | Existing fully adhered smooth- or granule-surfaced SBS modified bitumen or existing fully adhered smooth- or granule-surfaced APP modified bitumen | TPOFB-LM1, TPOFB-LM2, TPOFB-LO1 or TPO-LO2 (4-inch o.c.) | -337.5 |
| R-493. | Existing fully adhered, granule-surfaced asphaltic roof cover | TPOFB-LO1 or TPOFB-LO2 (4-inch o.c.) | -415.0 |
| R-494. | Existing fully adhered, granule-surfaced asphaltic roof cover | TPOFB-LM1 or TPOFB-LM2 (4-inch o.c.) | -492.5 |
| R-495. | Existing fully adhered, granule-surfaced asphaltic roof cover | TPOFB-OB1, TPOFB-OB2, TPOFB-XF1 or TPOFB-XF2 | -120.0 |
| R-496. | Existing fully adhered smooth- or granule-surfaced SBS modified bitumen or existing fully adhered granule-surfaced APP modified bitumen | TPOFB-OB1, TPOFB-OB2, TPOFB-XF1 or TPOFB-XF2 | -337.5 |
| R-497. | Existing fully adhered, granule-surfaced asphaltic roof cover | TPOFB-HA1 or TPOFB-HA2 | -405.0 |
| R-498. | Existing fully adhered, granule-surfaced modified bitumen roof cover | TPOFB-HA2 | -445.0 |

EverGuard®
GAF TPO
Fleece-back Membrane

45, 60, 80



Description:

Combine performance and value with EverGuard® TPO Fleece-Back Membrane 45-mil, 60-mil, and 80-mil.

Factory-applied polyester fleece lets you offer the proven performance of EverGuard® TPO, while increasing durability and reducing labor:

- Provides enhanced puncture resistance against foot traffic, hail, and other impacts*
- Does not require a slip sheet when installed over a variety of existing roof systems
- Guarantees available according to thickness, with coverage up to 30 years for 80-mil.†

Accessories:

Fabricating details on-site can be time-consuming, costly, inconsistent, and even unreliable. EverGuard® TPO prefabricated accessories save you time and labor, deliver consistent performance, and create a uniform aesthetic.

* GAF warranties and guarantees do not provide coverage against traffic except where GAF walkways are applied, or against hail or other impact. Refer to gaf.com for more information on warranty and guarantee coverage and restrictions. Hail or puncture resistance coverage may be available for purchase for eligible systems. Contact GAF for more information.

† Additional requirements apply. Contact GAF for more information. See applicable guarantee, available at gaf.com, for complete coverage and restrictions.

Product Information:

Explore installation options — EverGuard® TPO Fleece-Back Membrane can be installed with a wide range of applications:

- **Mechanically attached** — quick, cost-effective, and available practically year-round
- **Adhered** — effective with EverGuard® WB181 Bonding Adhesive (water-based) or hot asphalt for a smooth appearance and excellent wind uplift
- **LRF Adhesive O** — low-rise foam that's low-VOC, ideal for minor surface irregularities, and available in a cartridge or 5-gallon container
- **LRF Adhesive M** — low-rise foam that's similar to LRF-O and can also be used for ISO insulation applications
- **LRF Adhesive XF** — 2-part low-rise foam that's Low-VOC, ideal for minor surface irregularities, and can adhere up to 24 squares of Fleece-Back Membrane.
- **OlyBond 500** — 2-part low-rise foam that's Low-VOC, ideal for minor surface irregularities, and can adhere up to 24 squares of Fleece-Back Membrane



MADE IN THE U.S.A.
WITH DOMESTIC AND IMPORTED MATERIALS.
AMERICAN JOBS IN AMERICAN FACTORIES.



Visit gaf.com

For additional information, contact GAF Design Services at 1-877-423-7663 or designservices@gaf.com

We protect what matters most™

GAF

Physical Properties (ASTM D6878)

| Type | ASTM Test Method | ASTM D6878 Minimum | EverGuard® TPO Fleece-Back Membrane Test Values (approx.)† | | |
|-----------------------------|---|--|--|---|---|
| | | | 45 mil | 60 mil | 80 mil |
| Nominal Thickness | ASTM D751 | 0.039" (0.99 mm) | 0.045" (1.14 mm) | 0.060" (1.52 mm) | 0.080" (2.03 mm) |
| Breaking Strength | ASTM D751 Grab Method | 220 lbf (38.5 kg) | 375 lbf x 330 lbf (559 x 492 kg/m) | 400 lbf x 360 lbf (596 x 536 kg/m) | 440 lbf x 390 lbf (656 x 581 kg/m) |
| Factory Seam Strength | ASTM D751 | 66 lbf (98.34 kg/m) | 115 lbf (membrane failure) (171 kg/m) | 145 lbf (membrane failure) (216 kg/m) | 155 lbf (membrane failure) (231 kg/m) |
| Elongation at Break | ASTM D751 | 15% | 30% | 30% | 30% |
| Heat Aging | ASTM D573 | 90% Retention of Breaking Strength and Elongation at Break | 100% | 100% | 100% |
| Tear Strength | ASTM D3045 8" x 8" sample (203 mm x 203 mm) | 55 lbf (81.95 kg/m) | 90 lbf x 120 lbf (134 x 179 kg/m) | 70 lbf x 130 lbf (104 x 194 kg/m) | 100 lbf x 180 lbf (149 x 268 kg/m) |
| Puncture Resistance | FTM 101 C Method 2031 | Not Established | >350 lb. (159 kg) | >380 lb. (172 kg) | >380 lb. (172 kg) |
| Cold Brittleness | ASTM D2137 | -40°C | -40°C | -40°C | -40°C |
| Permeance | ASTM E96 | Not Established | 0.08 Perms | 0.08 Perms | 0.08 Perms |
| Dimensional Change | ASTM D1204 @ 158°F (70°C), 6 hrs. | ±1% | 0.2% | 0.4% | 0.4% |
| Water Absorption | ASTM D471 @ 158°F (70°C), 1 week | ±3.0% | 0.7% | 0.7% | 0.7% |
| Hydrostatic Resistance | ASTM D751 Method D | Not Established | 390 psi | 430 psi | 430 psi |
| Ozone Resistance | ASTM D1149 | No visible deterioration @ 7x magnification | No visible deterioration @ 7x magnification | No visible deterioration @ 7x magnification | No visible deterioration @ 7x magnification |
| Weather Resistance | ASTM G155 / D6878 | 10,080 KJ / (m² · nm) at 340 nm | >20,000 KJ / (m² · nm) at 340 nm | >25,000 KJ / (m² · nm) at 340 nm | >25,000 KJ / (m² · nm) at 340 nm |
| Heat Aging | ASTM D573 | 240°F (115°C), 32 weeks | 60 weeks | 60 weeks | 60 weeks |
| Thickness Above Scrim | ASTM D7635 | Min 30% of Total Thickness | 15.8 mil (Nominal) | 22.1 mil (Nominal) | 31.4 mil (Nominal) |
| Available Guarantees | | | Up to 20 years | Up to 25 years | Up to 30 years |

NOTE: Additional requirements apply. Contact GAF for more information. See applicable guarantee, available at gaf.com, for complete coverage and restrictions.

* White Membrane Only

† Certain data is provided in MD (machine direction) x CMD (cross machine direction) format.

‡ Values stated are approximate and subject to normal manufacturing variation. These values are not guaranteed and are provided solely as a guide.

Sustainability Ratings/Certifications

| Cool Roof Rating Council (CRRC) | | | | | |
|---------------------------------|------------------|------------------|----------------|---------|------|
| Type | ASTM Test Method | Color | Product ID# | Initial | Aged |
| Solar Reflectance | ASTM C1549 | White | 0676-0027 | 0.76 | 0.68 |
| Thermal Emittance | ASTM C1371 | White | 0676-0027 | 0.90 | 0.83 |
| Solar Reflectance Index (SRI) | ASTM E1980 | White | 0676-0027 | 94 | 81 |
| LEED Information (white only) | | | | | |
| Manufacturing Location | Mount Vernon, IN | New Columbia, PA | Cedar City, UT | | |



Applicable Standards/Approvals

| | | |
|---|---|--|
|  <p>Miami Dade County Product Control Approved</p> |  <p>FM Approved (Refer to FM www.RoofNav.com for actual assemblies)</p> |  <p>Classified by UL in accordance with ANSI/ UL 790. (Refer to UL Product iQ for actual assemblies).</p> |
| <p>UL Evaluation Report UL ER1306-01</p> | <p>Meets or exceeds the requirements of ASTM D6878.</p> | <p>State of Florida Approved</p> |
| <p>ICC-ES Evaluation Report ESR-4676 (Cedar City, UT only)</p> | <p>Meets or exceeds the requirements of the Texas Department of Insurance.</p> | <p>CRRC Rated - Can be used to comply with 2022 Title 24, Part 6, Cool Roof Requirements of the California Code of Regulations (White only)</p> |

Product Data

| Roll Size | Colors | Full Roll Size | Full Roll Weight (Average) | Half Roll Size | Half Roll Weight (Average) |
|----------------|---|---|----------------------------|---|----------------------------|
| 45 mil | White, Tan, Gray | 10' x 100' (3.05 x 30.5 m) (1,000 sq. ft. [92.9 sq.m]) | 272 lb. (123 kg) | 5' x 100' (1.52 x 30.5 m) (500 sq. ft. [46.5 sq.m]) | 136 lb. (62 kg) |
| 60 mil | White, Tan, Gray, Energy Tan, Energy Gray | 10' x 100' (3.05 x 30.5 m) (1,000 sq. ft. [92.9 sq.m]) | 348 lb. (158 kg) | 5' x 100' (1.52 x 30.5 m) (500 sq. ft. [46.5 sq.m]) | 174 lb. (79 kg) |
| 80 mil | White, Tan, Gray | 10' x 50' (3.05 x 15.24 m) (500 sq. ft. [46.5 sq.m]) | 232 lb. (105 kg) | 5' x 50' (1.52 x 15.24 m) (250 sq. ft. [23.23 sq.m]) | 116 lb. (53 kg) |
| Storage | Store on pallets in a clean, dry area at temperatures below 100°F (38°C). | | | | |
| Safety Warning | Membrane rolls are heavy. Employ at least two people to position and install. | | | | |

Note: Membrane rolls shipped horizontally on pallets, stacked pyramid-style and banded.



