Carlisle VSH Compliant Roofing Systems

Code Approval Guide

December 2026

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Carlisle VSH Compliant Roofing System

SecurShield HD Composite Ratings - New Construction

Membrane Type:
Sure-Seal FleeceBACK - 115 or 145 membrane (black EPDM)
Sure-White FleeceBACK - 115 or 145 membrane (white EPDM)
Sure-Weld FleeceBACK - 115 or 135 membrane (TPO)
Sure-Weld EXTRA - .080" membrane (TPO)
Sure-Weld SAT - .060" or .080" membrane (TPO)

Membrane Adhesive:
Flexible FAST and Flexible FAST Dual Tank beads 4" o.c. or Splatter for membrane attachment with FleeceBACK membranes
Sure-Weld Bonding Adhesive, Low VOC Bonding Adhesive or Cav-Grip III Adhesive/Primer for Sure-Weld EXTRA membrane

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Rating	Sure-Seal FleeceBACK	Sure-Seal FleeceBACK 145	Sure-White FleeceBACK	Sure-Weld FleeceBACK	Sure-Weld EXTRA	Sure-Weld SAT
					RoofNAV Number					
Steel Deck (Min. 22-Gauge)										
2" SecurShield HD Composite	8 (4 sq. ft)	-	-	1-90	551139-0-0 (4" o.c.)	551132-0-0 (4" o.c.)	Pending	NA	NA	NA
2" SecurShield HD Composite	20 (1.6 sq. ft.)	-	-	1-165	551283-0-0 (4" o.c.)	Pending	Pending	NA	NA	NA
Min. 1-1/2" InsulBase Polyiso	Loose-Laid	2" SecurShield HD Composite	20 (1.6 sq. ft.)	1-165	-	551281-0-0 (4" o.c.)	Pending	NA	NA	NA
2" SecurShield HD Composite	32 (1 sq. ft.)	-	-	1-270	551286-0-0 (4" o.c.)	551282-0-0 (4" o.c.)	Pending	NA	NA	NA
Min. 1-1/2" InsulBase Polyiso	10 (3.2 sq. ft.)	2" SecurShield HD Composite	12" ribbons of FAST	1-90	551342-0-0	Pending	Pending	550948-0-0	Pending	2770957
Min. 2" InsulBase Polyiso	8 (4 sq. ft)	2" SecurShield HD Composite	12" ribbons of FAST	1-90	551358-0-0	551344-0-0	573299-0-0	550949-0-0	550889-0-0	Pending
Min. 1-1/2" InsulBase Polyiso	16 (2 sq. ft.)	2" SecurShield HD Composite	6" ribbons of FAST	1-105	Pending	Pending	Pending	550957-0-0	550874-0-0	Pending
Min. 2" InsulBase Polyiso	20 (1.6 sq. ft.)	2" SecurShield HD Composite	4" ribbons of FAST	1-165	551364-0-0	551350-0-0	Pending	550930-0-0	2747423	Pending
Min. 2" InsulBase Polyiso	32 (1 sq. ft.)	2" SecurShield HD Composite	4" ribbons of FAST	1-225	Pending	Pending	Pending	550932-0-0	550876-0-0 (1-270)	Pending
Min. 1/2" DensDeck Prime or 5/8" Securock	16 (2 sq. ft.)	2" SecurShield HD Composite	12" ribbons of FAST	1-90	551346-0-0	Pending	Pending	Pending	550829-0-0	Pending
Steel Deck (Min. 22-Gauge) with VapAir Seal 725TR and Cav-Grip III or 702 Primer										
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft.)	2" SecurShield HD Composite	12" ribbons of FAST	1-90	551362-0-0	Pending	551556-0-0	550956-0-0	Pending	Pending
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft.)	2" SecurShield HD Composite over Min.1-1/2" InsulBase	12" ribbons of FAST	1-90	551361-0-0	Pending	551554-0-0	550955-0-0	Pending	Pending
Min. 1/2" DensDeck Prime or Securock	20 (1.6 sq. ft.)	2" SecurShield HD Composite	6" ribbons of FAST	1-135	Pending	Pending	Pending	Pending	Pending	Pending
Steel Deck (Min. 22-Gauge) with SureMB 70 SA and Cav-Grip III Primer										
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft.)	2" SecurShield HD Composite	12" ribbons of FAST	1-90	Pending	Pending	Pending	Pending	Pending	Pending
Min. 1/2" DensDeck Prime or Securock	20 (1.6 sq. ft.)	2" SecurShield HD Composite	6" ribbons of FAST	1-135	Pending	Pending	Pending	Pending	Pending	Pending
Steel Deck (Min. 22-Gauge) with SureMB 90TG or 120TG Base Torch Applied										
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft.)	2" SecurShield HD Composite	12" ribbons of FAST	1-90	Pending	Pending	Pending	Pending	Pending	Pending
Min. 1/2" DensDeck Prime or Securock	20 (1.6 sq. ft.)	2" SecurShield HD Composite	6" ribbons of FAST	1-135	Pending	Pending	Pending	Pending	Pending	Pending
Concrete Deck										
Min. 1" InsulBase Polyiso	12" ribbons of FAST	2" SecurShield HD Composite	12" ribbons of FAST	1-315	2782904	Pending	Pending	2723258	Pending	2770958

Factory Mutual Approvals
Carlisle VSH Compliant Roofing System

SecurShield HD Composite Ratings - New Construction

Membrane Type:
Sure-Seal FleeceBACK - 115 or 145 membrane (black EPDM)
Sure-White FleeceBACK - 115 or 145 membrane (white EPDM)
Sure-Weld FleeceBACK - 115 or 135 membrane (TPO)
Sure-Weld EXTRA - .080" membrane (TPO)
Sure-Weld SAT - .060" or .080" membrane (TPO)

Membrane Adhesive:
Flexible FAST and Flexible FAST Dual Tank beads 4" o.c. or Splatter for membrane attachment with FleeceBACK membranes
Sure-Weld Bonding Adhesive, Low VOC Bonding Adhesive or Cav-Grip III Adhesive/Primer for Sure-Weld EXTRA membrane

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Rating	Sure-Seal FleeceBACK	Sure-Seal FleeceBACK 145	Sure-White FleeceBACK	Sure-Weld FleeceBACK	Sure-Weld EXTRA	Sure-Weld SAT
					RoofNAV Number					
2" SecurShield HD Composite	12" ribbons of FAST	-	-	1-180	551335-0-0	Pending	Pending	Pending	Pending	Pending
Min. 2" Insulfoam Roofing EPS	12" ribbons of FAST	2" SecurShield HD Composite	12" ribbons of FAST	1-225	Pending	Pending	Pending	Pending	Pending	Pending
Concrete Deck with VapAir Seal 725TR and Cav-Grip III, 702-LV or 702 Primer										
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	2" SecurShield HD Composite	12" ribbons of FAST	1-225	556939-0-0	Pending	573298-0-0 (1-315)	27232574 (1-315)	534253-0-0 (1-315)	Pending
Min. 2" Insulfoam Roofing EPS	12" ribbons of FAST	2" SecurShield HD Composite	12" ribbons of FAST	1-255	Pending	Pending	Pending	Pending	Pending	Pending
Concrete Deck with SureMB 70 SA with Cav-Grip III Primer										
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	2" SecurShield HD Composite	12" ribbons of FAST	1-225	Pending	Pending	Pending	Pending	Pending	Pending
Concrete Deck with SureMB 90TG, 120TG Base Torch Applied and Cut-Back Asphalt Primer										
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	2" SecurShield HD Composite	12" ribbons of FAST	1-225	Pending	Pending	Pending	Pending	550891-0-0	Pending
Gypsum Deck Tear-Off										
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	2" SecurShield HD Composite	12" ribbons of FAST	1-90	Pending	Pending	Pending	Pending	Pending	Pending
Gypsum Deck Tear-Off with VapAir Seal 725TR and Cav-Grip III, 702-LV or 702 Primer										
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	2" SecurShield HD Composite	12" ribbons of FAST	1-90	Pending	Pending	Pending	Pending	Pending	Pending
Lightweight Insulating Concrete over Steel Decking										
Min. 1-1/2" InsulBase Polyiso	4" ribbons of FAST	2" SecurShield HD Composite	12" ribbons of FAST	1-90	Pending	Pending	Pending	Pending	552896-0-194470	Pending
Lightweight Insulating Concrete over Structural Concrete										
Min. 1-1/2" InsulBase Polyiso	4" ribbons of FAST	2" SecurShield HD Composite	12" ribbons of FAST	1-90	Pending	Pending	Pending	Pending	Pending	Pending

Factory Mutual Approvals
Carlisle VSH Compliant Roofing System

SecurShield HD Composite Ratings - Recover

Membrane Type:
Sure-Seal FleeceBACK - 115 or 145 membrane (black EPDM)
Sure-White FleeceBACK - 115 or 145 membrane (white EPDM)
Sure-Weld FleeceBACK - 115 or 135 membrane (TPO)
Sure-Weld EXTRA - .080" membrane (TPO)

Membrane Adhesive:
Flexible FAST and Flexible FAST Dual Tank beads 4" o.c. or Splatter for membrane attachment with FleeceBACK membranes
Sure-Weld Bonding Adhesive, Low VOC Bonding Adhesive or Cav-Grip III Adhesive/Primer for Sure-Weld EXTRA membrane

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Rating	Sure-Seal FleeceBACK	Sure-White FleeceBACK	Sure-Weld FleeceBACK	Sure-Weld EXTRA
					RoofNAV Numbers			
Concrete Deck								
-	-	2" SecurShield HD Composite	12" ribbons of FAST	1-90	Pending	Pending	Pending	Pending
-	-	2" SecurShield HD Composite	6" ribbons of FAST	1-150	Pending	Pending	Pending	Pending
Gypsum Deck								
-	-	2" SecurShield HD Composite	6" ribbons of FAST	1-90	Pending	Pending	Pending	Pending

Note: Recover approvals in this document are based on the following existing roofing system assumption - the existing smooth Asphalt BUR, Modified Bitumen or single-ply system was FM approved at the time of installation. Direct membrane application over existing EPDM single-ply only.

