



FleeceBACK EPDM, TPO and PVC
Adhered Roofing Systems with Flexible FAST Adhesive

Code Approval Guide

January 2024

Table of Contents

UL Approvals

Non-Combustible - ANSI UL - Class A..... 2
Combustible - ANSI UL - Class A..... 3
Combustible - ANSI UL - Class B..... 4
Combustible and Non-Combustible - ANSI UL - Class C..... 4

Existing UL Rating Retained

Combustible and Non-Combustible..... 4

FM Approvals

SecurShield HD New Construction..... 5-6
SecurShield HD Recover..... 7
SecurShield HD Plus New Construction..... 8-9
SecurShield HD Plus Recover..... 10
InsulBase Polyiso New Construction..... 11-12
InsulBase Polyiso Recover..... 13
SecurShield New Construction..... 14-15
SecurShield Recover..... 16
SecurShield HD Composite New Construction..... 17-18
Securock New Construction..... 19-20
Securock Recover..... 21
DensDeck Prime New Construction..... 22-23
DensDeck Prime Recover..... 24
StormBase New Construction..... 25-26
StormBase Recover..... 27
EcoStorm VSH New Construction..... 28-29
EcoStorm VSH Recover..... 30
Premiseal SPF New Construction..... 31

Wind Uplift Testing..... 32

Reference Notes..... 33



UL Approval - Non-Combustible - ANSI/UL 790 Spread of Flame Test (Class A)

Membrane Adhesive: Flexible FAST and Flexible FAST Dual Tank. Either adhesive may be applied using full coverage, beads spaced maximum 12-inches on center or splatter per Carlisle Specifications.

Membrane Type: Sure-Seal EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-White EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-Weld TPO FleeceBACK - 100, 115 or 135 membrane
 Sure-Flex PVC FleeceBACK - 105, 115 or 135 membrane
 Sure-Flex KEE HP FleeceBACK - 105, 115 or 135 membrane

Non-Combustible: Steel; St. Concrete; Gypsum; Tectum (Min. 2" thick)

System ID	Deck Type	Insulation	Cover Board	Maximum Slope				
				Sure-Seal EPDM FB	Sure-White EPDM FB	Sure-Weld TPO FB	Sure-Flex PVC FB	Sure-Flex KEE HP FB
1	Non-Combustible	InsulBase or SecurShield- any combination, any thickness	N/A	1/2"	1/2" (100 & 115-mil Only)	1/4"	2-1/2"	1-1/2"
2		Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 1/2" SecurShield HD, SecurShield HD Plus or SecurShield HD Composite	1"	1/2" (100 & 115-mil Only)	1/2"	2-1/2"	2-1/2"
3		Minimum 1" layer of InsulBase or SecurShield over any UL Classified EPS or XPS Insulation, maximum 1.25 pcf, any thickness	N/A	1/2"	1/2" (100 & 115-mil Only)	1/4"	1"	1"
4		Insulfoam HD Composite or Insulfoam HD Composite over Insulfoam EPS, any thickness and density.	N/A	1/2"	1/2" (100 & 115-mil Only)	1/4"	2"	1-1/2"
5		Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 1/4" SECUROCK® Gypsum-Fiber Roof Boards	2"	1" (145-mil Only)	2"	3"	Unlimited
6		Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 1/4" DensDeck/DensDeck Prime Roof Boards	2"	1" (145-mil Only)	2"	3"	Unlimited
7		Any UL Classified Insulation, any thickness (OPTIONAL)	1/2" HP Recovery Board	1"	1/2" (100 & 115-mil Only)	1"	2-1/2"	2-1/2"
8		Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 5/16" EcoStorm VSH	1/2"	1/2" (100 & 115-mil Only)	1/4"	2-1/2"	1-1/2"
9		Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 7/16" APA Rated OSB or minimum 1-1/2" StormBase	1"	1/2" (100 & 115-mil Only)	1"	2-1/2"	2-1/2"
10	Cellular Lightweight Concrete	N/A	N/A	1"	1/2" (100 & 115-mil Only)	1"	2-1/2"	2-1/2"
11	Precast concrete with grouted joints	N/A	N/A	1"	1/2" (100 & 115-mil Only)	1"	2-1/2"	2-1/2"
12	Structural (poured-in-place) concrete	N/A	N/A	1"	1/2" (100 & 115-mil Only)	1"	2-1/2"	2-1/2"

UL Approval - Combustible - ANSI/UL 790 Spread of Flame Test - Class A

Membrane Adhesive: Flexible FAST and Flexible FAST Dual Tank. Either adhesive may be applied using full coverage, beads spaced maximum 12-inches on center or splatter per Carlisle Specifications.

Membrane Type: Sure-Seal EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-White EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-Weld TPO FleeceBACK - 100, 115 or 135 membrane
 Sure-Flex PVC FleeceBACK - 105, 115 or 135 membrane
 Sure-Flex KEE HP FleeceBACK - 105, 115 or 135 membrane

Combustible: 7/16-in. (minimum) thick non-veneer APA-rated sheathing (oriented strand board panels, structural particleboard panels, composite panels or waferboard panels); 15/32-in. (minimum) thick plywood 3/4 in. (minimum) wood; Tectum (less than 2" thick)

System ID	Thermal Barrier/ Base Sheet	Insulation	Cover Board	Maximum Slope				
				Sure-Seal EPDM FB	Sure-White EPDM FB	Sure-Weld TPO FB	Sure-Flex PVC FB	Sure-Flex KEE HP FB
Combustible - ANSI/UL 790 Spread of Flame Test-Class A								
1	Minimum 1/4" SECUROCK® Gypsum Fiber or Glass Mat Roof Board (2)	Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness.	N/A	1/2"	1/2" (100 & 115-mil Only)	1/4"	2-1/2"	1-1/2"
2	Minimum 1/4" DensDeck or DensDeck Prime Roof Boards (2)	Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness.	N/A	1/2"	1/2" (100 & 115-mil Only)	1/4"	2-1/2"	1-1/2"
3	N/A	Minimum 1" thick layer of SecurShield or SecurShield HD Composite is placed directly over a combustible roof deck. An optional layer or layers of any Carlisle Polyisocyanurate Insulation may be used below the minimum 1" thick top layer, any combination, any thickness. (3)	N/A	1/2"	1/2" (100 & 115-mil Only)	1/4"	1/2"	1/2"
4	N/A	Minimum 1" thick layer of SecurShield or SecurShield HD Composite over a minimum 3-1/2" thick layer of any UL Classified EPS insulation is placed directly over a combustible roof deck. (3)	N/A	1/2"	1/2" (100 & 115-mil Only)	1/4"	1/2"	1/2"
5	N/A	OPTIONAL layer or layers of any Carlisle Polyisocyanurate Insulation may be used below the minimum 1/2" thick top layer, any combination, any thickness. (3)	1/2" thick SecurShield HD or SecurShield HD Plus is placed directly over a combustible roof deck. (3)	1/2"	1/2" (100 & 115-mil Only)	1/4"	1"	1"
6	N/A	Minimum 4" thick layer of any UL Classified EPS insulation is placed directly over a combustible roof deck. (3)	1/2" thick SecurShield HD or SecurShield HD Plus. (3)	1/2"	1/2" (100 & 115-mil Only)	1/4"	1/2"	1/2"
7	N/A	Minimum 1-1/2" layer of Insulfoam HD Composite over a minimum 3" layer of Insulfoam EPS. (2)	N/A	1/2"	1/2" (100 & 115-mil Only)	1/4"	1/2"	1/2"
8	N/A	Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness.	Minimum 1/4" SECUROCK® Gypsum Fiber Roof Board (2)	2"	1" (145-mil Only)	2"	3"	3"
9	N/A	Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 3/8" SECUROCK® Gypsum Fiber Roof Board (2)	2"	1" (145-mil Only)	2"	2"	2"
10	N/A	Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 1/2" SECUROCK® Gypsum Fiber Roof Board (2)	2"	1" (145-mil Only)	2"	3"	4"
11	N/A	Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 1/4" DensDeck Prime Roof Board (2)	2"	1" (145-mil Only)	2"	3"	Unlimited

UL Approval - Combustible - ANSI/UL 790 Spread of Flame Test - Class A

Membrane Adhesive: Flexible FAST and Flexible FAST Dual Tank. Either adhesive may be applied using full coverage, beads spaced maximum 12-inches on center or splatter per Carlisle Specifications.

