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**To:** GAF Commercial Sales, Commercial Contractors & Distribution Partners

**From:** Commercial Testing & Design Services

**Date:** 03/08/2024

**Subject:** EnergyGuard HD, HD Plus, HD Barrier and NH HD Polyiso Cover Board – New FM Approvals\*

**Reduced Class 1-90 and New Class 1-60 Fastening Rates with Adhered Membranes**

- **Class 1-90: 10 fasteners per 4 x 8 ft. board**
- **Class 1-60: 6 fasteners per 4 x 8 ft. board**

**Summary provided for quick view purposes only. Refer to [RoofNav.com](https://www.roofnav.com) for full details and requirements.\***

Deck	Min. 1.5 in. (38 mm) Thick Insulation	48 x 96 x 0.5 in. (1220 x 2440 x 13 mm) Cover Board	Cover Board Attachment	Wind
Min. 22 ga. (0.75 mm) steel	EnergyGuard Polyiso Insulation	EnergyGuard HD (or HD Plus) Polyiso Cover Board	6 fasteners per board	1-60
	EnergyGuard Ultra Polyiso Insulation or EnergyGuard NH Ultra Polyiso Insulation	EnergyGuard HD Barrier Polyiso Cover Board or EnergyGuard NH HD (or NH HD Plus) Polyiso Cover Board	10 fasteners per board	1-90
<b>Membrane &amp; Adhesive:</b>	EverGuard TPO, PVC or KEE single ply, smooth or fleeceback, SA TPO, or multi-ply "Hybrid" EverGuard TPO Fleeceback/RUBEROID SBS roof cover, per pages two - four.			
<b>Cover Board Attachment Patterns &amp; Fasteners:</b>	Refer to diagrams on page five for approved cover board attachment patterns.			
<b>Vapor Retarder:</b>	<b>Optional</b> , GAF SA Vapor Retarder XL, self adhered to the deck or optional thermal barrier			
<b>Thermal Barrier:</b>	<b>Optional</b> , 0.5 in. thick DensDeck, DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board, DEXcell FA Glass Mat Roof Board or DEXcell Glass Mat Roof Board			

## EnergyGuard HD, HD Plus, HD Barrier and NH HD Polyiso Cover Board – FM Approval\*

### Reduced Class 1-90 and New Class 1-60 Fastening Rates with Adhered Membranes

<b>Roof Cover #1: Self-Adhered TPO</b>	
Roof Cover:	0.060 – 0.080 in. (1.5 – 2.0 mm) thick EverGuard® SA TPO
Securement:	Self-Adhered
Hail:	SH
ASTM E108:	Class A at a max. 0.5 in 12 roof slope

<b>Roof Cover #2: Smooth TPO in Solvent Based Adhesive (Spray and Bucket)</b>	
Roof Cover:	0.045 – 0.080 in. (1.1 – 2.0 mm) thick EverGuard® TPO 0.050 – 0.080 in. (1.3 – 2.0 mm) thick EverGuard Extreme® TPO
Securement:	EverGuard® TPO 1121 Bonding Adhesive applied at a total rate of 1.67 gal./100 ft <sup>2</sup> (0.68 l/m <sup>2</sup> ), half to substrate and half to back of roof cover EverGuard® TPO 3 Square Low VOC Bonding Adhesive applied at a total rate of 1.67 gal./100 ft <sup>2</sup> (0.68 l/m <sup>2</sup> ), half to substrate and half to back of roof cover EverGuard® TPO Quick Spray Adhesive LV50 applied at a total rate of 0.837 gal./100 ft <sup>2</sup> (0.041 kg/m <sup>2</sup> ), half to substrate and half to back of roof cover EverGuard® TPO Quick Spray Adhesive applied at a total rate of 0.705 gal./100 ft <sup>2</sup> (0.034 kg/m <sup>2</sup> ), half to substrate and half to back of roof cover
Hail:	SH
ASTM E108:	Class A at max. 0.50 in 12 roof slope