SecurShield HD Composite RL Ratings - New Construction

Membrane Type: Sure-Seal FleeceBACK RL - 115 or 145 membrane (black EPDM)
Sure-Weld FleeceBACK RL- 115 or 135 membrane (TPO)

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Rating	Sure-Seal FleeceBACK RL	Sure-Seal FleeceBACK 145 RL	Sure-Weld FleeceBACK RL
					RoofNAV Number		
Steel Deck (Min. 22-Gauge)							
Min. 1-1/2" InsulBase Polyiso	10 (3.2 sq. ft.)	2" SecurShield HD Composite RL	12" ribbons of FAST	1-90	Pending	Pending	Pending
Min. 2" InsulBase Polyiso	8 (4 sq. ft)	2" SecurShield HD Composite RL	12" ribbons of FAST	1-90	Pending	Pending	Pending
Min. 1-1/2" InsulBase Polyiso	16 (2 sq. ft.)	2" SecurShield HD Composite RL	6" ribbons of FAST	1-105	Pending	Pending	Pending
Min. 2" InsulBase Polyiso	20 (1.6 sq. ft.)	2" SecurShield HD Composite RL	4" ribbons of FAST	1-165	Pending	Pending	Pending
Min. 2" InsulBase Polyiso	32 (1 sq. ft.)	2" SecurShield HD Composite RL	4" ribbons of FAST	1-225	Pending	Pending	Pending
Min. 1/2" DensDeck Prime or 5/8" Securock	16 (2 sq. ft.)	2" SecurShield HD Composite RL	12" ribbons of FAST	1-90	Pending	Pending	Pending
Steel Deck (Min. 22-Gauge) with VapAir Seal 725TR and Cav-Grip III or 702 Primer							
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft.)	2" SecurShield HD Composite	12" ribbons of FAST	1-90	Pending	Pending	Pending
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft.)	2" SecurShield HD Composite over Min.1-1/2" InsulBase	12" ribbons of FAST	1-90	Pending	Pending	Pending
Min. 1/2" DensDeck Prime or Securock	20 (1.6 sq. ft.)	2" SecurShield HD Composite	6" ribbons of FAST	1-135	Pending	Pending	Pending
Steel Deck (Min. 22-Gauge) with SureMB 70 SA and Cav-Grip III Primer							
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft.)	2" SecurShield HD Composite	12" ribbons of FAST	1-90	Pending	Pending	Pending
Min. 1/2" DensDeck Prime or Securock	20 (1.6 sq. ft.)	2" SecurShield HD Composite	6" ribbons of FAST	1-135	Pending	Pending	Pending
Steel Deck (Min. 22-Gauge) with SureMB 90TG or 120TG Base Torch Applied							
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft.)	2" SecurShield HD Composite	12" ribbons of FAST	1-90	Pending	Pending	Pending
Min. 1/2" DensDeck Prime or Securock	20 (1.6 sq. ft.)	2" SecurShield HD Composite	6" ribbons of FAST	1-135	Pending	Pending	Pending
Concrete Deck							
Min. 1" InsulBase Polyiso	12" ribbons of FAST	2" SecurShield HD Composite	12" ribbons of FAST	1-180	Pending	Pending	Pending
2" SecurShield HD Composite	12" ribbons of FAST	-	-	1-180	Pending	Pending	Pending
Min. 2" Insulfoam Roofing EPS	12" ribbons of FAST	2" SecurShield HD Composite	12" ribbons of FAST	1-225	Pending	Pending	Pending
Concrete Deck with VapAir Seal 725TR and Cav-Grip III, 702-LV or 702 Primer							
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	2" SecurShield HD Composite	12" ribbons of FAST	1-225	Pending	Pending	Pending
Min. 2" Insulfoam Roofing EPS	12" ribbons of FAST	2" SecurShield HD Composite	12" ribbons of FAST	1-255	Pending	Pending	Pending
Concrete Deck with SureMB 70 SA with Cav-Grip III Primer							

SecurShield HD Composite RL Ratings - New Construction

Membrane Type: Sure-Seal FleeceBACK RL - 115 or 145 membrane (black EPDM)
Sure-Weld FleeceBACK RL- 115 or 135 membrane (TPO)

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Rating	Sure-Seal FleeceBACK RL	Sure-Seal FleeceBACK 145 RL	Sure-Weld FleeceBACK RL
					RoofNAV Number		
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	2" SecurShield HD Composite	12" ribbons of FAST	1-225	Pending	Pending	Pending
Concrete Deck with SureMB 90TG, 120TG Base Torch Applied and Cut-Back Asphalt Primer							
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	2" SecurShield HD Composite	12" ribbons of FAST	1-225	Pending	Pending	Pending
Gypsum Deck Tear-Off							
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	2" SecurShield HD Composite	12" ribbons of FAST	1-90	Pending	Pending	Pending
Gypsum Deck Tear-Off with VapAir Seal 725TR and Cav-Grip III, 702-LV or 702 Primer							
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	2" SecurShield HD Composite	12" ribbons of FAST	1-90	Pending	Pending	Pending
Lightweight Insulating Concrete over Steel Decking							
Min. 1-1/2" InsulBase Polyiso	4" ribbons of FAST	2" SecurShield HD Composite	12" ribbons of FAST	1-90	Pending	Pending	Pending
Lightweight Insulating Concrete over Structural Concrete							
Min. 1-1/2" InsulBase Polyiso	4" ribbons of FAST	2" SecurShield HD Composite	12" ribbons of FAST	1-90	Pending	Pending	Pending

Factory Mutual Approvals
Carlisle VSH Compliant Roofing System

SecurShield HD Composite RL Ratings - Recover

Membrane Type: Sure-Seal FleeceBACK RL - 115 or 145 membrane (black EPDM)
Sure-Weld FleeceBACK RL - 115 or 135 membrane (TPO)

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Rating	Sure-Seal FleeceBACK	Sure-Weld FleeceBACK
					RoofNAV Numbers	
Concrete Deck						
-	-	2" SecurShield HD Composite RL	12" ribbons of FAST	1-90	Pending	Pending
-	-	2" SecurShield HD Composite RL	6" ribbons of FAST	1-150	Pending	Pending
Gypsum Deck						
-	-	2" SecurShield HD Composite RL	6" ribbons of FAST	1-90	Pending	Pending

Note: Recover approvals in this document are based on the following existing roofing system assumption - the existing smooth Asphalt BUR, Modified Bitumen or single-ply system was FM approved at the time of installation. Direct membrane application over existing EPDM single-ply only.

Factory Mutual Approvals
Carlisle VSH Compliant Roofing System

EcoStorm VSH Ratings - New Construction

Membrane Type:
Sure-Seal FleeceBACK - 115 or 145 membrane (black EPDM)
Sure-White FleeceBACK - 115 or 145 membrane (white EPDM)
Sure-Weld FleeceBACK - 115 or 135 membrane (TPO)
Sure-Weld and Sure-Weld EXTRA - .060" or .080" membrane (TPO)
Sure-Flex - .060" & .080" membrane (PVC)
Sure-Flex and Sure-Flex KEE HP FleeceBack - 115 or 135 membrane (PVC)

Membrane Adhesive:
Flexible FAST and Flexible FAST Dual Tank beads 4" o.c. for membrane attachment with FleeceBACK membranes
Sure-Weld Bonding Adhesive, Low VOC Bonding Adhesive or Cav-Grip III Adhesive/Primer for Sure-Weld EXTRA membrane
Low VOC PVC Bonding Adhesive or Cav-Grip PVC for Sure-Flex PVC membrane

