

## DensDeck Prime Storm X VSH Code Alert

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*This Code Alert is a monthly online release that addresses issues pertaining to FM and UL, including raising awareness of industry updates and new approvals and elaborating on existing approved assemblies that may require additional clarification. The contents of each release will be altered or customized to address specific field inquiries or to respond to unique market trends. Feedback concerning future topics is strongly encouraged.*

### Very Severe Hail (VSH) – FM Approvals

As part of Carlisle’s continual search for high-performance and unique roofing system assemblies, extensive Very Severe Hail (VSH) testing has been completed at FM. The main VSH hail belt, as determined by FM, is in the Midwestern United States. However, other areas of the country have also shown interest in these robust assemblies.

The following tables highlight VSH testing conducted on various TPO and FleeceBACK® membrane assemblies and feature the use of DensDeck® Prime StormX™. The assemblies can be used on new construction projects as well as for re-roofing/recover applications. The tables are categorized by deck/substrate type and include the associated FM wind uplift rating.

#### New Construction / Tear-Off Applications – Steel Deck / DensDeck Prime StormX

Steel Deck / DensDeck Prime StormX						
Base Insulation Layer	Attachment Per 4x8 Board <sup>1</sup>	Top Insulation Layer	Attachment Per 4x8 Board <sup>1</sup>	Membrane / Attachment	FM Rating	
Min. 1-1/2" InsulBase®	Loose Laid	5/8" DensDeck Prime StormX	8 Fasteners	145-mil Sure-White® FleeceBACK, or Min. 135-mil Sure-Weld® FleeceBACK Min., or 145-mil Sure-Seal® FleeceBACK, Min adhered using Flexible FAST Adhesive - 4" o.c.	VSH – 1-90	
			18 Fasteners		VSH – 1-135	
			32 Fasteners		VSH – 1-255	
Min. 1-1/2" InsulBase	10 Fasteners	5/8" DensDeck Prime StormX	Flexible FAST™ Adhesive 12" o.c.	Min. 60-mil Sure-Weld or Sure-Weld EXTRA adhered using CAV-GRIP® III, Low-VOC, or Sure-Weld Bonding Adhesives	VSH – 1-90	
Min. 2" InsulBase	8 Fasteners				VSH – 1-90	
Min. 2" InsulBase	20 Fasteners		Flexible FAST Adhesive 6" o.c.		Min. 115-mil Sure-Seal FleeceBACK, Min. 115-mil Sure-White FleeceBACK, or Min. 115-mil Sure-Weld FleeceBACK adhered using Flexible FAST Adhesive - 4" o.c.	VSH – 1-135
Min. 2" InsulBase	32 Fasteners		Flexible FAST Adhesive 4" o.c.		VSH – 1-225	

Note 1: Refer to the published Carlisle Design Supplement document for fastening pattern layouts.

New Construction / Tear-Off Applications – Concrete Deck

Structural Concrete Deck					
Base Insulation Layer	Attachment	Top Insulation Layer	Attachment	Membrane / Attachment	FM Rating
Min. 1-1/2" InsulBase	Flexible FAST Adhesive 12" o.c.	5/8" DensDeck Prime StormX	Flexible FAST Adhesive 12" o.c.	Min. 60-mil Sure-Weld or Sure-Weld EXTRA adhered using CAV-GRIP III, Low-VOC, or Sure-Weld Bonding Adhesives  Min. 115-mil Sure-Seal FleeceBACK, Min. 115 Sure-White FleeceBACK, or Min. 115-mil Sure-Weld FleeceBACK adhered using Flexible FAST Adhesive - 4" o.c.	VSH – 1-315
Min. 3/4" OPTIM-R®	Flexible FAST Adhesive 6" o.c.		Flexible FAST Adhesive 6" o.c.		VSH – 1-120

Recover Applications – Steel Deck

Steel Deck Recover					
Base Insulation Layer	Attachment	Top Insulation Layer	Attachment Per 4x8 Board	Membrane / Attachment	FM Rating
None	None	5/8" DensDeck Prime StormX	8 Fasteners	Min. 145-mil Sure-Seal FleeceBACK, Min. 145-mil Sure-White FleeceBACK, or Min. 135-mil Sure-Weld FleeceBACK adhered using Flexible FAST Adhesive - 4" o.c.	VSH – 1-90
			Flexible FAST Adhesive 6" o.c.	Min. 60-mil Sure-Weld or Sure-Weld EXTRA adhered using CAV-GRIP III, Low-VOC, or Sure-Weld Bonding Adhesives  Min. 115-mil Sure-Seal FleeceBACK, Min. 115-mil Sure-White FleeceBACK, or Min. 115-mil Sure-Weld FleeceBACK adhered using Flexible FAST Adhesive - 4" o.c.	VSH – 1-150

Recover Applications – Concrete Deck

Structural Concrete Recover					
Base Insulation Layer	Attachment	Top Insulation Layer	Attachment	Membrane / Attachment	FM Rating
(Optional) Min. 1-1/2" InsulBase or SecurShield®	Flexible FAST Adhesive 6" o.c.	5/8" DensDeck Prime StormX	Flexible FAST Adhesive 6" o.c.	Min. 60-mil Sure-Weld or Sure-Weld EXTRA adhered using CAV-GRIP III, Low-VOC, or Sure-Weld Bonding Adhesives  Min. 115-mil Sure-Seal FleeceBACK, Min. 115-mil Sure-White FleeceBACK, or Min. 115-mil Sure-Weld FleeceBACK adhered using Flexible FAST Adhesive - 4" o.c.	VSH – 1-150

These assemblies can be viewed on the FM Approvals [RoofNAV website](#).

Please consult the Carlisle Project Review Team with questions concerning specific project warranty requirements or reference the [Carlisle VSH Code Approval Guide](#).