<b>Roof Cover #3: Fleece Backed TPO in Foam Adhesive (Spatter)</b>	
Roof Cover:	0.045 – 0.080 in. (1.1 – 2.0 mm) thick EverGuard® TPO Fleece-Back Membrane 0.050 – 0.080 in. (1.3 – 2.0 mm) thick EverGuard Extreme® TPO Fleece-Back Membrane 0.045 in. (1.1 mm) EverGuard® TPO Fleece-Back Membrane 100 0.060 in. (1.5 mm) EverGuard® TPO Fleece-Back Membrane 115 0.080 in. (2.0 mm) EverGuard® TPO Fleece-Back Membrane 135
Roof Cover:	GAF LRF Adhesive XF spatter applied at 3.0 lbs./100 ft <sup>2</sup> (0.14 kg/m <sup>2</sup> )
Securement:	OlyBond500® Adhesive Fastener spatter applied at 0.318 gal/100 ft <sup>2</sup> (0.129 l/m <sup>2</sup> ) LRF Adhesive M spatter applied at 0.55 – 0.75 gal./100 ft <sup>2</sup> (0.22 – 0.31 l/m <sup>2</sup> ) LRF Adhesive M Canister spatter applied at 0.30 gal./100 ft <sup>2</sup> (0.12 l/m <sup>2</sup> )
Hail:	SH
ASTM E108:	Class A at max. 0.25 in 12 roof slope

## EnergyGuard HD, HD Plus, HD Barrier and NH HD Polyiso Cover Board – FM Approval\*

### Reduced Class 1-90 and New Class 1-60 Fastening Rates with Adhered Membranes

<b>Roof Cover #4: Fleece Backed TPO in Water Based Adhesive</b>	
Roof Cover:	0.045 – 0.080 in. (1.1 – 2.0 mm) thick EverGuard® Fleece-Back Membrane
	0.050 – 0.080 in. (1.3 – 2.0 mm) thick EverGuard Extreme® TPO Fleece-Back Membrane
	0.045 in. (1.1 mm) EverGuard® TPO Fleece-Back Membrane 100
	0.060 in. (1.5 mm) EverGuard® TPO Fleece-Back Membrane 115
	0.080 in. (2.0 mm) EverGuard® TPO Fleece-Back Membrane 135
Roof Cover: Securement:	Everguard® WB 181 Bonding Adhesive applied at 0.83 – 1.0 gal/100 ft <sup>2</sup> (0.34 – 0.41 l/m <sup>2</sup> ), all adhesive is applied to the substrate and the roof cover is rolled into the wet adhesive.
Hail:	SH
ASTM E108:	Class A at max. 0.25 in 12 roof slope with EverGuard® TPO Fleece-Back Membrane 100, EverGuard® TPO Fleece-Back Membrane 115, EverGuard® TPO Fleece-Back Membrane 135
	Class A at max. 0.75 in 12 roof slope with EverGuard® TPO Fleece-Back Membrane, EverGuard Extreme® TPO Fleece-Back Membrane

<b>Roof Cover #5: Smooth PVC and KEE in Solvent Based Adhesive (Spray and Bucket)</b>	
Roof Cover:	0.050 – 0.080 in. (1.3 – 2.0 mm) thick EverGuard® PVC
	0.050 – 0.080 in. (1.3 – 2.0 mm) thick EverGuard® PVC KEE
	0.050 – 0.080 in. (1.3 – 2.0 mm) thick EverGuard® PVC XK
Roof Cover: Securement:	PVC Quick Spray Adhesive applied at a total rate 6.0 lbs./100 ft <sup>2</sup> (0.30 kg/m <sup>2</sup> ), half to substrate and half to back of roof cover
	EverGuard® #2331 Bonding Adhesive or #2331 Bonding Adhesive H applied at a total rate of 1.67 gal./ 100 ft <sup>2</sup> (0.68 l/m <sup>2</sup> ), half to substrate and half to back of roof cover
Hail:	SH
ASTM E108:	Class A at max. 2 in 12 roof slope with PVC Quick Spray Adhesive
	Class A at max. 1 in 12 roof slope with EverGuard® #2331 Bonding Adhesive or #2331 Bonding Adhesive H

<b>Roof Cover #6: Smooth PVC in PVC Quick Lay Adhesive</b>	
Roof Cover:	0.050 – 0.080 in. (1.3 – 2.0 mm) thick EverGuard® PVC
Roof Cover: Securement:	PVC Quick Lay Adhesive applied at 1.0 gal./100 ft <sup>2</sup> (0.41 l/m <sup>2</sup> ) all adhesive is applied to the substrate and roof cover is rolled into the wet adhesive.
Hail:	SH
ASTM E108:	Class A at max. 1 in 12 roof slope