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Rating	Sure-Seal FleeceBACK	Sure-White FleeceBACK	Sure-Weld FleeceBACK	Sure-Weld	Sure-Weld EXTRA	Sure-Flex	Sure-Flex FleeceBACK
					RoofNAV Number						
Steel Deck (Min. 22-Gauge)											
FM Approved	Loose laid	1/2" EcoStorm VSH	8 (4 sq. ft)	1-90	461161-0-0	NA	461162-0-0	NA	NA	NA	NA
FM Approved	Loose laid	1/2" EcoStorm VSH	16 (2 sq. ft)	1-90	461281-0-0	NA	461307-0-0	NA	NA	NA	NA
FM Approved	Loose laid	1/2" EcoStorm VSH	18 (1.8 sq. ft.)	1-120	461163-0-0	NA	461164-0-0	NA	NA	NA	NA
FM Approved	Loose laid	1/2" EcoStorm VSH	24 (1.33 sq. ft)	1-165	461165-0-0	NA	461167-0-0	NA	NA	NA	NA
FM Approved	Loose laid	1/2" EcoStorm VSH	24 (1.33 sq. ft)(19)	1-225	461166-0-0	NA	461168-0-0	NA	NA	NA	NA
FM Approved	Loose laid	1/2" EcoStorm VSH	32 (1 sq. ft)(19)	1-270	461112-0-0	NA	461114-0-0	NA	NA	NA	NA
Min. 1-1/2" InsulBase Polyiso	10 (3.2 sq. ft.)	1/2" EcoStorm VSH	6" ribbons of FAST	1-90	461690-0-0	Pending	461360-0-0	554489-0-0	461118-0-0	560477-0-0	Pending
Min. 1-1/2" InsulBase Polyiso	10 (3.2 sq. ft.)	1/2" EcoStorm VSH over Min. 1" InsulBase	4" ribbons of FAST for EcoStorm VSH attachment and 12" o.c. for Polyiso	1-90	Pending	Pending	Pending	554492-0-0	Pending	560478-0-0	Pending
Min. 2" InsulBase Polyiso	8 (4 sq. ft)	1/2" EcoStorm VSH	6" ribbons of FAST	1-90	461287-0-0	551572-0-0	461310-0-0	554546-0-0	461123-0-0	560581-0-0	Pending
Min. 1-1/2" InsulBase Polyiso	18 (1.8 sq. ft.)	1/2" EcoStorm VSH	6" ribbons of FAST	1-105	461171-0-0	Pending	461172-0-0	554482-0-0	461115-0-0	Pending	Pending
Min. 1-1/2" InsulBase Polyiso	24 (1.33 sq. ft.)	1/2" EcoStorm VSH	4" ribbons of FAST	1-150	Pending	Pending	Pending	554484-0-0	461117-0-0	Pending	Pending
Min. 2" InsulBase Polyiso	24 (1.33 sq. ft.)	1/2" EcoStorm VSH	4" ribbons of FAST	1-165	461206-0-0	Pending	461207-0-0	554483-0-0	461116-0-0	Pending	567713-0-0
Min. 1/2" DensDeck Prime or 5/8" Securock	16 (2 sq. ft.)	1/2" EcoStorm VSH	6" ribbons of FAST	1-90	Pending	Pending	Pending	Pending	Pending	Pending	Pending
Steel Deck (Min. 22-Gauge) with VapAir Seal 725TR and Cav-Grip III or 702 Primer											
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft.)	1/2" EcoStorm VSH over 1-1/2" InsulBase Polyiso	4" ribbons of FAST for EcoStorm VSH attachment and 12" o.c. for Polyiso	1-90	461290-0-0	551581-0-0	461314-0-0	554517-0-0	461154-0-0	560465-0-0	Pending
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft.)	1/2" EcoStorm VSH over 1" Insulfoam Roofing EPS	4" ribbons of FAST for EcoStorm VSH attachment and 6" o.c. for EPS	1-90	Pending	Pending	Pending	554488-0-0	461121-0-0	Pending	Pending
Min. 1/2" DensDeck Prime or Securock	20 (1.6 sq. ft.)	1/2" EcoStorm VSH over 1-1/2" InsulBase Polyiso	FAST Rig Splatter	1-135	Pending	Pending	Pending	Pending	Pending	Pending	Pending
Min. 1/2" DensDeck Prime or Securock	32 (1 sq. ft.)	1/2" EcoStorm VSH over 1-1/2" InsulBase Polyiso	FAST Rig Splatter	1-240	Pending	Pending	Pending	Pending	Pending	Pending	Pending
Steel Deck (Min. 22-Gauge) with SureMB 70 SA and Cav-Grip III Primer											

Factory Mutual Approvals
Carlisle VSH Compliant Roofing System

EcoStorm VSH Ratings - New Construction

Membrane Type:
Sure-Seal FleeceBACK - 115 or 145 membrane (black EPDM)
Sure-White FleeceBACK - 115 or 145 membrane (white EPDM)
Sure-Weld FleeceBACK - 115 or 135 membrane (TPO)
Sure-Weld and Sure-Weld EXTRA - .060" or .080" membrane (TPO)
Sure-Flex - .060" & .080" membrane (PVC)
Sure-Flex and Sure-Flex KEE HP FleeceBack - 115 or 135 membrane (PVC)

Membrane Adhesive:
Flexible FAST and Flexible FAST Dual Tank beads 4" o.c. for membrane attachment with FleeceBACK membranes
Sure-Weld Bonding Adhesive, Low VOC Bonding Adhesive or Cav-Grip III Adhesive/Primer for Sure-Weld EXTRA membrane
Low VOC PVC Bonding Adhesive or Cav-Grip PVC for Sure-Flex PVC membrane

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Rating	Sure-Seal FleeceBACK	Sure-White FleeceBACK	Sure-Weld FleeceBACK	Sure-Weld	Sure-Weld EXTRA	Sure-Flex	Sure-Flex FleeceBACK
					RoofNAV Number						
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft.)	1/2" EcoStorm VSH over 1-1/2" InsulBase Polyiso	6" ribbons of FAST	1-90	Pending	Pending	Pending	Pending	Pending	Pending	Pending
Min. 1/2" DensDeck Prime or Securock	20 (1.6 sq. ft.)	1/2" EcoStorm VSH over 1-1/2" InsulBase Polyiso	6" ribbons of FAST	1-135	Pending	Pending	Pending	Pending	Pending	Pending	Pending
Steel Deck (Min. 22-Gauge) with SureMB 90TG or 120TG Base Torch Applied											
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft.)	1/2" EcoStorm VSH over 1-1/2" InsulBase Polyiso	6" ribbons of FAST	1-90	Pending	Pending	Pending	Pending	Pending	Pending	Pending
Min. 1/2" DensDeck Prime or Securock	20 (1.6 sq. ft.)	1/2" EcoStorm VSH over 1-1/2" InsulBase Polyiso	6" ribbons of FAST	1-135	Pending	Pending	Pending	Pending	Pending	Pending	Pending
Concrete Deck											
Min. 1" InsulBase Polyiso	12" ribbons of FAST	1/2" EcoStorm VSH	12" ribbons of FAST	1-225	461264-0-0 (1-270)	551576-0-0	461295-0-0 (1-315)	554547-0-0	461120-0-0	560480-0-0	Pending
Min. 2" Insulfoam Roofing EPS	12" ribbons of FAST	1/2" EcoStorm VSH	12" ribbons of FAST	1-225	461266-0-0 (1-180)	Pending	Pending	554497-0-0	461130-0-0	Pending	Pending
Min. 2" Insulfoam Channel Dry EPS	12" ribbons of FAST	1/2" EcoStorm VSH over Min. 2" Insulfoam Roofing EPS	4" ribbons of FAST for EcoStorm VSH attachment and 12" o.c. for EPS	1-285	Pending	551575-0-0 (1-180)	Pending	554521-0-0	Pending	Pending	Pending
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	1/2" EcoStorm VSH	12" ribbons of FAST	1-705	Pending	Pending	461192-0-0	Pending	Pending	Pending	Pending
Min. 1-1/2"" InsulBase Polyiso	10 (3.2 sq. ft.)	1/2" EcoStorm VSH	6" ribbons of FAST	1-90	Pending	Pending	Pending	554493-0-0	461125-0-0	Pending	Pending
Min. 2" InsulBase Polyiso	8 (4 sq. ft)	1/2" EcoStorm VSH	6" ribbons of FAST	1-90	Pending	Pending	Pending	554496-0-0	461126-0-0	Pending	Pending
Min. 3/4" Optim-R	6" ribbons of FAST	1/2" EcoStorm VSH	6" ribbons of FAST	1-120	461294-0-0	551571-0-0 (1-90)	Pending	554519-0-0	461159-0-0	Pending	Pending
1/2" EcoStorm VSH	FAST Rig Splatter	-	-	1-270	Pending	551577-0-0	Pending	Pending	Pending	Pending	Pending
Concrete Deck with VapAir Seal 725TR and Cav-Grip III, 702-LV or 702 Primer											
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	EcoStorm VSH	12" ribbons of FAST	1-225 (Cav-Grip III)	461267-0-0	551564-0-0	461298-0-0	Pending	461137-0-0	560463-0-0	567708-0-0
Min. 2" Insulfoam Roofing EPS	12" ribbons of FAST	EcoStorm VSH	12" ribbons of FAST	1-255 (Cav-Grip III)	Pending	Pending	Pending	Pending	461131-0-0	Pending	Pending
Min. 3/4" Optim-R	6" ribbons of FAST	EcoStorm VSH	6" ribbons of FAST	1-165	461292-0-0	551570-0-0 (1-90)	Pending	554518-0-0	461157-0-0	Pending	Pending
Min. 3/4" Optim-R	12" ribbons of FAST	EcoStorm VSH	12" ribbons of FAST	1-60	Pending	551569-0-0	Pending	Pending	461155-0-0	Pending	Pending

Factory Mutual Approvals
Carlisle VSH Compliant Roofing System

EcoStorm VSH Ratings - New Construction

Membrane Type:
Sure-Seal FleeceBACK - 115 or 145 membrane (black EPDM)
Sure-White FleeceBACK - 115 or 145 membrane (white EPDM)
Sure-Weld FleeceBACK - 115 or 135 membrane (TPO)
Sure-Weld and Sure-Weld EXTRA - .060" or .080" membrane (TPO)
Sure-Flex - .060" & .080" membrane (PVC)
Sure-Flex and Sure-Flex KEE HP FleeceBack - 115 or 135 membrane (PVC)

Membrane Adhesive:
Flexible FAST and Flexible FAST Dual Tank beads 4" o.c. for membrane attachment with FleeceBACK membranes
Sure-Weld Bonding Adhesive, Low VOC Bonding Adhesive or Cav-Grip III Adhesive/Primer for Sure-Weld EXTRA membrane
Low VOC PVC Bonding Adhesive or Cav-Grip PVC for Sure-Flex PVC membrane