Membrane Type:
 Sure-Seal EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-White EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-Weld TPO FleeceBACK - 100, 115 or 135 membrane
 Sure-Flex PVC FleeceBACK - 105, 115 or 135 membrane
 Sure-Flex KEE HP FleeceBACK - 105, 115 or 135 membrane

Combustible: 7/16-in. (minimum) thick non-veneer APA-rated sheathing (oriented strand board panels, structural particleboard panels, composite panels or waferboard panels); 15/32-in. (minimum) thick plywood 3/4 in. (minimum) wood; Tectum (less than 2" thick)

System ID	Thermal Barrier/ Base Sheet	Insulation	Cover Board	Maximum Slope				
				Sure-Seal EPDM FB	Sure-White EPDM FB	Sure-Weld TPO FB	Sure-Flex PVC FB	Sure-Flex KEE HP FB
12	Two layers of Carlisle FR Base Sheet	Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness.	N/A	1/2"	1/2" (100 & 115- mil Only)	1/4"	3/4"	3/4"

UL Approval - Combustible (1) and Non-Combustible - ANSI/UL 790 Spread of Flame Test - Class B and C

Membrane Adhesive: Flexible FAST and Flexible FAST Dual Tank. Either adhesive may be applied using full coverage, beads spaced maximum 12-inches on center or splatter per Carlisle Specifications.

Membrane Type:
 Sure-Seal EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-White EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-Weld TPO FleeceBACK - 100, 115 or 135 membrane
 Sure-Flex PVC FleeceBACK - 105, 115 or 135 membrane
 Sure-Flex KEE HP FleeceBACK - 105, 115 or 135 membrane

Non-Combustible: Steel; St. Concrete; Gypsum; Tectum (Min. 2" thick)

Combustible: 7/16-in. (minimum) thick non-veneer APA-rated sheathing (oriented strand board panels, structural particleboard panels, composite panels or waferboard panels); 15/32-in. (minimum) thick plywood 3/4 in. (minimum) wood; Tectum (less than 2" thick)

System ID	Thermal Barrier/ Base Sheet	Insulation	Cover Board	Maximum Slope				
				Sure-Seal EPDM FB	Sure-White EPDM FB	Sure-Weld TPO FB	Sure-Flex PVC FB	Sure-Flex KEE HP FB
Combustible (1) - ANSI/UL 790 Spread of Flame Test-Class B								
1	N/A	Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness.	Minimum 1/4" SECUROCK® Gypsum Fiber Roof Board (2)	N/A	1"	N/A	4"	N/A
2	N/A	Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 1/4" DensDeck Prime or 3/8" SECUROCK® Gypsum Fiber Roof Boards (2)	N/A	1"	N/A	4"	N/A
Combustible (1) - ANSI/UL 790 Spread of Flame Test-Class C								
1	N/A	Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness. Optionally, any UL Classified insulation, any combination, any thickness may be used below the Carlisle Polyisocyanurate Insulation.	N/A	Unlimited	N/A	Unlimited	Unlimited	N/A
2	N/A	Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness. (OPTIONAL)	Minimum 1/2" EcoStorm VSH	1/2"	1/2"	1/2"	1/2"	1/2"
Non-Combustible - ANSI/UL 790 Spread of Flame Test-Class C								
1	N/A	Any combination, any thickness of UL Classified Carlisle Polyisocyanurate Insulation	N/A	N/A	3/4" (145-mil)	N/A	N/A	N/A
2	N/A	Any Insulfoam EPS product, maximum 2 pcf density, any thickness.	N/A	2"	2"	2"	2"	2"
3	N/A	Any UL Classified Insulation, any thickness.	1/2" HP Recovery Board	N/A	1" (145-mil)	N/A	N/A	N/A

Existing UL Rating Retained - Non-Combustible or Combustible (Membrane Direct to Existing Class A, B or C roof covering system)

System ID	Deck Type	Substrate	Membrane/ Maximum Slope
1	Combustible or Non-Combustible	Any Existing Class A, B or C roof covering system	Sure-Seal FleeceBACK Membranes, Sure-Flex PVC FleeceBACK Membranes or Sure-Flex KEE HP FleeceBACK Membranes. Maximum incline shall be in accordance with Classification established for the existing roof covering system, but cannot exceed 2:12.
2		Any Existing Class A, B or C roof covering system	Sure-White FleeceBACK Membranes (100 & 115-mil only) & Sure-Weld FleeceBACK Membranes. Maximum incline shall be in accordance with Classification established for the existing roof covering system, but cannot exceed 1:12.

Factory Mutual Approvals
FleeceBACK with Flexible FAST Adhered Roofing System

SecurShield HD Ratings - New Construction

Membrane Type:

Sure-Seal EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-White EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-Weld TPO FleeceBACK - 100, 115 or 135 membrane
 Sure-Flex PVC FleeceBACK - 105, 115 or 135 membrane
 Sure-Flex KEE HP FleeceBACK - 105, 115 or 135 membrane

**Membrane,
Base Layer and
Top Layer Adhesive:**

Flexible FAST and Flexible FAST Dual Tank

Base Insulation Layer	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 EPDM FB	Sure-White EPDM FB	Sure-Weld TPO FB	Sure-Flex PVC FB	Sure-Flex KEE HP FB
					RoofNAV Number				
Steel Deck (Min. 22-Gauge)									
FM Approved	Loose Laid	1/2" SecurShield HD	12 (2.67 sq. ft)	1-75	-	-	-	-	-
FM Approved	Loose Laid	1/2" SecurShield HD	16 (2 sq. ft)	1-90	400037-0-0	400038-0-0	400040-0-0	400043-0-0	400043-0-0
Min. 1-1/2" InsulBase Polyiso	Loose Laid	1/2" SecurShield HD	10 (3.2 sq. ft)	1-90	326686-0-0	-	-	-	-
Min. 1-1/2" InsulBase Polyiso	10 (3.2 sq. ft)	1/2" SecurShield HD	12" ribbons or Rig Splatter of FAST	1-90	-	-	552117-0-0 4" o.c.	-	-
Min. 1-1/2" InsulBase Polyiso	10 (3.2 sq. ft)	1/2" SecurShield HD over 1-1/2" InsulBase Polyiso	12" ribbons or Rig Splatter of FAST	1-90	-	-	-	-	-
Min. 2" InsulBase Polyiso	8 (4 sq. ft)	1/2" SecurShield HD	12" ribbons or Rig Splatter of FAST	1-90	443435-0-0 6" o.c.	443441-0-0 6" o.c.	396796-0-0	-	-
Min. 2" InsulBase Polyiso	8 (4 sq. ft)	1/2" SecurShield HD over 1-1/2" InsulBase Polyiso	12" ribbons or Rig Splatter of FAST	1-90	-	-	-	-	-
Min. 1-1/2" InsulBase Polyiso	18 (1.8 sq. ft)	1/2" SecurShield HD	6" ribbons or Rig Splatter of FAST	1-165	-	-	399875-0-0 4" o.c.	-	-
Min. 1-1/2" InsulBase Polyiso	18 (1.8 sq. ft)	1/2" SecurShield HD over 1-1/2" InsulBase Polyiso	6" ribbons or Rig Splatter of FAST	1-165	-	-	-	-	-
Min. 2" InsulBase Polyiso	24 (1.33 sq. ft)	1/2" SecurShield HD	4" ribbons or Rig Splatter of FAST	1-165	-	-	-	433763-0-0 4" o.c.	433764-0-0 4" o.c.
Min. 2" InsulBase Polyiso	24 (1.33 sq. ft)	1/2" SecurShield HD over 1-1/2" InsulBase Polyiso	4" ribbons or Rig Splatter of FAST	1-165	-	-	-	-	-
Min. 1/2" DensDeck Prime or 5/8" Securock	16 (2 sq. ft)	1/2" SecurShield HD over 1-1/2" InsulBase Polyiso	6" ribbons of FAST	1-90	-	-	-	-	-
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" SecurShield HD over 1-1/2" InsulBase Polyiso	12" ribbons or Rig Splatter of FAST	1-90	345889-0-0 4" o.c.	345891-0-0 4" o.c.	345892-0-0 4" o.c.	345894-0-0 4" o.c.	345895-0-0 4" o.c.
Min. 1/2" DensDeck Prime or Securock	20 (1.6 sq. ft)	1/2" SecurShield HD over 1-1/2" InsulBase Polyiso	FAST - Rig Splatter	1-135	-	-	-	-	-
Min. 1/2" DensDeck Prime or Securock	32 (1 sq. ft)	1/2" SecurShield HD over 1-1/2" InsulBase Polyiso	FAST - Rig Splatter	1-240	-	-	-	-	-
Steel Deck (Min. 22-Gauge) with SureMB 70 SA and Cav-Grip III									
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft)	1/2" SecurShield HD over 1-1/2" InsulBase Polyiso	12" ribbons of FAST	1-90	-	-	-	-	-
Min. 1/2" DensDeck Prime or Securock	20 (1.6 sq. ft)	1/2" SecurShield HD over 1-1/2" InsulBase Polyiso	6" ribbons of FAST	1-135	-	-	-	-	-
Steel Deck (Min. 22-Gauge) with SureMB 90TG, 120TG Base Torch Applied									
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft)	1/2" SecurShield HD over 1-1/2" InsulBase Polyiso	12" ribbons of FAST	1-90	-	-	-	-	-

