Washington Weather Shield Inc.
ROOFING + GC

PRRF20250453

Washington Weather Shield, Inc.
PO BOX 2411
Auburn, WA 98071
425-753-9120
#WASHIWS887DG
waweathershield@gmail.com

Date: 4/2/2025
Project Name: Legend Auto Sales Re-roof

SUBMITTAL COVER SHEET

Summary

Submitting materials list, manufacturer data sheets, and safety data sheets per City of Puyallup Building Permit division's request

Attachments:
Cover Letter
Material Submittal Sheet
Data Sheets
Safety Data Sheets

Submitted by:
Ivan Prokopets, President, Washington Weather Shield, Inc.

City of Puyallup
Building
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MATERIAL SUBMITTAL

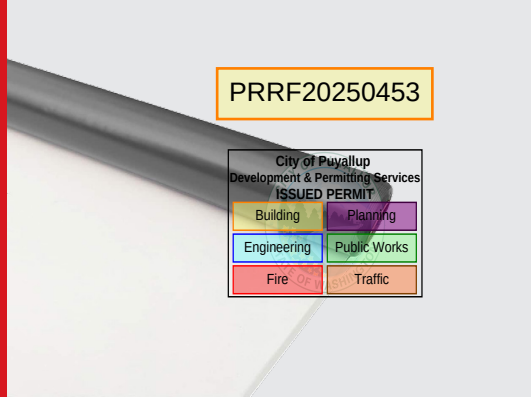
LINE ITEM NO	MANUFACTURER	DESCRIPTION OF MATERIAL
1	GAF	Everguard TPO 60mil
2	GAF	EverGuard TPO 1121 Bonding Adhesive
3	GAF	Insulfoam Tapered Insulation
4	GAF	Drill-Tec #14 Fastener
5	GAF	Drill-Tec #12 Fastener
6	GAF	Drill-Tec 3” Steel Round Plates for insulation
7	GAF	Drill-Tec 2 3/8” Barbed XHD Plate for TPO
8	Tri-Built	Synthetic Underlayment
9	GAF	EnergyGuard HD Plus Polyiso Cover Board
10	Bryer	TBC-Masterseam

EverGuard®

GAF TPO

Smooth Membrane

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.

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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.

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

We protect what matters most™

GAF

EverGuard® TPO Smooth Membrane

45, 60, 80 mil

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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/m² 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(m²•nm) at 340 nm, No cracks @ 7x magnification	>20,000 kJ(m²•nm) at 340 nm	>25,000 kJ(m²•nm) at 340 nm	>25,000 kJ(m²•nm) at 340 nm
Air Permeance	ASTM E2178		<0.02 L/(s • m²)	<0.02 L/(s • m²)	<0.02 L/(s • m²)

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

EverGuard® TPO Smooth Membrane

45, 60, 80 mil

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Applicable Standards/Approvals

MIAMI-DADE COUNTY APPROVED	Miami Dade County Product Control Approved	UL Evaluation Report UL ER1306-01	ICC-ES Evaluation Report ESR-4676 (Cedar City, UT only)
FM APPROVED	FM Approved (Refer to FM RoofNav.com for actual assemblies)	Meets or exceeds the requirements of ASTM D6878.	State of Florida Approved
CLASSIFIED UL	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.

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

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GAF TPO Accessories

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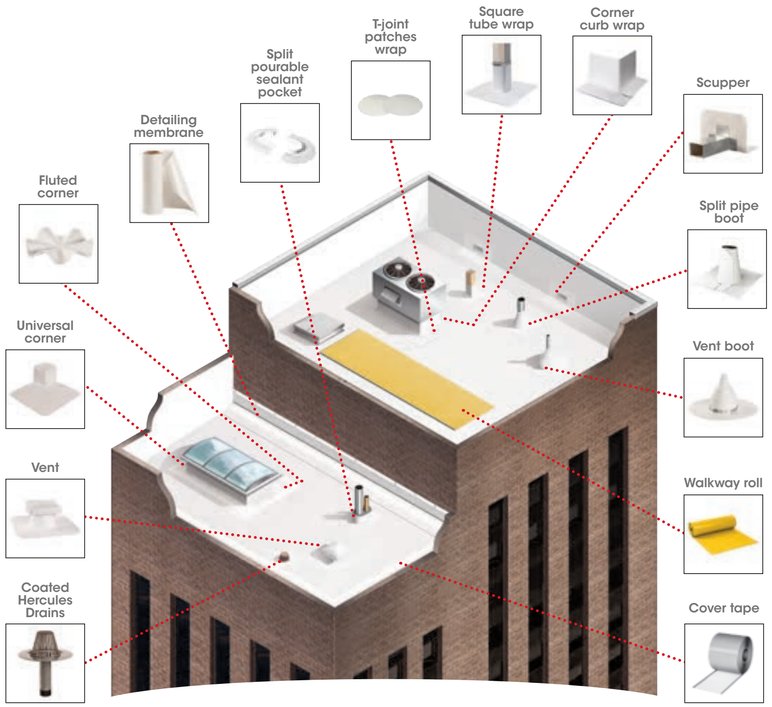
- Eliminate field fabrication and reduce installation time with these accessories
- GAF offers a wide range of preformed accessories for various details including penetrations, corners, curbs, and edges
- Preformed accessories offer a consistent built and finished-looking detail
- Various accessories come in different sizes to best fit various details on your roof
- Custom accessories are also available



EnergyGuard™ HD Polyiso Cover Board

EverGuard® TPO Quick-Spray Adhesive

Fasteners and Plates

Vapor Retarder XL

Find out more. Contact us at:

Customer Care

Hours: 7:30 am – 6:30 pm EST, Monday – Friday

All inquiries regarding product order placement, product availability, shipment tracking, and jobsite deliveries.
customercarecommercial@gaf.com

Warranty Claims

Hours: 8:30 am – 5:00 pm EST, Monday – Friday

Claims involving Commercial Guarantees.
guaranteeleak@gaf.com

Guarantee Services

Hours: 7:30 am – 6:00 pm EST, Monday – Friday

All inquiries regarding Commercial Guarantees support including registration, coverage, and transfer information.
guaranteeservices@gaf.com

Design Services

Hours: 8:00 am – 5:00 pm EST, Monday – Friday

Answers questions and provides assistance with everything from master specification preparation, to assisting with complete submittals related to your project at no charge to contractors, specifiers, and architects.
designservices@gaf.com

Tapered Design Group

Hours: 8:30 am - 5:00 pm EST, Monday – Friday

Tapered insulation take-offs and drawings for architects, contractors, and distributors.
tdg@gaf.com

TPO Manufacturing Locations

New Columbia, PA
2093 Old Rte 15, New Columbia, PA

Valdosta, GA — *Coming Soon*
2100 Steeda Way, Valdosta, GA 31606

Mount Vernon, IN
901 Givens Rd, Mt Vernon, IN 47620

Gainesville, TX
1301 Corporate Dr, Gainesville, TX 76240

Cedar City, UT
5080 UT-56, Cedar City, UT 84721

A standard INDUSTRIES COMPANY

We protect what matters most™

TPO (thermoplastic polyolefin) is a single-ply roofing membrane that offers excellent performance and has been the most popular roofing membrane for many years. GAF

EverGuard® TPO products offer a balance of long-term performance and state-of-the-art innovation designed to help tackle your specific roofing challenge.

We protect what matters most™

Why GAF EverGuard® TPO

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When you choose TPO from GAF, you have the experience and expertise of North America's largest manufacturer of roofing products standing behind your product.

Over the last 20+ years, building owners from coast to coast have chosen to install more than 6 billion square feet of GAF EverGuard® TPO to protect their investments, their businesses, and their tenants.

A network of highly experienced specialists

Whether it's your first day on the job or your thousandth, you can rely on GAF for quality products, training, and support services. From technical help to professional education programs, we can help you address your every roofing need.

Discover how GAF can make your job easier and more efficient at **gaf.com/tpo**

Access to industry-leading training

From industry-leading videos (gaf.com/roofingitright), in-person classes, or trailer trainings, CARE offers a wide range of training opportunities.

Available in both English and Spanish: **gaf.com/care**

Worry-free protection, for years to come

We worry about producing high-quality products backed by strong guarantees — so that you don't have to worry about your roof. With available guarantee coverage up to 35 years for qualified systems[1], building owners can rest easy knowing that their commercial roof has true edge-to-edge coverage.[2]

To find out more about our industry-leading guarantees, visit **gaf.com/tpo/guarantee**

20-plus year track record for performance

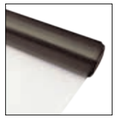
GAF studies of 8- to 16-year-old GAF TPO shows performance often meets current ASTM D6878-19 requirements for new membranes.

Learn more: **gaf.com/proven-performance**

[1] Additional requirements apply. Contact GAF for more information.

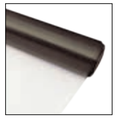
[2] For EverGuard® *Diamond Pledge™ NDL Roof Guarantees* and *System Pledge™ Roof Guarantees* only. Refer to applicable guarantee available at gaf.com for complete coverage and restrictions.

TPO Membranes



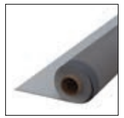
EverGuard® TPO

- For performance you can count on, the construction of our EverGuard® TPO membrane has remained consistent for decades, during which the company has sold more than 6 billion square feet of membrane
- A 20-plus year track record for performance
- Available in the widest selection of colors in the industry



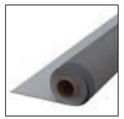
EverGuard Extreme® TPO

- Includes an enhanced weathering package that allows GAF to offer a guarantee of up to 35 years[4], the longest in the industry
- Great for high-heat and solar applications
- Available in White



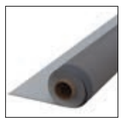
EverGuard® TPO Fleece-Back Membrane

- Best for re-cover applications or where strong protection against punctures and hail resistance is paramount[3]
- Available in White, Tan, and Gray



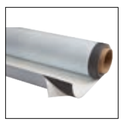
EverGuard® TPO Fleece-Back 100, 115, and 135 Membranes

- Select when a thicker fleece is specified, including re-cover applications or where strong protection against punctures and hail resistance is paramount[4]
- Available in White



EverGuard Extreme® TPO Fleece-Back Membrane

- Best for re-cover applications or where strong protection against punctures and hail resistance is paramount[3]
- Available in White



EverGuard® SA TPO Self-Adhered Roof Membrane

- GAF EverGuard® SA TPO Self-Adhered Roof Membrane is ready to install direct from the factory
- Ideal for jobs on occupied buildings where odor associated with traditional solvent-based adhesives are a concern
- An excellent alternative for adhered installations in colder weather, down to 20°F
- Available in White

Smooth TPO Standard Colors[3]

White -920

Gray 345

Slate Gray 740

Energy Gray 322

Tan 820

Energy Tan 822

Dark Bronze 220

[3] Visit gaf.com for additional smooth TPO colors. EverGuard®/EverGuard Extreme® Fleece-back TPO has limited color availability. EverGuard Extreme® TPO, EverGuard Extreme Fleece-back TPO and EverGuard SA® TPO are only available in white. It is difficult to reproduce the actual color of the product. Final installed colors may vary from colors shown. Please ask to see a sample of the actual material before you make a final selection.

[4] GAF warranties and guarantees do not provide coverage against hail or punctures except where additional puncture resistance coverage is purchased on eligible jobs. Refer to gaf.com for more information on warranty and guarantee coverage and restrictions.

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

TPO Attachment Methods

Mechanically Attached Smooth TPO with Drill-Tec™ Fasteners		After attaching insulation to the deck, attach the TPO to the deck at the seam, then weld. It's one of the fastest installation methods, with the widest application temperature range, and qualifies for a 30-year warranty.[1] Ideal for many office buildings.
GAF Quick-Spray Adhesive Smooth TPO		Adhesive is sprayed uniformly on the substrate and membrane underside. When the adhesive dries to a tacky feel, roll out the membrane and apply pressure. One of the fastest installation methods, with excellent finished look and high wind-uplift resistance. Qualifies for up to a 35-year guarantee[1] when using EverGuard Extreme® 80 mil TPO.
Adhered Smooth TPO with Traditional Bonding Adhesive		After attaching insulation to the deck, roll adhesive on both the substrate and the membrane and allow to flash off. Weld the membrane at the seams and broom in. This installation method offers a uniform, smooth appearance; minimizes thermal drift; and acts as a vapor barrier. Ideal for warm and windy environments. Adhered installations can qualify for a longer guarantee[1] duration than mechanically attached installations.
Induction-welded with smooth TPO		Use RhinoBond® technology to induction-weld the membrane to plates secured to the insulation layer, then heat-weld the seams. With quick dry-in, no cure time, fumes, or mess, it offers a fast and easy installation in the widest temperature range. Qualifies for up to a 30-year guarantee.[1] Ideal for office buildings.
EverGuard® SA TPO Self-Adhered Roof Membrane		Ready to install straight from the factory, this self-adhered roof membrane can help save time and labor, and can be installed at temps down to 20°F. Seam-weld as usual. Ideal for occupied buildings where solvent odors are a concern. Qualifies for up to a 25 year guarantee.[1]
Adhered Fleece-back TPO with Low-rise Foam		Apply adhesive in a spatter pattern, apply the membrane, weld the seams, and smooth with a weighted roller. This membrane installation method is up to 50% faster than installation of smooth membrane with traditional solvent-based bonding adhesive, increasing productivity, requires no expensive equipment, and the fleece backing offers additional puncture resistance.[4] Qualifies for up to a 35-year guarantee.[1] Ideal for most environments.