45, 60, 80 mil



Durable. Efficient. Proven.

GAF knows thermoplastic polyolefin (TPO). Our EverGuard® TPO membrane construction has remained unchanged for decades. It's just one of the reasons we've sold more than 6 billion square feet. EverGuard® TPO offers flexibility, durability, UV reflectivity, and heat-sealable properties. It's inherently fungal resistant* and flexible without using plasticizers. Available in nominal and minimum thicknesses.

Competitive pricing and a 20-plus-year track record for performance make TPO the most popular option in the commercial roofing industry and specialized training from GAF Roofing It Right videos and CARE classes add to GAF's unmatched technical support.

Durable. Efficient. Proven.

EverGuard® TPO is suitable for all types of single-ply systems:

- **Mechanically Attached** — for a quick and cost-effective system that can be installed practically year-round.
- **Induction Welded** — can be applied without using adhesives and installed practically year round. Qualifies for the same guarantee length as an adhered system.†
- **Adhered** — can be installed with EverGuard® TPO Quick Spray, EverGuard® TPO Quick Spray LV50, EverGuard® TPO Low VOC Bonding Adhesive, EverGuard® TPO 3 Square Low VOC Bonding Adhesive, EverGuard® TPO SBA 1121 Bonding Adhesive, or EverGuard® WB 181 Bonding Adhesive for the smoothest appearance.

Features:

EverGuard® TPO offers the following:

- Endures 2 to 2.5 times the industry standard, depending on thickness (ASTM D6878 weather resistance test).
- Offers guarantees for eligible systems up to 20 years for 45 mil, 25 years for 60 mil, and 30 years for 80 mil.‡
- Available in 12' rolls to cover more area with fewer rolls and seams
- Allows for heat-welded seams that provide greater seam strength to taped and other seams
- Creates a highly reflective and emissive white roof that can help reduce cooling costs‡ and urban heat island effect. (white, energy tan and energy gray only)

TPO Field Study:

As a relatively new roof technology, TPO performance was proven mostly in lab studies. So when real-world TPO systems started approaching 20-year marks, GAF acquired and analyzed EverGuard® TPO samples across the United States. We found 8- to 16-year-old TPO roofs to be performing well and in most instances, meeting the current ASTM D 6878-19 requirements for new membranes. [Download](#) the study from GAF.com.



MADE IN THE U.S.A.
WITH DOMESTIC AND IMPORTED MATERIALS.
AMERICAN JOBS IN AMERICAN FACTORIES.

* Meets ASTM G21. GAF warranties and guarantees do not provide coverage against fungi or other biological growth. Refer to [gaf.com](#) for more information on warranty and guarantee coverage and restrictions.

† Additional requirements apply. Contact GAF for more information. Refer to sample guarantees, available at [gaf.com](#), for complete coverage and restrictions.

‡ Energy cost savings are not guaranteed and the amount of savings may vary based on climate zone, utility rates, radiative properties of roofing products, insulation levels, HVAC equipment, efficiency and other factors.

Accessories:

EverGuard® TPO prefabricated accessories deliver consistent quality and eliminate the worry and problems often associated with field fabrication. They can also boost productivity while reducing labor.

- **Coated Speedtite™ and Hercules® Drain** — TPO-coated flange for direct hot-air welding of TPO roof membranes.
- **Corner Curb Wrap** — Four standard sizes to flash 24", 36", 48", and 60" curbs.
- **Fluted Corner** — For use in flashing outside corners of base and curb flashing.
- **Inside Corner** — Manufactured to accommodate inside corners of base or curb flashing.
- **Preformed Split Pipe Boot** — Three standard sizes accommodate most pipes and conduits.
- **Preformed Vent Boot** — Accommodates most common pipes and conduits from 1" (25.4 mm) to 6" (152 mm).
- **Scupper** — Heat-welds to the scupper for a strong, secure installation.
- **Split Pourable Sealant Pocket** — Cuts to size and offers a low profile to help seal varying penetrations with less sealant.
- **Square Tube Wrap** — Tube wraps are split with overlaps to wrap around square or rectangular tubing.
- **T-Joint Cover Patches** — Conforming seal for use over T-joints in 60- and 80-mil membrane applications.
- **TPO Cover Tape** — Self-adhered TPO ideal for stripping-in TPO and edge metal.
- **Universal Corner** — Accommodates both inside and outside corners of base and curb flashings.
- **Vent** — For use in venting low-slope mechanically attached roofs.
- **Walkway Roll** — Heat-welds directly to TPO membrane or installs with seam tape. Available in gray and yellow.

45, 60, 80 mil

Physical Properties (ASTM D6878)

| Type | ASTM Test Method | ASTM D 6878 Minimum | EverGuard® TPO Test Values (approx.)* | | |
|-----------------------------------|-------------------------------|--|---|---|---|
| | | | 45 mil | 60 mil ³ | 80 mil |
| TPO Nominal Thickness | ASTM D751 | 0.039" | 0.045" (1.14 mm) | 0.060" (1.52 mm) | 0.080" (2.03 mm) |
| Thickness Over Scrim | ASTM 7635 | 0.015" | 15.8 mil (nominal) | 24.1 mil (nominal) | 31.4 mil (nominal) |
| Breaking Strength | ASTM D751 Grab Method MD | 220 lbf | 375 lbf x 330 lbf (559 x 492 kg/m) | 400 lbf x 360 lbf (596 x 536 kg/m) | 440 lbf x 390 lbf (656 x 581 kg/m) |
| Elongation at Break | ASTM D751 | 15% | 30% | 30% | 30% |
| Tear Strength | ASTM D751 (8" x 8" sample) | 55 lbf | 90 lbf x 120 lbf (134 x 179 kg/m) | 70 lbf x 130 lbf (104 x 194 kg/m) | 100 lbf x 180 lbf (149 x 268 kg/m) |
| Brittleness Point | ASTM D2137 | -40 °F | -40 °F | -40 °F | -40 °F |
| Ozone Resistance | ASTM D1149 | No cracks @ 7x magnification | No visible deterioration @ 7x magnification | No visible deterioration @ 7x magnification | No visible deterioration @ 7x magnification |
| Properties after Heat Aging | ASTM D573 | ≤1.5% weight change after 8 weeks @ 275° F, No cracks @ 7x magnification | Pass | Pass | Pass |
| Properties after Heat Aging, UAWS | | Total radiation @ 8400 MJ/m ² UV, no cracking | Pass | Pass | Pass |
| Linear Dimensional Change | ASTM D1204 | ±1% | 0.2% | 0.4% | 0.4% |
| Water Absorption | ASTM D471 | ±3% | 0.7% | 0.7% | 0.7% |
| Factory Seam Strength | ASTM D751 | 66 lbf | 115 lbf (membrane failure) (171 kg/m) | 145 lbf (membrane failure) (216 kg/m) | 155 lbf (membrane failure) (231 kg/m) |
| Weather Resistance | ASTM G155 | 10,080 kJ(m ² •nm) at 340 nm, No cracks @ 7x magnification | >20,000 kJ(m ² •nm) at 340 nm | >25,000 kJ(m ² •nm) at 340 nm | >25,000 kJ(m ² •nm) at 340 nm |
| Air Permeance | ASTM E2178 | | <0.02 L/(s • m ²) | <0.02 L/(s • m ²) | <0.02 L/(s • m ²) |

Note 1: Certain data is provided in MD (machine direction) x CMD (cross machine direction) format.

Note 2: Values stated are approximate and subject to normal manufacturing variation. These values are not guaranteed and are provided solely as a guide.

Note 3: Also available in minimum 60 mil thickness.