Min. 1/2" DensDeck Prime or Securock	20 (1.6 sq. ft)	1/2" SecurShield HD over 1-1/2" InsulBase Polyiso	6" ribbons of FAST	1-135	-	-	-	-	-
--------------------------------------	-----------------	---	--------------------	-------	---	---	---	---	---

Concrete Deck									
Min. 1" InsulBase Polyiso	12" ribbons of FAST	1/2" SecurShield HD	12" ribbons or Rig splatter of FAST	1-315	341352-0-0 4" o.c.	341361-0-0 4" o.c.	341359-0-0 4" o.c.	384625-0-0 4" o.c.	341379-0-0 4" o.c.
Min. 2" InsulBase Polyiso	8 (4 sq. ft)	1/2" SecurShield HD	6" ribbons of FAST	1-90	-	-	397947-0-0 4" o.c.	-	-
Min. 2" Insulfoam VIII Roofing EPS over Min. 2" ChannelDry EPS	8 (4 sq. ft)	1/2" SecurShield HD	6" ribbons of FAST	1-90	-	-	445239-0-0	445241-0-0	-
Concrete Deck with VapAir Seal 725TR and Cav-Grip III, 702-LV or 702 Primer									
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	1/2" SecurShield HD	12" ribbons or Rig Splatter of FAST	1-255	434269-0-0 4" o.c.	-	450325-0-0 4" o.c.	-	-
				1-165	-	-	-	459961-0-0 6" o.c.	459962-0-0 6" o.c.
Min. 3/4" Optim-R	6" ribbons of FAST	1/2" SecurShield HD	6" ribbons of FAST	1-165	437579-0-0 4" o.c.	-	-	437598-0-0 4" o.c.	-
Concrete Deck with SureMB 70 SA and Cav-Grip III Primer									
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	1/2" SecurShield HD	12" ribbons of FAST	1-285	-	-	-	-	-
Concrete Deck with SureMB 90TG, 120TG Base Torch Applied and Cut-Back Asphalt Primer									
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	1/2" SecurShield HD	12" ribbons of FAST	1-255	-	-	-	-	-
Gypsum Deck									
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	1/2" SecurShield HD	12" ribbons of FAST	1-90	-	-	-	-	-
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	1/2" SecurShield HD	12" ribbons or Rig Splatter of FAST	1-90	-	-	-	-	-
(Celcore) Cellular Lightweight Insulating Concrete over Steel Decking (Min. 22-Gauge)									
FM Approved	Loose Laid	1/2" SecurShield HD	12 (2.67 sq. ft)	1-75	-	-	-	-	-
FM Approved	Loose Laid	1/2" SecurShield HD	16 (2 sq. ft)	1-90	-	-	-	-	-
-	-	1/2" SecurShield HD	12 (2.67 sq. ft)	1-75	-	-	-	-	-
-	-	1/2" SecurShield HD	16 (2 sq. ft)	1-90	-	-	-	-	-

Factory Mutual Approvals
FleeceBACK with Flexible FAST Adhered Roofing System

SecurShield HD Ratings - Recover

Membrane Type: Sure-Seal EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-White EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-Weld TPO FleeceBACK - 100, 115 or 135 membrane
 Sure-Flex PVC FleeceBACK - 105, 115 or 135 membrane
 Sure-Flex KEE HP FleeceBACK - 105, 115 or 135 membrane

**Membrane,
Base Layer and
Top Layer Adhesive:** Flexible FAST and Flexible FAST Dual Tank

Base Insulation Layer	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 EPDM FB	Sure-White EPDM FB	Sure-Weld TPO FB	Sure-Flex PVC FB	Sure-Flex KEE HP FB
					RoofNAV Number				
Steel Deck (Min. 22-Gauge)									
-	-	1/2" SecurShield HD	12 (2.67 sq. ft)	1-75	-	-	-	-	-
-	-	1/2" SecurShield HD	16 (2 sq. ft)	1-90	427487-0-0	427488-0-0	427489-0-0	427492-0-0	427493-0-0
-	-	1/2" SecurShield HD	6" ribbons of FAST	1-90	-	-	-	-	-
-	-	1/2" SecurShield HD	4" ribbons of FAST	1-150	-	-	-	-	-
Concrete Deck									
Min. 1/2" InsulBase Polyiso or SecurShield	6" ribbons of FAST	1/2" SecurShield HD	12" ribbons of FAST	1-90	394761-0-0 (12" o.c.)	-	-	-	-
-	-	1/2" SecurShield HD	6" ribbons of FAST	1-150	-	-	-	-	-
Gypsum Deck									
-	-	1/2" SecurShield HD	6" ribbons of FAST	1-90	-	-	-	-	-

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
FleeceBACK with Flexible FAST Adhered Roofing System

SecurShield HD Plus Ratings - New Construction

Membrane Type: Sure-Seal EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-White EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-Weld TPO FleeceBACK - 100, 115 or 135 membrane
 Sure-Flex PVC FleeceBACK - 105, 115 or 135 membrane
 Sure-Flex KEE HP FleeceBACK - 105, 115 or 135 membrane

Membrane, Base Layer and Top Layer Adhesive: Flexible FAST and Flexible FAST Dual Tank