TPO Membrane Sizes

EverGuard® TPO

Thickness	Unit Size
45 mil	12' x 100' (3.66 m x 30.5 m)
	10' x 100' (3.05 m x 30.5 m)
	8' x 100' (2.44 m x 30.5 m)
	6' x 100' (1.83 m x 30.5 m)
	5' x 100' (1.52 m x 30.5 m)
60 mil	12' x 100' (3.66 m x 30.5 m)
	10' x 100' (3.05 m x 30.5 m)
	8' x 100' (2.44 m x 30.5 m)
	6' x 100' (1.83 m x 30.5 m)
	5' x 100' (1.52 m x 30.5 m)
	10' x 50' (3.05 m x 15.24 m)
	5' x 50' (1.52 m x 15.24 m)
80 mil	12' x 100' (3.66 m x 30.5 m)
	10' x 100' (3.05 m x 30.5 m)
	8' x 100' (2.44 m x 30.5 m)
	6' x 100' (1.83 m x 30.5 m)
	5' x 100' (1.52 m x 30.5 m)

EverGuard® SA TPO Self-Adhered Roof Membrane

Thickness	Unit Size
60 mil	5' x 100' (1.52 m x 30.5 m)
	10' x 100' (3.05 m x 30.5 m)
80 mil	5' x 100' (1.52 m x 15.24 m)
	10' x 100' (3.05 m x 30.5 m)

EverGuard® TPO Fleece-Back Membrane

Thickness	Unit Size
45 mil	12' x 100' (3.66 m x 30.5 m)
	10' x 100' (3.05 m x 30.5 m)
	6' x 100' (1.83 m x 30.5 m)
	5' x 100' (1.52 m x 30.5 m)
60 mil	12' x 100' (3.66 m x 30.5 m)
	10' x 100' (3.05 m x 30.5 m)
	6' x 100' (1.83 m x 30.5 m)
	5' x 100' (1.52 m x 30.5 m)
80 mil	12' x 50' (3.66 m x 15.24 m)
	10' x 50' (3.05 m x 15.24 m)
	6' x 50' (1.83 m x 15.24 m)
	5' x 50' (1.52 m x 15.24 m)

EverGuard® TPO Fleece-Back 100, 115, and 135 Membranes

Thickness	Unit Size
100	10' x 100' (3.05 m x 30.5 m)
	5' x 100' (1.52m x 30.5 m)
115	10' x 100' (3.05 m x 30.5 m)
	5' x 100' (1.52 m x 30.5 m)
135	10' x 80' (3.05 m x 24.38 m)
	5' x 100' (1.52 m x 30.5 m)

EverGuard Extreme® TPO

Thickness	Unit Size
50 mil	10' x 100' (3.05 m x 30.5 m)
	5' x 100' (1.52 m x 30.5 m)
	8' x 100' (2.44 m x 30.5 m)
60 mil	10' x 100' (3.05 m x 30.5 m)
	5' x 100' (1.52 m x 30.5 m)
	8' x 100' (2.44 m x 30.5 m)
70 mil	10' x 100' (3.05 m x 30.5 m)
	5' x 100' (1.52 m x 30.5 m)
	8' x 100' (2.44 m x 30.5 m)
80 mil	10' x 100' (3.05 m x 30.5 m)
	5' x 100' (1.52 m x 30.5 m)
	8' x 100' (2.44 m x 30.5 m)

EverGuard Extreme® TPO Fleece-Back Membrane

Thickness	Unit Size
50 mil	10' x 100' (3.05 m x 30.5 m)
	5' x 100' (1.52 m x 30.5 m)
60 mil	10' x 100' (3.05 m x 30.5 m)
	5' x 100' (1.52 m x 30.5 m)
70 mil	10' x 50' (3.05 m x 15.24 m)
	5' x 50' (1.52 m x 15.24 m)
80 mil	10' x 50' (3.05 m x 15.24 m)
	5' x 50' (1.52 m x 15.24 m)

TPO Accessories

PRRF20250453

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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.

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	7780OOm
Packaging	5 gal. pails
Shipping	45 pails per pallet

Visit **gaf.com**

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

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INSULFOAM®
ROOF INSULATION SYSTEMS

PREMIUM TAPERED INSULATION

PRRF20250453

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Description

InsulFoam Taper is an engineered insulation consisting of a superior closed-cell, lightweight expanded polystyrene (EPS). InsulFoam Taper is cut from the same high-quality EPS as our flat InsulRoof products, and meets or exceeds the requirements of ASTM C578, Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation. InsulFoam Taper offers a long-term, stable R-value and has excellent dimensional stability, compressive strength and water resistance properties.

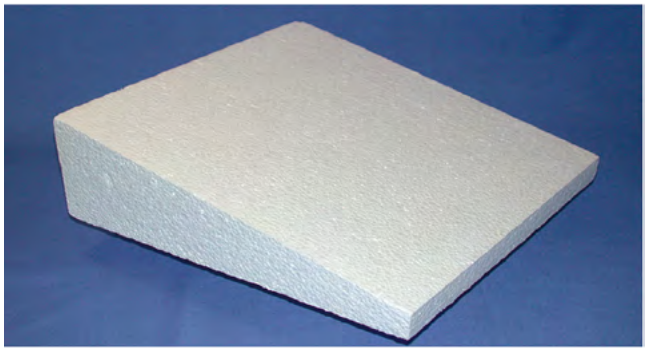
Uses

InsulFoam Taper is well-suited for single-ply roof applications that employ ballasted, mechanically fastened TPO, PVC, EPDM and CSPE with a slip sheet, as well as low-sloped built-up, modified bitumen and fully adhered single-ply roofs that incorporate cover boards. Consult local building codes and membrane manufacturers for system requirements.

Advantages

- Labor Savings. There are no complicated filler panel systems. InsulFoam Taper can be installed in a single layer for thicknesses up to 40", and is significantly more cost-effective than extruded polystyrene, perlite and isocyanurate tapered systems.
- Promotes Positive Drainage. InsulFoam Taper is the ideal insulation for both new construction and re-roofing projects in which positive slope is desired or ponded water is a concern.
- Environmentally Friendly. InsulFoam Taper does not contain any ozone-depleting blowing agents, may contain recycled material, and is 100% recyclable if ever removed or replaced.
- Stable R-value. The product's thermal properties will remain stable over its entire service life. There is no thermal drift, so the product is eligible for an Insulfoam 20-year thermal performance warranty.
- Proven Performance. EPS has been manufactured using the same chemistry since the mid-1950s, providing proven performance.
- Water Resistance. InsulFoam Taper does not readily absorb moisture from the environment.
- Code Approvals. Insulfoam insulations are recognized by the International Code Council Evaluation Service (ICC-ES), and have numerous Underwriters Laboratory and Factory Mutual Approvals. Please contact your local Insulfoam representative for details.

PREDICTABLY **CONSISTENT** VALUE.



Sizes

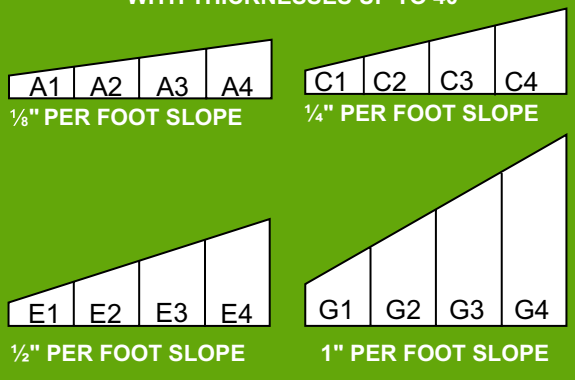
InsulFoam Taper is available in 4' x 4' and 4' x 8' panels with thickness from 0 (⅛" actual) to 40" in a single layer. There are no limitations to available slope per foot.

Typical Tested Physical Properties

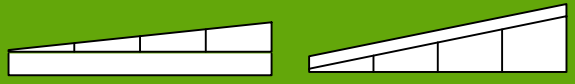
For typical tested physical properties, please refer to the corresponding flat InsulFoam Data Sheet.

SAMPLE SLOPE CROSS SECTIONS
1/8" to 1" Per Foot Slopes

*** NO SEPARATE FILLER PANELS REQUIRED WITH THICKNESSES UP TO 40"**



SAMPLE HYBRID CROSS SECTIONS
1/8" to 1" Per Foot Slopes



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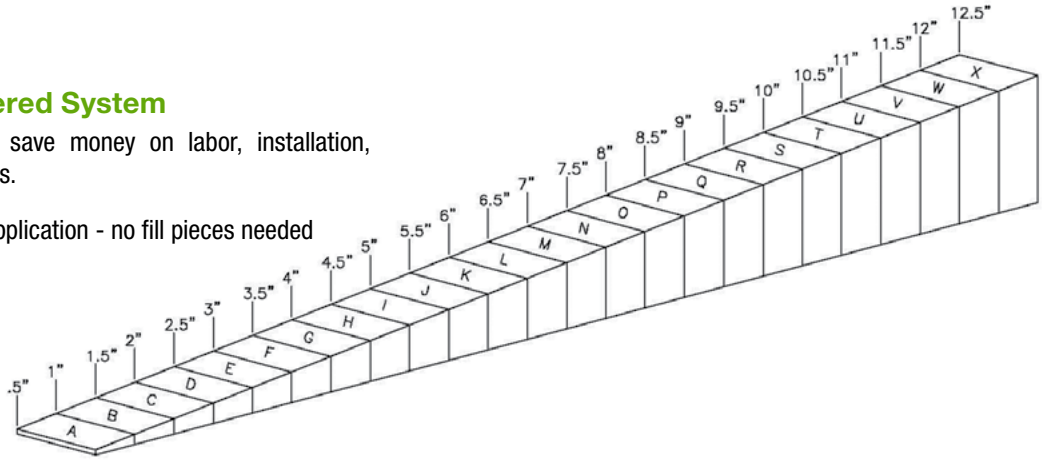
INSULFOAM® ROOF INSULATION SYSTEMS

PREMIUM TAPERED INSULATION

Insulfoam EPS Tapered System

Use InsulFoam Taper and save money on labor, installation, adhesives and material costs.

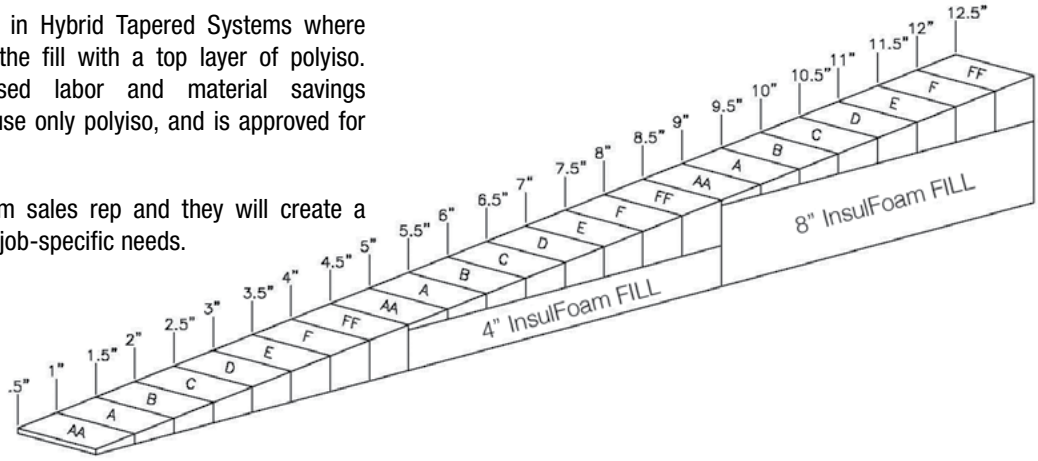
- 0-40” in a single layer application - no fill pieces needed
- no limitations on slope



Hybrid Tapered System

Insulfoam EPS is approved in Hybrid Tapered Systems where the InsulFoam is used as the fill with a top layer of polyiso. This system has increased labor and material savings compared to systems that use only polyiso, and is approved for fully adhered systems.

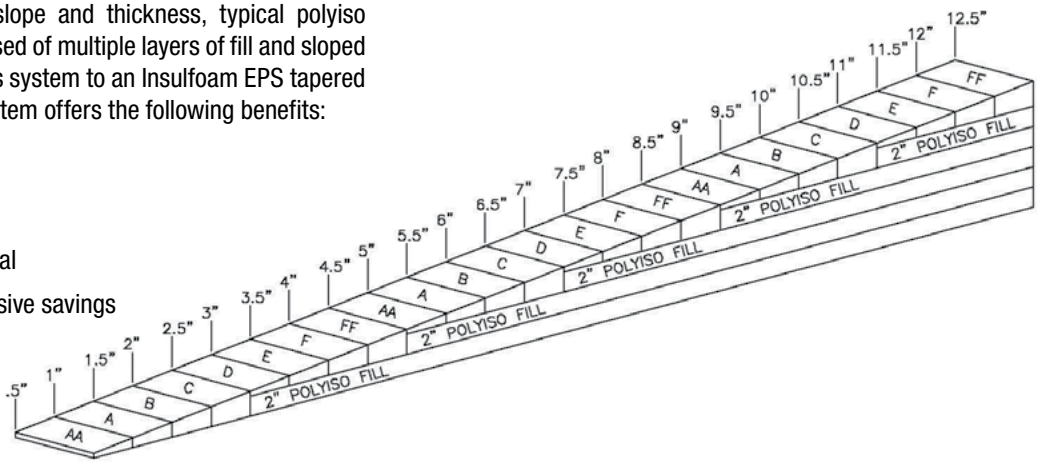
Contact your local Insulfoam sales rep and they will create a custom design to meet your job-specific needs.



Typical Polyiso Tapered System

Due to the limitations on slope and thickness, typical polyiso tapered systems are comprised of multiple layers of fill and sloped panels. When comparing this system to an Insulfoam EPS tapered system, the EPS tapered system offers the following benefits:

- Fewer installed panels
- Less complex system
- Less expensive fill material
- Labor, material and adhesive savings



INSULATION ENGINEERED TO MAKE A DIFFERENCE.

DRILL-TEC™ #14 FASTENER

PRRF20250453

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Description

Drill-Tec™ #14 Fastener is designed to secure insulation to heavy steel decks (18 ga.– 20 ga.), wood decks, and structural concrete. It is available in lengths from 1-1/4" – 16" (31.8 – 406 mm). The Drill-Tec™ #14 Fastener is Factory Mutual and Miami-Dade County Product Control approved.

Application

The Drill-Tec™ #14 Fastener must penetrate steel decks a minimum of ¾" (19.1 mm), wood plank decks a minimum of 1" (25.4 mm), and ½" (12.7 mm) through the underside for plywood decks. The Drill-Tec™ #14 Fastener requires a minimum embedment of 1" (25.4 mm) penetration into structural concrete. Predrill a 3/16" (4.76 mm) pilot hole using a carbide-tip SDS bit. The predrilled pilot hole must be a minimum of ½" (12.7 mm) deeper than the fastener embedment (at least a 2" [51 mm] deep pilot hole recommended). Using a screwshooter, drive the fastener until the screw head is seated securely; with very rigid insulation boards, watch for the plate to dimple.