Additional Physical Properties

| | | | | | |
|---------------------|-----------------------|-----------------|-------------------|-------------------|-------------------|
| Puncture Resistance | FTM 101 C Method 2031 | Not established | >350 lb. (159 kg) | >380 lb. (172 kg) | >380 lb. (172 kg) |
| Permeance | ASTM E96 | Not established | <0.08 Perms | <0.08 Perms | <0.08 Perms |
| Guarantee | | | Up to 20 years | Up to 25 years | Up to 30 years |

Sustainability Ratings/Certifications

Cool Roof Rating Council (CRRC)

| Color | Rated Product ID# | Initial | | | Aged | | |
|-------------|-------------------|---------------------------------|---------------------------------|---------------------------------------|---------------------------------|---------------------------------|---------------------------------------|
| | | Solar Reflectance (ASTM C 1549) | Thermal Emittance (ASTM C 1371) | Solar Reflectance Index (ASTM E 1980) | Solar Reflectance (ASTM C 1549) | Thermal Emittance (ASTM C 1371) | Solar Reflectance Index (ASTM E 1980) |
| White | 0676-0001 | 0.76 | 0.90 | 94 | 0.68 | 0.83 | 81 |
| Energy Gray | 0676-0045 | 0.72 | 0.87 | 88 | 0.67 | 0.90 | 82 |
| Energy Tan | 0676-0039 | 0.72 | 0.89 | 89 | 0.66 | 0.89 | 80 |

LEED Information

| | |
|------------------------|---|
| Manufacturing Location | Mount Vernon, IN, New Columbia, PA, Cedar City, UT, Gainesville, TX |
|------------------------|---|



45, 60, 80 mil

Applicable Standards/Approvals

| | | | |
|---|--|---|---|
|  | Miami Dade County Product Control Approved | UL Evaluation Report UL ER1306-01 | ICC-ES Evaluation Report ESR-4676 (Cedar City, UT only) |
|  | FM Approved (Refer to FM RoofNav.com for actual assemblies) | Meets or exceeds the requirements of ASTM D6878. | State of Florida Approved |
|  | Classified by UL in accordance with ANSI/UL 790. (Refer to UL Product iQ for actual assemblies). | Meets or exceeds the requirements of the Texas Department of Insurance. | CRRC Rated — Can be used to comply with 2022 Title 24, Part 6, Cool Roof Requirements of the California Code of Regulations (White, Energy Tan, and Energy Gray only) |

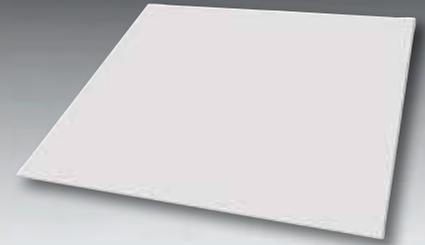
Product Data

| Roll Size | EverGuard® TPO 45 | EverGuard® TPO 60 | EverGuard® TPO 80 |
|---------------------------|--|--|--|
| 12' Roll Size | 12' x 100' (3.66 x 30.5 m) 1,200 sq. ft. (111.5 sq.m) | 12' x 100' (3.66 x 30.5 m) 1,200 sq. ft. (111.5 sq.m) | 12' x 100' (3.66 x 30.5 m) 1,200 sq. ft. (111.5 sq.m) |
| 12' Roll Weight (Average) | 307 lb. (139 kg) | 386 lb. (175 kg) | 504 lb. (228 kg) |
| 10' Roll Size | 10' x 100' (3.05 x 30.5 m) 1,000 sq. ft. (92.9 sq.m) | 10' x 100' (3.05 x 30.5 m) 1,000 sq. ft. (92.9 sq.m) | 10' x 100' (3.05 x 30.5 m) 1,000 sq. ft. (92.9 sq.m) |
| 10' Roll Weight (Average) | 256 lb. (116 kg) | 322 lb. (146 kg) | 420 lb. (191 kg) |
| 8' Roll Size | 8' x 100' (2.43 x 30.5 m) 800 sq. ft. (74.3 sq.m) | 8' x 100' (2.43 x 30.5 m) 800 sq. ft. (74.3 sq.m) | 8' x 100' (2.43 x 30.5 m) (800 sq. ft. (74.3 sq.m) |
| 8' Roll Weight (Average) | 204 lb. (93 kg) | 257 lb. (117 kg) | 336 lb. (152 kg) |
| 6' Roll Size | 6' x 100' (1.83 x 30.5 m) 600 sq. ft. (55.7 sq.m) | 6' x 100' (1.83 x 30.5 m) 600 sq. ft. (55.7 sq.m) | 6' x 100' (1.83 x 30.5 m) 600 sq. ft. (55.7 sq.m) |
| 6' Roll Weight (Average) | 153 lb. (70 kg) | 194 lb. (88 kg) | 252 lb. (114 kg) |
| 5' Roll Size | 5' x 100' (1.52 x 30.5 m) 500 sq. ft. (46.5 sq.m) | 5' x 100' (1.52 x 30.5 m) 500 sq. ft. (46.5 sq.m) | 5' x 100' (1.52 x 30.5 m) 500 sq. ft. (46.5 sq.m) |
| 5' Roll Weight (Average) | 128 lb. (58 kg) | 162 lb. (74 kg) | 210 lb. (95 kg) |

Product Data Cont.

| | |
|-----------------------|---|
| Colors | White, Gray, Energy Gray, Slate Gray, Tan, Energy Tan, Desert Tan, Dark Bronze, Dark Brown, Goldenrod, Sky Blue, Regal Blue, Electric Blue, Hartford Green, Patina Green, Regal Red, Terra Cotta. |
| Storage | Store on pallets in a clean, dry area at temperatures below 100°F (38°C). |
| Safety Warning | Membrane rolls are heavy. Employ at least two people to position and install. |

EverGuard® and EverGuard® Extreme TPO GAF Coated Metal Sheets



Description:

Increase efficiency when creating edges, flashing, and other sheet metal details with EverGuard® and EverGuard® Extreme TPO-Coated Metal Sheets. This accessory cuts and forms like standard sheet metal. GAF manufactures these and other accessories from its proven, durable EverGuard® TPO single-ply reinforced membrane. GAF TPO accessories can help you reduce installation costs, risk of leaks, and callbacks, while helping you create a uniform look.

Application:

Use for metal gravel stop and drip edges, metal base and curb flashing, sealant pans, and scupper sleeves. Field and flashing TPO membrane heat welds directly to coated metal.

Product Information:

Metal sheets measure 4' (1.21 m) x 10' (3.05 m) and are constructed from 24 ga. steel with 25-mil EverGuard® or EverGuard Extreme® TPO membrane. Metal sheets are also available in aluminum, stainless, and 20 ga. galvanized with a 2-4 week lead time.

| Specifications | | | |
|-------------------------|----------------------------|---------|---------|
| Size | 4' (1.21 m) x 10' (3.05 m) | | |
| Membrane thickness | 0.025" (0.64 mm) | | |
| Weight per sheet | 40 lb. (18.14 kg) | | |
| Shipping Specifications | | | |
| Sheets per pallet | 5 | 10 | 30 |
| EverGuard® TPO | 760A | 7600920 | 7603920 |
| EverGuard® Extreme TPO | - | 7600776 | 7603776 |



Visit [gaf.com](https://www.gaf.com)

For additional information, contact GAF Technical Support at 1-800-766-3411 or technicalquestions@gaf.com

We protect what matters most™





EverGuard® TPO and EverGuard Extreme® TPO

45mil, 60mil

Utility Flashing Membrane



Description:

Increase efficiency when stripping-in coated metal flanges and areas that require a reinforced membrane for flashing with factory-built EverGuard® and EverGuard Extreme® TPO Utility Flashing Membrane. This single-ply roofing system accessory provides roofing contractors with an effective, easy-to-install component. GAF manufactures these and other accessories from its proven, durable EverGuard® and EverGuard Extreme® TPO single-ply reinforced membrane. GAF TPO accessories can help you reduce installation costs, risk of leaks, and callbacks, while helping you create a uniform look.

Application:

EverGuard® and EverGuard Extreme® TPO 45-Mil and 60-Mil Utility Flashing Membrane can be installed on EverGuard® and EverGuard Extreme® TPO (any thickness) mechanically attached or fully adhered roofing systems. See published application and specifications manual for detailed instructions.

Product Information:

EverGuard® and EverGuard Extreme® 45-Mil and 60-Mil Utility Flashing Membrane is available in white.

Specifications

| | |
|-----------|-----------------------------------|
| Roll size | 8" x 100' (203 mm x 30.5 m) rolls |
| Material | Reinforced TPO membrane |

Shipping Specifications

| | |
|-----------------|---|
| Weight per roll | 18 lb. / 8.2 kg (45-mil), 22 lb. / 10 kg (60-mil) |
|-----------------|---|

| Product SKU | EverGuard® TPO | EverGuard Extreme® TPO |
|-------------|----------------|------------------------|
| 45-mil | 7608920 | 7608776 |
| 60-mil | 7614920 | — |



Visit gaf.com

For additional information, contact GAF Design Services Support at 1-877-423-7663 or designservices@gaf.com

We protect what matters most™



TPO Accessories



EverGuard® and EverGuard Extreme® TPO

UN-55
Detailing Membrane



Description:

Increase efficiency with the EverGuard® and EverGuard Extreme® TPO UN-55 Detailing Membrane. This single-ply roofing system accessory provides roofing contractors with an effective, easy-to-install component, especially when preformed boots, corners, and other preformed details cannot be used. GAF manufactures these and other accessories from its proven, durable EverGuard® and EverGuard Extreme® TPO single-ply unreinforced membrane. GAF TPO accessories can help you reduce installation costs, risk of leaks, and callbacks, while helping you create a uniform look.