## EnergyGuard HD, HD Plus, HD Barrier and NH HD Polyiso Cover Board – FM Approval\*

### Reduced Class 1-90 and New Class 1-60 Fastening Rates with Adhered Membranes

<b>Roof Cover #7: Fleece Backed PVC and KEE in Foam Adhesive (Spatter)</b>	
Roof Cover:	0.050 – 0.080 in. (1.3 – 2.0 mm) thick EverGuard® PVC Fleeceback
	0.050 – 0.080 in. (1.3 – 2.0 mm) thick EverGuard® PVC KEE Fleeceback
	0.050 – 0.080 in. (1.3 – 2.0 mm) thick EverGuard® PVC XK Fleeceback
Roof Cover: Securement:	GAF LRF Adhesive XF spatter applied at 3.0 lbs./100 ft <sup>2</sup> (0.14 kg/m <sup>2</sup> )
	OlyBond500® Adhesive Fastener spatter applied at 0.318 gal/100 ft <sup>2</sup> (0.129 l/m <sup>2</sup> )
	LRF Adhesive M spatter applied at 0.55 – 0.75 gal./100 ft <sup>2</sup> (0.22 – 0.31 l/m <sup>2</sup> )
	LRF Adhesive M Canister spatter applied at 0.30 gal./100 ft <sup>2</sup> (0.12 l/m <sup>2</sup> )
Hail:	SH
ASTM E108:	Class A at max. 0.25 in roof slope 12 with GAF LRF Adhesive XF
	Class A at max. 1.0 in 12 roof slope with OlyBond500® Adhesive Fastener, LRF Adhesive M and LRF Adhesive M Canister

<b>Roof Cover #8: Fleece Backed PVC and KEE in Water Based Adhesive</b>	
Roof Cover:	0.050 – 0.080 in. (1.3 – 2.0 mm) thick EverGuard® PVC Fleeceback
	0.050 – 0.080 in. (1.3 – 2.0 mm) thick EverGuard® PVC KEE Fleeceback
	0.050 – 0.080 in. (1.3 – 2.0 mm) thick EverGuard® PVC XK Fleeceback
Roof Cover: Securement:	EverGuard® WB 181 Bonding Adhesive applied at 0.83 – 1.0 gal/100 ft <sup>2</sup> (0.34 – 0.41 l/m <sup>2</sup> ), all adhesive is applied to the substrate and the roof cover is rolled into the wet adhesive
Hail:	SH
ASTM E108:	Class A at a max. 0.75 in 12 roof slope

<b>Roof Cover #9: Hybrid Roof Cover (Fleece Backed TPO Cap Ply and RUBEROID SBS Base Ply/Opt. Inter-Ply)</b>	
Cap Ply:	0.060 – 0.080 in. (1.5 – 2.0 mm) thick EverGuard® TPO Fleece-Back Membrane
	0.060 – 0.080 in. (1.5 – 2.0 mm) thick EverGuard® Extreme TPO Fleece-Back Membrane
	0.060 in. (1.5 mm) EverGuard® TPO Fleece-Back Membrane 115
	0.080 in. (2.0 mm) EverGuard® TPO Fleece-Back Membrane 135
Cap Ply: Securement:	GAF LRF Adhesive XF spatter applied at 3.0 lbs./100 ft <sup>2</sup> (0.14 kg/m <sup>2</sup> )
	OlyBond500® Adhesive Fastener spatter applied at 0.318 gal/100 ft <sup>2</sup> (0.129 l/m <sup>2</sup> )
	LRF Adhesive M spatter applied at 0.55 – 0.75 gal./100 ft <sup>2</sup> (0.22 – 0.31 l/m <sup>2</sup> )
	LRF Adhesive M Canister spatter applied at 0.30 gal./100 ft <sup>2</sup> (0.12 l/m <sup>2</sup> )
Ply:	<b>Optional</b> Ruberoid 20 Smooth or Ruberoid Mop Smooth 1.5
Base Ply:	Ruberoid 20 Smooth or Ruberoid Mop Smooth 1.5
Ply and Base Ply Securement:	Base ply and optional ply, when present, are each adhered with Matrix 101 Premium SBS Membrane Adhesive applied at 1.5 – 2.0 gal/sq (0.61 – 0.82 l/m <sup>2</sup> )
Hail:	SH
ASTM E 108:	Class A at a max. 0.25 in 12 roof slope

**EnergyGuard HD, HD Plus, HD Barrier and NH HD Polyiso Cover Board - FM Approval\***

**Reduced Class 1-90 and New Class 1-60 Fastening Rates with Adhered Membranes**

**Approved Cover Board Attachment Patterns**