Note: Be careful not to overdrive the fastener and fracture the skin of the insulation. Fastener must be tight enough so that the plate doesn't turn.

Code Approvals

FM APPROVED

MIAMI-DADE COUNTY APPROVED

Advantages

- Heavier shank & thread diameters than most "heavy duty" roofing fasteners.
- Deep thread for high pull-out resistance.
- Extra sharp drill point for quick installation in new or reroof applications.

Plates & Accessories

- Use 3" (76 mm) steel or plastic plates, depending upon the application.
- For best installation results, use a variable speed 0-2500 rpm screw gun.

Specifications

The fastener will be a Drill-Tec™ #14 Fastener with a shank diameter of .190 (.423 mm) and a thread diameter of .245 (6.22 mm). The fastener must have 10 threads per inch (per 25.4 mm) and have a 30° drill point. Also, the fastener must be heat treated per specification OMG-1. The Drill-Tec™ #14 Fastener will be used with a Factory Mutual-approved, Drill-Tec™ Round Pressure Plate. The fastener must be Factory Mutual approved.

Coating Requirement

The fastener will be coated with the Drill-Tec™ CR-10 corrosion-resistant coating. When subjected to 30 Kesternich cycles (DIN 50018), the fastener must show less than 15% red rust and surpass Factory Mutual Approval Standard 4470.

Product Data

Thread Diameter	.245" (6.22 mm)
Shank Diameter	.190" (.423 mm)
Head Diameter	.435" (11.04 mm)
Head Style	#3 Phillips Truss Head*
Coating	CR-10

*#3 Phillips bit included in each carton or bucket

Length	Thread Length	Packaging	Weight
1 1/4" (31.8 mm)	Full	1,000*	13 lb (5.90 kg)
1 ¾" (44.4 mm)	Full	1,000*	17 lb (7.71 kg)
2" (51 mm)	Full	1,000*	19 lb (8.62 kg)
3" (76 mm)	Full	1,000*	27 lb (12.25 kg)
4" (102 mm)	3" (76 mm)	1,000*	35 lb (15.88 kg)
5" (127 mm)	4" (102 mm)	500*	23 lb (10.43 kg)
6" (152 mm)	4" (102 mm)	500*	26 lb (11.79 kg)
7" (178 mm)	4" (102 mm)	500*	30 lb (13.61 kg)
8" (203 mm)	4" (102 mm)	500*	34 lb (15.42 kg)
9" (227 mm)	4" (102 mm)	500**	37 lb (16.78 kg)
10" (254 mm)	4" (102 mm)	500**	40 lb (18.14 kg)
11" (279 mm)	4" (102 mm)	500**	44 lb (19.96 kg)
12" (305 mm)	4" (102 mm)	250**	25 lb (11.34 kg)
14" (357 mm)	4" (102 mm)	250**	29 lb (13.15 kg)
16" (406 mm)	4" (102 mm)	250**	38 lb (17.24 kg)
18" (457 mm)	4" (102 mm)	250**	41 lb (18.6 kg)
20" (508 mm)	4" (102 mm)	250**	47 lb (21.32 kg)
22" (558.8 mm)	4" (102 mm)	250**	51 lb (23.13 kg)
24" (609 mm)	4" (102 mm)	250**	56 lb (24.4 kg)

*Bucket **Box
Longer Lengths Available Upon Request.
Call GAF For Information.

Drill-Tec™ #14 Fastener

Example: Drill-Tec™ #14 Fastener Length Selection Procedure

1. If applicable, determine thickness of existing roofing material.
2. Add thickness of new insulation.
3. Add ¾" (19.1 mm) minimum fastener penetration.
4. If odd size requirement, always size up in length, not down. See example below.

Example

Existing Roofing:		1 ¾" (44.4 mm)
New Insulation:	+	½" (12.7 mm)
Min. Embedment:	+	¾" (19.1 mm)
Total Fastening Range:	=	3" (76 mm)

The proper #14 Fastener for the example is 3" (76 mm).

Use this format to calculate correct fastener size:

Existing Roof:		
New Insulation:	+	
Min. Embedment:	+	¾" (19.1 mm)
Total Fastening Range:	=	

The proper #14 Fastener is:

DRILL-TEC™ #12 FASTENER

PRRF20250453

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Description

Drill-Tec™ #12 Fastener is designed to secure insulation to steel (18 ga. – 24 ga.) and wood. It is available in lengths from 1-5/8" – 8" (41.3 mm – 203 mm). The Drill-Tec™ Standard #12 Roofing Fastener is Factory Mutual and Miami-Dade County Product Control approved.

Application

The Drill-Tec™ #12 Fastener must penetrate steel decks a minimum of ¾" (19.1 mm), wood plank decks a minimum of 1" (25.4 mm), and ½" (12.7 mm) through the underside for plywood decks. Using a screw gun, drive the fastener until the screw head is seated securely; with very rigid insulation boards, watch for the plate to dimple.

Note: Be careful not to overdrive the fastener and fracture the skin of the insula- tion. Fastener must be tight enough so that the plate doesn't turn.

For steel decks, Factory Mutual requires that the fastener penetrate the deck at the top flute.

To speed installation, this fastener is also available as a labor saving assembled screw and plate. See Drill-Tec ASAP® 3S.

Code Approvals

FM APPROVED

MIAMI-DADE COUNTY APPROVED

Advantages

- Heavier shank & thread diameters than most "standard" roofing fasteners.
- Deep buttress thread for high pull-out resistance.
- Extra sharp drill point for quick installation in new or reroof applications.
- Available with Hex Head or #3 Phillips Truss Head.

Plates & Accessories

- Use 3" (76 mm) steel or plastic plates, depending upon the application.
- For best installation results, use a variable speed 0-2500 rpm screw gun.

Specifications

The fastener will be a Drill-Tec™ #12 Fastener with a thread diameter of .220" (5.58 mm). The fastener must have 12.5 buttress threads per inch (per 25.4 mm) and a 30° drill point. Also, the fastener must be heat treated per specification OMG-1. The Drill-Tec™ #12 Fastener will be used with a Factory Mutual-approved, Drill-Tec™ Round Pressure Plate or Pressure Bar. The fastener must be Factory Mutual approved.

Coating Requirement

The fastener will be coated with the Drill-Tec™ CR-10 corrosion-resistant coating. When subjected to 30 Kesternich cycles (DIN 50018), the fastener must show less than 15% red rust and surpass Factory Mutual Approval Standard 4470.

Note: ASAP® is a registered trademark of OMG.

Product Data

Thread Diameter	.220" (5.58 mm)
Head Diameter	
Truss Head	.435" (11.04 mm)
Hex Head	.390" (9.91 mm)
Head Style	#3 Phillips Truss Head* 1/4" (6.35 mm) Hex Head*
Coating	CR-10

*#3 Phillips bit or Hex Head drive included in each bucket.

Length	Thread Length	Packaging (Bucket)	Weight
1 5/8" (41.3mm)	Full	1,000	12 lb (5.44 kg)
2 1/4" (57.1 mm)	Full	1,000	15 lb (7.71 kg)
3" (76 mm)	Full	1,000	24 lb (10.89 kg)
4" (102 mm)	3" (76 mm)	1,000	28 lb (12.70 kg)
5" (127 mm)	3" (76 mm)	1,000	35 lb (15.88 kg)
6" (152 mm)	4" (102 mm)	1,000	40 lb (18.14 kg)
7" (178 mm)	4" (102 mm)	1,000	48 lb (21.77 kg)
8" (203 mm)	4" (102 mm)	1,000	50 lb (22.68 kg)

Note: All sizes are nominal.

Drill-Tec™ #12 Fastener

Example: Drill-Tec™ #12 Fastener Length Selection Procedure

1. If applicable, determine thickness of existing roofing material.
2. Add thickness of new insulation.
3. Add 3/4" (19.1 mm) minimum fastener penetration.
4. If odd size requirement, always size up in length, not down. See example below.

Example

Existing Roofing:		1 ¾" (44.4 mm)
New Insulation:	+	½" (12.7 mm)
Min. Embedment:	+	¾" (19.1 mm)
Total Fastening Range:	=	3" (76 mm)

The proper #12 Fastener for the example is 3 1/4" (82.6 mm).

Use this format to calculate correct fastener size:

Existing Roof:	
New Insulation:	+
Min. Embedment:	+ ¾" (19.1 mm)
Total Fastening Range:	=

The proper #12 Fastener is:

GAF Drill-Tec™ Insulation Plates

Flat

Drill-Tec™ 3" (76 mm) Ribbed Galvalume® Plate (Flat)

Drill-Tec™ 3" (76 mm) Plastic Locking Plate

Recessed

Drill-Tec™ 3" (76 mm) Steel Plate

Drill-Tec™ 3" (76 mm) Standard Steel Plate

Drill-Tec™ 3" (76 mm) AccuTrac® Flat Plate

Drill-Tec™ 3" (76 mm) AccuTrac® Recessed Plate

PRRF20250453

Description:

Drill-Tec™ insulation plates are made of Galvalume®-coated steel for excellent corrosion protection. Also available in a 3" Plastic Locking Plate made of durable polypropylene to be used with the Drill-Tec™ #12 or Drill-Tec™ #14 fasteners. The plates meet the requirements of ASTM D6294, FM Approval Standard 4470, and DIN 50018. They are ideal for attaching both insulation and cover boards.

Round Plates: The round design distributes loads evenly, eliminates sharp corners that can damage the insulation or cover board, and are available in a flat profile, which is ideal for cover boards, as well as recessed profile. These plates are designed to be used with appropriate Drill-Tec™ fasteners, depending on the substrate type. For details on fasteners and substrates please see the GAF attachment tables for TPO and PVC.

Square Plates: AccuTrac® Plates are designed to be used in the AccuTrac® Stand Up Tool, offering an ergonomic fastening solution for attaching insulation and cover boards. They are available in two designs, recessed and flat. Please refer to GAF-published application instructions for approved substrates and additional information requirements at gaf.com.

For applications not listed or for additional information, contact GAF at 877-423-7663 or designservices@gaf.com.

Galvalume® is a registered trademark of BIEC International Inc. and some of its licensed producers.

AccuTrac® is a registered trademark of OMG.

Codes and Standards:

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

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State of Florida Approved

GAF Attachment Tables for TPO and PVC

Product Data

Plate	Drill-Tec™ 3" (76 mm) Standard Steel Plate	Drill-Tec™ 3" (76 mm) Steel Plate	Drill-Tec™ 3" (76 mm) Ribbed Galvalume® Plate (Flat)	Drill-Tec™ 3" (76 mm) AccuTrac® Flat Plate	Drill-Tec™ 3" (76 mm) AccuTrac® Recessed Plate	Drill-Tec™ 3" (76 mm) Plastic Locking Plate
Plate Profile						
Material/ Coating	AZ-55 Galvalume®					Polypropylene
Dimensions (Diam./Width)	3" (76 mm)					
Packaging	500 per box	1,000 per bucket	1,000 per bucket	1,000 per bucket	1,000 per bucket	1,000 per box
Weight	37 lb. (16.7 kg)	37 lb. (16.7 kg)	37 lb. (16.7 kg)	43 lb. (19.5 kg)	43 lb. (19.5 kg)	25 lb. (11.34 kg)
FM Approved	✓	✓	✓	✓	✓	✓
Miami-Dade County Product Control Approved	✓	✓	✓	✓	✓	✓
State of Florida Approved	✓	✓	✓	✓	✓	✓

Visit **gaf.com**

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

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GAF Drill-Tec™ Membrane Seam Plates

Drill-Tec™ 2 ¾ in. (69.9 mm) Barbed SXHD Plate

Drill-Tec™ Eyehook AccuSeam Plate

Drill-Tec™ 2 ⅜ in. (60.3 mm) Barbed XHD Plate

Drill-Tec™ 2 in. (51 mm) Double Barbed XHD Plate

Drill-Tec™ 2 ⅜ in. (60.3 mm) Double Barbed XHD Plate

PRRF20250453

Description:

Drill-Tec™ membrane seam plates are made of Galvalume® coated steel for excellent corrosion protection. The plates meet the requirements of ASTM D6294, FM 4470, and DIN 50018. They are ideal for attaching both TPO and PVC single-ply membranes.

The round design distributes loads evenly, eliminates sharp corners that can damage the membrane, and provides strong uplift resistance. These plates are designed to be used with appropriate Drill-Tec™ fasteners depending on the substrate type. For details on fasteners and substrates please see the GAF attachment tables for TPO and PVC.

Please refer to GAF-published application instructions for approved substrates and additional information requirements at gaf.com.

For applications not listed or for additional information, contact GAF at 877-423-7663 or designservices@gaf.com.

Galvalume® is a registered trademark of BIEC International Inc. and some of its licensed producers.