Application:

EverGuard® and EverGuard Extreme® TPO UN-55 Detailing Membrane may be installed on EverGuard® and EverGuard Extreme® TPO (any thickness) mechanically attached or fully adhered roofing systems. See published application and specifications manual for detailed instructions.

Product Information:

EverGuard® and EverGuard Extreme® TPO UN-55 Detailing Membrane is available in white. Talk to your representative about additional available colors. The unreinforced membrane makes installation easier at difficult flashing details.

Specifications

| | |
|-----------|------------------------------------|
| Roll size | 24" x 50' rolls (610 mm x 15.24 m) |
| Material | 55-mil unreinforced TPO membrane |

Shipping Specifications

| | |
|-----------------|------------------|
| Weight per roll | 28 lb. / 12.7 kg |
|-----------------|------------------|

| Product SKUs | EverGuard® TPO | EverGuard Extreme® TPO |
|--------------|----------------|------------------------|
| White | 7631920 | 7624776 |



Visit [gaf.com](https://www.gaf.com)

For additional information, contact GAF Design Services at 1-877-423-7663 or designservices@gaf.com

We protect what matters most™



GAF**EverGuard[®]TPO**
SINGLE-PLY ROOFING SYSTEMSCoated
Accessories

TPO Coated Accessories

Description

EverGuard[®] TPO single-ply roofing system coated metal drain accessory provides roofing contractors an easy-to-install, factory-built detail. EverGuard[®] TPO coated drains are constructed using GAF's proven, durable EverGuard[®] TPO coated onto a durable drain unit.

- **Cost effective...** Reduces installed costs by up to 25%
- **Improved Reliability...** Factory-built accessories reduce risk of leaks and callbacks
- **Improved Aesthetics...** Uniform look

Application

EverGuard[®] TPO coated accessories are designed for use with GAF EverGuard[®] TPO single-ply membranes and EverGuard[®] Freedom[™] TPO self-adhering membranes. The factory-coated accessories may be installed on mechanically attached, fully adhered, or self-adhered EverGuard[®] TPO roofing systems. See current application and specifications manual for detailed instructions.

Product Information

EverGuard[®] TPO coated drains are constructed from aluminum and coated with a weldable TPO compound. TPO membrane can be heat welded directly to the drain body, resulting in a strong, secure installation. Each drain is fitted with a BlueSeal[®] mechanical drain seal for a secure, tight seal into the building drain system.

**TPO Coated
Metal Drain****Available Sizes**

EverGuard[®] TPO Coated Metal Drains are available in two sizes:

- 3" drain will fit into a 3" ID pipe
- 4" drain will fit into a 4" ID pipe

Also Available...

Fluted Corner



Inside Corner



Vent Boot



Universal Corner



Vent

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

gaf.com

EverGuard® TPO GAF 6" CoverTape



Description:

Save time and labor costs with factory-built, easy-to-install EverGuard® TPO 6" Cover Tape. Used for stripping-in TPO end laps and edge metal, this factory-built accessory reduces risk of leaks and callbacks, and helps create a uniform aesthetic.

Application:

Use soap and water to clean the membrane end lap area or edge metal surface to be covered. Dry the area then wipe it down with a white cloth moistened with EverGuard® TPO Seam Cleaner. Brush or roll EverGuard® TPO Primer onto each surface, carrying approximately three inches (76 mm) past the ends. Ensure the primer has properly dried or "flushed off" before applying EverGuard® TPO 6" Cover Tape with a silicone roller.

Product Information:

Self-adhering EverGuard® TPO 6" Cover Tape is non-reinforced TPO membrane that is six inches (152 mm) wide and backed with a butyl tape adhesive.

Store material in original unopened packaging at temperatures between 40°F - 110°F (4°C - 43°C). Product shelf life is 24 months when stored as recommended.

SPECIFICATIONS

| | |
|-------------|-------------|
| Roll Length | 100' (30.5) |
| Roll Width | 6" (152 mm) |

SHIPPING SPECIFICATIONS

| | |
|------------------|---------------------|
| Rolls per case | 2 |
| Weight per case | 37.4 lb. (16.96 kg) |
| Cases per pallet | 36 |

PRODUCT SKU

| | |
|-------|---------|
| White | 755A920 |
| Tan | 755A820 |
| Gray | 755A345 |



Visit [gaf.com](https://www.gaf.com)

For additional information, contact GAF Design Services at 1-877-423-7663 or designservices@gaf.com

We protect what matters most™



EverGuard® TPO and EverGuard Extreme® TPO



Universal Corner



Description:

Increase efficiency when covering corners with factory-built EverGuard® and EverGuard Extreme® TPO Universal Corners. These single-ply roofing system molded accessories provide roofing contractors with an effective, easy-to-install detail. GAF manufactures these and other molded accessories using a proprietary formulation designed for use with GAF EverGuard® and EverGuard Extreme® TPO single-ply membranes. GAF TPO accessories can help you reduce installation costs, risk of leaks, and callbacks while helping you create a uniform look.

Application:

Molded accessories may be installed on mechanically attached, fully adhered, or self-adhered EverGuard® and EverGuard Extreme® TPO roofing systems using conventional techniques. Simply cut the standard size at markings to produce either inside or outside corner reinforcements. See published application and specifications manual for detailed instructions.

Product Information:

EverGuard® and EverGuard Extreme® TPO Universal Corners accommodate inside and outside corners of base and curb flashings. Universal Corners are manufactured with a thickness of 55 mils.

| Specifications | | |
|-------------------------|---|------------------------|
| Dimensions | 3" x 3" (76 mm x 76 mm) with 6" (152 mm) flange | |
| Thickness | .055 (1.40mm) | |
| Shipping Specifications | | |
| Qty per box | 20 | |
| Weight per box | 9 lb. / 4.08 kg | |
| Boxes per pallet | 232 | |
| Product SKUs | EverGuard® TPO | EverGuard Extreme® TPO |
| White | 7730920NC | 7733776CU |



Visit [gaf.com](https://www.gaf.com)

For additional information, contact GAF Design Services at **1-877-423-7663** or designservices@gaf.com

We protect what matters most™



EverGuard® and EverGuard® Extreme TPO GAF T-Joint Cover Patch



Description:

Increase efficiency when covering T-joints with factory-built EverGuard® and EverGuard® Extreme TPO T-Joint Cover Patches. These single-ply roofing system preformed accessories provide roofing contractors with an effective, easy-to-install detail. GAF manufactures these and other accessories from its proven, durable EverGuard® and EverGuard® Extreme TPO single-ply reinforced membrane. GAF TPO accessories can help you reduce installation costs, risk of leaks, and callbacks, while helping you create a uniform look.

Application:

T-Joint Cover Patches can be installed on mechanically attached, fully adhered, or self-adhered EverGuard® and EverGuard® Extreme TPO roofing systems, using conventional techniques. See published application and specifications manual for detailed instructions.

Product Information:

EverGuard® T-Joint Cover Patches are created from a proprietary TPO formulation engineered for ease of welding over all EverGuard® TPO single-ply membranes. Manufactured to 55-mil thickness, EverGuard® TPO T-Joint Cover Patches create a membrane seal over T-joints that arise when installing a 60-, 70-, or 80-mil EverGuard® TPO system.

| Specifications | | |
|---------------------------|---------------------------|------------------------|
| Membrane thickness | .055" (1.40 mm) | |
| Unit size | 4" x 4" (102 mm x 102 mm) | |
| Shipping Specifications | | |
| Patches per carton | 100 | |
| Weight per carton | 3.3 lb. (1.5 kg) | |
| Cartons per pallet | 196 | |
| Product SKUs | EverGuard® TPO | EverGuard® Extreme TPO |
| T-Joint Cover Patch White | 7712920 | 771277GA |
| T-Joint Cover Patch Gray | 7712345 | N/A |
| T-Joint Cover Patch Tan | 7712820 | N/A |



Visit [gaf.com](https://www.gaf.com)

For additional information, contact GAF Technical Support at 1-800-766-3411 or technicalquestions@gaf.com

We protect what matters most™



TPO Accessories



EverGuard® and EverGuard Extreme® TPO

VentBoot



Description:

Increase efficiency when covering pipes and conduits with factory-built EverGuard® and EverGuard Extreme® TPO Vent Boots. These single-ply roofing system preformed accessories provide roofing contractors with an effective, easy-to-install detail. GAF manufactures these and other accessories from its proven, durable EverGuard® and EverGuard Extreme® TPO single-ply reinforced membrane. GAF TPO accessories can help you reduce installation costs, risk of leaks, and callbacks, while helping you create a uniform look.

Application:

Preformed accessories may be installed on mechanically attached, fully adhered, or self-adhered EverGuard® and EverGuard Extreme® TPO roofing systems, using conventional techniques. See published application and specifications manual for detailed instructions.