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Rating	Sure-Seal FleeceBACK	Sure-White FleeceBACK	Sure-Weld FleeceBACK	Sure-Weld	Sure-Weld EXTRA	Sure-Flex	Sure-Flex FleeceBACK
					RoofNAV Number						
Concrete Deck with SureMB 70 SA with Cav-Grip III Primer											
Min. 1/2" InsulBase Polyiso	Full-Coverage FAST	EcoStorm VSH	12" ribbons of FAST	1-285	519866-0-0	Pending	519865-0-0	Pending	Pending	560576-0-0	Pending
Concrete Deck with SureMB 90TG, 120TG Base Torch Applied and Cut-Back Asphalt Primer											
Min. 1/2" InsulBase Polyiso	Full-Coverage FAST	EcoStorm VSH	12" ribbons of FAST	1-225	461272-0-0 (1-255)	551568-0-0 (1-255)	Pending	554514-0-0	461143-0-0	560470-0-0	567709-0-0
Gypsum Deck Tear-Off											
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	EcoStorm VSH	6" ribbons of FAST	1-90	Pending	Pending	524130-0-0	Pending	486677-0-0	Pending	Pending
Gypsum Deck Tear-Off with VapAir Seal 725TR and Cav-Grip III, 702-LV or 702 Primer											
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	EcoStorm VSH	6" ribbons of FAST	1-90	Pending	Pending	Pending	Pending	486676-0-0	Pending	Pending
(Celcore) Cellular Lightweight Insulating Concrete Over Steel Decking (Min. 22 Gauge)											
FM Approved	Loose laid	EcoStorm VSH	12 (2.67 sq. ft)	1-75	Pending	Pending	Pending	NA	NA	Pending	Pending
FM Approved	Loose laid	EcoStorm VSH	16 (2 sq. ft)	1-90	Pending	Pending	Pending	NA	NA	Pending	Pending
-	-	EcoStorm VSH	12 (2.67 sq. ft)	1-75	Pending	Pending	Pending	NA	NA	Pending	Pending
-	-	EcoStorm VSH	16 (2 sq. ft)	1-90	Pending	Pending	Pending	NA	NA	Pending	Pending
(Celcore) Cellular Lightweight Insulating Concrete Over Structural Concrete Decking											
Min. 1-1/2" InsulBase Polyiso	4" ribbons of FAST	EcoStorm VSH	4" ribbons of FAST	1-135	Pending	Pending	Pending	Pending	461134-0-50916	560578-0-50916	Pending

Factory Mutual Approvals
Carlisle VSH Compliant Roofing System

EcoStorm VSH Ratings - Recover

Membrane Type:
Sure-Seal FleeceBACK - 115 or 145 membrane (black EPDM)
Sure-White FleeceBACK - 115 or 145 membrane (white EPDM)
Sure-Weld FleeceBACK - 115 or 135 membrane (TPO)
Sure-Weld EXTRA - .080" membrane (TPO)
Sure-Flex PVC - .060" or .080" membrane (PVC)

Membrane Adhesive:
Flexible FAST and Flexible FAST Dual Tank beads 4" o.c. for membrane attachment with FleeceBACK membranes
Sure-Weld Bonding Adhesive, Low VOC Bonding Adhesive or Cav-Grip III Adhesive/Primer for Sure-Weld EXTRA membrane
Low VOC PVC Bonding Adhesive or Cav-Grip PVC for Sure-Flex PVC

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Rating	Sure-Seal FleeceBACK	Sure-White FleeceBACK	Sure-Weld FleeceBACK	Sure-Weld EXTRA	Sure-Flex PVC
					RoofNAV Number				
Steel Deck (Min. 22-Gauge)									
-	-	EcoStorm VSH	12 (2.67 sq. ft)	1-75	Pending	Pending	Pending	NA	NA
-	-	EcoStorm VSH	16 (2 sq. ft)	1-90	461810-0-0	Pending	461519-0-0	NA	NA
-	-	EcoStorm VSH	32 (1 sq. ft.)	1-270	Pending	Pending	524216-0-0	NA	NA
Max. 1" InsulBase	Loose-laid	EcoStorm VSH	8 (4 sq. ft)	1-90	Pending	Pending	552118-0-0	NA	NA
-	-	EcoStorm VSH	6" ribbons of FAST	1-150	Pending	Pending	Pending	489958-0-0	Pending
Concrete Deck									
Min. 1/2" InsulBase Polyiso or SecurShield	6" ribbons of FAST	EcoStorm VSH	12" ribbons of FAST	1-90	461280-0-0	Pending	467534-0-0	Pending	Pending
-	-	EcoStorm VSH	6" ribbons of FAST	1-150	466720-0-0	Pending	466721-0-0	Pending	Pending
Gypsum Deck									
-	-	EcoStorm VSH	6" ribbons of FAST	1-90	Pending	Pending	Pending	Pending	Pending

Note: Recover approvals in this document are based on the following existing roofing system assumption - the existing smooth Asphalt BUR, Modified Bitumen or single-ply system was FM approved at the time of installation. Direct membrane application over existing EPDM single-ply only.

Factory Mutual Approvals
Carlisle VSH Compliant Roofing System

StormBase Ratings - New Construction

Membrane Type: Sure-White FleeceBACK - 145 membrane (white EPDM)
Sure-Weld FleeceBACK - 115 or 135 membrane (TPO)
Sure-Weld EXTRA - .080" membrane (TPO)

Membrane Adhesive: Flexible FAST and Flexible FAST Dual Tank beads 4" o.c. for membrane attachment with FleeceBACK membranes
Sure-Weld Bonding Adhesive, Low VOC Bonding Adhesive or Cav-Grip III Adhesive/Primer for Sure-Weld EXTRA membrane

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Rating	Sure-White FleeceBACK	Sure-Weld FleeceBACK	Sure-Weld EXTRA
Steel Deck (Min. 22 Gauge)							
Min. 1-1/2" InsulBase Polyiso	Loose laid	Min. 2" StormBase	17 (1.9 sq. ft)	1-150	439043-0-0	439042-0-0	NA
Min. 1-1/2" InsulBase Polyiso	Loose laid	Min. 2" StormBase	32 (1 sq. ft)(19)	1-270	439045-0-0	439044-0-0	NA
Min. 2" InsulBase Polyiso	8 (4 sq. ft.)	Min. 2" StormBase	12" ribbons of FAST	1-90	439066-0-0	439065-0-0	Pending
Min. 1/2" Dens Deck Prime or Securock	16 (2 sq. ft.)	Min. 2" StormBase over min 1-1/2" InsulBase	12" ribbons of FAST	1-90	439068-0-0	439067-0-0	Pending
Min. 1/2" Dens Deck Prime or Securock	16 (2 sq. ft.)	Min. 1-1/2" Insulam OSB over Insulfoam EPS	6" ribbons of FAST	1-90	439058-0-0	Pending	Pending
Min. 1-1/2" InsulBase Polyiso	10 (3.2 sq. ft)	Min. 2" StormBase	12" ribbons of FAST	1-90	439064-0-0	439063-0-0	427172-0-0
Min. 2" InsulBase Polyiso	8 (4 sq. ft)	Min. 2" StormBase	12" ribbons of FAST	1-90	Pending	Pending	427201-0-0
Min. 1-1/2" Polyiso	Loose laid	Min. 2" StormBase	Full-Coverage FAST	1-90	Pending	Pending	419427-0-0
Min. 1/2" DensDeck Prime or 5/8" Securock	16 (2 sq. ft)	Min. 2" StormBase	12" ribbons of FAST	1-90	Pending	Pending	427202-0-0
Min. 3" Insulfoam VIII over 1/2" Dens Deck	16 (2 sq. ft)	Min. 1-1/2" Insulam OSB	6" ribbons of FAST	1-150	Pending	Pending	434590-0-0
Steel Deck (Min. 22-Gauge) with VapAir Seal 725TR and Cav-Grip III or 702 Primer							
Min. 1/2" Dens Deck Prime or Securock	16 (2 sq. ft.)	Min. 2" StormBase over min 1-1/2" InsulBase	12" ribbons of FAST	1-90	Pending	439059-0-0	Pending
Min. 1/2" Dens Deck Prime or Securock	16 (2 sq. ft.)	Min. 2" StormBase	12" ribbons of FAST	1-90	439062-0-0	439061-0-0	434469-0-0
Min. 1/2" Dens Deck Prime or Securock	20 (1.6 sq. ft.)	Min. 2" StormBase	6" ribbons of FAST	1-135	Pending	Pending	Pending
Steel Deck (Min. 22-Gauge) with SureMB 70 SA and Cav-Grip III Primer							
Min. 1/2" Dens Deck Prime or Securock	16 (2 sq. ft.)	Min. 2" StormBase	12" ribbons of FAST	1-90	Pending	Pending	Pending
Min. 1/2" Dens Deck Prime or Securock	20 (1.6 sq. ft.)	Min. 2" StormBase	6" ribbons of FAST	1-135	Pending	Pending	Pending
Steel Deck (Min. 22-Gauge) with SureMB 90TG or 120TG Base Torch Applied							
Min. 1/2" Dens Deck Prime or Securock	16 (2 sq. ft.)	Min. 2" StormBase over min 1-1/2" InsulBase	12" ribbons of FAST	1-90	Pending	Pending	pending
Min. 1/2" Dens Deck Prime or Securock	20 (1.6 sq. ft.)	Min. 2" StormBase	6" ribbons of FAST	1-135	Pending	Pending	Pending
Concrete Deck							
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 2" StormBase	12" ribbons of FAST	1-315	Pending	Pending	427190-0-0
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 2" StormBase	Full-Coverage FAST	1-270	439021-0-0	439020-0-0	Pending
-	-	Min. 2" StormBase	Full-Coverage FAST	1-270	439019-0-0	439018-0-0	Pending

Factory Mutual Approvals
Carlisle VSH Compliant Roofing System

StormBase Ratings - New Construction

Membrane Type:
Sure-White FleeceBACK - 145 membrane (white EPDM)
Sure-Weld FleeceBACK - 115 or 135 membrane (TPO)
Sure-Weld EXTRA - .080" membrane (TPO)

Membrane Adhesive:
Flexible FAST and Flexible FAST Dual Tank beads 4" o.c. for membrane attachment with FleeceBACK membranes
Sure-Weld Bonding Adhesive, Low VOC Bonding Adhesive or Cav-Grip III Adhesive/Primer for Sure-Weld EXTRA membrane