Codes and Compliance:

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

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GAF Attachment Tables for TPO and PVC

Product Data

Plate	Drill-Tec™ 2 in. (51 mm) Double Barbed XHD Plate	Drill-Tec™ 2 ⅜ in. (60.3 mm) Barbed XHD Plate	Drill-Tec™ 2 ⅜ in. (60.3 mm) Double Barbed XHD Plate	Drill-Tec™ Eyehook AccuSeam Plate	Drill-Tec™ 2 ¾ in. (69.9 mm) Barbed SXHD Plate
Material/ Coating	AZ-55 Galvalume				
Diameter	2″ (51 mm)	2 ⅜″ (60.3 mm)	2 ⅜″ (60.3 mm)	2 ⅜″ (60.3 mm)	2 ¾″ (69.9 mm)
Packaging	1,000 per bucket	1,000 per bucket	1,000 per box	1,000 per bucket	500 per box
Weight	33 lb. (14.9 kg)	45 lb. (20.4 kg)	52 lb. (23.5 kg)	48 lb. (21.7 kg)	37 lb. (16.8 kg)
FM Approved	✓	✓	✓	✓	✓
Miami Dade Approved	✓	✓	✗	✓	✓
FBC Approved	✓	✓	✗	✓	✓

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

We protect what matters most™

TRI-BUILT® SYNTHETIC UNDERLAYMENT

PRRF20250453

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PRODUCT DESCRIPTION:

TRI-BUILT® Synthetic Underlayment is designed to replace traditional felt paper for sloped roof applications. TRI-BUILT Synthetic Underlayment has been engineered for maximum roofer comfort and productivity. With its lightweight 10 square rolls and slip resistant surface, TRI-BUILT Synthetic Underlayment is easy to handle and fast to install. **Ask for it today!**

FEATURES AND BENEFITS:

- Meets ASTM D226 Types I & II, D4869 Types II & IV and ASTM D8257
- Durable, slip-resistant walking surface
- 90 days UV exposure
- Up to 12 times stronger than #15 felt*
- 6 squares more per roll than #15 felt**
- Easy to install – 42" wide lightweight rolls
- Synthetic construction is inert to mold growth
- Lays flat and does not absorb water and wrinkle
- Advanced backside non-slip coating
- Low temperature flexibility
- CAN/CSA A123.3
- CCRR-1067
- ASTM E108/UL790 Class A Fire Resistance (when installed under asphalt shingles)
- Texas Department of Insurance Listed
- Florida Building Code Approved (FL22259-R2)
- Miami-Dade Product Approved

PRODUCT SPECIFICATIONS

Length per Roll:	286' / 87 m
Width per Roll:	42" / 1.1 m
Nominal Weight per Roll:	23.5 lbs / 10.6 kg***
Roll Size:	10 sq / 93 m^2
Rolls per Pallet:	67
Pallet Weight:	1,626 lbs / 738 kg

APPLICABLE STANDARDS AND CODES

Meets or exceeds the following test standards

TEST & STANDARD	TEST METHOD
Breaking Strength	ASTM D146
Pliability	ASTM D146
Loss of Heating	ASTM D146
Unrolling	ASTM D226
Liquid Water Transmission	ASTM D4869
Tear Resistance	ASTM D4073
Dimensional Stability	ASTM F1087
Pliability	CSA A 123.3
Moisture Vapor Permeance	ASTM E96
Burst Strength	ASTM D751

PRRF20250453

TRI-BUILT® SYNTHETIC UNDERLAYMENT

INSTALLATION INSTRUCTIONS:

TRI-BUILT Synthetic Underlayment is a water and vapor barrier and therefore must be installed above a properly ventilated space(s). Follow ALL building codes applicable to your geographical region and structure type as it is considered a vapor barrier.

DECK PREP: All protrusions from the deck area must be removed and ensure the deck has no voids, damaged or unsupported areas. Deck surface should be free of debris, dry and moisture-free.

USE: TRI-BUILT Synthetic Underlayment must be covered by primary roofing within 90 days of application. TRI-BUILT Synthetic Underlayment is designed for use under asphalt shingles, synthetic shingles, residential metal roofing and cedar shakes.

APPLICATION: For slopes from 2:12 and higher, TRI-BUILT Synthetic Underlayment is to be laid out horizontally (parallel) to the eave with the printed side up. Horizontal laps should be 4 inches and vertical laps should be 6 inches and anchored approximately 1 inch in from the edge. For low slope applications, it is recommended to overlap 50% plus 1 inch. For complete definition of low slope and guidelines consult authorities having jurisdiction. TRI-BUILT Synthetic Underlayment product is not recommended for slopes less than 2:12. The use of roofing hammers, pneumatic air or gas driven fastener tools are acceptable. The use of straight edge cutting knives is recommended.

FASTENERS: Provided there is no rain or high winds, TRI-BUILT Synthetic Underlayment can be anchored with staples, cap staples, or corrosive resistant 3/8 inch head X 1 inch leg roofing nails (ring shank preferred, smooth leg acceptable) when covered with primary roofing on the same day. The use of every other anchoring location printed on the product is also acceptable.

ANCHORING: All anchoring nails must be flush, 90 degrees to the roof deck, and tight with the underlayment surface and the structural roof deck.

EXTENDED EXPOSURE: If TRI-BUILT Synthetic Underlayment product will be exposed longer than 24 hours and up to 90 days then product must be attached to the structural roof deck using a minimum 1 inch diameter plastic or metal cap roofing nails (ring shank preferred but smooth leg acceptable). Miami-Dade approved tin tags or metal caps are also acceptable. It is recommended for best performance to use with the rough edge facing up. For extended exposure, it is always recommended to anchor on every printed position on the facer. TRI-BUILT Synthetic Underlayment is not designed for indefinite outdoor exposure. For extended exposure conditions where driving rain or strong winds are expected, it is recommended to take additional precautions such as doubling the lap widths. Alternately or in addition to a compatible sealant could be used between the laps or a peel and stick tape could be applied to the overlaps.

CAUTION — READ GOOD SAFETY PRACTICES BELOW

Good safety practices should be followed on steep slope roofs, such as use of tie-offs, toe boards, ladders and/or safety ropes and personal body harnesses. Follow OSHA guidelines. Slip resistance may vary with surface conditions from debris that accumulates, weather, footwear and roof pitch. Failure to use proper safety gear can result in serious injury. Depending on roof pitch and surface conditions, blocking may be required to support materials on the roof and is good safety practice. Remember to seal the nail holes after removing blocking.

For use under Asphalt Shingles, Synthetic Shingles, Residential Metal Roofing and Cedar Shakes

TRI-BUILT Synthetic Underlayment is a highly engineered, coated woven protective layer for sloped roofs. TRI-BUILT Synthetic Underlayment has a high strength design and durable nonwoven walking surface that delivers a considerable improvement over felt paper. The durable nonwoven walking surface has clearly marked nail guides and can be chalked just like felt paper.

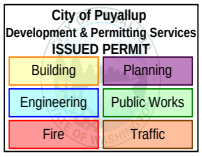
Gain an edge in productivity and help increase profits. TRI-BUILT Synthetic Underlayment is lightweight, 42 inch width and 286 foot run length allows for fewer laps, cuts, and easier roll handling compared to felt. This means you can do more jobs in less time, use less labor, and inventory fewer rolls.

TRI-BUILT Synthetic Underlayment is up to 12 times stronger than #15 felt. It offers exceptional wind resistance and durability through heavy roof traffic and adverse weather conditions. TRI-BUILT Synthetic Underlayment can save you time and money with less material damage and fewer post-install repairs. Stay on track, take on more jobs, and sleep assured knowing your TRI-BUILT Synthetic Underlayment projects will remain intact.

Unlike traditional asphalt-saturated felts, TRI-BUILT Synthetic Underlayment can be used in extremely low temperatures without becoming stiff and difficult to unroll. It also does not dry out, crack, or leach oils in the heat like felt. TRI-BUILT Synthetic Underlayment is 100% synthetic and will not absorb water or wrinkle like felt. It lays flat and does not support mold growth.

TRI-BUILT Synthetic Underlayment can also be used in conjunction with TRI-BUILT self-adhered underlayments for ice damming protection along the eaves and in the valley areas.

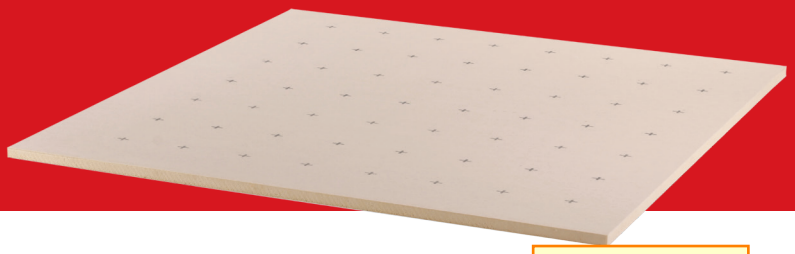
TRI-BUILT Synthetic Underlayment will continue to protect your primary roofing long after felt.



* Test data is based on average of samples tested in accordance with ASTM D2261.
** Coverage per roll is 9.09 sq with a 4" horizontal overlap.
*** Includes core weight.
**** TRI-BUILT Synthetic Underlayment is manufactured in accordance with national standards which allow for non-critical variances in weights and measurements. Test data is based on an average taken over several production runs and should not be considered or interpreted as maximum or minimum values. Values are typical data and not limiting specifications. All values ± 10%.

≥110 psi High Density Polyiso Cover Board

EnergyGuard™ HD Plus Polyiso Cover Board



PRRF20250453

Description:

EnergyGuard™ HD Plus Polyiso Cover Board is made of durable coated glass fiber facers (CGF) bonded to a core of high density polyisocyanurate foam designed to be used as a cover board for low-slope roof systems.

Features and Benefits:

- R-Value 2.5. Highest R-value compared to non-polyiso cover boards of equivalent thickness
- High compressive strength 110 psi (758 kPa) minimum up to 139 psi (958 kPa) maximum
- Light weight - only 13 lbs (5.9kg) per 4' x 8' (1.22m x 2.44m) board, easy to cut, easy to install
- Meets the requirements of D3273 for resistance to mold growth [4]
- Excellent dimensional stability, high moisture resistance and low water permeability
- Ideal for low-slope roofs with high foot traffic, hail events and metal retrofit applications [1]

Panel Characteristics:

- Available in 0.5" (12.7mm) thickness
- Available in 4' x 4' (1.22m x 1.22m) and 4' x 8' (1.22m x 2.44m)
- 48 pieces per bundle

Codes & Compliance:

- Meets the requirements of ASTM C1289, Type II, Class 4, Grade 2
- FM Approved, including as a component of a Class 1-SH hail rated assembly. Refer to RoofNav.com for approved assemblies
- Classified by UL in accordance with ANSI/UL 790 and 1256. Refer to UL Product iQ for specific assemblies.
- UL Evaluation Report ER1306-03
- Miami Dade County Product Control Approved
- State of Florida Approved
- For additional information, contact GAF at 877-423-7663 or designservices@gaf.com

FM APPROVED · CLASSIFIED UL · MIAMI-DADE COUNTY APPROVED

Sustainability:

- Manufactured with EPA-compliant blowing agents containing no CFCs or HCFCs; has zero ozone depletion potential (ODP) and negligible global warming potential (GWP)
- Potential LEED Credits for polyiso use
- GREENGUARD Gold
- Where sold compliant with State HFC regulations. More information available at www.polyiso.org
- Environmental Product Declaration (EPD

NSF Certified Environmental Product Declaration www.nsf.org

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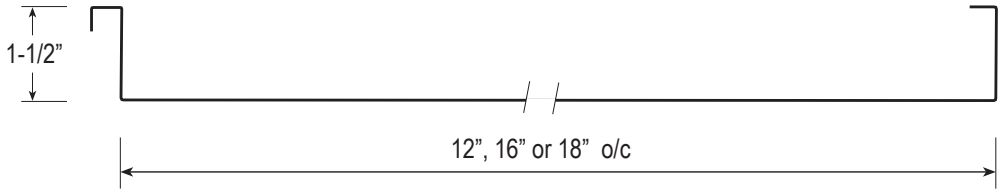
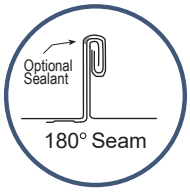
TBC-MASTERSEAM™




Stiffener Ribs


Striations



TBC-MASTERSEAM is an excellent choice for architectural and high end residential applications. A 1-1/2" mechanically locked standing seam in either a single or double lock configuration offers improved weathertightness that will stand up against the harshest environments.

TBC-MASTERSEAM is produced using an AZ50 Galvalume® substrate that offers some of the best corrosion resistance in the industry. The standard paint system is a Kynar 500®/ Hylar 5000® coating offering unparalled fade and chalk resistance and backed up with a 35 year non-prorated finish warranty. Continuous factory produced lengths up to 80' are available with optional injected seam sealant. Lengths of 150'+ are possible with on site fabrication. Weathertightness warranties, up to 30 years, are also available.

For natural metals like Copper and Zinc TBC-MASTERSEAM is the preferred choice. The recommended minimum slope is 1:12. Contact The Bryer Company for lower slope applications, project specific details or questions.

BRYER Weathertight

CLASSIFIED UL

MATERIALS

24 Gauge Steel
22 Gauge Steel

.032 Aluminum
.040 Aluminum

16 oz Copper
20 oz Copper

Kynar® Colors

Galvalume®Plus

Zinc

TESTING

UL-580 Class 90 wind uplift

UL-790 Class A fire rated

UL-2218 Impact Resistance

ASTM E331/1646
water penetration tested

ASTM E283/1680
air infiltration tested

ASTM E1592 wind uplift

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888-GO-BRYER | P 253.735.1824 | F 253.735.1785 | sales@thebryercompany.com
www.thebryercompany.com

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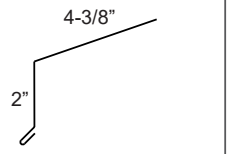
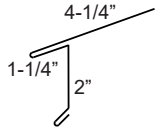
Fire | Traffic

Flashing & Accessories

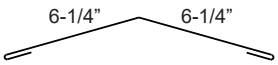
PRRF20250453

Eave


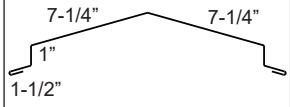
E-12

Modified Eave


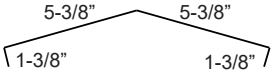
E-22

Standard Ridge


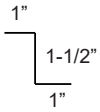
R-10

Vented Ridge


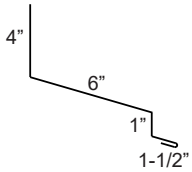
VR-10

Turn-Down Ridge


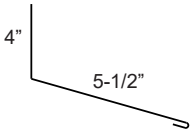
TDR-113

Z Closure


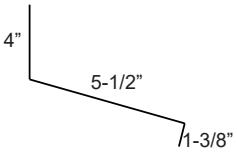
Z-1112

Vented Endwall


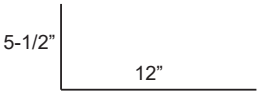
VEW-10

Endwall


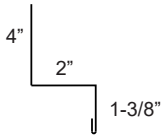
EW-10

Endwall


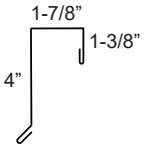
TDEW-113

Back Pan


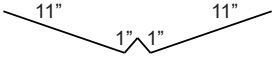
BP - 10

Sidewall


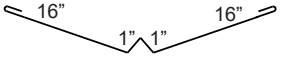
SW-1138

Gable


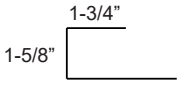
G-14138

Valley


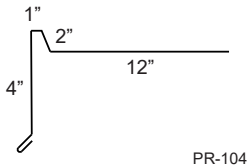
V - 10

Snow Valley


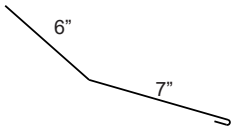
SV - 10

J Closure


JC-1158

Prow


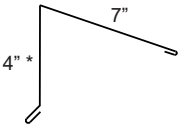
PR-104

Pitch Change - High/Low


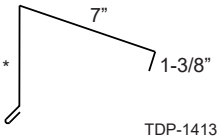
PCHL - 10

Pitch Change - Low/High


PCLH - 10

Peak


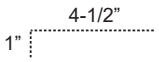
P-14
* Varies depending on roof slope

Turn-Down Peak


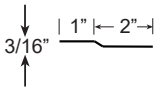
TDP-1413
* Varies depending on roof slope