Product Information:

EverGuard® and EverGuard Extreme® TPO Vent Boots are constructed from EverGuard® or EverGuard Extreme® reinforced membrane. One standard size accommodates 1" – 6" (25.4 mm – 152.4 mm) pipes and conduits. Vent Boots come with stainless steel clamping rings for the top of the penetration.

| Specifications | EverGuard® TPO | EverGuard Extreme® TPO |
|-------------------------|------------------------------|-------------------------|
| Membrane thickness | .075" (1.9 mm) | .065" (1.7 mm) |
| For pipe sizes | 1" x 6" (25.4 mm x 152.4 mm) | |
| Shipping Specifications | | |
| Boots per carton | 6 | |
| Weight per carton | 9 lb. (4.1 kg) | |
| Cartons per pallet | EverGuard® (54) | EverGuard® Extreme (48) |
| Product SKUs | EverGuard® TPO | EverGuard Extreme® TPO |
| Vent Boot White | 7710920CU | 7710776CU |



Visit [gaf.com](https://www.gaf.com)

For additional information, contact GAF Technical Support at **1-800-766-3411** or technicalquestions@gaf.com

We protect what matters most™



EverGuard® GAF TPO Cleanweld Conditioner



Description:

Use this low-VOC product to help prepare TPO for heat-welding by cleaning exposed or contaminated seams, removing any residual soap or other cleaners, and revitalizing aged or weathered membranes. The VOC content is 50 grams/liter.

Application:

Minimal contamination: Membrane that has been exposed overnight or for only a few days to airborne debris, foot traffic, dew, or light precipitation can usually be cleaned with a white cloth moistened with EverGuard® TPO Cleanweld Membrane Conditioner. Be sure to wait for the cleaner to properly dry or flash off before welding.

Dirt contamination: Membrane that is dirt-encrusted should first be cleaned with a mildly abrasive scrubbing pad and a non-abrasive, non-bleach, low-residue cleaner. After the dirt has been removed, the membrane must be cleaned with a white cloth moistened with EverGuard® TPO Cleanweld Membrane Conditioner. Be sure to wait for the solvent to properly dry or flash off before welding.

Weathering: Membrane that is weathered or oxidized should first be cleaned with a mildly abrasive scrubbing pad and EverGuard® TPO Cleanweld Membrane Conditioner. After the weathered or oxidized top layer is removed, the membrane must be cleaned with a white cloth moistened with EverGuard® TPO Cleanweld Membrane Conditioner. Be sure to wait for the solvent to properly dry or flash off before welding. Note: The same procedure may be needed for unexposed membrane left in inventory for a year or longer.

Bag fresh: Do not use EverGuard® TPO Cleanweld Membrane Conditioner on recently opened or "bag fresh" material that has been exposed for less than 12 hours, unless that material has been otherwise contaminated.

Specifications

| | |
|----------|----------|
| Can size | 1 gallon |
|----------|----------|

Shipping Specifications

| | |
|------------------|--------------------|
| Cans per carton | 6 |
| Weight per case | 52.6 lb. (23.8 kg) |
| Cases per pallet | 48 |

Product SKU

| |
|-----------|
| 7789000WP |
|-----------|



Visit [gaf.com](https://www.gaf.com)

For additional information, contact GAF Design Services at **1-877-423-7663** or designservices@gaf.com

We protect what matters most™



EverGuard® TPO GAF Seam Cleaner



Description:

Help prepare TPO for heat-welding by cleaning exposed or contaminated seams, removing any residual soap or other cleaners, and revitalizing aged or weathered membranes.

Application:

Minimal contamination: Membrane that has been exposed overnight or for only a few days to airborne debris, foot traffic, dew, or light precipitation can usually be cleaned with a white cloth moistened with EverGuard® TPO Seam Cleaner. Be sure to wait for the cleaner to properly dry or flash off before welding.

Dirt contamination: Membrane that is dirt-encrusted should first be cleaned with a mildly abrasive scrubbing pad and a non-abrasive, non-bleach, low-residue cleaner. After the dirt has been removed, the membrane must be

cleaned with a white cloth moistened with EverGuard® TPO Seam Cleaner. Be sure to wait for the cleaner to properly dry or flash off before welding.

Weathering: Membrane that is weathered or oxidized should first be cleaned with a mildly abrasive scrubbing pad and EverGuard® TPO Cleaner. After the weathered or oxidized top layer is removed, the membrane must be cleaned with a white cloth moistened with EverGuard® TPO Seam Cleaner. Be sure to wait for the cleaner to properly dry or flash off before welding. Note: The same procedure may be needed for unexposed membrane left in inventory for a year or longer.

Bag fresh: Do not use EverGuard® TPO Seam Cleaner on recently opened or "bag fresh" material that has been exposed for less than 12 hours, unless that material has been otherwise contaminated.

Storage Notes:

Apply EverGuard® TPO Seam Cleaner where the ambient temperature is 40°F (4°C) and rising. Store in a clean and well-ventilated area where the ambient temperature is 40°F (4°C) – 90°F (32.2°C). Do not allow to freeze. The cleaner shelf life is 12 months from date of manufacture when properly stored. The VOC content is 861 grams/liter.

SPECIFICATIONS

| | |
|------------------|-------------------|
| Can size | 1 Gallon |
| Cans per carton | 4 |
| Weight per case | 33 lb. (14.96 kg) |
| Cases per pallet | 48 |
| Product SKU | 7793 |



Visit [gaf.com](https://www.gaf.com)

For additional information, contact GAF Design Services at 1-877-423-7663 or designservices@gaf.com

We protect what matters most™



EverGuard® TPO GAF Primer



Description:

EverGuard® TPO Primer and EverGuard® TPO Low VOC Primer are vital to surface preparation. Rely on GAF EverGuard® Primer and Low VOC Primer to help prepare metal and membrane for application of cover tape, and to help prepare membrane and pourable sealer pockets to apply EverGuard® One-Part Pourable Sealant.

Temperature:

Apply the primer at an ambient air temperature of 40° F (4° C) and rising.

Application:

Cover Tape

When installing cover tape, apply the primer with a 3" roller to both the metal and membrane. Allow the primer to flash off before applying the tape.

HW Cover Tape

When installing heat weld cover tape, apply the primer with a 3" roller to the metal only. Allow the primer to flash off before applying heat weld cover tape.

Pourable Sealant Pocket

Prior to filling the TPO Pourable Sealant Pocket, you must prime all areas that the one-part pourable sealant will come in contact with.

Codes and Compliance:

- Miami-Dade County Product Control Approved



Storage and Handling:

When not in use, ensure covers are securely in place. Store primers in a clean, well-ventilated space at 40°F (4°C) – 90°F (32.2°C). Improper sealing or storage for continued periods outside of this temperature range may shorten shelf life.

Shelf Life:

Primer shelf life is 12 months (18 months for Low VOC) from date of manufacture if unopened and properly stored.

| SPECIFICATIONS | TPO Primer | Low VOC TPO Primer* |
|-----------------|--|--|
| Can size | 1 gallon | 1 gallon |
| Cans per carton | 6 | 6 |
| Coverage Rates | 200 – 250 sq. ft. per gallon (18.6 – 23.2 m ² per liter) | 200 – 225 sq. ft. per gallon (18.6 – 20.9 m ² per liter) |
| Product SKUs | 755B | 755D |

* Maximum VOC <250g/L



Visit [gaf.com](https://www.gaf.com)

For additional information, contact GAF Design Services at 1-877-423-7663 or designservices@gaf.com

We protect what matters most™



GAF Single-Ply Membrane Sealants

The GAF line of single-ply roofing systems includes a full line of sealants.

GAF single-ply membrane sealants are specially formulated for TPO and PVC applications. Be sure to use GAF single-ply membrane sealants for your TPO and PVC jobs.



GAF Water Block

One-part butyl-based high-viscosity sealant for use on TPO and PVC membranes.

Uses:

A one-part, butyl-based, high-viscosity sealant suitable for sealing between flashing membrane and substrate surfaces, behind exposed termination bars, and between roofing membrane and drain flanges. Install only where it will be concealed from UV exposure, otherwise choose FlexSeal™ Caulk Sealant.

GAF Cut Edge Sealant

Engineered for sealing non-factory edges of TPO and PVC membrane.

Uses:

Designed to seal the non-factory edges (cut edges) of the TPO or PVC membrane as a final step to reinforce membrane installation and inhibit water from traveling through the center scrim.

We protect what matters most™





FlexSeal™ Caulk Grade Sealant

Product Data Sheet

PRODUCT DESCRIPTION

FlexSeal™ Caulk Grade Sealant is a white solvent-based synthetic elastomeric sealant. FlexSeal is extremely flexible and durable, but with a higher viscosity formulation than Standard FlexSeal. Like all solvent-based products, the surface must be clean, completely free of moisture and residual contaminants before application. FlexSeal™ Caulk Grade Sealant is especially suited for use in any application where caulk is typically used.

WARRANTY

See applicable warranties and guarantees for complete coverage and restrictions.

PACKAGING & SHELF LIFE

10 oz. cartridge

Shelf life 12 months if unopened containers stored between 50°F and 80°F. Storage outside this temperature range may shorten shelf life.

GAF

1 Campus Drive
Parsippany, NJ 07054
1-800-ROOF-411
gaf.com

GAF Liquid-Applied

January 2016

For technical, system, and warranty information, visit gaf.com or call 1-800-766-3411.

BASIC USES

FlexSeal™ Caulk Grade Sealant is designed for use on metal, copper, concrete, wood, asphalt shingles, SBS, APP, EPDM, BUR, TPO and PVC substrates. Especially designed for use where elastomeric caulks are required; like term bar applications, or around clamping rings at penetrations. FlexSeal™ Caulk Grade Sealant may be used for cold weather applications provided that the material is stored properly and the substrate is dry prior to application.