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 EPDM FB	Sure-White EPDM FB	Sure-Weld TPO FB	Sure-Flex PVC FB	Sure-Flex KEE HP FB
					RoofNAV Number				
Steel Deck (Min. 22-Gauge)									
Min. 1-1/2" InsulBase Polyiso	Loose laid	1/2" SecurShield HD Plus	8 (4 sq. ft)	1-90	430037-0-0	430038-0-0	430039-0-0	430040-0-0	430041-0-0
FM Approved	Loose laid	1/2" SecurShield HD Plus	18 (1.8 sq. ft)	1-120	418929-0-0	418939-0-0	418931-0-0	418932-0-0	418933-0-0
FM Approved	Loose laid	1/2" SecurShield HD Plus	24 (1.33 sq. ft)	1-225	418930-0-0	418940-0-0	418936-0-0	418937-0-0	418938-0-0
Min. 1-1/2" InsulBase Polyiso	10 (3.2 sq. ft.)	1/2" SecurShield HD Plus	12" ribbons or Rig Splatter of FAST	1-90	-	-	-	-	-
Min. 1-1/2" InsulBase Polyiso	10 (3.2 sq. ft.)	1/2" SecurShield HD Plus over Min. 1.5" InsulBase	12" ribbons or Rig Splatter of FAST	1-90	-	-	-	-	-
Min. 2" InsulBase Polyiso	8 (4 sq. ft)	1/2" SecurShield HD Plus	12" ribbons or Rig Splatter of FAST	1-90	485966-0-0 6" o.c.	485969-0-0 6" o.c.	-	-	-
Min. 2" InsulBase Polyiso	8 (4 sq. ft)	1/2" SecurShield HD Plus over Min. 1.5" InsulBase	12" ribbons or Rig Splatter of FAST	1-90	-	-	-	-	-
Min. 1-1/2" InsulBase Polyiso	18 (1.8 sq. ft.)	1/2" SecurShield HD Plus	6" ribbons or Rig Splatter of FAST	1-165	-	-	399875-0-0 4" o.c.	-	-
Min. 1-1/2" InsulBase Polyiso	18 (1.8 sq. ft.)	1/2" SecurShield HD Plus over Min. 1.5" InsulBase	6" ribbons or Rig Splatter of FAST	1-165	-	-	-	-	-
Min. 1-1/2" InsulBase Polyiso	24 (1.33 sq. ft.)	1/2" SecurShield HD Plus	4" ribbons or Rig Splatter of FAST	1-165	-	-	-	-	-
Min. 1-1/2" InsulBase Polyiso	24 (1.33 sq. ft.)	1/2" SecurShield HD Plus over Min. 1.5" InsulBase	4" ribbons or Rig Splatter of FAST	1-165	-	-	-	-	-
Min. 1/2" DensDeck Prime or 5/8" Securock	16 (2 sq. ft.)	1/2" SecurShield HD Plus over 1-1/2" InsulBase Polyiso	6" ribbons of FAST	1-90	-	-	-	-	-
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" SecurShield HD Plus over 1-1/2" InsulBase Polyiso	12" ribbons of FAST	1-90	345889-0-0 4" o.c.	345891-0-0 4" o.c.	345892-0-0 4" o.c.	345894-0-0 4" o.c.	345895-0-0 4" o.c.
Min. 1/2" DensDeck Prime or Securock	20 (1.6 sq. ft.)	1/2" SecurShield HD Plus over 1-1/2" InsulBase Polyiso	FAST - Rig Splatter	1-135	-	-	-	-	-
Min. 1/2" DensDeck Prime or Securock	32 (1 sq. ft.)	1/2" SecurShield HD Plus over 1-1/2" InsulBase Polyiso	FAST - Rig Splatter	1-240	-	-	-	-	-
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.)	1/2" SecurShield HD Plus over 1-1/2" InsulBase Polyiso	12" ribbons of FAST	1-90	-	-	-	-	-
Min. 1/2" DensDeck Prime or Securock	20 (1.6 sq. ft.)	1/2" SecurShield HD Plus over 1-1/2" InsulBase Polyiso	6" ribbons of FAST	1-135	-	-	-	-	-

Factory Mutual Approvals
FleeceBACK with Flexible FAST Adhered Roofing System

SecurShield HD Plus Ratings - New Construction

Membrane Type: Sure-Seal EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-White EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-Weld TPO FleeceBACK - 100, 115 or 135 membrane
 Sure-Flex PVC FleeceBACK - 105, 115 or 135 membrane
 Sure-Flex KEE HP FleeceBACK - 105, 115 or 135 membrane

Membrane, Base Layer and Top Layer Adhesive: Flexible FAST and Flexible FAST Dual Tank

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 EPDM FB	Sure-White EPDM FB	Sure-Weld TPO FB	Sure-Flex PVC FB	Sure-Flex KEE HP FB
					RoofNAV Number				
Steel Deck (Min. 22-Gauge) with SureMB 90TG, 120TG Base Torch Applied									
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft.)	1/2" SecurShield HD Plus over 1-1/2" InsulBase Polyiso	12" ribbons of FAST	1-90	-	-	-	-	-
Min. 1/2" DensDeck Prime or Securock	20 (1.6 sq. ft.)	1/2" SecurShield HD Plus over 1-1/2" InsulBase Polyiso	6" ribbons of FAST	1-135	-	-	-	-	-
Concrete Deck									
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	1/2" SecurShield HD Plus	12" ribbons or Rig Splatter of FAST	1-225	-	-	-	-	-
Concrete Deck with VapAir Seal 725TR and Cav-Grip III, 702-LV or 702 Primer									
Min. 1/2" InsulBase Polyiso	Full-Coverage FAST	1/2" SecurShield HD Plus	12" ribbons or Rig Splatter of FAST	1-255	-	-	-	-	-
Concrete Deck with SureMB 90TG and 120TG Base Torch Applied/Cut-Back Asphalt Primer									
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	1/2" SecurShield HD Plus	12" ribbons of FAST	1-255	-	-	-	-	-
Gypsum Deck Tear-Off									
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	1/2" SecurShield HD Plus	12" ribbons of FAST	1-90	-	-	-	-	-
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	1/2" SecurShield HD Plus	12" ribbons or Rig Splatter of FAST	1-90	-	-	-	-	-
(Celcore) Cellular Lightweight Insulating Concrete Over Steel Decking (Min. 22 Gauge)									
FM Approved	Loose laid	1/2" SecurShield HD Plus	8 (2.67 sq. ft)	1-90	-	-	-	-	-
-	-	1/2" SecurShield HD Plus	8 (2.67 sq. ft)	1-90	-	-	-	-	-

Factory Mutual Approvals
FleeceBACK with Flexible FAST Adhered Roofing System

SecurShield HD Plus Ratings - Recover

Membrane Type:
 Sure-Seal EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-White EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-Weld TPO FleeceBACK - 100, 115 or 135 membrane
 Sure-Flex PVC FleeceBACK - 105, 115 or 135 membrane
 Sure-Flex KEE HP FleeceBACK - 105, 115 or 135 membrane

Membrane, Base Layer and Top Layer Adhesive:
 Flexible FAST and Flexible FAST Dual Tank

Base Insulation Layer	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 EPDM FB	Sure-White EPDM FB	Sure-Weld TPO FB	Sure-Flex PVC FB	Sure-Flex KEE HP FB
					RoofNAV Number				
Steel Deck (Min. 22-Gauge)									
-	-	1/2" SecurShield HD Plus	8 (4 sq. ft)	1-90	473542-0-0	-	-	459682-0-0	-
		1/2" SecurShield HD Plus	18 (1.8 sq. ft)	1-120	473539-0-0	-	-	-	-
-	-	1/2" SecurShield HD Plus	6" ribbons of FAST	1-90	-	-	-	-	-
-	-	1/2" SecurShield HD Plus	4" ribbons of FAST	1-150	-	-	-	-	-
Concrete Deck									
Min. 1/2" InsulBase Polyiso	6" ribbons of FAST	1/2" SecurShield HD Plus	6" ribbons of FAST	1-150	-	-	-	-	-
-	-	1/2" SecurShield HD Plus	6" ribbons of FAST	1-150	-	-	-	-	-
-	-	1/2" SecurShield HD Plus	8 (4 sq. ft)	1-90	-	-	-	459091-0-0	459094-0-0
Gypsum Deck									
Min. 1-1/2" InsulBase Polyiso	6" ribbons of FAST	1/2" SecurShield HD Plus	6" ribbons of FAST	1-90	-	-	-	-	-

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
FleeceBACK with Flexible FAST Adhered Roofing System

InsulBase Polyiso Ratings - New Construction

Membrane Type:
 Sure-Seal EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-White EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-Weld TPO FleeceBACK - 100, 115 or 135 membrane
 Sure-Flex PVC FleeceBACK - 105, 115 or 135 membrane
 Sure-Flex KEE HP FleeceBACK - 105, 115 or 135 membrane

Membrane, Base Layer and Top Layer Adhesive:
 Flexible FAST and Flexible FAST Dual Tank