Perimeter Cleat

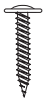

PC - 10

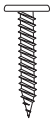
Perforated Angle


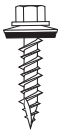
PA - 10

Offset Cleat


OC - 10

Modified Truss Screw

#8 Sharp - Phillips
3/4”, 1”, 1-5/8”

Clip/Flange Screw

#10 Sharp - Pancake/Phillips
1”, 1-1/2”

Wood Screw

#10 Type S - w/ Washer
1”, 1-1/2”, 2”

Self Driller Screw

#12 - #3 Point - w/ Washer
1”, 1-1/2”, 2”

Stitch Screw

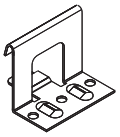
#12 x 3/4” Type A - w/ Washer

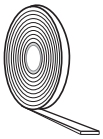
SD Stitch Screw

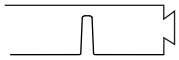
1/4 x 7/8” #1 Point - w/ Washer

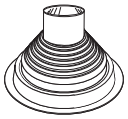
Rivet

1/8” #43 Stainless

Clip

1-1/2” Galvanized

Butyl Mastic Tape

5/32” x 1/4”, 1/8” x 3/4”,
3/32” x 3/8”, 3/16” x 7/8”

Foam Closure


Pipe Flashing

EPDM & Silicone
1/4” - 24” O/D

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PRRF20250453

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EnergyGuard™ HD Plus Polyiso Cover Board

Typical Physical Property Data:

Property	Test Methods	Values
Compressive Strength	ASTM D1621	110 psi min (758 kPa) up to 139 psi max (958 kPa)
Dimensional Stability Change (length + width)[2]	ASTM D2126	< 1% linear change
Flute Spanability	ASTM E661	4.75" (102.7mm)
Flexural Strength	ASTM C203	400 psi min (2,750 kPa)
Tensile Strength	ASTM C209	2000 psf min (95 kPa)
Water Absorption (percent by volume)	ASTM C209	4% max
Water Vapor Permeance	ASTM E96, Procedure A	2.0 perm max (85.8ng/Pa•s•m^2)
Service Temperature [3]		260°F (126.7°C) or less
Resistance to Mold [4]	ASTM D3273	Pass (10)
R-value	ASTM C518	2.5

[1] GAF warranties and guarantees do not provide coverage against traffic except where GAF walkways are applied. Refer to GAF.com for more information on warranty and guarantee coverage and restrictions.

[1] GAF warranties and guarantees do not provide coverage against hail except where additional puncture resistance coverage is purchased on eligible jobs. Refer to GAF.com for more information on warranty and guarantee coverage and restrictions.

[1] Please see applicable manual for retrofit installations.

[2] Stated dimensional stability tolerance: thickness shall not diminish by more than 4% max (at -40° F or 200° F at ambient RH) or by more than 4.5% max (158° F & 97% RH).

[3] These numerical ratings are not intended to reflect hazards presented by these or any other material under actual fire conditions.

[4] GAF warranties and guarantees do not provide coverage against mold or other biological growth. Refer to gaf.com for more information on warranty and guarantee coverage and restrictions.

Warnings and Limitations

- EnergyGuard™ HD Plus Polyiso Cover Board is a non-structural, non load-bearing material. It is not designed for direct traffic usage unless adequately protected.
- EnergyGuard™ HD Plus Polyiso Cover Board should be stored protected from the elements. Bundle wrap is not for use as waterproofing for boards. No more insulation should be installed than can be completely covered with roofing on the same day.
- As unprotected polyisocyanurate will burn, fire safety precautions should be observed wherever insulation products are used.
- Direct mopping of modified bitumen roofing or built-up roofing (BUR) to EnergyGuard™ HD Plus Polyiso Cover Board is not approved.
- Refer to PIMA Technical Bulletin No. 109 Storage and Handling Recommendations for Polyiso Roof Insulation at www.polyiso.org
- Refer to the application specifications in the current membrane manufacturer's application and specifications manual for proper installation procedures.

Visit **gaf.com**

We protect what matters most™

GAF
Safety Data Sheet
SDS # 2001
SDS Date: February 2024

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	EverGuard® TPO (All Thicknesses) TPO FB Membranes and Accessories (UN Detailing Membrane) Coated Metal Membrane Pre-Formed Corners & Vent Boots Split Pourable Sealer Pocket Flashing Strips UN T-Patches EverGuard® TPO Coated Drain.
MANUFACTURER:	GAF
ADDRESS:	1 Campus Drive, Parsippany, NJ 07054
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	877 – GAF – ROOF
PREPARED BY:	Corporate EHS

SECTION 2: HAZARDS IDENTIFICATION

As defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200, the products listed below are considered articles and do not require an SDS. In addition, articles are not included in the scope of the Globally Harmonization System (GHS). As such, the GHS labeling elements are not included on this SDS. All components listed for this product are bound within the product. When handled as intended and under normal conditions of use, there is no evidence that any of the ingredients are released in amounts that pose a significant health risk. Although these products are not subject to the OSHA Standard or GHS labeling elements, GAF would like to disclose as much health and safety information as possible to ensure that this product is handled and used properly. This SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and be made available for employees and other users of this product. In addition, the recommendations for handling and use of these products should be included in worker training programs.

PRIMARY ROUTE OF EXPOSURE: None.

SIGNS & SYMPTOMS OF EXPOSURE

EYES:	Vapor from this product during heat welding may irritate eyes.
SKIN:	Exposure to hot surfaces during heat welding may cause thermal burns.
INGESTION:	Not applicable.

INHALATION: Inhalation of vapor from this product during heat welding may cause respiratory tract irritation.

ACUTE HEALTH HAZARDS: See above.

CHRONIC HEALTH HAZARDS: None known.

CARCINOGENICITY: Not applicable.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**% (BY WT)**	**OSHA**	**ACGIH**	**OTHER**
Trade Secret	-	100	NE	NE	NE

NE= Not Established

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES: No known effect on eye contact, rinse with water if irritation occurs.

SKIN: No known effect on skin contact; rinse with water if irritation occurs.

INHALATION: Allow the victim to rest in a well ventilated area. Seek medical attention if necessary.

INGESTION: Do not ingest. Contact poison control and seek medical attention immediately.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: Treat symptomatically and supportively.

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA: Dry chemical, carbon dioxide, water spray or foam.

HAZARDOUS COMBUSTION PRODUCTS: Toxic gases or vapors, such as carbon monoxide and other organic compounds may be released in a fire.

RECOMMENDED FIRE FIGHTING PROCEDURES: Small Fire: Use Dry Chemical, carbon dioxide, water spray or foam.

Large Fire: Use water spray, fog or foam. DO NOT use water jet. All fires produce toxic gases. Fire fighters should use self-contained breathing apparatus and full protective gear.

UNUSUAL FIRE & EXPLOSION HAZARDS: Flammable when exposed to external ignition sources such as sparks, heat, and open flames.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Use appropriate tools to put the spilled solid in a waste disposal container.

Dispose in accordance with all applicable regulations.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE: Keep the product dry. Store in a cool, well ventilated area.

OTHER PRECAUTIONS: Keep away from sources of ignition.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION: This product is combustible. Use adequate ventilation when heat welding this product.

RESPIRATORY PROTECTION: A respiratory protection program that meets OSHA 1910.134, ANSI Z88.2 requirements must be followed whenever workplace conditions warrant use of a respirator.

EYE PROTECTION: Use safety glasses when appropriate.

SKIN PROTECTION: Use impervious gloves and clothing when appropriate.

OTHER PROTECTIVE EQUIPMENT: Work shoes.

WORK HYGIENIC PRACTICES: Use proper protective equipment at all times and wash after handling material.

EXPOSURE GUIDELINES: Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Solid plastic sheet with characteristic odor. May be colored.		
FLASH POINT:	>301 °C (573.8 °F)	**LOWER EXPLOSIVE LIMIT:**	No Data
METHOD USED:	Closed Cup	**UPPER EXPLOSIVE LIMIT:**	No Data
EVAPORATION RATE:	No Data	**BOILING POINT:**	No Data
pH (undiluted product):	No Data	**MELTING POINT:**	175 °C (350 °F)
SOLUBILITY IN WATER:	Insoluble in water (cold/hot)	**SPECIFIC GRAVITY:**	1.35 (Water = 1)
VAPOR DENSITY:	No Data	**PERCENT VOLATILE:**	No Data
VAPOR PRESSURE:	No Data	**MOLECULAR WEIGHT:**	No Data

VOC (LBS/GAL):	Not Applicable		

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE X** **UNSTABLE ☐**

CONDITIONS TO AVOID (STABILITY): None known.

INCOMPATIBILITY (MATERIAL TO AVOID): None known.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Gases or vapors such as carbon monoxide, carbon dioxide, or oxides of nitrogen, and other organic compounds may be released in a fire.

HAZARDOUS POLYMERIZATION: Will not occur

SECTION 11: TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Inhalation Unlikely under normal conditions
Skin Contact Unlikely under normal conditions
Eye Contact Unlikely under normal conditions
Ingestion Unlikely under normal conditions.

Acute and Chronic Toxicity No data available
Immediate Effects No immediate effects known.
Delayed Effects No delayed effects known.

Irritation/Corrosivity Data May cause skin irritation with repeated contact. No other effects known.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity No data available
Component Analysis - Aquatic Toxicity No data available
Persistence and Degradability No information available for the product.
Bioaccumulative Potential No information available for the product.
Mobility No information available for the product.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Comply with federal, state and local regulations for disposal.

SECTION 14: TRANSPORTATION INFORMATION

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: Not applicable.

CERCLA: Not applicable.

SARA

311/312 HAZARD CATEGORIES: Not applicable.

313 REPORTABLE INGREDIENTS: Not applicable.

CALIFORNIA PROPOSITION 65: Not applicable.

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: None.

DATE OF PREVIOUS SDS: May 2023

CHANGES SINCE PREVIOUS SDS: Revised Section 4.

This information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

PRRF20250453

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning
Engineering | Public Works
Fire | Traffic

GAF
Safety Data Sheet
SDS # 1079C
SDS Date: September 2023

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	EverGuard® 1121 TPO Bonding Adhesive
MANUFACTURER:	GAF
ADDRESS:	1 Campus Drive, Parsippany, NJ 07054
24 HOUR EMERGENCY PHONE: (CHEMTREC)	800–424–9300
INFORMATION ONLY:	877-GAF-ROOF
APPROVED BY:	Corporate EHS

SECTION 2: HAZARDS IDENTIFICATION

NFPA and HMIS RATINGS:

	NFPA Hazard Rating		HMIS Hazard Rating
Health	2	Health	2
Flammable	3	*Flammable*	3
Reactive	0	Reactive	0
Special Hazards	-	Personal Protection	X

GHS LABEL ELEMENTS:

GHS CLASSIFICATION:

Germ Cell Mutagenicity	Category 1B
Reproductive toxicity	Category 2
Acute toxicity	Category 4
Skin irritain	Category 2
Eye irritation	Category 2A
Target organ (SE)	Category 3
Flammable liquids	Category 2
Target organ (RE)	Category 1

GHS PICTOGRAM:

SIGNAL WORD: Danger

HAZARD STATEMENT:

Highly flammable liquid and vapor.
Harmful if swallowed.
Causes skin irritation.
Causes serious eye irritation.
May cause genetic defects.
May cause cancer.
Suspected of damaging fertility or the unborn child.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.
May be fatal if swallowed and enters airways.

PRECAUTIONARY STATEMENTS:

Obtain, read and follow all safety instructions before use.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting/equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge. Do not breathe dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
If swallowed: Immediately call a poison center/doctor.
Do NOT induce vomiting.

Skin

IF ON SKIN: Wash with plenty of soap and water
Call a POISON CENTER or doctor/physician if you feel unwel.l Wash contaminated clothing before reuse If skin irritation or rash occurs: Get medical advice/attention

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing immediately call a doctor/physician

Ingestion

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth with water. Do not induce vomiting.

In case of fire: Use CO2, powder or water spray to extinguish.

Storage:
Store in a well-ventilated place. Keep container tightly closed.
Keep cool.
Store locked up.

ADDITIONAL HAZARD IDENTIFICATION INFORMATION:

PRIMARY ROUTE OF EXPOSURE: Inhalation, Skin Contact, Eye Contact

SIGNS & SYMPTOMS OF EXPOSURE

EYES: Can cause eye irritation. Symptoms include stinging, tearing, redness, and swelling of eyes.

SKIN: May cause mild skin irritation. Prolonged or repeated contact may dry the skin. Symptoms may include redness, burning, drying and cracking of skin, and skin burns. Passage of this material into the body through the skin is possible, but it is unlikely that this would result in harmful effects during safe handling and use.

INGESTION: Swallowing this material is harmful. This material can get into the lungs during swallowing or vomiting. This can cause lung inflammation and other lung injury.

INHALATION: Breathing small amounts of this material during normal handling is not likely to cause harmful effects. Breathing large amounts may be harmful.

ACUTE HEALTH HAZARDS: Causes skin irritation. Causes serious eye irritation. May cause drowsiness or dizziness. Suspected of damaging fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure if inhaled.
.

CHRONIC HEALTH HAZARDS: Causes damage to organs (Nervous system) through prolonged or repeated exposure if inhaled.