Advantages

- Extremely flexible and durable
- Ideal for termination bar, railing, step flashings, or edge metal
- Durable and UV resistant; will not chalk, crack or peel
- Joint movement capability maximum $\pm 25\%$
- Bonds to multiple substrates including; metal, copper, concrete, wood, asphalt shingles, SBS, APP, EPDM, BUR, TPO, and PVC.
- Paintable

PHYSICAL PROPERTIES

| FLEXSEAL™ CAULK GRADE SEALANT | |
|---------------------------------|--|
| Application Rate | Approximately 1/4 - 3/8 inch (6 - 10 mm) bead |
| Application Method | Caulk Gun |
| Application Temp (air, surface) | 32°F - 120°F (0°C - 48.9°C) |
| Drying Time (75°F, 50% RH) | 24 - 48 hrs; Skins in less than 1 hour; Full Cure - approx. 48 hours |

| | |
|--------------------------|--------------------------|
| Total Solids (by weight) | 77% \pm 2% |
| Specific Gravity | 1.24 \pm 0.1 |
| Weight per Gallon | 10.3 \pm 0.5 lbs. |
| Viscosity (75°F) | 1,200,000 cps \pm 10% |
| Tensile Strength | >250 psi (>1.72 N/sq mm) |

APPLICATION INSTRUCTIONS

For application questions, please contact GAFMC Contractor Services at 1-800-766-3411.

Applicable Standards: FlexSeal™ Caulk Grade Sealant meets ASTM. D-412 and D-920; and is tested in accordance with D-2196 and D-1475.

Application Considerations: FlexSeal™ Caulk Grade Sealant is not a structural component and it is not intended to bridge large voids. Joint depth should not exceed 1/2" wide by 1/2" deep (13 mm x 13 mm).

If joint exceeds 1/2" (13 mm) deep, the sealant depth should be controlled by a closed cell backer rod. The number of joints and width of joints should be designed to accommodate a maximum of 25% movement. Note: Apply only as directed. Over-application may result in slumping, dripping, or unsightly appearance.

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

LIMITATIONS & PRECAUTIONS

Store in well-ventilated area at 50°F to 90°F. This product is easiest to apply at temperatures above 32°F (0°C). Substrate temperatures must be below 120°F (48.9°C) when applying product.

SAFETY & HANDLING

For specific information regarding safe handling of this material please refer to OSHA guidelines and product Safety Data Sheet (SDS).

CLEAN UP

Clean-Up: Mineral Spirits, Toluene, Xylene

See applicable warranties and guarantees for complete coverage and restrictions.



FlexSeal™ Sealant – Data Sheet

PRODUCT DESCRIPTION

FlexSeal™ Sealant is a solvent-based synthetic, flowable, elastomeric sealant that can be applied to many low-slope roof surfaces. It is durable and helps protect the substrate against damaging UV exposure.

APPROVED SUBSTRATES

FlexSeal™ Sealant can be used on metal, structural concrete, copper, SBS, APP, EPDM, BUR, PVC and TPO. It can also be used with GAF Premium Fabric on penetrations, curbs, and seams. Do not use over silicone substrates.

PACKAGING SIZES

10 oz (0.3 liter) tube
1-gallon (3.8 liter) bucket
5-gallon (18.9 liter) pail

STORAGE & SHELF LIFE

PRODUCT STORAGE TEMPERATURE: 50°F – 90°F (10°C – 32°C) Do NOT allow coating to freeze.

SHELF LIFE: 24 months from date of manufacture in unopened containers, if stored properly in a clean and well-ventilated area.

APPLICATION INSTRUCTIONS

SUBSTRATE PREPARATION: Roof must have positive drainage, and be clean and dry with no trapped moisture. Priming of substrate is recommended and may be required. See *Liquid-Applied Roofing Manual* at gaf.com.

MIXING: Mix prior to use as required. Do NOT attempt to thin or self-tint.

APPLICATION: Apply evenly by trowel or brush. Apply 2.0 gallons per 200 linear feet with a 6-inch width (7.6 L/61 lm with a 152 mm width). If fabric embedment is required, apply an additional top layer of flashing at 2.0 gallons per 200 linear feet (7.6 L/61 lm). Total finished dry mil thickness must be at least 21 mils without fabric and 48 mils with fabric.

Application Note: Cool temperatures and high humidity will slow cure. It is not a structural component and it is not intended to bridge large voids. Overapplication may result in slumping, dripping, or unsightly appearance. For Application Questions: Contact GAF Technical Services at 1-877-423-7663 or visit gaf.com

LIMITATIONS & PRECAUTIONS

APPLICATION AIR TEMPERATURE: Min. 50°F (10°C). Do NOT heat containers.

APPLICATION SURFACE TEMPERATURE: 50°F (10°C) and rising. Care should be taken when coating surfaces above 120°F. Contact GAF Design Services if you have application questions.

Do NOT apply if rain, dew, fog, heavy moisture, condensation, or freezing temperatures are in the 8-hour forecast to ensure proper cure. Cool temperatures/high humidity may slow curing.

SAFETY & HANDLING

For specific information regarding safe handling of this material, please refer to the Safety Data Sheet (SDS).

CLEAN UP

Use mineral spirits or xylene to thoroughly flush equipment.

For application questions, contact GAF Design Services at **1-877-GAF-ROOF**

We protect what matters most™





FlexSeal™ Sealant – Data Sheet

PHYSICAL PROPERTIES (TAS 139-95)

| Table 1: Physical Property Requirements | | | |
|---|------------------|---------------------|--------------------------|
| Type | ASTM Test Method | ASTM Minimum Values | Test Values ¹ |
| Volume Solids | ASTM D2697 | ≥50% | 66% |
| Weight Solids | ASTM D1644 | ≥60% | 77% |
| Initial Percent Elongation | ASTM D412 | Min. 100% @73°F | 300% |
| Initial Tensile Strength | ASTM D412 | Min. 200 psi @73°F | 485 psi (3344 kPa) |
| Weight per Gallon/Liter | ASTM D1475 | - | 7.9 lbs (0.94 kg) |
| VOC | - | - | <300 g/L |
| Dry Time | ASTM D 5895 | - | Approximately 24 hours |
| Flash Point | - | 103°F (39°C) | Flash Point |
| Standard Colors | - | Black and White | |

1. Values are approximate and subject to normal manufacturing variations. These values are not guaranteed and are provided solely as a guide.

APPROVALS

| |
|-------------------------------------|
| State of Florida Approved |
| Miami-Dade Product Control Approved |



TPO Accessories



EverGuard® TPO 1121 Bonding Adhesive



Description:

EverGuard® TPO 1121 Bonding Adhesive is a general purpose, contact-type, solvent-based bonding adhesive specially designed for attaching TPO single-ply roofing membranes and flashings to various roofing substrates, including polyisocyanurate insulation and gypsum-based cover boards.

To adhere membrane
in flashing details

Features and Benefits:

- Excellent coverage of 50 sq. ft. – 70 sq. ft. per gallon of bonded membrane
- Fast-drying solvent system
- Easy application using roller (apply adhesive to substrate as well as back of the membrane)
- High initial tack
- Can be applied at an ambient temperature of 40°F (4.4°C) and above for cold-weather application
- Buckets must be kept between 60°F (15.5°C) and 80°F (27°C)
- 1-year shelf life from date of manufacture

Codes and Compliance:

- FM Approved (Refer to RoofNav.com for actual assemblies)



- Classified by UL in accordance with ANSI/UL 790. (Refer to UL Product iQ for actual assemblies.)



Product labeled EverGuard® TPO #1121 Bonding Adhesive — produced in Ashland, OH — only:

- Miami-Dade County Product Control Approved



| Specifications | EverGuard® TPO 1121 Bonding Adhesive |
|------------------------|--------------------------------------|
| Weight | 37 – 42 lb. gross |
| Viscosity (ASTM D2196) | 1,000 – 2,000 cps |
| VOC | < 650 g/L |
| Dry time | 15 – 30 minutes |
| Ordering Information | |
| Item number | 778000m |
| Packaging | 5 gal. pails |
| Shipping | 45 pails per pallet |



Visit [gaf.com](https://www.gaf.com)

For additional information, contact GAF Design Services at 1-877-423-7663 or designservices@gaf.com

We protect what matters most™



Distributed by:

GAF OlyBond500 Canisters™

Adhesive



Description:

OlyBond500 Canisters™ adhesive adheres a variety of insulation and cover board stocks to most roof substrates in both new and reroof applications, including jobs that require multiple insulation layers. The two-component, low-rise polyurethane foam canister system also secures fleece-back single-ply membranes.

Available in two convenient sizes: Small (SM) and Large (LG)

- SM kits — approximately 19 lb. (8.6 g) per canister/39 lb. (17.7 kg) per complete kit — ideal for repair work or small jobs
- LG kits — Part 1 – 48 lb. (21 kg) Part 2 – 44 lb. (20 kg),/approximately 100 lb. (45.4 kg) per complete kit

Features and Benefits:

- Low-odor, low-VOC; uses a low GWP (global warming potential), propellant no HFC
- Fast start-up and shutdown to help boost productivity
- Gun assembly trigger lock helps prevent accidental dispensing
- Does not require any additional application equipment
- Accessories Included:
 - LG: Disposable 25-ft. (7.62 m) hose and gun assembly
 - SM: Disposable 10-ft. (7.62 m) hose and gun assembly
- BOTH: Four mixing tips, and three 17-in. (431.8 mm) tip extenders for a wide-reach radius

Application:

When installed in accordance with GAF application instructions:

- LG: Can adhere up to 24 squares of fleece-back membrane and up to 35 squares per kit for insulation attachment
- SM: Can adhere up to 7 squares of fleece-back membrane and up to 10 squares per kit for insulation attachment

Results may vary depending upon application temperature range, porosity of substrate and insulation boards, type of substrate, bead size, etc.