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 EPDM FB	Sure-White EPDM FB	Sure-Weld TPO FB	Sure-Flex PVC FB	Sure-Flex KEE HP FB
					RoofNAV Number				
Steel Deck (Min. 22-Gauge)									
Min. 1-1/2" InsulBase Polyiso	16 (2 sq. ft)	-	-	1-90	154319-0-0 12" o.c.	-	-	343888-0-0 12" o.c.	343888-0-0 12" o.c.
Min. 2" InsulBase Polyiso	8 (4 sq. ft)	-	-	1-90	212395-0-0 12" o.c.	212402-0-0 12" o.c.	212428-0-0 12" o.c.	343950-0-0 12" o.c.	343950-0-0 12" o.c.
Min. 2" InsulBase Polyiso	20 (1.6 sq. ft)	-	-	1-150	-	-	-	-	-
Min. 2" InsulBase Polyiso	32 (1 sq. ft)	-	-	1-210	399326-0-0	-	-	-	-
Min. 1" InsulBase Polyiso	Loose laid	Min. 2" InsulBase Polyiso	32 (1 sq. ft)	1-225	399320-0-0	-	-	-	-
Min. 1-1/2" InsulBase Polyiso	10 (3.2 sq. ft.)	1-1/2" InsulBase Polyiso	12" ribbons or Rig Splatter of FAST	1-90	208668-0-0 12" o.c.	212387-0-0 12" o.c.	212419-0-0 12" o.c.	343911-0-0 12" o.c.	343911-0-0 12" o.c.
Min. 2" InsulBase Polyiso	8 (4 sq. ft.)	1-1/2" InsulBase Polyiso	12" ribbons or Rig Splatter of FAST	1-90	208816-0-0 12" o.c.	212402-0-0 12" o.c.	212427-0-0 12" o.c.	343914-0-0 12" o.c.	323869-0-0 12" o.c.
Min. 1-1/2" InsulBase Polyiso	18 (1.8 sq. ft.)	1-1/2" InsulBase Polyiso	6" ribbons or Rig Splatter of FAST	1-105	-	-	-	-	-
Min. 1-1/2" InsulBase Polyiso	20 (1.6 sq. ft.)	Min. 1" InsulBase Polyiso	6" ribbons or Rig Splatter of FAST	1-165	432889-0-0 6" o.c.	-	212367-0-0 6" o.c.	-	-
Min. 2" InsulBase Polyiso	32 (1 sq. ft.)	Min. 1" InsulBase Polyiso	4" ribbons or Rig Splatter of FAST	1-225	-	-	548452-0-0 4" o.c.	-	-
Min. 1/2" DensDeck Prime or Securock	16 (2 sq. ft.)	1-1/2" InsulBase Polyiso	12" ribbons of FAST	1-90	-	-	-	353054-0-0 12" o.c.	-
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)	1-1/2" InsulBase Polyiso	12" ribbons of FAST	1-90	160985-0-0	160997-0-0	-	452038-0-0 12" o.c.	-
Min. 1/2" DensDeck Prime or Securock	20 (1.6 sq. ft)	1-1/2" InsulBase Polyiso	FAST - Rig Splatter	1-135	-	-	-	-	-
Min. 1/2" DensDeck Prime or Securock	32 (1 sq. ft)	1-1/2" InsulBase Polyiso	FAST - Rig Splatter	1-240	-	-	-	-	-
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)	1-1/2" InsulBase Polyiso	12" ribbons of FAST	1-90	-	-	-	-	-
Min. 1/2" DensDeck Prime or Securock	20 (1.6 sq. ft)	1-1/2" InsulBase Polyiso	6" ribbons of FAST	1-135	-	-	-	-	-

Factory Mutual Approvals
FleeceBACK with Flexible FAST Adhered Roofing System

InsulBase Polyiso Ratings - New Construction

Membrane Type: Sure-Seal EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-White EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-Weld TPO FleeceBACK - 100, 115 or 135 membrane
 Sure-Flex PVC FleeceBACK - 105, 115 or 135 membrane
 Sure-Flex KEE HP FleeceBACK - 105, 115 or 135 membrane

Membrane, Base Layer and Top Layer Adhesive: Flexible FAST and Flexible FAST Dual Tank

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 EPDM FB	Sure-White EPDM FB	Sure-Weld TPO FB	Sure-Flex PVC FB	Sure-Flex KEE HP FB
					RoofNAV Number				
Steel Deck (Min. 22-Gauge) with SureMB 90TG and 120TG Base Torch Applied									
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft)	1-1/2" InsulBase Polyiso	12" ribbons of FAST	1-90	-	-	-	-	-
Min. 1/2" DensDeck Prime or Securock	20 (1.6 sq. ft)	1-1/2" InsulBase Polyiso	6" ribbons of FAST	1-135	-	-	-	-	-
Concrete Deck									
Min. 1/2" InsulBase Polyiso	12" ribbons or Rig Splatter of FAST	-	-	1-315	-	-	-	-	-
Concrete Deck with VapAir Seal 725TR and Cav-Grip III, 702-LV or 702 Primer									
Min. 1-1/2" InsulBase Polyiso	12" ribbons or Rig Splatter of FAST	-	-	1-255	-	-	-	-	-
Min. 2" InsulBase Polyiso	Full Coverage	-	-	1-420			495493-0-0 Full Coverage		
Concrete Deck with SureMB 90TG and 120TG Base Torch Applied/Cut-Back Asphalt Primer									
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	1-1/2" InsulBase Polyiso	12" ribbons of FAST	1-330	-	-	-	-	-
Gypsum Deck Tear-Off									
Min. 1-1/2" InsulBase Polyiso	16 (2 sq. ft)	-	-	1-90	-	-	-	-	-
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	-	-	1-90	-	-	-	-	-
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 or Rig Splatter of FAST	-	-	1-90	-	-	-	-	-
(Celcore) Cellular Lightweight Insulating Concrete Over Steel Decking (Min. 22 Gauge)									
Min. 1-1/2" InsulBase Polyiso	16 (2 sq. ft)	-	-	1-90	-	-	-	-	-
Min. 2" InsulBase Polyiso	8 (4 sq. ft)	-	-	1-90	-	-	-	-	-
Min. 2" InsulBase Polyiso	20 (1.6 sq. ft)	-	-	1-150	-	-	-	-	-

Factory Mutual Approvals
FleeceBACK with Flexible FAST Adhered Roofing System

InsulBase Polyiso Ratings - Recover

Membrane Type: Sure-Seal EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-White EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-Weld TPO FleeceBACK - 100, 115 or 135 membrane
 Sure-Flex PVC FleeceBACK - 105, 115 or 135 membrane
 Sure-Flex KEE HP FleeceBACK - 105, 115 or 135 membrane

**Membrane,
Base Layer and
Top Layer Adhesive:** Flexible FAST and Flexible FAST Dual Tank

Base Insulation Layer	Base Layer Fastening <small>(mechanically fastened see notes 11, 12 & 13)</small>	Top Insulation Layer	Top Layer Fastening <small>(mechanically fastened see notes 11, 12 & 13)</small>	Rating	Sure-Seal EPDM FB	Sure-White EPDM FB	Sure-Weld TPO FB	Sure-Flex PVC FB	Sure-Flex KEE HP FB
					RoofNAV Number				
Steel Deck (Min. 22-Gauge)									
1" InsulBase Polyiso	20 (1.6 sq. ft)	-	-	1-90	-	-	-	-	-
1" InsulBase Polyiso	6" ribbons of FAST	-	-	1-150	384630-0-0	-	-	385465-0-0	385466-0-0
Concrete Deck									
Min. 1/2" InsulBase Polyiso	Hot Asphalt	-	-	1-90	-	-	-	-	-
Gypsum Deck									
Min. 1" InsulBase Polyiso	20 (1.6 sq. ft)	-	-	1-90	-	-	-	-	-
Min. 1" InsulBase Polyiso	6" ribbons of FAST	-	-	1-90	-	-	-	-	-

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
FleeceBACK with Flexible FAST Adhered Roofing System

SecurShield Ratings - New Construction

Membrane Type: Sure-Seal EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-White EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-Weld TPO FleeceBACK - 100, 115 or 135 membrane
 Sure-Flex PVC FleeceBACK - 105, 115 or 135 membrane
 Sure-Flex KEE HP FleeceBACK - 105, 115 or 135 membrane

Membrane, Base Layer and Top Layer Adhesive: Flexible FAST and Flexible FAST Dual Tank