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Rating	Sure-White FleeceBACK	Sure-Weld FleeceBACK	Sure-Weld EXTRA
-	-	Min. 2" StormBase	12" ribbons of FAST	1-165	Pending	Pending	434470-0-0
-	-	Min. 2" StormBase	Hot Asphalt	1-300	Pending	Pending	419424-0-0
Concrete Deck with VapAir Seal 725TR and Cav-Grip III, 702-LV or 702 Primer							
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 2" StormBase	12" ribbons of FAST	1-255	439023-0-0	439022-0-0	427203-0-0
Concrete Deck with SureMB 70 SA and Cav-Grip III Primer							
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 2" StormBase	12" ribbons of FAST	1-270	Pending	Pending	Pending
Concrete Deck with SureMB 90TG and 120TG Base Torch Applied/Cut-Back Asphalt Primer							
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 2" StormBase	12" ribbons of FAST	1-270	Pending	444182-0-0	Pending
Gypsum Deck Tear-Off							
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 2" StormBase	12" ribbons of FAST	1-90	Pending	Pending	Pending
Gypsum Deck Tear-Off with VapAir Seal 725TR and Cav-Grip III, 702-LV or 702 Primer							
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 2" StormBase	12" ribbons of FAST	1-90	Pending	Pending	Pending

Factory Mutual Approvals
Carlisle VSH Compliant Roofing System

StormBase Ratings - Recover

Membrane Type:
Sure-White FleeceBACK - 145 membrane (white EPDM)
Sure-Weld FleeceBACK - 115 or 135 membrane (TPO)
Sure-Weld EXTRA - .080" (TPO)

Membrane Adhesive:
Flexible FAST and Flexible FAST Dual Tank beads 4" o.c. for membrane attachment with FleeceBACK membranes
Sure-Weld Bonding Adhesive, Low VOC Bonding Adhesive or Cav-Grip III Adhesive/Primer for Sure-Weld EXTRA membrane

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Rating	Sure-White FleeceBACK	Sure-Weld FleeceBACK	Sure-Weld EXTRA
Concrete Deck							
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 2" StormBase	12" ribbons of FAST	1-90	Pending	Pending	Pending
-	-	Min. 2" StormBase	Full-Coverage FAST	1-90	Pending	Pending	419421-0-0

Note: Recover approvals in this document are based on the following existing roofing system assumption - the existing smooth Asphalt BUR, Modified Bitumen or single-ply system was FM approved at the time of installation. Direct membrane application over existing EPDM single-ply only.

Factory Mutual Approvals
Carlisle VSH Compliant Roofing System

DensDeck StormX Prime Ratings - New Construction

Membrane Type:
Sure-Seal FleeceBACK - 115 or 145 membrane (black EPDM)
Sure-White FleeceBACK - 115 or 145 membrane (white EPDM)
Sure-Weld FleeceBACK - 115 or 135 membrane (TPO)
Sure-Weld and Sure-Weld EXTRA - .060" or .080" membrane (TPO)
Sure-Flex - .060" & .080" membrane (PVC)
Sure-Flex KEE HP - .060" & .080" membrane (PVC)
Sure-Flex and Sure-Flex KEE HP FleeceBack - 115 or 135 membrane (PVC)

Membrane Adhesive:
Flexible FAST and Flexible FAST Dual Tank beads 4" o.c. or Splatter for membrane attachment with FleeceBACK membranes
Sure-Weld Bonding Adhesive, Low VOC Bonding Adhesive or Cav-Grip III Adhesive/Primer for Sure-Weld and Sure-Weld EXTRA membranes
Hydrobond Water Based PVC bonding adheshive for Sure-Flex PVC, Sure-Flex Fleeceback and Sure-Flex KEE HP Fleeceback (HYB)
Cav-Grip PVC Adhesive for Sure-Flex PVC (CG)
Low VOC PVC Bonding Adhesive for Sure-Flex PVC and Sure-Flex KEE HP membranes (LV)

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Rating	Sure-Seal FleeceBACK	Sure-White FleeceBACK	Sure-Weld FleeceBACK	Sure-Weld	Sure-Weld EXTRA	Sure-Flex	Sure-Flex KEE HP (LVOC only)	Sure-Flex FleeceBack	Sure-Flex KEE HP FleeceBack
					RoofNAV Number								
Steel Deck (Min. 22-Gauge)													
Min. 1-1/2" InsulBase Polyiso	Loose-Laid	5/8" DensDeck StormX	6 (5.33 sq. ft.) - AccuTrac	1-90	2737101	Pending	2737250	NA	NA	NA	NA	NA	NA
Min. 1-1/2" InsulBase Polyiso	Loose-Laid	5/8" DensDeck StormX	8 (4 sq. ft.)	1-90	567015-0-0	Pending	577373-0-0	NA	NA	NA	NA	NA	NA
Min. 1-1/2" InsulBase Polyiso	Loose-Laid	5/8" DensDeck StormX	18 (1.8 sq. ft.)	1-135	567011-0-0	Pending	567004-0-0	NA	NA	NA	NA	NA	NA
Min. 1-1/2" InsulBase Polyiso	Loose-Laid	5/8" DensDeck StormX	32 (1 sq. ft.)	1-165	Pending	Pending	567010-0-0	NA	NA	NA	NA	NA	NA
Min. 1-1/2" InsulBase Polyiso	10 (3.2 sq. ft.)	5/8" DensDeck StormX	12" ribbons of FAST	1-90	557285-0-0	551675-0-0	551609-0-0	Pending	Pending	560705-0-0 (HYB) 559522-0-0 (CG)	557691-0-0	554266-0-0	Pending
Min. 1-1/2" InsulBase Polyiso	10 (3.2 sq. ft.)	5/8" DensDeck StormX over Min. 1-1/2" InsulBase	12" ribbons of FAST	1-90	557284-0-0	551674-0-0	551601-0-0	478034-0-0	478034-0-0	561192-0-0 (HYB) 559523-0-0 (CG)	Pending	554295-0-0	568415-0-0
Min. 2" InsulBase Polyiso	8 (4 sq. ft)	5/8" DensDeck StormX	12" ribbons of FAST	1-90	557287-0-0	551679-0-0	Pending	481545-0-0	477811-0-0	554346-0-0 (HYB) 559175-0-0 (CG/LV)	Pending	554273-0-0	568407-0-0
Min. 2" InsulBase Polyiso	8 (4 sq. ft)	5/8" DensDeck StormX over Min. 1-1/2" InsulBase	12" ribbons of FAST	1-90	557286-0-0	551678-0-0	551612-0-0	Pending	Pending	561193-0-0 (HYB) 559173-0-0 (CG/LV)	Pending	554296-0-0	568420-0-0
Min. 2" InsulBase Polyiso	16 (2 sq. ft.)	5/8 DensDeck StormX	12" ribbons of FAST	1-120	557282-0-0	551699-0-0	551654-0-0	478621-0-0	478621-0-0	560133-0-0 (LV) 559532-0-0 (CG)	557692-0-0	Pending	Pending
Min. 2" InsulBase Polyiso	16 (2 sq. ft.)	5/8" DensDeck StormX over Min. 1" InsulBase	12" ribbons of FAST	1-105	557283-0-0	Pending	Pending	Pending	Pending	559535-0-0 (CG)	Pending	Pending	Pending
Min. 2" InsulBase Polyiso	20 (1.6 sq. ft.)	5/8" DensDeck StormX	6" ribbons of FAST	1-135	557281-0-0	551702-0-0	551656-0-0	478620-0-0	478620-0-0	561194-0-0 (HYB) (1-120) 559531-0-0 (CG)	Pending	Pending	Pending
Min. 2" InsulBase Polyiso	32 (1 sq. ft.)	5/8" DensDeck StormX	4" ribbons of FAST	1-165 C-Deck	Pending	Pending	Pending	478622-0-0	478624-0-0	560118-0-0 (LV) 559533-0-0 (CG)	Pending	Pending	Pending
Min. 2" InsulBase Polyiso	32 (1 sq. ft.)	5/8" DensDeck StormX	4" ribbons of FAST	1-225 E-Deck	Pending	Pending	551652-0-0	478623-0-0	478625-0-0	Pending	Pending	Pending	568440-0-0

Factory Mutual Approvals
Carlisle VSH Compliant Roofing System

DensDeck StormX Prime Ratings - New Construction

Membrane Type:
Sure-Seal FleeceBACK - 115 or 145 membrane (black EPDM)
Sure-White FleeceBACK - 115 or 145 membrane (white EPDM)
Sure-Weld FleeceBACK - 115 or 135 membrane (TPO)
Sure-Weld and Sure-Weld EXTRA - .060" or .080" membrane (TPO)
Sure-Flex - .060" & .080" membrane (PVC)
Sure-Flex KEE HP - .060" & .080" membrane (PVC)
Sure-Flex and Sure-Flex KEE HP FleeceBack - 115 or 135 membrane (PVC)

Membrane Adhesive:
Flexible FAST and Flexible FAST Dual Tank beads 4" o.c. or Splatter for membrane attachment with FleeceBACK membranes
Sure-Weld Bonding Adhesive, Low VOC Bonding Adhesive or Cav-Grip III Adhesive/Primer for Sure-Weld and Sure-Weld EXTRA membranes
Hydrobond Water Based PVC bonding adheshive for Sure-Flex PVC, Sure-Flex Fleeceback and Sure-Flex KEE HP Fleeceback (HYB)
Cav-Grip PVC Adhesive for Sure-Flex PVC (CG)
Low VOC PVC Bonding Adhesive for Sure-Flex PVC and Sure-Flex KEE HP membranes (LV)