CARCINOGENICITY: Not classified based on available information.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**% (BY WT)**	**OSHA**	**ACGIH**	**OTHER**
Toluene	108-88-3	25 - 50	200 ppm 300 ppm – ceiling	20 ppm	REL: 100 ppm
Naphtha (Petroleum), Solvent Refined Light	64741-84-0	25 - 50	NE	NE	NE
Acetone	67-64-1	>10 - <20	1000 ppm	500 ppm 750 ppm – STEL	REL: 250 ppm
Formaldehyde, polymer with 4-(1, 1-dimethylethyl)phenol	25085-50-1	>2.5 - <10	NE	NE	NE
Magnesium Oxide	1309-48-4	<2.5	NE	10 mg/m³	15 mg/m³
Zinc Oxide	1314-13-2	>0.25 - <1	15* mg/m³	10 mg/m³	REL: 10 mg/m³

NE = Not Established

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES: Immediately flush eyes with water for at least 15 minutes while holding eyelids open. Seek medical attention.

SKIN: Wash exposed skin with soap and water. If irritation develops or persists, seek medical attention. Discard contaminated clothing.

INHALATION: Move affected individual to an area free of risk from further exposure. Administer oxygen or artificial respiration as needed. Immediate or delayed asthma-like symptoms may develop. Seek medical attention.

INGESTION: If the material is swallowed, seek immediate medical attention. Rinse out mouth with water. Drink 1 - 2 glasses of water but DO NOT induce vomiting. Never give anything by mouth to a victim who is unconscious or is having convulsions.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: Inhalation of high concentrations of this material, as could occur in enclosed spaces or during deliberate abuse, may

be associated with cardiac arrhythmias. Sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to this material. This material (or a component) has produced hyperglycemia and ketosis following substantial ingestion.

Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea) irritation (nose, throat, airways) temporary changes in mood and behavior confusion irregular heartbeat Causes skin irritation. Causes serious eye irritation

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA: CO_2, extinguishing powder or water spray. Fight larger fires with water spray.

HAZARDOUS COMBUSTION PRODUCTS: During fire, gases hazardous to the health may be formed including: Oxides of carbon, nitrogen and hydrocarbons, hydrogen chloride (thermal degradation products).

RECOMMENDED FIRE FIGHTING PROCEDURES: Firefighters should wear full protective clothing including self contained breathing apparatus.

UNUSUAL FIRE & EXPLOSION HAZARDS: Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. This product is a poor conductor of electricity and can become electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. To reduce potential for static discharge, use proper bonding and grounding procedures.

This liquid may accumulate static electricity when filling properly grounded containers. Material will float and may ignite on surface of water. Move containers from fire area if you can do so without risk.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Absorb spill with inert material. Shovel material into appropriate container for disposal. Evacuate the area promptly. Keep upwind of the spilled material and isolate exposure. Avoid inhalation of vapors and mists. Surfaces may become slippery after a spill. Wear PPE for spill clean up. Stop the flow of material, if possible.

Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:

Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not breathe mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

OTHER PRECAUTIONS:

Store in a cool location away from direct heat.. Keep away from heat, sparks and open flame. Store away from oxidizing agents.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION: Provide adequate local ventilation to maintain worker exposure below exposure limits.

RESPIRATORY PROTECTION:

Use approved respiratory protection equipment when airborne exposure is excessive. Consult the respirator manufacturer to determine the appropriate type of equipment for a given application. Observe respirator use limitations specified by the manufacturer.

EYE PROTECTION: Wear safety glasses and a face shield or chemical goggles.

SKIN PROTECTION: Wear appropriate chemical resistant gloves (nitrile rubber NBR). Wear appropriate chemical resistant clothing.

OTHER PROTECTIVE EQUIPMENT: Eye wash stations and safety showers are recommended.

WORK HYGIENIC PRACTICES:

When using do not smoke. Wash exposed skin prior to eating, drinking or smoking and at the end of each shift. Immediately remove all soiled and contaminated clothing. Avoid contact with the eyes and skin.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Yellow liquid with a solvent odor.

FLASH POINT:	-0.4 °F	**LOWER EXPLOSIVE LIMIT:**	1.2 Vol %
METHOD USED:	No Data	**UPPER EXPLOSIVE LIMIT:**	13.0 Vol %
EVAPORATION RATE:	No Data	**BOILING POINT:**	208 °F
AUTOIGNITION TEMPERATURE:	464 °F	**MELTING POINT:**	No Data
SOLUBILITY IN WATER:	Not miscible or difficult to mix.	**SPECIFIC GRAVITY:**	7.2 lbs/gal
DENSITY:	No Data	**PERCENT VOLATILE:**	No Data
VAPOR PRESSURE:	174.8 mm Hg	**VOC (g/L):**	512

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE X** **UNSTABLE ☐**

CONDITIONS TO AVOID (STABILITY): Heat, flame, and sparks.

INCOMPATIBILITY (MATERIAL TO AVOID): Strong oxidizers, acids, and bases.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Oxides of carbon, nitrogen and hydrocarbons, hydrogen chloride (thermal degradation products).

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

TOLUENE:
Acute oral toxicity : LD50 (Rat, male): 5,000 mg/kg
Acute inhalation toxicity : LC50 (Rat): 28.1 mg/l Exposure time: 4 h Test atmosphere: vapour
Acute dermal toxicity : LD50 (Rabbit): 12,267 mg/kg

ACETONE:
Acute oral toxicity : LD50 (Rat, female): 5,800 mg/kg
Acute inhalation toxicity : LC50 (Rat, female): 76 mg/l Exposure time: 4 h Test atmosphere: vapour
Acute dermal toxicity : LD50 (Rabbit): > 7,426 mg/kg

STOT - single exposure may cause drowsiness or dizziness.

STOT - repeated exposure causes damage to organs through prolonged or repeated exposure if inhaled.

May be harmful if swallowed and enters airways.
Chronic effects: Causes damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity:
Very toxic to fish.

Persistence and degradability
Components:
TOLUENE:
Biodegradability : Result: Readily biodegradable.
ACETONE:
Biodegradability : Result: Readily biodegradable.

Mobility in soil
Components: No data available

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Dispose in accordance with all applicable local, state and Federal regulations. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

SECTION 14: TRANSPORTATION INFORMATION

DOT

PROPER SHIPPING NAME:	Adhesives
HAZARD CLASS:	3
ID NUMBER:	UN1133
PACKING GROUP:	II

IATA

PROPER SHIPPING NAME:	Adhesives
HAZARD CLASS:	3
ID NUMBER:	UN1133
PACKING GROUP:	II
Marine Pollutant	

IMDG

PROPER SHIPPING NAME:	Adhesives
HAZARD CLASS:	3
ID NUMBER:	UN1133
PACKING GROUP:	II
OTHER:	EMS: FE,SE

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: This product and its components are listed on the TSCA 8(b) inventory.

CERCLA: Reportable Quantity – Components
Toluene: 108-88-3, 1000 lbs
Acetone: 67-64-1, 5000 lbs

SARA Not applicable.

311/312 HAZARD CATEGORIES: Fire Hazard, Acute Health Hazard, Chronic Health Hazard

313 REPORTABLE INGREDIENTS: Not applicable.

CALIFORNIA PROPOSITION 65: WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.
TOLUENE 108-88-3

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: None

DATE OF PREVIOUS SDS: February 2023

CHANGES SINCE PREVIOUS SDS: Ingredient update.

This information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

PRRF20250453

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning
Engineering | Public Works
Fire | Traffic

Safety Data Sheet

Material Name: 085 Insulfoam Molded EPS Products

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name
085 Insulfoam Molded EPS Products

Trade Names
Part Number(s): Type I, VIII, II, IX, XIV and XV, R-Tech. Highly customizable: Thickness up to 40" in a single board

Synonyms
Molded Expanded Polystyrene (MEPS)

Product Use
Insulation materials, Industrial use, Consumer use. packaging.

Restrictions on Use
None known

Manufacturer Information

Insulfoam, a division of Carlisle Construction Materials
19727 57th Avenue East
Puyallup, WA 98375
253-271-3056

Section 2 - HAZARDS IDENTIFICATION

Classification in accordance with paragraph (d) of 29 CFR 1910.1200.
Combustible Dust
Reproductive Toxicity - Category 2
Reproductive Toxicity - Effects on or via Lactation

GHS Label Elements

Symbol(s)

Signal Word
Warning

Hazard Statement(s)
May form combustible dust concentrations in air
Suspected of damaging fertility or the unborn child
May cause harm to breast-fed children

Precautionary Statement(s)

Prevention

Material Name: 085 Insulfoam Molded EPS Products

Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Wear protective gloves/protective clothing/eye protection/face protection
Wash thoroughly after handling
Do not eat, drink or smoke when using this product
Avoid contact during pregnancy/while nursing
Do not breathe dusts or mists

Response
IF exposed or concerned: Get medical advice/attention

Storage
Store locked up

Disposal
Dispose of contents/container in accordance with local/regional/national/international regulations

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component Name	Percent
9003-53-6	Polystyrene	92-97
109-66-0	Pentane	<2
3194-55-6	1,2,5,6,9,10-Hexabromocyclododecane	<1
Proprietary	Polymeric Film	1-3

Section 4 - FIRST AID MEASURES

Description of Necessary Measures
IF exposed or concerned: Get medical advice/attention.

Inhalation
If adverse effects occur, remove to uncontaminated area. Get medical advice/attention if you feel unwell.

Skin
Wash with plenty of soap and water. Get medical attention, if needed.

Eyes
Rinse cautiously with water for several minutes. Get medical attention, if needed.

Ingestion
If swallowed, get medical attention.

Most Important Symptoms/Effects

Acute
No information on significant adverse effects.

Material Name: 085 Insulfoam Molded EPS Products

Delayed
Suspected of damaging fertility or the unborn child. May cause harm to breast-fed children.

Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media
Use carbon dioxide, regular dry chemical, regular foam or water.

Unsuitable Extinguishing Media
None known

Special Hazards Arising from the Chemical
Slight fire hazard. Combustible Dust. Dust/air mixtures may ignite or explode. Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Hazardous Combustion Products
Oxides of carbon, hydrogen bromide

Advice for firefighters
Wear personal protective clothing and equipment such as self-contained breathing apparatus (SCBA) for protection against possible exposure.

Fire Fighting Measures
Do not scatter spilled material with high-pressure water streams. Move container from fire area if it can be done without risk. Dike for later disposal.

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures
Wear personal protective clothing and equipment, see Section 8.

Methods and Materials for Containment and Cleaning Up
Do not touch or walk through spilled material. Stop leak if possible without personal risk. Prevent dust cloud. Avoid inhalation of material or combustion by-products. Collect spilled material in appropriate container for disposal.

Environmental Precautions
Avoid release to the environment. Collect spillage.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling
Combustible substance. Minimize dust generation and accumulation. Use methods to minimize dust. Eliminate all sources of ignition. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash thoroughly after handling. Do not eat, drink or smoke

when using this product. Avoid contact during pregnancy/while nursing. Do not breathe dusts or mists. Do not get in eyes, on skin, or on clothing.

Conditions for Safe Storage, Including any Incompatibilities
Store locked up
Store in a cool dry place. Store in a well-ventilated place. Keep away from heat and ignition sources. Keep away from incompatible materials.

Incompatible Materials
Organic solvents, aldehydes, amines

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

Pentane	109-66-0
ACGIH:	1000 ppm TWA
NIOSH:	120 ppm TWA; 350 mg/m^3 TWA
	610 ppm Ceiling 15 min; 1800 mg/m^3 Ceiling 15 min
	1500 ppm IDLH (10% LEL)
Europe:	1000 ppm TWA; 3000 mg/m^3 TWA
OSHA (US):	1000 ppm TWA; 2950 mg/m^3 TWA
Mexico:	600 ppm TWA LMPE-PPT; 1800 mg/m^3 TWA LMPE-PPT
	760 ppm STEL [LMPE-CT]; 2250 mg/m^3 STEL [LMPE-CT]

Biological limit value
There are no biological limit values for any of this product's components.

Engineering Controls
Provide adequate ventilation. Ensure compliance with applicable exposure limits.

Individual Protection Measures, such as Personal Protective Equipment

Eye/face protection
Wear chemical safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Skin Protection
Wear appropriate chemical resistant clothing.

Respiratory Protection
Under conditions of frequent use or heavy exposure, respiratory protection may be needed.

Glove Recommendations
Wear appropriate chemical resistant gloves.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	foam	**Physical State**	solid
Odor	Slight,pentane	**Color**	white
Odor Threshold	Not available	**pH**	Not available
Melting Point	160 °F (softens)	**Boiling Point**	Not available
Freezing point	Not available	**Evaporation Rate**	Not available
Boiling Point Range	Not available	**Flammability (solid, gas)**	2
Autoignition	850 °F	**Flash Point**	610 °F
Lower Explosive Limit	Not available	**Decomposition**	Not available
Upper Explosive Limit	Not available	**Vapor Pressure**	Not available
Vapor Density (air=1)	Not available	**Specific Gravity (water=1)**	Not available
Water Solubility	Insoluble	**Partition coefficient: n-octanol/water**	Not available
Viscosity	Solid	**Solubility (Other)**	Not available
Density	0.6 - 3 pcf	**VOC**	<1.8 % (Pentane and Water)

Section 10 - STABILITY AND REACTIVITY

Reactivity
No reactivity hazard is expected.

Chemical Stability
Stable at normal temperatures and pressure.

Possibility of Hazardous Reactions
Will not polymerize.

Conditions to Avoid
Keep away from heat/sparks/open flame/hot surfaces - No smoking. Avoid contact with incompatible materials.

Incompatible Materials
Organic solvents, aldehydes, amines

Hazardous decomposition products
Oxides of carbon, hydrogen bromide

Section 11 - TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Inhalation
Dust may cause irritation of the nose, throat and upper respiratory tract.

Skin Contact
May cause mechanical irritation.

Eye Contact
May cause mechanical irritation.

Ingestion
No information on significant adverse effects.

Acute and Chronic Toxicity

Component Analysis - LD50/LC50
The components of this material have been reviewed in various sources and the following selected endpoints are published:
Pentane (109-66-0)
Oral LD50 Mouse 5000 mg/kg
Dermal LD50 Rabbit 3000 mg/kg
Inhalation LC50 Rat 364 g/m3 4 h

Immediate Effects
No information on significant adverse effects.

Delayed Effects
Suspected of damaging fertility or the unborn child. May cause harm to breast-fed children.

Irritation/Corrosivity Data
No information available for the product.