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 EPDM FB	Sure-White EPDM FB	Sure-Weld TPO FB	Sure-Flex PVC FB	Sure-Flex KEE HP FB
					RoofNAV Number				
Steel Deck (Min. 22-Gauge)									
Min. 1-1/2" SecurShield	16 (2 sq. ft.)	-	-	1-90	154319-0-0 12" o.c.	154316-0-0 12" o.c.	154480-0-0 12" o.c.	343888-0-0 12" o.c.	343888-0-0 12" o.c.
Min. 2" SecurShield	8 (4 sq. ft.)	-	-	1-90	212395-0-0 12" o.c.	212403-0-0 12" o.c.	212428-0-0 12" o.c.	343950-0-0 12" o.c.	343950-0-0 12" o.c.
Min. 2" SecurShield	20 (1.6 sq. ft.)	-	-	1-165	212368-0-0 6" o.c.	212376-0-0 6" o.c.	283869-0-0 6" o.c.	324020-0-0 6" o.c.	324020-0-0 6" o.c.
Min. 2" SecurShield	32 (1 sq. ft.)	-	-	1-270	245553-0-0 4" o.c.	-	283872-0-0 4" o.c.	-	-
Min. 1-1/2" InsulBase Polyiso	Loose laid	Min. 2" SecurShield	32 (1 sq. ft.)	1-270	432890-0-0	-	-	-	-
Min. 2" SecurShield	32 (1 sq. ft.)	-	-	1-225	399421-0-0	-	-	-	-
Min. 1-1/2" InsulBase Polyiso	10 (3.2 sq. ft.)	Min. 1" SecurShield	12" ribbons or Rig Splatter of FAST	1-90	-	212387-0-0 12" o.c.	-	-	-
Min. 2" InsulBase Polyiso	8 (4 sq. ft.)	Min. 1" SecurShield	12" ribbons or Rig Splatter of FAST	1-90	208816-0-0 12" o.c.	212402-0-0 12" o.c.	212427-0-0 12" o.c.	-	-
Min. 1-1/2" InsulBase Polyiso	20 (1.6 sq. ft.)	Min. 1" SecurShield	6" ribbons or Rig Splatter of FAST	1-165	212367-0-0 6" o.c.	212375-0-0 6" o.c.	212413-0-0 6" o.c.	343906-0-0 6" o.c.	343906-0-0 6" o.c.
Min. 2" InsulBase Polyiso	32 (1 sq. ft.)	Min. 1" SecurShield	4" ribbons or Rig Splatter of FAST	1-225	-	-	548452-0-0 4" o.c.	-	-
Min. 1/2" DensDeck Prime	16 (2 sq. ft.)	Min. 1-1/2" SecurShield	12" ribbons of FAST	1-90	352968-0-0 12" o.c.	353039-0-0 12" o.c.	353032-0-0 12" o.c.	353054-0-0 12" o.c.	353059-0-0 12" o.c.
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.)	Min. 1-1/2" SecurShield	12" ribbons or Rig Splatter of FAST	1-90	-	-	-	-	-
Min. 1/2" DensDeck Prime or Securock	20 (1.6 sq. ft.)	Min. 1-1/2" SecurShield	FAST - Rig Splatter	1-135	-	-	-	-	-
Min. 1/2" DensDeck Prime or Securock	32 (1 sq. ft.)	Min. 1-1/2" SecurShield	FAST - Rig Splatter	1-240	-	-	-	-	-
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.)	Min. 1-1/2" SecurShield	12" ribbons FAST	1-90	-	-	-	-	-
Min. 1/2" DensDeck Prime or Securock	20 (1.6 sq. ft.)	Min. 1-1/2" SecurShield	12" ribbons FAST	1-135	-	-	-	-	-

Factory Mutual Approvals
FleeceBACK with Flexible FAST Adhered Roofing System

SecurShield Ratings - New Construction

Membrane Type:
 Sure-Seal EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-White EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-Weld TPO FleeceBACK - 100, 115 or 135 membrane
 Sure-Flex PVC FleeceBACK - 105, 115 or 135 membrane
 Sure-Flex KEE HP FleeceBACK - 105, 115 or 135 membrane

**Membrane,
Base Layer and
Top Layer Adhesive:**
 Flexible FAST and Flexible FAST Dual Tank

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 EPDM FB	Sure- White EPDM FB	Sure-Weld TPO FB	Sure-Flex PVC FB	Sure-Flex KEE HP FB
					RoofNAV Number				
Steel Deck (Min. 22-Gauge) with SureMB 90TG and 120TG Base Torch Applied									
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft.)	Min. 1-1/2" SecurShield	12" ribbons FAST	1-90	-	-	-	-	-
Min. 1/2" DensDeck Prime or Securock	20 (1.6 sq. ft.)	Min. 1-1/2" SecurShield	12" ribbons FAST	1-135	-	-	-	-	-
Concrete Deck									
3/4" Optim-R	12" ribbons of FAST	Min. 1/2" SecurShield	12" ribbons of FAST	1-90	438096-0-0	438105-0-0	-	-	-
3/4" Optim-R	12" ribbons of FAST	Min. 1/2" SecurShield	12" ribbons of FAST	1-120	-	-	-	438114-0-0	-
Concrete Deck with VapAir Seal 725TR and Cav-Grip III, 702-LV or 702 Primer									
3/4" Optim-R	12" ribbons of FAST	Min. 1/2" SecurShield	12" ribbons of FAST	1-165 702	437579-0-0	-	-	437598-0-0	-
3/4" Optim-R	12" ribbons of FAST	Min. 1/2" SecurShield	12" ribbons of FAST	1-90 702	437581-0-0	437588-0-0	-	-	-
Min. 1-1/2" SecurShield	12" ribbons or Rig Splatter of FAST	-	-	1-255	-	-	-	-	-
Concrete Deck with SureMB 70 SA and Cav-Grip III Primer									
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1" SecurShield	12" ribbons of FAST	1-285	-	-	-	-	-
Concrete Deck with SureMB 90TG and 120TG Base Torch Applied/Cut-Back Asphalt Primer									
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1" SecurShield	12" ribbons of FAST	1-330	-	-	-	-	-
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1" SecurShield	12" ribbons of FAST	1-225	-	-	427205-0-0	-	-
Gypsum Deck Tear-Off									
Min. 1-1/2" SecurShield	16 (2 sq. ft.)	-	-	1-90	-	-	-	-	-
Min. 1-1/2" SecurShield	12" ribbons of FAST	-	-	1-90	-	-	-	-	-
Gypsum Deck Tear-Off with VapAir Seal 725TR and Cav-Grip III, 702-LV or 702 Primer									
Min. 1-1/2" SecurShield	12" ribbons or Rig Splatter of FAST	-	-	1-90	-	-	-	-	-
(Celcore) Cellular Lightweight Insulating Concrete Over Steel Decking (Min. 22 Gauge)									
Min. 1-1/2" SecurShield	16 (2 sq. ft.)	-	-	1-75	-	-	-	-	-
Min. 2" SecurShield	8 (4 sq. ft.)	-	-	1-90	-	-	-	-	-
Min. 2" SecurShield	20 (1.6 sq. ft.)	-	-	1-150	-	-	-	-	-
Min. 2" SecurShield	32 (1 sq. ft.)	-	-	1-270	-	-	-	-	-

Factory Mutual Approvals
FleeceBACK with Flexible FAST Adhered Roofing System

SecurShield Ratings - Recover

Membrane Type: Sure-Seal EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-White EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-Weld TPO FleeceBACK - 100, 115 or 135 membrane
 Sure-Flex PVC FleeceBACK - 105, 115 or 135 membrane
 Sure-Flex KEE HP FleeceBACK - 105, 115 or 135 membrane

Membrane, Base Layer and Top Layer Adhesive: Flexible FAST and Flexible FAST Dual Tank

Base Insulation Layer	Base Layer Fastening <small>(mechanically fastened see notes 11, 12 & 13)</small>	Top Insulation Layer	Top Layer Fastening <small>(mechanically fastened see notes 11, 12 & 13)</small>	Rating	Sure-Seal EPDM FB	Sure-White EPDM FB	Sure-Weld TPO FB	Sure-Flex PVC FB	Sure-Flex KEE HP FB
					RoofNAV Number				
Steel Deck (Min. 22-Gauge)									
1" SecurShield	20 (1.6 sq. ft)	-	-	1-90	-	-	-	-	-
1" SecurShield	16 (2 sq. ft)	-	-	1-90	-	-	400218-0-0	400220-0-0	400220-0-0
Concrete Deck									
1-1/2" SecurShield	12" ribbons of FAST	-	-	1-90	154475-0-0 12" o.c.	-	-	-	-
Gypsum Deck									
1" SecurShield	20 (1.6 sq. ft)	-	-	1-90	-	-	-	-	-
1" SecurShield	Full-Coverage FAST	-	-	1-90	-	-	-	-	-