Surfaces: (properly evaluated and prepared*)

- Roof decks and substrates
- Structural concrete
- Gypsum
- Cementitious wood fiber plank
- Lightweight insulating concrete
- Steel (22 gauge or thicker with approved cross section)
- Plywood (5/8" [15.9 mm] thick min.)
- Smooth and granule-surfaced BUR
- Smooth and granule-surfaced modified bitumen
- Existing sprayed-in-place polyurethane foam
- Base sheets
- Most vapor barriers (including asphaltic and fleece-top)

Roof insulation and cover board

- Polyisocyanurate and HD polyisocyanurate (4 ft. x 4 ft. [13.1 m x 13.1 m] boards only)
- Expanded polystyrene
- High-density wood fiber
- Gypsum cover boards
- Perlite
- Certain extruded polystyrene

Codes and Compliance:

- FM Approved per Approval Standard 4470. Refer to RoofNav.com for specific assemblies.



- Miami-Dade County Product Control Approved



- Classified by UL in accordance with ANSI/UL 790. Refer to UL Product iQ for specific assemblies.



- State of Florida Approved

Optional Accessories:

- Gun and Hose Replacement Kit — 5 lb. (2.27 kg) (LG Canisters only)
- Bag of Ten Mixing Tips — 3 lb. (1.36 kg)
- Bag of Ten Mix Tip Extension Tubes — 2 lb. (0.91 kg)

For safety information, refer to the Safety Data Sheet at gaf.com

For proper set up, storage, handling, and disposal of this product, refer to the product instructions included in the box or at gaf.com.

NOTE: Contains hydrofluoroolefin (HFO).

THIS PRODUCT IS FOR PROFESSIONAL AND OUTDOOR USE ONLY. KEEP ALL ADHESIVE CANISTERS OUT OF REACH OF CHILDREN.

OlyBond® is a registered trademark of OMG, Inc.

* For complete substrate preparation and application instructions for GAF guarantee-eligible systems, please consult the applicable system installation and specification manual available at gaf.com. Not all uses of this adhesive with these substrates will comply with applicable codes. For installations that comply with applicable codes, refer to agency listings.

Used to adhere fleece back roof membrane to MB Roof



Visit gaf.com

We protect what matters most™

GAF

Distributed by:

Used to adhere fleece back membrane to LWIC

PROPERTIES/CHARACTERISTICS/PACKAGING:

| OlyBond500® Canisters Adhesive | |
|---|--|
| Ambient/Substrate Install Temperature | 40°F - 100°F (4.4°C - 38°C) |
| Product Install Canister Temperature | 70°F - 90°F (21.1°C - 35°C) ¹ |
| Storage Conditions | Cool, dry 60°F - 90°F (16°C - 32°C) |
| Coverage Rate per Case/Set at 12" (305 mm) o.c. to Insulation / Cover Board & Spatter Pattern to Fleece-back TPO/PVC Membrane (See below) | LG: Up to 24 sq. for Fleece-back Membrane ² Up to 35 sq. for Insulation ² SM: Up to 7 sq. for Fleece-back Membrane ² Up to 10 sq. for Insulation ² |
| Tack Time/Set-Up Time @ approx. 70°F (21.1°C) | 1 - 5 mins/10 - 15 mins ³ |
| Dispensing Unit | Dual Canister (Part 1 & Part 2) with supplied hose and gun applicator |
| Packaging | LG: Two boxes: ■ Part 1 Canister (Includes 25 ft. Hose/Gun/4 Tips/3 Tip Extenders) ■ Part 2 Canister SM: Single box: ■ Part 1 & Part 2 Canister kit (includes 10 ft. (3 m) hose and gun/4 tips/3 tip extenders) |
| VOC Content | 25 grams/L (mix using US EPA Test Method 24) |
| Weight | LG: Part 1 + Part 2 Canister Kit: 92 lb. (41.73) SM: Part 1 + Part 2 Canister Kit: 39 lb. (17.69 kg) |
| Shelf Life | 16 months from date of manufacture in unopened containers |

¹ Prior to application, store for approx. 36 to 72 hours at room temperature.

² When installed in accordance with GAF's application instructions. Results may vary depending upon application temperature range, porosity of substrate and insulation boards, type of substrate, bead size, etc.

³ Values stated are approximate and may vary based on ambient temperature. These values are not guaranteed and are provided solely as a guide.

RIBBON SPATTER APPLICATION COVERAGE⁴

| Ribbon Application (Insulation) | | | Spatter Application ⁴ (Fleece-Back Membrane) |
|-------------------------------------|---------------------------------------|--|---|
| 4" (102 mm) on-center | 6" (152 mm) on-center | 12" (305 mm) on-center | 2.83 lb. (1.36 kg) of adhesive per 100 sq. ft. of area |
| 1,000 sq. ft. (92.9 sq. m) coverage | 1,500 sq. ft. (139.35 sq. m) coverage | LG: 3,500 sq. ft. (325.15 sq. m) coverage SM: 1,000 sq. ft. (102.19 sq. m) coverage | LG: 2,400 sq. ft. (222.96 sq. m) coverage SM: 700 sq. ft. (65.03 sq. m) coverage |

⁴ When installed in accordance with GAF's application instructions. Results may vary depending upon application temperature range, porosity of substrate and insulation boards, type of substrate, bead size, etc.

EXAMPLES OF PROPER ADHESIVE RATIO FOR BEAD APPLICATIONS FOR INSULATION

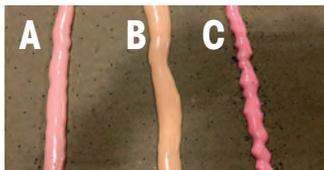


Without tip extension



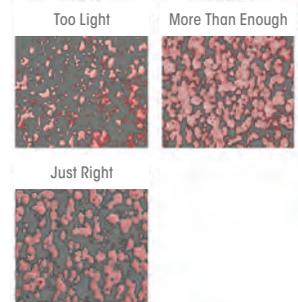
With tip extension

EXAMPLES OF PROPER ADHESIVE RATIO FOR BEAD APPLICATIONS:



- A — On ratio
- B — Too much Part 1
- C — Too much Part 2

EXAMPLES OF PROPER ADHESIVE RATIO FOR FLEECE-BACK MEMBRANE:



Illustrations are provided for reference only.

For additional information, contact GAF at 877-423-7663 or designservices@gaf.com.



Visit gaf.com

We protect what matters most™





EverGuard® Diamond Pledge™

NDL Roof Guarantee



OWNER OF BUILDING

GUARANTEE NUMBER

NAME OF BUILDING

PERIOD OF COVERAGE

ADDRESS OF BUILDING

DATE OF COMPLETION

AREA OF ROOF (SQUARES)

GUARANTEE EXPIRATION DATE

APPLIED BY

ROOF SPECIFICATION

THE GUARANTEE/SOLE AND EXCLUSIVE REMEDY

GAF Warranty Company LLC ("GAF") guarantees to you, the owner of the building described above, that GAF will provide "Edge To Edge" protection by repairing leaks through the GAF roofing membrane, liquid-applied membrane or coating, base flashing, high-wall waterproofing flashing, insulation, expansion joint covers, preflashed accessories, and metal flashings used by the contractor of record that were designed and installed in accordance with an appropriate ES-1 certified edge detail (the "GAF Roofing Materials") resulting from a manufacturing defect, ordinary wear and tear, or workmanship in applying the GAF Roofing Materials. There is no dollar limit on covered repairs. Leaks caused by any non-GAF materials, such as the roof deck or non-GAF insulation, are not covered.

GUARANTEE PERIOD

This guarantee ends on the expiration date listed above.

OWNER RESPONSIBILITIES

Notification of Leaks

In the event of a leak through the GAF Roofing Materials, you **MUST** make sure that GAF is notified directly about the leak, in writing, within **30 days** either online at leakreporting.gaf.com, by email at guaranteeleak@gaf.com, or by postal mail to GAF Warranty Claims Department, 1 Campus Drive, Parsippany, NJ 07054, or GAF will have no responsibility for making repairs. **NOTE:** The roofing contractor is **NOT** an agent of GAF; notice to the roofing contractor is **NOT** notice to GAF.

By notifying GAF, you authorize GAF to investigate the cause of the leak. If the investigation reveals that the leak is not covered by this guarantee, you agree to pay an investigation cost of \$500. This guarantee will be cancelled if you fail to pay this cost within 30 days of receipt of an invoice for it.