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Rating	Sure-Seal FleeceBACK	Sure-White FleeceBACK	Sure-Weld FleeceBACK	Sure-Weld	Sure-Weld EXTRA	Sure-Flex	Sure-Flex KEE HP (LVOC only)	Sure-Flex FleeceBack	Sure-Flex KEE HP FleeceBack
					RoofNAV Number								
Min. 1/2" DensDeck Prime	16 (2 sq. ft.)	5/8" DensDeck StormX and Min. 1.5" InsulBase in adhesive	12" ribbons of FAST	1-90	Pending	Pending	551653-0-0	477985-0-0	477983-0-0	Pending	Pending	564992-0-0	568429-0-0
Min. 1/2" DensDeck Prime	16 (2 sq. ft.)	5/8" DensDeck StormX and Min. 1" Insulfoam Roofing EPS in adhesive	6" ribbons of FAST	1-90	Pending	Pending	Pending	Pending	Pending	560129-0-0 (LV)	Pending	Pending	Pending
Steel Deck (Min. 22-Gauge) with VapAir Seal 725TR and Cav-Grip III or 702 Primer													
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft.)	5/8" DensDeck StormX over 1-1/2" InsulBase Polyiso	12" ribbons of FAST	1-90	557289-0-0	551692-0-0	551624-0-0	478004-0-0	478004-0-0	561196-0-0 (HYB) 559521-0-0 (CG)	2722062	581146-0-0	Pending
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft.)	5/8" DensDeck StormX over 1" Insulfoam Roofing EPS	6" ribbons of FAST	1-90	Pending	Pending	Pending	Pending	Pending	560128-0-0 (LV)	Pending	Pending	Pending
Min. 1/2" DensDeck Prime or Securock	20 (1.6 sq. ft.)	5/8" DensDeck StormX over 1-1/2" InsulBase Polyiso	FAST - Rig Splatter	1-135	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending
Steel Deck (Min. 22-Gauge) with SureMB 70 SA and Cav-Grip III Primer													
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft.)	5/8" DensDeck StormX over 1-1/2" InsulBase Polyiso	12" ribbons of FAST	1-90	Pending	Pending	Pending	Pending	Pending	Pending	Pending	2723256	2723224
Min. 1/2" DensDeck Prime or Securock	20 (1.6 sq. ft.)	5/8" DensDeck StormX over 1-1/2" InsulBase Polyiso	6" ribbons of FAST	1-135	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending
Steel Deck (Min. 22-Gauge) with SureMB 90TG or 120TG Base Torch Applied													
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft.)	5/8" DensDeck StormX over 1-1/2" InsulBase Polyiso	12" ribbons of FAST	1-90	Pending	Pending	Pending	478647-0-0	478648-0-0	559489-0-0 (CG/LV)	Pending	Pending	Pending
Min. 1/2" DensDeck Prime or Securock	20 (1.6 sq. ft.)	5/8" DensDeck StormX over 1-1/2" InsulBase Polyiso	6" ribbons of FAST	1-135	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending
Concrete Deck													
Min. 1.5" InsulBase Polyiso	12" ribbons of FAST	5/8" DensDeck StormX	12" ribbons of FAST	1-465	Pending	551668-0-0 (1-270)	551638-0-0 (1-315)	477785-0-0	477786-0-0	559178-0-0 (CG/LV)	Pending	554276-0-0 (1-315)	554304-0-0 (1-315)
Min. 2" Insulfoam Roofing EPS	12" ribbons of FAST	5/8" DensDeck StormX	12" ribbons of FAST	1-465	Pending	Pending	Pending	478649-0-0	478650-0-0	Pending	Pending	Pending	Pending
Concrete Deck with VapAir Seal 725TR and Cav-Grip III, 702-LV or 702 Primer													
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	5/8" DensDeck StormX	12" ribbons of FAST	1-255	Pending	551693-0-0	551635-0-0	478007-0-0	478007-0-0	561198-0-0 (HYB) 559179-0-0 (CG/LV)	Pending	554264-0-0	554300-0-0

Factory Mutual Approvals
Carlisle VSH Compliant Roofing System

DensDeck StormX Prime Ratings - New Construction

Membrane Type:
Sure-Seal FleeceBACK - 115 or 145 membrane (black EPDM)
Sure-White FleeceBACK - 115 or 145 membrane (white EPDM)
Sure-Weld FleeceBACK - 115 or 135 membrane (TPO)
Sure-Weld and Sure-Weld EXTRA - .060" or .080" membrane (TPO)
Sure-Flex - .060" & .080" membrane (PVC)
Sure-Flex KEE HP - .060" & .080" membrane (PVC)
Sure-Flex and Sure-Flex KEE HP FleeceBack - 115 or 135 membrane (PVC)

Membrane Adhesive:
Flexible FAST and Flexible FAST Dual Tank beads 4" o.c. or Splatter for membrane attachment with FleeceBACK membranes
Sure-Weld Bonding Adhesive, Low VOC Bonding Adhesive or Cav-Grip III Adhesive/Primer for Sure-Weld and Sure-Weld EXTRA membranes
Hydrobond Water Based PVC bonding adheshive for Sure-Flex PVC, Sure-Flex Fleeceback and Sure-Flex KEE HP Fleeceback (HYB)
Cav-Grip PVC Adhesive for Sure-Flex PVC (CG)
Low VOC PVC Bonding Adhesive for Sure-Flex PVC and Sure-Flex KEE HP membranes (LV)

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Rating	Sure-Seal FleeceBACK	Sure-White FleeceBACK	Sure-Weld FleeceBACK	Sure-Weld	Sure-Weld EXTRA	Sure-Flex	Sure-Flex KEE HP (LVOC only)	Sure-Flex FleeceBack	Sure-Flex KEE HP FleeceBack
					RoofNAV Number								
Min. 1" Insulfoam Roofing EPS	12" ribbons of FAST	5/8" DensDeck StormX	12" ribbons of FAST	1-315	Pending	Pending	Pending	Pending	Pending	559493-0-0 (CG/LV)	Pending	Pending	568433-0-0 (1-90)
Concrete Deck with SureMB 70 SA and Cav-Grip III Primer													
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	5/8" DensDeck StormX	12" ribbons of FAST	1-255	Pending	Pending	Pending	557683-0-0	557683-0-0	554437-0-0 (HYB) 559530-0-0 (CG/LV)	Pending	Pending	Pending
Concrete Deck with SureMB 90TG, 120TG Base Torch Applied and Cut-Back Asphalt Primer													
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	5/8" DensDeck StormX	12" ribbons of FAST	1-315	Pending	551696-0-0 (1-255)	551646-0-0 (1-255)	478014-00	478014-0-0	561203-0-0 (HYB)	Pending	554269-0-0	568435-0-0 (1-255)
Min. 1" Insulfoam Roofing EPS	12" ribbons of FAST	5/8" DensDeck StormX	12" ribbons of FAST	1-90	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	5684337-0-0
Gypsum Deck Tear-Off													
Min. 1-1/2" InsulBase Polyiso	FAST Splatter	5/8" DensDeck StormX	FAST Splatter	1-90	Pending	Pending	551594-0-0	479141-0-0	479141-0-0	559538-0-0 (CG/LV)	Pending	564976-0-0	568387-0-0
Gypsum Deck Tear-Off with VapAir Seal 725TR and Cav-Grip III, 702-LV or 702 Primer													
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	5/8" DensDeck StormX	12" ribbons of FAST	1-90	Pending	Pending	Pending	478628-0-0	478628-0-0	Pending	Pending	Pending	Pending
Lightweight Insulating Concrete over Steel Decking													
Min. 1-1/2" InsulBase Polyiso	4" ribbons of FAST	5/8" DensDeck StormX	12" ribbons of FAST	1-135	Pending	551683-0-194470	551619-0-194470	497923-0-194470	497923-0-194470	Pending	Pending	Pending	568425-0-194470
Lightweight Insulating Concrete over Structural Concrete													
Min. 1-1/2" InsulBase Polyiso	4" ribbons of FAST	5/8" DensDeck StormX	12" ribbons of FAST	1-90	Pending	551684-0-50916	551622-0-50916	497941-0-50916	497941-0-50916	561197-0-50916 (HYB) 559491-0-50916 (CG/LV)	Pending	564974-0-50916	568426-0-50916

Factory Mutual Approvals
Carlisle VSH Compliant Roofing System

DensDeck StormX Prime Ratings - Recover

Membrane Type:
Sure-Seal FleeceBACK - 115 or 145 membrane (black EPDM)
Sure-White FleeceBACK - 115 or 145 membrane (white EPDM)
Sure-Weld FleeceBACK - 115 or 135 membrane (TPO)
Sure-Weld and Sure-Weld EXTRA - .060" or .080" membrane (TPO)
Sure-Flex - .060" & .080" membrane (PVC)
Sure-Flex and Sure-Flex KEE HP FleeceBack - 115 or 135 membrane (PVC)

Membrane Adhesive:
Flexible FAST and Flexible FAST Dual Tank beads 4" o.c. or Splatter for membrane attachment with FleeceBACK membranes
Sure-Weld Bonding Adhesive, Low VOC Bonding Adhesive or Cav-Grip III Adhesive/Primer for Sure-Weld and Sure-Weld EXTRA membranes
Hydrobond Water Based PVC bonding adheshive for Sure-Flex PVC, Sure-Flex Fleeceback and Sure-Flex KEE HP Fleeceback