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
FleeceBACK with Flexible FAST Adhered Roofing System

SecurShield HD Composite Ratings - New Construction

Membrane Type: Sure-Seal EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-White EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-Weld TPO FleeceBACK - 100, 115 or 135 membrane
 Sure-Flex PVC FleeceBACK - 105, 115 or 135 membrane
 Sure-Flex KEE HP FleeceBACK - 105, 115 or 135 membrane

Membrane, Base Layer and Top Layer Adhesive: Flexible FAST and Flexible FAST Dual Tank

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 EPDM FB	Sure-White EPDM FB	Sure-Weld TPO FB	Sure-Flex PVC FB	Sure-Flex KEE HP FB
					RoofNAV Number				
Steel Deck (Min. 22-Gauge)									
Min. 2" SecurShield HD Composite	16 (2 sq. ft)	-	-	1-90	303555-0-0 12" o.c.	-	303579-0-0 12" o.c.	-	324073-0-0 12" o.c.
Min. 2" SecurShield HD Composite	8 (4 sq. ft)	-	-	1-90	303560-0-0 12" o.c.	-	303584-0-0 12" o.c.	-	324078-0-0 12" o.c.
Min. 2" SecurShield HD Composite	20 (1.6 sq. ft.)	-	-	1-165	212368-0-0 6" o.c.	-	303593-0-0 6" o.c.	-	324095-0-0 6" o.c.
Min. 2" SecurShield HD Composite	32 (1 sq. ft.)	-	-	1-270	245553-0-0 4" o.c.	-	303613-0-0 4" o.c.	-	-
Min. 2" SecurShield HD Composite	32 (1 sq. ft.)	-	-	1-225	399335-0-0 4" o.c.	-	-	-	-
Min. 1-1/2" InsulBase Polyiso	Loose Laid	Min. 2" SecurShield HD Composite	8 (4 sq. ft)	1-90	-	-	446124-0-0 12" o.c.	-	-
Min. 1-1/2" InsulBase Polyiso	10 (3.2 sq. ft.)	Min. 2" SecurShield HD Composite	12" ribbons or Rig Splatter of FAST	1-90	-	-	303587-0-0 12" o.c.	-	-
Min. 2" InsulBase Polyiso	8 (4 sq. ft)	Min. 2" SecurShield HD Composite	12" ribbons or Rig Splatter of FAST	1-90	303558-0-0 12" o.c.	-	303591-0-0 12" o.c.	-	324080-0-0 12" o.c.
Min. 1-1/2" InsulBase Polyiso	18 (1.8 sq. ft.)	Min. 1" SecurShield HD Composite	6" ribbons or Rig Splatter of FAST	1-105	-	-	-	-	-
Min. 1-1/2" InsulBase Polyiso	20 (1.6 sq. ft.)	Min. 2" SecurShield HD Composite	6" ribbons or Rig Splatter of FAST	1-165	212367-0-0 6" o.c.	-	303592-0-0 6" o.c.	-	-

Factory Mutual Approvals
FleeceBACK with Flexible FAST Adhered Roofing System

SecurShield HD Composite Ratings - New Construction

Membrane Type: Sure-Seal EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-White EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-Weld TPO FleeceBACK - 100, 115 or 135 membrane
 Sure-Flex PVC FleeceBACK - 105, 115 or 135 membrane
 Sure-Flex KEE HP FleeceBACK - 105, 115 or 135 membrane

Membrane, Base Layer and Top Layer Adhesive: Flexible FAST and Flexible FAST Dual Tank

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 EPDM FB	Sure-White EPDM FB	Sure-Weld TPO FB	Sure-Flex PVC FB	Sure-Flex KEE HP FB
					RoofNAV Number				
Min. 1/2" DensDeck Prime	16 (2 sq. ft.)	Min. 1-1/2" SecurShield HD Composite	12" ribbons of FAST	1-90	-	-	-	-	-
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.)	Min. 2" SecurShield HD Composite	12" ribbons or Rig Splatter of FAST	1-90	303325-0-04" o.c.	-	-	-	-
Min. 1/2" DensDeck Prime or Securock	20 (1.6 sq. ft.)	Min. 2" SecurShield HD Composite	FAST - Rig Splatter	1-135	-	-	-	-	-
Min. 1/2" DensDeck Prime or Securock	32 (1 sq. ft.)	Min. 2" SecurShield HD Composite	FAST - Rig Splatter	1-240	-	-	-	-	-
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.)	Min. 2" SecurShield HD Composite	12" ribbons of FAST	1-90	-	-	-	-	-
Min. 1/2" DensDeck Prime or Securock	20 (1.6 sq. ft.)	Min. 2" SecurShield HD Composite	6" ribbons of FAST	1-135	-	-	-	-	-
Steel Deck (Min. 22-Gauge) with SureMB 90TG or 120TG Base Torch Applied									
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft.)	Min. 2" SecurShield HD Composite	12" ribbons of FAST	1-90	-	-	-	-	-
Min. 1/2" DensDeck Prime or Securock	20 (1.6 sq. ft.)	Min. 2" SecurShield HD Composite	6" ribbons of FAST	1-135	-	-	-	-	-
Concrete Deck									
Min. 1/2" SecurShield HD Composite	12" ribbons or Rig Splatter of FAST	-	-	1-225	-	-	-	-	-
Concrete Deck Tear-Off with VapAir Seal 725TR and Cav-Grip III, 702-LV or 702 Primer									
Min. 2" SecurShield HD Composite	12" ribbons or Rig Splatter of FAST	-	-	1-255	-	-	-	-	-
Concrete Deck with SureMB 70 SA and Cav-Grip III Primer									
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1" SecurShield HD Composite	12" ribbons of FAST	1-285	-	-	-	-	-
Concrete Deck with SureMB 90TG and 120TG Base Torch Applied/Cut-Back Asphalt Primer									
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1" SecurShield HD Composite	12" ribbons of FAST	1-330	-	-	-	-	-
Gypsum Deck Tear-Off									

Factory Mutual Approvals
FleeceBACK with Flexible FAST Adhered Roofing System

SecurShield HD Composite Ratings - New Construction

Membrane Type: Sure-Seal EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-White EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-Weld TPO FleeceBACK - 100, 115 or 135 membrane
 Sure-Flex PVC FleeceBACK - 105, 115 or 135 membrane
 Sure-Flex KEE HP FleeceBACK - 105, 115 or 135 membrane

Membrane, Base Layer and Top Layer Adhesive: Flexible FAST and Flexible FAST Dual Tank

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 EPDM FB	Sure-White EPDM FB	Sure-Weld TPO FB	Sure-Flex PVC FB	Sure-Flex KEE HP FB
					RoofNAV Number				
Min. 1-1/2" SecurShield HD Composite	16 (2 sq. ft)	-	-	1-90	-	-	-	-	-
Min. 1-1/2" SecurShield HD Composite	12" ribbons of FAST	-	-	1-90	-	-	-	-	-
Gypsum Deck Tear-Off with VapAir Seal 725TR and Cav-Grip III, 702-LV or 702 Primer									
Min. 1-1/2" SecurShield HD Composite	12" ribbons or Rig Splatter of FAST	-	-	1-90	-	-	-	-	-
(Celcore) Cellular Lightweight Insulating Concrete Over Steel Decking (Min. 22 Gauge)									
Min. 1-1/2" SecurShield HD Composite	16 (2 sq. ft)	-	-	1-75	-	-	-	-	-
Min. 2" SecurShield HD Composite	8 (4 sq. ft)	-	-	1-90	-	-	-	-	-
Min. 2" SecurShield HD Composite	20 (1.6 sq. ft.)	-	-	1-150	-	-	-	-	-
Min. 2" SecurShield HD Composite	32 (1 sq. ft.)	-	-	1-225	-	-	-	-	-

Factory Mutual Approvals
FleeceBACK with Flexible FAST Adhered Roofing System

Securock Ratings - New Construction

Membrane Type:
 Sure-Seal EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-White EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-Weld TPO FleeceBACK - 100, 115 or 135 membrane
 Sure-Flex PVC FleeceBACK - 105, 115 or 135 membrane
 Sure-Flex KEE HP FleeceBACK - 105, 115 or 135 membrane