Respiratory Sensitization
No information available for the product.

Dermal Sensitization
No information available for the product.

Component Carcinogenicity

Polystyrene	9003-53-6
IARC:	Supplement 7 [1987]; Monograph 19 [1979] (Group 3 (not classifiable))

Germ Cell Mutagenicity
No information available for the product.

Tumorigenic Data
No information available for the product.

Reproductive Toxicity
Suspected of damaging fertility or the unborn child. May cause harm to breast fed children.

Specific Target Organ Toxicity - Single Exposure

Material Name: 085 Insulfoam Molded EPS Products

No target organs identified.

Specific Target Organ Toxicity - Repeated Exposure
No target organs identified.

Aspiration hazard
No information available for the product.

Medical Conditions Aggravated by Exposure
No data available.

Section 12 - ECOLOGICAL INFORMATION

Ecotoxicity
Harmful to aquatic life with long lasting effects.

Component Analysis - Aquatic Toxicity

Pentane	109-66-0
Fish:	LC50 96 h Oncorhynchus mykiss 9.87 mg/L; LC50 96 h Pimephales promelas 11.59 mg/L; LC50 96 h Lepomis macrochirus 9.99 mg/L
Invertebrate:	EC50 48 h Daphnia magna 9.74 mg/L IUCLID

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods
Dispose of contents/container in accordance with local/regional/national/international regulations.

Section 14 - TRANSPORT INFORMATION

US DOT Information:
UN/NA #: Not Regulated

IATA Information:
UN#: Not Regulated

IMDG Information:
UN#: Not Regulated

TDG Information:
UN#: Not Regulated

U.S. Federal Regulations

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

1,2,5,6,9,10-Hexabromocyclododecane	3194-55-6
TSCA 12b:	Section 5 , 1 % de minimus concentration

SARA Section 311/312 (40 CFR 370 Subparts B and C)

Acute Health: No **Chronic Health:** Yes **Fire:** No **Pressure:** No **Reactivity:** No

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
Pentane	109-66-0	Yes	Yes	Yes	Yes	Yes

Not listed under California Proposition 65

Canadian WHMIS Ingredient Disclosure List (IDL)

Components of this material have been checked against the Canadian WHMIS Ingredients Disclosure List. The List is composed of chemicals which must be identified on MSDSs if they are included in products which meet WHMIS criteria specified in the Controlled Products Regulations and are present above the threshold limits listed on the IDL

Pentane	109-66-0
	1 %

Component Analysis - Inventory

Polystyrene (9003-53-6)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX
Yes	DSL	No	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes

Pentane (109-66-0)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX
Yes	DSL	EIN	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes

1,2,5,6,9,10-Hexabromocyclododecane (3194-55-6)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX
Yes	DSL	EIN	Yes	Yes	Yes	No	Yes	No	Yes	Yes	No

Section 16 - OTHER INFORMATION

HMIS Rating

Health: 1* Fire: 2 Reactivity: 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

NFPA Ratings

Health: 1 Fire: 2 Reactivity: 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Summary of Changes
New SDS: 5/22/2015

Key / Legend
ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of LIsts™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH- Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States.

Other Information

Disclaimer:
The information contained herein is based upon data and information available to us, and reflects our best professional judgment. This product may be formulated in part with components purchased from other companies. No warranty of merchantability, fitness for any use, or any other warranty is expressed or implied regarding the accuracy of such data or information. The results to be obtained from the use thereof, or that any such use does not infringe any patent, since the information contained herein may be applied under conditions of use beyond our control and with which we may be unfamiliar, we do not

assume responsibility for the results of such application. This information is furnished upon the condition that the person receiving it shall make his own determination of the suitability of the material for his particular use

GAF Corporation
Safety Data Sheet
SDS #1095
SDS Date: March 2018

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAMES:	Drill-Tec™ Batten Bar, Drill-Tec™ Twin Loc Tubes Batten Bar, Drill-Tec™ #12 Fastener, Drill-Tec™ #12 Fastener Hex Head, Drill-Tec™ #12 Stainless, Drill-Tec™ #14 Fastener, Drill-Tec™ CD-10, Drill-Tec™ LD Fastener, Drill-Tec™ Polymer Gyptec Fastener, Drill-Tec™ Purlin Fastener Drill-Tec™ SXHD, Drill-Tec™ Twin Loc Tube, Drill-Tec™ XHD Fastener Drill-Tec™ 2 3/4 in. Barbed SXHD Plate, Drill-Tec™ 2 3/8 in. Barbed XHD Plate, Drill-Tec™ 2 in. Barbed Plate, Drill-Tec™ 2 in. Double Barbed XHD Plate, Drill-Tec™ 2" Gyptec Plate, Drill-Tec™ 2-3/4" Eyehook Seam Plate, Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat), Drill-Tec™ 3" Gyptec Plate Drill-Tec™ 3" Plastic Locking Plate, Drill-Tec™ 3" Standard Steel Plate, Drill-Tec™ 3" Steel Plate, Drill-Tec™ AccuTrac® Flat Plate, Drill-Tec™ AccuTrac® Recessed Plate, Drill-Tec™ Eyehook AccuSeam Plate, Drill-Tec™ LD Plate, Drill-Tec™ Plastic Plate, Drill-Tec™ RhinoBond® PVC XHD Plate, Drill-Tec™ RhinoBond® PVC XHD Tread Safe Plate, Drill-Tec™ RhinoBond® TPO SXHD Plate, Drill-Tec™ RhinoBond® TPO XHD Plate, Drill-Tec™ RhinoBond® TPO XHD Tread Safe Plate, Drill-Tec™ ASAP 3P, Drill-Tec™ ASAP 3S, Drill-Tec™ Base Sheet Fastener (1.2 in.) Drill-Tec™ Base Sheet Fastener (1.7 in.), Drill-Tec™ Base Sheet Fastener E (1.2 in.), Drill-Tec™ Base Sheet Fastener E (1.7 in.), Drill-Tec™ DL 1.7" Base Sheet Fastener, Drill-Tec™ Extra Heavy Duty ASAP Assembled Screw and 2-3/8 in. Steel Plate, Drill-Tec™ Extra Heavy Duty ASAP Roofing Fastener – Insulation, Drill-Tec™ Heavy Duty ASAP 2S Assembled Screw and 2 in. Steel Plate, Drill-Tec™ Heavy Duty ASAP Roofing Fastener Assembled with a 3" Metal Plate, Drill-Tec™ Heavy Duty ASAP Roofing Fastener Assembled with a 3" Plastic Plate, Drill-Tec™ Locking Impact Nail.
TRADE NAME:	N/A
CHEMICAL NAME / SYNONYM:	Refractory Metal Carbide
CHEMICAL FAMILY:	Metal
MANUFACTURER:	GAF
ADDRESS:	1 Campus Drive, Parsippany, NJ 07054
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

SECTION 2: HAZARDS IDENTIFICATION

As defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200, the products listed below are considered articles and do not require an SDS. In addition, articles are not included in the scope of the Globally Harmonization System (GHS). As such, the GHS labeling elements are not included on this SDS. All components listed for this product are bound within the product. When handled as intended and under normal conditions of use, there is no evidence that any of the ingredients are released in amounts that pose a significant health risk. Although these products are not subject to the OSHA Standard or GHS labeling elements, GAF would like to disclose as much health and safety information as possible to ensure that this product is handled and used properly. This SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and be made available for employees and other users of this product. In addition, the recommendations for handling and use of these products should be included in worker training programs.

PRIMARY ROUTE OF EXPOSURE: Grinding cemented carbide product will produce dust of potentially hazardous ingredients, which can be inhaled, swallowed or come in contact with the skin or eyes.

SIGNS & SYMPTOMS OF EXPOSURE

EYES: Can cause irritation.

SKIN: Can cause an irritation or skin rash due to cobalt sensitization. Certain skin conditions, such as dry skin, may be aggravated by exposure.

INGESTION: Reports outside the industry suggest that ingestion of significant amounts of cobalt has the potential for causing blood, heart and other organ problems.

INHALATION: Dust from grinding can cause irritation of the nose and throat. It also has the potential for causing transient or permanent respiratory disease, including occupational asthma and interstitial fibrosis, in a small percentage of exposed individuals. It is reported that cobalt dust is the most probable cause of such respiratory diseases. Symptoms include productive cough, wheezing, shortness of breath chest tightness and weight loss. Interstitial fibrosis (lung scarring) can lead to permanent disability or death. Certain pulmonary conditions may be aggravated by exposure.

ACUTE HEALTH HAZARDS: N/A

CHRONIC HEALTH HAZARDS: N/A

CARCINOGENICITY: N/A

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

	OCCUPATIONAL EXPOSURE LIMITS

CHEMICAL NAME	CAS #	% (BY WT)	OSHA	ACGIH	OTHER
Tungsten Carbide	12070-12-1	37.6 - 97	NE	NE	REL: 0.05 mg/m3 (10-hr)
Cobalt	7440-48-4	3 - 25	0.1 mg/m3 for metal dust and fumes as Co	0.02 mg/m^3	REL: 0.05 mg/m3 for metal dust and fumes as Co
Tantalum Carbide	12070-06-3	0.0 - 56.4	NE	NE	NE
Chromium Carbide	12012-35-0	0.0 - 2.5	NE	NE	NE
Chromium (+3)	7440-47-3	0.0 - 2.5	1 mg/m3	0.5 mg/m3	REL: 0.5 mg/m3

NE = Not Established

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SIGNS & SYMPTOMS OF EXPOSURE

EYES: Can cause irritation.

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ACUTE HEALTH HAZARDS: N/A

CHRONIC HEALTH HAZARDS: N/A

CARCINOGENICITY: N/A

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES:	If irritation occurs flush with copious amount of water. If irritation persists, seek medical attention.
SKIN:	If irritation or rash occurs, thoroughly wash affected area with soap and water and isolate from exposure. If irritation persists, seek medical attention.
INHALATION:	If symptoms of pulmonary involvement develop (coughing, wheezing, shortness of breath, etc.), remove from exposure and seek medical attention.
INGESTION:	If substantial quantities are swallowed, dilute with large amount of water, induce vomiting and seek medical attention.
NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:	N/A

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA:	For powder fires, smother with dry sand, dry dolomite, ABC type fire extinguisher, or flood with water.
HAZARDOUS COMBUSTION PRODUCTS:	Hard Cemented Carbide Product is not a fire hazard. Dusts generated in grinding operations may ignite if allowed to accumulate and subjected to an ignition source.
RECOMMENDED FIRE FIGHTING PROCEDURES:	For a powder fire confined to a small area, use a respirator approved for toxic dusts and fumes. For large fire involving this material, fire fighters should use self-contained breathing apparatus.
UNUSUAL FIRE & EXPLOSION HAZARDS:	Dusts may present a fire or explosion hazard under rare favoring conditions of particle size, dispersion and strong ignition source. However, this is not expected to be a problem under normal handling conditions.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES:	Ventilate area of spill. Clean up using methods, which avoid dust generation, such as vacuum (with appropriate filter to prevent airborne dust levels which exceed the PEL or TLV), wet dust mop or wet clean up. If airborne dust is generated, use an appropriate

NIOSH approved respirator.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE: Maintain good housekeeping procedures to prevent dust accumulation during grinding. Avoid dust inhalation and direct skin contact with dust.

OTHER PRECAUTIONS: N/A

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION: Use local exhaust ventilation, which is adequate to limit personal exposure to airborne dust to levels, which do not exceed the PEL or TLV. If such equipment is not available, use respirators as specified above.

RESPIRATORY PROTECTION: Use an appropriate NIOSH approved respirator if airborne dust concentrations exceed the appropriate PEL or TLV. All appropriate requirements set forth in 29 CFR 1910.134 should be met.

EYE PROTECTION: Safety glasses with side shields may be necessary when handling, cutting or applying this product.

SKIN PROTECTION: None required.

OTHER PROTECTIVE EQUIPMENT: Protective Gloves or Barrier cream are recommended when contact with dust or mist is likely. Prior to applying the Barrier cream use of protective gloves, wash thoroughly.

WORK HYGIENIC PRACTICES: Wash exposed skin prior to eating, drinking or smoking and at the end or each work shift. Wash contaminated clothing prior to reuse.

EXPOSURE GUIDELINES: N/A

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Solid		
FLASH POINT:	No Data	**LOWER EXPLOSIVE LIMIT:**	No Data
METHOD USED:	No Data	**UPPER EXPLOSIVE LIMIT:**	No Data
EVAPORATION RATE:	No Data	**BOILING POINT:**	No Data

pH (undiluted product):	No Data	**MELTING POINT:**	No Data
SOLUBILITY IN WATER:	No Data	**SPECIFIC GRAVITY:**	11.85-15.35 (water=1)
VAPOR DENSITY:	No Data	**PERCENT VOLATILE:**	0.0%
VAPOR PRESSURE:	No Data	**MOLECULAR WEIGHT:**	No Data
VOC WITH WATER (LBS/GAL):	No Data	**WITHOUT WATER (LBS/GAL):**	No Data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE** ☒ **UNSTABLE** ☐

CONDITIONS TO AVOID (STABILITY): N/A

INCOMPATIBILITY (MATERIAL TO AVOID): Contact of dust with strong oxidizers may cause fire or explosions. Also to avoid strong acids.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: N/A

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: No information available.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: This product, as supplied, is not regulated as a hazardous waste by the U.S. Environmental Protection Agency (EPA) under Resource

Conservation and Recovery Act (RCRA) regulations. Comply with state and local regulations for disposal.

RCRA HAZARD CLASS: None

SECTION 14: TRANSPORTATION INFORMATION

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: All components are listed on the TSCA inventory.

CERCLA: N/A

SARA N/A

311/312 HAZARD CATEGORIES: Fire Hazard, Health Hazard

313 REPORTABLE INGREDIENTS: Cobalt - 7440-48-4
Chromium -7440-47-3

CALIFORNIA PROPOSITION 65: This product contains a chemical known to the state of California to cause cancer and birth defects or other reproductive harm. Cancer: Cobalt, Chromium.