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Rating	Sure-Seal FleeceBACK	Sure-White FleeceBACK	Sure-Weld FleeceBACK	Sure-Weld	Sure- Weld EXTRA	Sure-Flex PVC	Sure-Flex Fleeceback {PVC and KEE HP}
					RoofNAV Number						
Steel Deck (Min. 22-Gauge)											
-	-	5/8" DensDeck StormX	8 (4 sq. ft.)	1-90	569727-0-0	Pending	577374-0-0	Pending	Pending	Pending	Pending
-	-	5/8" DensDeck StormX	18 (1.8 sq. ft.)	1-135	Pending	Pending	569728-0-0	Pending	Pending	Pending	Pending
-	-	5/8" DensDeck StormX	6" ribbons of FAST	1-90	Pending	Pending	Pending	497942-0-0	497942-0-0	560137-0-0	Pending
-	-	5/8" DensDeck StormX	6" ribbons of FAST	1-135	Pending	Pending	Pending	Pending	Pending	581760-0-0	581140-0-0
Max. 1" InsulBase Polyiso or SecurShield	16 (2 sq. ft.)	5/8" DensDeck StormX	12" ribbons of FAST	1-90	Pending	Pending	569729-0-0	Pending	Pending	560122-0-0	Pending
Concrete Deck											
Min. 1/2" InsulBase Polyiso or SecurShield	6" ribbons of FAST	5/8" DensDeck StormX	12" ribbons of FAST	1-90	Pending	Pending	Pending	Pending	Pending	Pending	Pending
-	-	5/8" DensDeck StormX	6" ribbons of FAST	1-135	Pending	Pending	Pending	Pending	Pending	582301-0-0	Pending
Gypsum Deck											
-	-	5/8" DensDeck StormX	6" ribbons of FAST	1-90	Pending	Pending	Pending	Pending	Pending	Pending	Pending
Tectum Deck											
Min. 1" InsulBase Polyiso	20 (1.6 sq. ft.)	5/8" DensDeck StormX	12" ribbons of FAST	1-90	Pending	Pending	Pending	477989-0-0	477989-0-0	Pending	Pending

Note: Recover approvals in this document are based on the following existing roofing system assumption - the existing smooth Asphalt BUR, Modified Bitumen or single-ply system was FM approved at the time of installation. Direct membrane application over existing EPDM single-ply only.

Factory Mutual Approvals
Carlisle VSH Compliant Roofing System

DEXcell FA VSH Glass Mat Ratings - New Construction

Membrane Type:
Sure-Seal FleeceBACK - 115 or 145 membrane (black EPDM)
Sure-White FleeceBACK - 115 or 145 membrane (white EPDM)
Sure-Weld FleeceBACK - 115 or 135 membrane (TPO)
Sure-Weld and Sure-Weld EXTRA - .060" or .080" membrane (TPO)
Sure-Flex - .060" & .080" membrane (PVC)
Sure-Flex KEE HP - .060" & .080" membrane (PVC)
Sure-Flex and Sure-Flex KEE HP FleeceBack - 115 or 135 membrane (PVC)

Membrane Adhesive: Flexible FAST and Flexible FAST Dual Tank beads 4" o.c. or Splatter for membrane attachment with FleeceBACK membranes
Sure-Weld Bonding Adhesive, Low VOC Bonding Adhesive or Cav-Grip III Adhesive/Primer for Sure-Weld and Sure-Weld EXTRA membranes

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Rating	Sure-Seal FleeceBACK	Sure-White FleeceBACK	Sure-Weld FleeceBACK	Sure-Weld	Sure-Weld EXTRA	Sure-Flex	Sure-Flex KEE HP (LVOC only)	Sure-Flex FleeceBack	Sure-Flex KEE HP FleeceBack
					RoofNAV Number								
Steel Deck (Min. 22-Gauge)													
Min. 1-1/2" InsulBase Polyiso	Loose-Laid	5/8" DEXcell FA VSH	10 (3.2 sq. ft.)	1-90	Pending	Pending	577375-0-0	NA	NA	NA	NA	NA	NA
Min. 1-1/2" InsulBase Polyiso	10 (3.2 sq. ft.)	5/8" DEXcell FA VSH	12" ribbons of FAST	1-90	Pending	Pending	581691-0-0	Pending	Pending	Pending	Pending	Pending	Pending
Min. 1-1/2" InsulBase Polyiso	10 (3.2 sq. ft.)	5/8" DEXcell FA VSH over Min. 1-1/2" InsulBase	12" ribbons of FAST	1-90	Pending	Pending	581675-0-0	Pending	Pending	Pending	Pending	Pending	Pending
Min. 2" InsulBase Polyiso	8 (4 sq. ft)	5/8" DEXcell FA VSH	12" ribbons of FAST	1-90	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	568397-0-0
Min. 2" InsulBase Polyiso	8 (4 sq. ft)	5/8" DEXcell FA VSH over Min. 1-1/2" InsulBase	12" ribbons of FAST	1-90	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending
Min. 1/2" DensDeck Prime	16 (2 sq. ft.)	5/8" DEXcell FA VSH over Min. 1-1/2" InsulBase	12" ribbons of FAST	1-90	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending
Steel Deck (Min. 22-Gauge) with VapAir Seal 725TR and Cav-Grip III or 702 Primer													
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft.)	5/8" DEXcell FA VSH over Min. 1-1/2" InsulBase	12" ribbons of FAST	1-90	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending
Min. 1/2" DensDeck Prime or Securock	20 (1.6 sq. ft.)	5/8" DEXcell FA VSH over Min. 1-1/2" InsulBase	FAST - Rig Splatter	1-135	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending
Steel Deck (Min. 22-Gauge) with SureMB 70 SA and Cav-Grip III Primer													
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft.)	5/8" DEXcell FA VSH over Min. 1-1/2" InsulBase	12" ribbons of FAST	1-90	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending
Min. 1/2" DensDeck Prime or Securock	20 (1.6 sq. ft.)	5/8" DEXcell FA VSH over Min. 1-1/2" InsulBase	6" ribbons of FAST	1-135	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending
Steel Deck (Min. 22-Gauge) with SureMB 90TG or 120TG Base Torch Applied													
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft.)	5/8" DEXcell FA VSH over Min. 1-1/2" InsulBase	12" ribbons of FAST	1-90	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending
Min. 1/2" DensDeck Prime or Securock	20 (1.6 sq. ft.)	5/8" DEXcell FA VSH over Min. 1-1/2" InsulBase	6" ribbons of FAST	1-135	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending
Concrete Deck													
Min. 1.5" InsulBase Polyiso	12" ribbons of FAST	5/8" DEXcell FA VSH	12" ribbons of FAST	1-315	Pending	Pending	581703-0-0	Pending	Pending	Pending	Pending	Pending	Pending
Min. 2" Insulfoam Roofing EPS	12" ribbons of FAST	5/8" DEXcell FA VSH	12" ribbons of FAST	1-465	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending
Concrete Deck with VapAir Seal 725TR and Cav-Grip III, 702-LV or 702 Primer													
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	5/8" DEXcell FA VSH	12" ribbons of FAST	1-255	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending
Min. 1" Insulfoam Roofing EPS	12" ribbons of FAST	5/8" DEXcell FA VSH	12" ribbons of FAST	1-315	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending
Concrete Deck with SureMB 70 SA and Cav-Grip III Primer													
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	5/8" DEXcell FA VSH	12" ribbons of FAST	1-255	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending
Concrete Deck with SureMB 90TG, 120TG Base Torch Applied and Cut-Back Asphalt Primer													
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	5/8" DEXcell FA VSH	12" ribbons of FAST	1-315	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending

Gypsum Deck Tear-Off													
Min. 1-1/2" InsulBase Polyiso	FAST Splatter	5/8" DEXcell FA VSH	FAST Splatter	1-90	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending
Gypsum Deck Tear-Off with VapAir Seal 725TR and Cav-Grip III, 702-LV or 702 Primer													
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	5/8" DEXcell FA VSH	12" ribbons of FAST	1-90	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending
Lightweight Insulating Concrete over Steel Decking													
Min. 1-1/2" InsulBase Polyiso	4" ribbons of FAST	5/8" DEXcell FA VSH	12" ribbons of FAST	1-135	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending
Lightweight Insulating Concrete over Structural Concrete													
Min. 1-1/2" InsulBase Polyiso	4" ribbons of FAST	5/8" DEXcell FA VSH	12" ribbons of FAST	1-90	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending

Factory Mutual Approvals
Carlisle VSH Compliant Roofing System

DEXcell FA VSH Glass Mat Ratings - Recover

Membrane Type:
Sure-Seal FleeceBACK - 115 or 145 membrane (black EPDM)
Sure-White FleeceBACK - 115 or 145 membrane (white EPDM)
Sure-Weld FleeceBACK - 115 or 135 membrane (TPO)
Sure-Weld and Sure-Weld EXTRA - .060" or .080" membrane (TPO)

Membrane Adhesive:
Flexible FAST and Flexible FAST Dual Tank beads 4" o.c. or Splatter for membrane attachment with FleeceBACK membranes
Sure-Weld Bonding Adhesive, Low VOC Bonding Adhesive or Cav-Grip III Adhesive/Primer for Sure-Weld and Sure-Weld EXTRA membranes
Hydrobond Water Based PVC bonding adheshive for Sure-Flex PVC, Sure-Flex Fleeceback and Sure-Flex KEE HP Fleeceback

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Rating	Sure-Seal FleeceBACK	Sure-White FleeceBACK	Sure-Weld FleeceBACK	Sure-Weld	Sure- Weld EXTRA	Sure-Flex PVC	Sure-Flex Fleeceback {PVC and KEE HP}
					RoofNAV Number						
Steel Deck (Min. 22-Gauge)											
-	-	5/8" DEXcell FA VSH	10 (3.2 sq. ft)	1-90	Pending	Pending	579498-0-0	NA	NA	NA	NA
-	-	5/8" DEXcell FA VSH	6" ribbons of FAST	1-90	Pending	Pending	Pending	Pending	Pending	Pending	Pending
Max. 1" InsulBase Polyiso or SecurShield	20 (1.6 sq. ft.)	5/8" DEXcell FA VSH	12" ribbons of FAST	1-90	Pending	Pending	Pending	Pending	Pending	Pending	Pending
Concrete Deck											
Min. 1/2" InsulBase Polyiso or SecurShield	6" ribbons of FAST	5/8" DEXcell FA VSH	12" ribbons of FAST	1-90	Pending	Pending	Pending	Pending	Pending	Pending	Pending
-	-	5/8" DEXcell FA VSH	6" ribbons of FAST	1-150	Pending	Pending	Pending	Pending	Pending	Pending	Pending
Gypsum Deck											
-	-	5/8" DEXcell FA VSH	6" ribbons of FAST	1-90	Pending	Pending	Pending	Pending	Pending	Pending	Pending

Note: Recover approvals in this document are based on the following existing roofing system assumption - the existing smooth Asphalt BUR, Modified Bitumen or single-ply system was FM approved at the time of installation. Direct membrane application over existing EPDM single-ply only.