Preventative Maintenance and Repairs

- You must perform regular inspections and maintenance and keep records of this work.
- To keep this guarantee in effect, you must repair any conditions in the building structure or roofing system that are not covered by this guarantee but that GAF concludes may be threatening the integrity of the GAF Roofing Materials. Any such repairs must be performed by a GAF-certified roofing contractor. Failure to make timely repairs may jeopardize guarantee coverage.
- You may make temporary repairs to minimize damage to the building or its contents in an emergency, at your sole expense. These repairs will not result in cancellation of the guarantee as long as they are reasonable and customary and do not result in permanent damage to the GAF Roofing Materials.
- Any equipment or material that impedes any inspection or repair must be removed at your expense so that GAF can perform inspections or repairs.

EXCLUSIONS FROM COVERAGE

(e.g., items that are not "ordinary wear and tear" or are beyond the control of GAF)

This guarantee does **NOT** cover conditions other than leaks. This guarantee also does **NOT** cover leaks caused by any of the following:

- Inadequate roof maintenance, that is, the failure to follow the Scheduled Maintenance Checklists provided with this guarantee (extra copies available by calling Guarantee Services at 1-877-GAF-ROOF) or the failure to repair owner responsibility items.
- Unusual weather conditions or natural disasters including, but not limited to, winds in excess of 55 miles per hour, hail, floods, hurricanes, lightning, tornados, and earthquakes, unless specifically covered by an addendum to this guarantee.
- Impact of foreign objects or physical damage caused by any intentional or negligent acts, accidents, misuse, abuse, or the like.
- Damage to the roof constructed of the GAF Roofing Materials due to: (a) movement, cracking, or other failure of the roof deck or building; (b) improper installation or failure of any non-GAF insulation or materials; (c) condensation or infiltration of moisture through or around the walls, copings, building structure, or surrounding materials except where high-wall GAF waterproofing flashings are installed; (d) chemical attack on the membrane, including, but not limited to, exposure to grease or oil; (e) the failure of wood nailers to remain attached to the structure; (f) moisture migration from the building interior or any building component other than the GAF Roofing Materials; (g) use of materials that are incompatible with the GAF Roofing Materials; or (h) architectural, engineering, or design defects or flaws.
- Traffic of any nature on the roof unless using GAF walkways applied in accordance with GAF published application instructions.
- Blisters in the GAF Roofing Materials that have not resulted in leaks.
- Changes in the use of the building or any repairs, installation of any overburden, modifications, or additions to the GAF Roofing Materials after the roof is completed, unless prior written approval is obtained from GAF.
- Exposure to sustained high-temperature conditions; however, for systems utilizing EverGuard Extreme® TPO membrane, exposure in excess of 195°F.

No representative, employee, or agent of GAF, or any other person, has the authority to assume any additional or other liability or responsibility for GAF, unless it is in writing and signed by an authorized GAF Field Services Manager or Director. GAF does not practice engineering or architecture. Neither the issuance of this guarantee, nor any review of the roof constructed of the GAF Roofing Materials (or the plans for the roof), by GAF shall constitute any warranty of such plans, specifications or construction, or the suitability or code compliance of the GAF Roofing Materials for any particular structure. **NOTE:** Any inspections made by GAF are limited to a surface inspection only, are for the sole benefit of GAF, and do not constitute a waiver or extension of any of the terms and conditions of this guarantee.

This guarantee **MAY BE SUSPENDED OR CANCELLED IF THE ROOF IS DAMAGED BY any cause listed above as AN EXCLUSION FROM COVERAGE that may affect the integrity or watertightness of the roof.**

TRANSFERABILITY

You may transfer or assign this guarantee to a subsequent owner of the building for the remaining term only if: 1) the request is in writing to GAF at the address listed below within 60 days after ownership transfer; 2) you make any repairs to the GAF Roofing Materials or other roofing or building components that are identified by GAF after an inspection as necessary to preserve the integrity of the GAF Roofing Materials; and 3) you pay an assignment fee of \$500. This guarantee is **NOT** otherwise transferable or assignable by contract or operation of law, either directly or indirectly.

LIMITATION OF DAMAGES; MEDIATION; JURISDICTION; CHOICE OF LAW

THIS GUARANTEE IS EXPRESSLY IN LIEU OF ANY OTHER GUARANTEES OR WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, and of any other obligations or liability of GAF, whether any claim against it is based upon negligence, breach of warranty, or any other theory. In **NO** event shall GAF be liable for any CONSEQUENTIAL OR INCIDENTAL DAMAGES of any kind, including, but not limited to, interior or exterior damages and/or mold growth.

The parties agree that, as a condition precedent to litigation, any controversy or claim relating to this guarantee shall be first submitted to mediation before a mutually acceptable mediator unless GAF, at its sole option, elects to waive said requirement. In the event that mediation is unsuccessful, or is waived by GAF, the parties agree that neither one will commence or prosecute any lawsuit or proceedings other than before the appropriate state or federal court in the State of New Jersey. This guarantee shall be governed by the laws of the State of New Jersey, without regard to principles of conflicts of laws. Each party irrevocably consents to the jurisdiction and venue of the above identified courts.

NOTE: GAF shall have no obligation under this guarantee unless and until all bills for installation and supplies have been paid in full to the roofing contractor and materials suppliers, and the guarantee charge has been paid to GAF.

By: _____

Authorized Signature

GAF
1 CAMPUS DRIVE
PARSIPPANY, NJ 07054

Visit gaf.com

©2024 GAF • COMTS700-1224

We protect what matters most™





VERIFICATION COMMERCIAL ROOF WARRANTY

To: _____ Term: 2 Years
 Name (Owner)

Project: _____ Type of Roof: _____
 Address: _____

Date of Completion: _____ Date of Expiration: _____

Collis Roofing, Inc. (hereinafter "Contractor") hereby warrants, subject to the terms and conditions set forth herein, that for a period of 2 years from the date of completion, Contractor will, free of charge to the Owner, make repairs to leaks in the roof membrane and membrane flashing installed by Contractor resulting from defects in workmanship applied by or through Contractor. Contractor shall, within the warranty period and during normal working hours, inspect and furnish the labor and materials to repair leaks covered under this Warranty at no cost to Owner.

The following components are covered under this warranty. All membranes, fasteners, adhesives, base flashings and walkway pads to provide a complete roofing system. Also included is the parapet wooden nailers and parapet coping caps.

This Warranty is made under and subject to the following terms and conditions:

1. In order for this Warranty to be effective, the Owner must first notify Contractor of any repairs required under this Warranty. Notice may be given orally, but in order to pursue any claim that Contractor has not honored this Warranty, notification of a leak must be given to Contractor in writing within five (5) days after a leak is experienced. Contractor shall make repairs as soon as practicable after notification.

2. This Warranty does not extend to conditions caused by, and Contractor shall not be responsible for, leaks caused by (1) abuse, misuse, vandalism, lack of maintenance, accident or negligence in maintaining the roof; (2) lightning, hail, windstorm, hurricane, earthquake, thermal shock or other acts of God; (3) other building components, including cracking, building movement, settlement, deflection of roof deck, deterioration of walls, water entry through masonry or other points other than the roof, and defects in the materials used as a base under the roof; (4) faulty vents, equipment supports, and other penetrations of the roof work and edge conditions, unless such work was performed by Contractor; (5) service to or maintenance of any roof top equipment or traffic of any nature on the roof; (6) acts or omissions of other trades or contractors; (7) movement of metal work; (8) ponding of water; (9) discharge of vegetable, mineral, animal oils, greases, solvents or chemicals; (10) damage caused by termites, insects, vermin, rodents or birds; or (11) penetration from beneath by rising nails or other mechanical fasteners or attachment devices.

3. No work shall be done on said roof, including, but without limitation, openings made for flues, vents, drains, sign braces, railings, or other equipment fastened to or set on the roof, and no repairs or alterations shall be made to the roof, unless Contractor shall first be notified and be given the opportunity, at the expense of the Owner, to make the necessary roofing application thereto. Failure to observe this condition shall render this Warranty null and void with respect to any area of the roof affected thereby.

4. Nothing in this Warranty shall render Contractor liable in any respect for any damage to the Owner's building, or any components or contents thereof, mold, mildew or interruption of any business conducted in the building. Owner should inspect ceilings and overhangs periodically for signs of leakage.

COLLIS ROOFING, INC. SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

5. This Warranty is intended solely for the benefit of the Owner named above and is not transferable or assignable by the Owner without the express written consent of Contractor.

6. This Warranty shall not be effective unless Contractor has received full payment for installation, repairs, or service in connection with the roofing system covered by this Warranty. If Contractor is called upon to investigate a reported leak and the condition is determined not to be covered under this warranty, Owner will compensate Contractor for time and repairs, if any, expended by Contractor.

7. Contractor's obligation to make repairs to leaks resulting from a deficiency in workmanship during the term of this Warranty is its sole and exclusive obligation to Owner and Owner's exclusive remedy against Contractor. This warranty is not a maintenance contract. Upon expiration of the warranty, Contractor shall have no further obligation.

THIS WARRANTY IS GIVEN AND ACCEPTED IN LIEU OF ALL OTHER LIABILITY OR WARRANTIES ON THE PART OF COLLIS ROOFING, INC. EXPRESS OR IMPLIED, IN FACT OR IN LAW. ALL IMPLIED WARRANTIES AND SPECIFICALLY THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED AND DISCLAIMED.

8. Any claim alleging any breach of this Warranty or any other claim against Contractor shall be resolved through arbitration in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association.

COLLIS ROOFING, INC.

By: J. Douglas Lanier
 J. Douglas Lanier, President