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
Tungsten Carbide	12070-12-1	No	No	N/A	Yes	No	No
Cobalt	7440-48-4	Yes	Yes	N/A	Yes	Yes	Yes
Tantalum Carbide	12070-06-3	No	No	N/A	No	No	No

Chromium Carbide	12012-35-0	No	No	N/A	No	No	No
Chromium	7440-47-3	Yes	Yes	N/A	Yes	Yes	Yes

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: N/A

DATE OF PREVIOUS SDS: December 2014

CHANGES SINCE PREVIOUS SDS: Headquarters Address Change

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF Corporation
Safety Data Sheet
SDS #3212
SDS Date: October 2019

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAMES:	Barbed SXHD Plate, Drill-Tec™ 2 3/8 in. Barbed XHD Plate, Drill-Tec™ 2 in. Barbed Plate, Drill-Tec™ 2 in. Double Barbed XHD Plate, Drill-Tec™ 2" Gyptec Plate, Drill-Tec™ 2-3/4" Eyehook Seam Plate, Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat), Drill-Tec™ 3" Gyptec Plate Drill-Tec™ 3" Plastic Locking Plate, Drill-Tec™ 3" Standard Steel Plate, Drill-Tec™ 3" Steel Plate, Drill-Tec™ AccuTrac® Flat Plate, Drill-Tec™ AccuTrac® Recessed Plate, Drill-Tec™ Eyehook AccuSeam Plate, Drill-Tec™ LD Plate, Drill-Tec™ Plastic Plate, Drill-Tec™ RhinoBond® PVC XHD Plate, Drill-Tec™ RhinoBond® PVC XHD Tread Safe Plate, Drill-Tec™ Extra Heavy Duty ASAP Assembled Screw and 2-3/8 in. Steel Plate, Drill-Tec™ Heavy Duty ASAP 2S Assembled Screw and 2 in. Steel Plate, Drill-Tec™ Heavy Duty ASAP Roofing Fastener Assembled with a 3" Metal Plate, Drill-Tec™ Heavy Duty ASAP Roofing Fastener Assembled with a 3" Plastic Plate
MANUFACTURER:	GAF
ADDRESS:	1 Campus Drive, Parsippany, NJ 07054
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

SECTION 2: HAZARDS IDENTIFICATION

As defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200, the products listed below are considered articles and do not require an SDS. In addition, articles are not included in the scope of the Globally Harmonization System (GHS). As such, the GHS labeling elements are not included on this SDS. All components listed for this product are bound within the product. When handled as intended

and under normal conditions of use, there is no evidence that any of the ingredients are released in amounts that pose a significant health risk. Although these products are not subject to the OSHA Standard or GHS labeling elements, GAF would like to disclose as much health and safety information as possible to ensure that this product is handled and used properly. This SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and be made available for employees and other users of this product. In addition, the recommendations for handling and use of these products should be included in worker training programs.

PRIMARY ROUTE OF EXPOSURE: Not applicable.

SIGNS & SYMPTOMS OF EXPOSURE

EYES: Not applicable.

SKIN: Not applicable.

INGESTION: Not applicable.

INHALATION: Not applicable.

ACUTE HEALTH HAZARDS: None.

CHRONIC HEALTH HAZARDS: None.

CARCINOGENICITY: Not applicable.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**% (BY WT)**	**OSHA**	**ACGIH**	**OTHER**
Aluminum	7429-90-5	Not Applicable	Not applicable to this form of the product	Not applicable to this form of the product	Not applicable to this form of the product
Ethylene-propylene Copolymer	9010-79-1	Not Applicable	NE	NE	NE
Iron	7440-50-8	Not Applicable	NE	NE	NE
Manganese	7439-96-5	Not Applicable	Not applicable to this form of the product	Not applicable to this form of the product	Not applicable to this form of the product
Zinc	7440-66-6	Not Applicable	NE	NE	NE

NE = Not Established

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES:	Not applicable.
SKIN:	Not applicable.
INHALATION:	Not applicable.
INGESTION:	Not applicable.
NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:	Not applicable.

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA:	Material does not burn. Use ABC type fire extinguisher for surrounding fire.
HAZARDOUS COMBUSTION PRODUCTS:	None known.
RECOMMENDED FIRE FIGHTING PROCEDURES:	For large fire involving this material, fire fighters should use self-contained breathing apparatus.
UNUSUAL FIRE & EXPLOSION HAZARDS:	None known.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Not applicable.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:	Not applicable.
OTHER PRECAUTIONS:	Not applicable.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / Not applicable.

VENTILATION:

RESPIRATORY PROTECTION: Not applicable.

EYE PROTECTION: Safety glasses with side shields.

SKIN PROTECTION: Work gloves.

OTHER PROTECTIVE EQUIPMENT: Not applicable.

WORK HYGIENIC PRACTICES: Not applicable.

EXPOSURE GUIDELINES: Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Solid		
FLASH POINT:	Not applicable.	**LOWER EXPLOSIVE LIMIT:**	Not applicable.
METHOD USED:	Not applicable.	**UPPER EXPLOSIVE LIMIT:**	Not applicable.
EVAPORATION RATE:	Not applicable.	**BOILING POINT:**	Not applicable.
pH (undiluted product):	Not applicable.	**MELTING POINT:**	No Data
SOLUBILITY IN WATER:	Insoluble.	**SPECIFIC GRAVITY:**	Not applicable.
VAPOR DENSITY:	Not applicable.	**PERCENT VOLATILE:**	Not applicable.
VAPOR PRESSURE:	Not applicable.	**MOLECULAR WEIGHT:**	Not applicable.
VOC WITH WATER (LBS/GAL):	Not applicable.	**WITHOUT WATER (LBS/GAL):**	Not applicable.

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE** ☒ **UNSTABLE** ☐

CONDITIONS TO AVOID (STABILITY): Not applicable.

INCOMPATIBILITY (MATERIAL TO AVOID): Ammonium nitrate; peroxides; lithium; nitric oxide; chlorates; sulfur dioxide; halogens; chlorine trifluoride; nitrogen dioxide; sulfur; carbides; hydrazine; nitric acid; hydrazoic acid; dioxane; selenium; performic acid; phosphorus; titanium plus potassium perchlorate.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Not applicable.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: No information available.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: This product, as supplied, is not regulated as a hazardous waste by the U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations. Comply with state and local regulations for disposal.

RCRA HAZARD CLASS: None

SECTION 14: TRANSPORTATION INFORMATION

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA:	All components are listed on the TSCA inventory.
CERCLA:	Not applicable.
SARA	Not applicable.
CALIFORNIA PROPOSITION 65:	Not applicable.

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS:	None.
DATE OF PREVIOUS SDS:	New SDS.
CHANGES SINCE PREVIOUS SDS:	None.

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

PRRF20250453

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning
Engineering | Public Works
Fire | Traffic

GAF
Safety Data Sheet
SDS # 1088
SDS Date: November 2022

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: EnergyGuard™ Tapered Polyiso Insulation
EnergyGuard™ Polyiso Insulation
EnergyGuard™ HD Plus Coverboard
EnergyGuard™ HD Coverboard
EnergyGuard™ Ultra Polyiso Insulation
EnergyGuard™ Ultra Tapered Polyiso Insulation

CHEMICAL NAME: Polyisocyanurate

MANUFACTURER: GAF

ADDRESS: 1 Campus Drive, Parsippany, NJ 07054

24-HOUR EMERGENCY PHONE (CHEMTREC): 800 – 424 – 9300

INFORMATION ONLY: 877 – GAF– ROOF

APPROVED BY: Corporate EHS

SECTION 2: HAZARDS IDENTIFICATION

As defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200, the products listed below are considered articles and do not require an SDS. In addition, articles are not included in the scope of the Globally Harmonization System (GHS). As such, the GHS labeling elements are not included on this SDS. All components listed for this product are bound within the product. When handled as intended and under normal conditions of use, there is no evidence that any of the ingredients are released in amounts that pose a significant health risk. Although these products are not subject to the OSHA Standard or GHS labeling elements, GAF would like to disclose as much health and safety information as possible to ensure that this product is handled and used properly. This SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and be made available for employees and other users of this product. In addition, the recommendations for handling and use of these products should be included in worker training programs.

ADDITIONAL HAZARD IDENTIFICATION INFORMATION:

PRIMARY ROUTE OF EXPOSURE: Inhalation, Skin Contact.

SIGNS & SYMPTOMS OF EXPOSURE

EYES: May cause irritation to the eyes.

SKIN: May cause irritation to the skin.

INGESTION: Not applicable.

INHALATION: Exposure to dust may cause irritation. Processes such as cutting, grinding, crushing, or impact may result in generation of excessive amounts of airborne dusts in the workplace. Nuisance dust may affect the lungs but reactions are typically reversible.

ACUTE HEALTH HAZARDS: None known.

CHRONIC HEALTH HAZARDS: No data available.

CARCINOGENICITY: Not applicable.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**%**	**OSHA**	**ACGIH**	**OTHER**
Isopentane	78-78-4	4.5 - 9.9	1000 ppm	600 ppm	REL: 120 ppm
n-Pentane	109-66-0	<0.1 - 5.5	1000 ppm	600 ppm	REL: 120 ppm
Tris (monochloropropyl) Phosphate	13674-84-5	<1 - 8	NE	NE	NE
Fibrous Glass	None	<25	NE	1 f/cc	REL: 3 f/cc

NE = Not Established

Balance of other ingredients are non-hazardous or less than 1% in concentration (or 0.1% for carcinogens, reproductive toxins, or respiratory sensitizers).

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES: Hold eyelids open and wash with gentle stream of water for at least 15 minutes preferably at eyewash fountain.

SKIN: Wash affected area thoroughly with soap and water.

INHALATION: Remove to fresh uncontaminated air.

INGESTION: Rinse mouth. Do not give anything by mouth to an unconscious person. Consult medical personnel.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: No information available

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA: Water spray, alcohol foam, carbon Dioxide, or dry chemical.

HAZARDOUS COMBUSTION PRODUCTS: Carbon dioxide and carbon monoxide, phosphorus oxides, and phosphoric acid.

RECOMMENDED FIRE FIGHTING PROCEDURES: Wear impermeable protective clothing and self-contained breathing apparatus. Toxic fumes and vapors may be evolved.

UNUSUAL FIRE & EXPLOSION HAZARDS: Emits dense, black smoke when burned. Certain operations such as grinding or cutting may lead to a buildup of dust suspended in air which can cause a dust explosion if ignited. Isopentane and n-pentane, highly flammable materials, may be present within this product. Provide adequate ventilation and appropriate dust handling systems.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Use only in well ventilated areas. Wear appropriate personal protective equipment. Pick up large pieces. Sweep and scoop up material and put into a suitable container for disposal as a non-hazardous waste.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE: Use only in a well-ventilated area. Wear appropriate personal protective equipment. Protect against dust that may be generated by altering or applying this product. Minimize dust generation and accumulation. Routine housekeeping should

be carried out to ensure that dusts do not accumulate on surfaces. Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco products.

OTHER PRECAUTIONS: None.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION: Use local mechanical ventilation.

RESPIRATORY PROTECTION: Respiratory protection may be needed when mechanically manipulating this product (sawing, cutting, etc.). If respiratory protection is selected, a NIOSH-approved dust mask or respirator should be worn.

EYE PROTECTION: Safety glasses with side shields

SKIN PROTECTION: Cotton or leather gloves are recommended when handling.

OTHER PROTECTIVE EQUIPMENT: Wear long sleeves and/or protective coveralls if determined to be needed by the end-user.

WORK HYGIENIC PRACTICES: Wash exposed skin prior to eating, drinking or smoking and at the end of each shift.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	White rigid cellular sheets/odorless.		
FLASH POINT:	No Data	**LOWER EXPLOSIVE LIMIT:**	No Data
METHOD USED:	No Data	**UPPER EXPLOSIVE LIMIT:**	No Data
EVAPORATION RATE:	No Data	**BOILING POINT:**	No Data
pH (undiluted product):	No Data	**MELTING POINT:**	No Data
SOLUBILITY IN WATER:	No Data	**SPECIFIC GRAVITY:**	No Data
VAPOR DENSITY:	No Data	**PERCENT VOLATILE:**	No Data
VAPOR PRESSURE:	No Data	**MOLECULAR WEIGHT:**	No Data
VOC WITH WATER (LBS/GAL):	No Data	**WITHOUT WATER (LBS/GAL):**	No Data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY:	**STABLE X**	**UNSTABLE**
CONDITIONS TO AVOID (STABILITY):	None known.	
INCOMPATIBILITY (MATERIAL TO AVOID):	None known.	
HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:	Carbon dioxide and carbon monoxide	
HAZARDOUS POLYMERIZATION:	Will not occur.	

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:

Pentane (0.05% TO 5.5%) 109-66-0
Acute Toxicity: Ingestion/Oral-Rat LD50 • >2000 mg/kg; Inhalation-Rat LC50 • 364 g/m³ 4 Hour(s)

Isopentane (4.5% TO 9.9%) 78-78-4
Acute Toxicity: Inhalation-Rat LC50 • 280000 mg/m³ 4 Hour(s)

Route(s) of entry/exposure - Inhalation, Skin, Eye, Ingestion
Medical Conditions Aggravated by Exposure - Disorders of the lungs.

Potential Health Effects

Inhalation
Acute (Immediate) - Exposure to dust may cause irritation. Processes such as cutting, grinding, crushing, or impact may result in generation of excessive amounts of airborne dusts in the workplace. Nuisance dust may affect the lungs but reactions are typically reversible.
Chronic (Delayed) - No data available

Skin
Acute (Immediate) - Exposure to dust may cause mechanical irritation.
Chronic (Delayed) - No data available.

Eye
Acute (Immediate) - Exposure to dust may cause mechanical irritation. Excessive concentrations of nuisance dust in the workplace may reduce visibility and may cause unpleasant deposits in eyes.
Chronic (Delayed) - No data available.

Ingestion
Acute (Immediate) - Excessive concentrations of nuisance dust in the workplace may cause mechanical irritation to mucous membranes.
Chronic (Delayed) - No data available.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

SECTION 14: TRANSPORTATION INFORMATION

DOT
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA:	This product and its components are listed on the TSCA 8(b) inventory.
CERCLA:	Not applicable.
SARA	Not applicable.
311 / 312 HAZARD CATEGORIES:	Not applicable.
313 REPORTABLE INGREDIENTS:	Not applicable.

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS:	None.
DATE OF PREVIOUS SDS:	March 2018
CHANGES SINCE PREVIOUS SDS:	Updated Section 1

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