Factory Mutual Approvals

SECUROCK Weather Defense Roof Board Ratings - New Construction

Membrane Type:
Sure-Seal FR Non-Reinforced - .090" membrane (black EPDM)
Sure-Weld and Sure-Weld EXTRA - .060" or .080" membrane (TPO)
Sure-Flex KEE HP FleeceBack - 135 membrane (PVC)

Membrane Adhesive:
90-8-30A Bonding Adhesive for Sure-Seal FR Non-Reinforced
Sure-Weld Bonding Adhesive, Low VOC Bonding Adhesive or Cav-Grip III Adhesive/Primer for Sure-Weld and Sure-Weld EXTRA membranes
Hydrobond Water Based PVC bonding adhesive for Sure-Flex KEE HP Fleeceback (HYB)

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Rating	Sure-Seal FR NR	Sure-Weld	Sure-Weld EXTRA	Sure-Flex KEE HP FleeceBack
					RoofNAV Number			
Steel Deck (Min. 22-Gauge)								
Min. 1-1/2" InsulBase Polyiso	10 (3.2 sq. ft.)	5/8" Weather Defense	12" ribbons of FAST	1-90	593329-0-0	592625-0-0	Pending	Pending
Min. 1-1/2" InsulBase Polyiso	10 (3.2 sq. ft.)	5/8" Weather Defense over Min. 1-1/2" InsulBase	12" ribbons of FAST	1-90	593328-0-0	592666-0-0	Pending	Pending
Min. 2" InsulBase Polyiso	8 (4 sq. ft)	5/8" Weather Defense	12" ribbons of FAST	1-90	581754-0-0	Pending	Pending	Pending
Min. 2" InsulBase Polyiso	8 (4 sq. ft)	5/8" Weather Defense over Min. 1-1/2" InsulBase	12" ribbons of FAST	1-90	581699-0-0	593186-0-0	Pending	Pending
Min. 2" InsulBase Polyiso	16 (2 sq. ft)	5/8" Weather Defense	12" ribbons of FAST	1-120	593463-0-0	592931-0-0	591375-0-0	Pending
Min. 2" InsulBase Polyiso	20 (1.6 sq. ft)	5/8" Weather Defense	6" ribbons of FAST	1-135	593461-0-0	592930-0-0	Pending	Pending
Min. 1/2" DensDeck Prime	16 (2 sq. ft.)	5/8" Weather Defense over Min. 1-1/2" InsulBase	12" ribbons of FAST	1-90	Pending	Pending	Pending	Pending
Steel Deck (Min. 22-Gauge) with VapAir Seal 725TR and Cav-Grip III or 702 Primer								
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft.)	5/8" Weather Defense over Min. 1-1/2" InsulBase	12" ribbons of FAST	1-90	Pending	Pending	Pending	Pending
Steel Deck (Min. 22-Gauge) with SureMB 70 SA and Cav-Grip III Primer								
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft.)	5/8" Weather Defense over Min. 1-1/2" InsulBase	12" ribbons of FAST	1-90	581757-0-0	Pending	Pending	Pending
Steel Deck (Min. 22-Gauge) with SureMB 90TG or 120TG Base Torch Applied								
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft.)	5/8" Weather Defense over Min. 1-1/2" InsulBase	12" ribbons of FAST	1-90	Pending	Pending	Pending	Pending
Concrete Deck								
Min. 1.5" InsulBase Polyiso	12" ribbons of FAST	5/8" Weather Defense	12" ribbons of FAST	1-315	593317-0-0	592937-0-0	Pending	554304-0-0
Min. 2" Insulfoam Roofing EPS	12" ribbons of FAST	5/8" Weather Defense	12" ribbons of FAST	1-465	Pending	Pending	Pending	Pending
Concrete Deck with VapAir Seal 725TR and Cav-Grip III, 702-LV or 702 Primer								
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	5/8" Weather Defense	12" ribbons of FAST	1-255	Pending	Pending	Pending	Pending
Min. 1" Insulfoam Roofing EPS	12" ribbons of FAST	5/8" Weather Defense	12" ribbons of FAST	1-315	Pending	Pending	Pending	Pending
Concrete Deck with SureMB 70 SA and Cav-Grip III Primer								
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	5/8" Weather Defense	12" ribbons of FAST	1-255	Pending	Pending	Pending	Pending
Concrete Deck with SureMB 90TG, 120TG Base Torch Applied and Cut-Back Asphalt Primer								
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	5/8" Weather Defense	12" ribbons of FAST	1-315	Pending	Pending	Pending	Pending
Gypsum Deck Tear-Off								
Min. 1-1/2" InsulBase Polyiso	FAST Splatter	5/8" Weather Defense	FAST Splatter	1-90	Pending	Pending	Pending	Pending
Gypsum Deck Tear-Off with VapAir Seal 725TR and Cav-Grip III, 702-LV or 702 Primer								
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	5/8" Weather Defense	12" ribbons of FAST	1-90	Pending	Pending	Pending	Pending
Lightweight Insulating Concrete over Steel Decking								
Min. 1-1/2" InsulBase Polyiso	4" ribbons of FAST	5/8" Weather Defense	12" ribbons of FAST	1-135	Pending	Pending	Pending	Pending
Lightweight Insulating Concrete over Structural Concrete								
Min. 1-1/2" InsulBase Polyiso	4" ribbons of FAST	5/8" Weather Defense	12" ribbons of FAST	1-90	Pending	Pending	Pending	Pending

Factory Mutual Approvals

SECUROCK Weather Defense Roof Board Ratings - Recover

Membrane Type: Sure-Seal FR Non-Reinforced - .090" membrane (black EPDM)
Sure-Weld and Sure-Weld EXTRA - .060" or .080" membrane (TPO)
Sure-Flex KEE HP FleeceBack - 135 membrane (PVC)

Membrane Adhesive: 90-8-30A Bonding Adhesive for Sure-Seal FR Non-Reinforced
Sure-Weld Bonding Adhesive, Low VOC Bonding Adhesive or Cav-Grip III Adhesive/Primer for Sure-Weld and Sure-Weld EXTRA membranes

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 11, 12 & 13)	Rating	Sure-Seal FleeceBACK	Sure-White FleeceBACK	Sure-Weld FleeceBACK	Sure-Weld	Sure- Weld EXTRA	Sure-Flex PVC	Sure-Flex Fleeceback {PVC and KEE HP}
					RoofNAV Number						
Steel Deck (Min. 22-Gauge)											
-	-	5/8" Weather Defense	10 (3.2 sq. ft)	1-90	Pending	Pending	579498-0-0	NA	NA	NA	NA
-	-	5/8" Weather Defense	6" ribbons of FAST	1-90	Pending	Pending	Pending	Pending	Pending	Pending	Pending
Max. 1.5" InsulBase Polyiso or SecurShield	10 (3.2 sq. ft.)	5/8" Weather Defense	12" ribbons of FAST	1-90	Pending	Pending	Pending	592626-0-0	Pending	Pending	Pending
Concrete Deck											
Min. 1/2" InsulBase Polyiso or SecurShield	6" ribbons of FAST	5/8" Weather Defense	12" ribbons of FAST	1-90	Pending	Pending	Pending	Pending	Pending	Pending	Pending
-	-	5/8" Weather Defense	6" ribbons of FAST	1-150	Pending	Pending	Pending	Pending	Pending	Pending	Pending
Gypsum Deck											
-	-	5/8" Weather Defense	6" ribbons of FAST	1-90	Pending	Pending	Pending	Pending	Pending	Pending	Pending

Note: Recover approvals in this document are based on the following existing roofing system assumption - the existing smooth Asphalt BUR, Modified Bitumen or single-ply system was FM approved at the time of installation. Direct membrane application over existing EPDM single-ply only.

Reference Notes

10. Existing adhered or mechanically fastened EPDM or Hypalon roofing systems. Contact Carlisle regarding suitability and specific requirements.
11. Sure-Seal HP fastener/Sure-Seal Insulation plate.
12. InsulFAST fastener/Sure-Seal Insulation plate.
13. InsulFAST fastener/SecurFAST Insulation Fastening plate.
14. Testing conducted on minimum 22 gauge FM approved Grade C Steel Deck fastened 4 feet on center.
15. UL 580 Test Standard – "Tests for Uplift Resistance of Roof Assemblies". This test method subjects a 10' x 10' sample to various static and oscillating air pressures to determine uplift resistance.
16. ANSI/UL 1897 Test Standard – "Standard Test Method for Uplift Resistance for Roof Covering Systems". This test method subjects a 10' x 10' sample to differential static uplift pressures to determine resistance. This test is essentially the same as Factory Mutual's (FM) Uplift Testing only the table size is different.
17. Testing was conducted with EPDM FleeceBACK membrane; however, FM testing has shown that Sure-Weld FleeceBACK membrane secured with FAST Adhesive is equivalent.
18. 80 ksi with one fastener per attachment point.
19. 80 ksi with two fasteners per attachment point.

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