

CA-02GC-10-20
Very Severe Hail (VSH) Code Alert
October 7, 2020

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 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 Versico Roofing Systems’ ongoing testing program 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 Midwest, but other areas of the country have shown interest in these robust assemblies.

The following tables highlight VSH testing conducted on various TPO and VersiFleece® membrane assemblies and feature the use of Versico’s DuraStorm VSH™ and DuraFaceR® products. The assemblies are usable on new construction projects as well as re-roofing and recover applications. These tables are categorized by deck / substrate type and include the associated FM wind uplift rating.

New Construction / Tear-Off Applications – Steel Deck / DuraStorm VSH

Steel Deck / DuraStorm VSH					
Base Insulation Layer	Attachment 4' x 8' Board	Top Insulation Layer	Attachment 4' x 8' Board*	Membrane / Attachment	FM Rating
Min. 1-1/2" VersiCore MP-H	Loose-Laid	1/2" DuraStorm VSH	8 Fasteners	Min. 115-mil VersiFleece TPO adhered using Flexible DASH™ Adhesive - 4" o.c.	VSH - 1-90
			18 Fasteners		VSH - 1-120
			24 Fasteners		VSH - 1-225
			32 Fasteners		VSH - 1-270
Min. 1-1/2" VersiCore MP-H	10 Fasteners	1/2" DuraStorm VSH	Flexible DASH Adhesive - 6" o.c.	Min. 80-mil VersiWeld TPO adhered using CAV-GRIP® 3V, Low-VOC, or VersiWeld Bonding Adhesive	VSH - 1-90
Min. 2" VersiCore MP-H	8 Fasteners				VSH - 1-90
Min. 2" VersiCore MP-H	24 Fasteners				VSH - 1-165

*When fasteners are to be utilized, only use fasteners that have been approved by FM as part of the referenced roofing assembly and are in compliance with the Membrane System Warranty requirements.

New Construction / Tear-Off Applications – Steel Deck / DuraFaceR

Steel Deck / DuraFaceR					
Base Insulation Layer	Attachment 4' x 8' Board	Top Insulation Layer	Attachment 4' x 8' Board	Membrane / Attachment	FM Rating
Any FM Approved	Loose-Laid	Min. 2" DuraFaceR	17 Fasteners**	Min. 115-mil VersiFleece TPO adhered using Flexible DASH Adhesive - 4" o.c.	VSH - 1-150
			32 Fasteners**		VSH - 1-270
Min. 1-1/2" VersiCore MP-H	10 Fasteners**	Min. 2" DuraFaceR	Flexible DASH Adhesive 12" o.c.	Min. 80-mil VersiWeld TPO adhered using CAV-GRIP 3V, Low-VOC, or VersiWeld Bonding Adhesive	VSH - 1-90
Min. 2" VersiCore MP-H	8 Fasteners**				VSH - 1-90

** Use only fasteners that have been approved by FM as part of the referenced roofing assembly and are in compliance with the Membrane System Warranty requirements.

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" VersiCore MP-H	Flexible DASH Adhesive 12" o.c.	1/2" DuraStorm VSH	Flexible DASH Adhesive 12" o.c.	Min. 80-mil VersiWeld TPO adhered using CAV-GRIP 3V, Low-VOC, or VersiWeld Bonding Adhesive	VSH - 1-225
Min. 3/4" OPTIM-R®	Flexible DASH Adhesive 6" o.c.		Flexible DASH Adhesive 6" o.c.		Min. 115-mil VersiFleece TPO adhered using Flexible DASH Adhesive - 4" o.c.
Min. 1-1/2" VersiCore MP-H	Flexible DASH Adhesive 12" o.c.	Min. 2" DuraFaceR	Flexible DASH Adhesive 12" o.c.	Min. 80-mil VersiWeld TPO adhered using CAV-GRIP 3V, Low- VOC, or VersiWeld Bonding Adhesive Min. 115-mil VersiFleece TPO adhered using Flexible DASH Adhesive - 4" o.c.	VSH - 1-270

Recover Applications – Steel Deck

Steel Deck Recover					
Base Insulation Layer	Attachment	Top Insulation Layer	Attachment	Membrane / Attachment	FM Rating
None	None	1/2" DuraStorm VSH	Approved Fasteners 1 per 2 ft ²	Min. 115-mil VersiFleece TPO adhered using Flexible DASH Adhesive - 4" o.c.	VSH - 1-90
			Flexible DASH Adhesive 4" o.c.	Min. 80-mil VersiWeld TPO adhered using CAV-GRIP 3V, Low-VOC, or VersiWeld Bonding Adhesive Min. 115-mil VersiFleece TPO adhered using Flexible DASH 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" VersiCore MP-H or SecurShield®	Flexible DASH Adhesive 4" o.c.	1/2" DuraStorm VSH	Flexible DASH Adhesive 4" o.c.	Min. 80-mil VersiWeld TPO adhered using CAV-GRIP 3V, Low-VOC, or VersiWeld Bonding Adhesive Min. 115-mil VersiFleece TPO adhered using Flexible DASH Adhesive - 4" o.c.	VSH - 1-150
		Min. 2" DuraFaceR		Min. 80-mil VersiWeld adhered using CAV-GRIP 3V, Low-VOC, or VersiWeld Bonding Adhesive Min. 115-mil VersiFleece TPO adhered using Flexible DASH Adhesive - 4" o.c.	VSH - 1-150

These assemblies can be viewed on the FM Approvals RoofNAV website:

<https://www.roofnav.com/Account/Login>.

Please consult Versico's Project Review & Design Group with questions concerning specific project warranty requirements.