Membrane, Base Layer and Top Layer Adhesive:
 Flexible FAST and Flexible FAST Dual Tank

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 EPDM FB	Sure-White EPDM FB	Sure-Weld TPO FB	Sure-Flex PVC FB	Sure-Flex KEE HP FB
					RoofNAV Number				
Steel Deck (Min. 22-Gauge)									
FM Approved	Loose laid	Min. 1/4" Securock	12 (2.66 sq. ft)	1-75	-	-	-	-	-
FM Approved	Loose laid	Min. 1/2" Securock	10 (3.2 sq. ft)	1-90	326686-0-0 4" o.c.	-	394640-0-0 4" o.c.	375484-0-0 4" o.c.	-
Min. 1-1/2" InsulBase Polyiso	Loose laid	Min. 1/4" Securock	10 (3.2 sq. ft) SecurFAST Plate	1-90	-	-	443298-0-0 4" o.c.	-	-
Min. 1-1/2" InsulBase Polyiso	Loose laid	Min. 1/2" Securock	8 (4 sq. ft) SecurFAST Plate	1-90	-	-	443330-0-0 4" o.c.	-	-
FM Approved	Loose laid	Min. 5/8" Securock	8 (4 sq. ft)	1-90	-	-	394641-0-0 4" o.c.	375486-0-0 4" o.c.	-
Min. 1-1/2" InsulBase Polyiso	Loose laid	Min. 1/2" Securock	8 (4 sq. ft) SecurFAST Plate	1-90	443308-0-0 4" o.c.	-	-	-	-
Min. 1-1/2" InsulBase Polyiso	Loose laid	Min. 1/2" Securock	6 (5.33 sq. ft) SecurFAST Plate	1-75	-	-	443377-0-0 4" o.c.	-	-
Min. 1-1/2" InsulBase Polyiso	Loose laid	Min. 5/8" Securock	6 (5.33 sq. ft) SecurFAST Plate	1-90	-	-	443346-0-0 4" o.c.	-	-
FM Approved	Loose laid	Min. 1/2" Securock	20 (1.6 sq. ft)	1-150	-	-	394642-0-0 4" o.c.	-	373594-0-0 4" o.c.
FM Approved	Loose laid	Min. 1/2" Securock	32 (1 sq. ft)	1-270	399129-0-0	399128-0-0	-	-	-
Min. 1-1/2" InsulBase Polyiso	10 (3.2 sq. ft.)	Min. 1/4" Securock	6" ribbons or Rig Splatter of FAST	1-90	345932-0-0 4" o.c. or Splatter	345885-0-0 4" o.c.	345886-0-0 4" o.c. or Splatter	345887-0-0 4" o.c. or Splatter.	385078-0-0 4" o.c. or Splatter
Min. 1-1/2" InsulBase Polyiso	10 (3.2 sq. ft.)	Min. 1/4" Securock over Min. 1-1/2" InsulBase Polyiso	4" ribbons or Rig Splatter of FAST	1-90	-	-	400153-0-0 4" o.c.	-	-
Min. 2" InsulBase Polyiso	8 (4 sq. ft)	Min. 1/4" Securock	12" ribbons or Rig Splatter of FAST	1-90	-	-	-	-	-
Min. 2" InsulBase Polyiso	8 (4 sq. ft)	Min. 1/4" Securock over Min. 1-1/2" InsulBase Polyiso	12" ribbons or Rig Splatter of FAST	1-90	-	-	-	-	-
Min. 1-1/2" InsulBase Polyiso	16 (2 sq. ft.)	Min. 1/2" Securock	12" ribbons or Rig Splatter of FAST	1-120	466248-0-0 4" o.c.	511655-0-0 4" o.c.	511656-0-0 4" o.c.	511657-0-0 4" o.c.	511658-0-0 4" o.c.
Min. 1-1/2" InsulBase Polyiso	16 (2 sq. ft.)	Min. 1/2" Securock over Min. 1-1/2" InsulBase Polyiso	12" ribbons or Rig Splatter of FAST	1-105	466244-0-0 4" o.c.	-	-	479294-0-0 4" o.c.	479294-0-0 4" o.c.
Min. 2" InsulBase Polyiso	20 (1.6 sq. ft.)	Min. 1/2" Securock	6" ribbons or Rig Splatter of FAST	1-135	513071-0-0 4" o.c.	515729-0-0 4" o.c.	513072-0-0 4" o.c.	513073-0-0 4" o.c.	513074-0-0 4" o.c.
Min. 2" InsulBase Polyiso	20 (1.6 sq. ft.)	Min. 1/2" Securock over Min. 1-1/2" InsulBase Polyiso	6" ribbons or Rig Splatter of FAST	1-135	-	-	-	-	-
Min. 3" InsulFoam EPS	16 (2 sq. ft.)	Min. 1/2" Securock over Min. 1-1/2" InsulBase Polyiso	6" ribbons of FAST	1-135	-	-	-	-	-
Min. 2" InsulBase Polyiso	32 (1 sq. ft.)	Min. 1/2" Securock	4" ribbons or Rig Splatter of FAST	1-225	-	-	459647-0-0 4" o.c.	-	549101-0-0 4" o.c.
Min. 2" InsulBase Polyiso	32 (1 sq. ft.)	Min. 1/2" Securock over Min. 1-1/2" InsulBase Polyiso	4" ribbons or Rig Splatter of FAST	1-225	-	-	-	-	-

Factory Mutual Approvals
FleeceBACK with Flexible FAST Adhered Roofing System

Securock Ratings - New Construction

Membrane Type:
 Sure-Seal EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-White EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-Weld TPO FleeceBACK - 100, 115 or 135 membrane
 Sure-Flex PVC FleeceBACK - 105, 115 or 135 membrane
 Sure-Flex KEE HP FleeceBACK - 105, 115 or 135 membrane

**Membrane,
Base Layer and
Top Layer Adhesive:**
 Flexible FAST and Flexible FAST Dual Tank

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening <small>(mechanically fastened see notes 11, 12 & 13)</small>	Top Insulation Layer	Top Layer Fastening <small>(mechanically fastened see notes 11, 12 & 13)</small>	Rating	Sure-Seal EPDM FB	Sure-White EPDM FB	Sure-Weld TPO FB	Sure-Flex PVC FB	Sure-Flex KEE HP FB
					RoofNAV Number				
Min. 5/8" Securock	16 (2 sq. ft.)	Min. 1/4" Securock over 1-1/2" InsulBase Polyiso	12" ribbons of FAST	1-90	-	-	483459-0-0 6" o.c.	400158-0-0 4" o.c.	-
-	-	Min. 1/2" Securock	20 (1.6 sq. ft.)	1-150	493784-0-0 4" o.c.	493785-0-0 4" o.c.	493786-0-0 4" o.c.		
-	-	Min. 1/2" Securock	32 (1.0 sq. ft.)	1-255	493787-0-0 4" o.c.	493788-0-0 4" o.c.	493789-0-0 4" o.c.		
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.)	Min. 1/4" Securock over Min. 1-1/2" InsulBase Polyiso	12" ribbons or Rig Splatter of FAST	1-90	459964-0-0 12" o.c.	459965-0-0 12" o.c.	317157-0-0 6" o.c.	343678-0-0 4" o.c.	459965-0-0 12" o.c.
Min. 1/2" DensDeck Prime or Securock	20 (1.6 sq. ft.)	Min. 1/2" Securock over Min. 1-1/2" InsulBase Polyiso	FAST - Rig Splatter	1-135	-	-	-	-	-
Min. 1/2" DensDeck Prime or Securock	32 (1 sq. ft.)	Min. 1/2" Securock over Min. 1-1/2" InsulBase Polyiso	FAST - Rig Splatter	1-240	-	-	-	-	-

Factory Mutual Approvals
FleeceBACK with Flexible FAST Adhered Roofing System

Securock Ratings - New Construction

Membrane Type:
 Sure-Seal EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-White EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-Weld TPO FleeceBACK - 100, 115 or 135 membrane
 Sure-Flex PVC FleeceBACK - 105, 115 or 135 membrane
 Sure-Flex KEE HP FleeceBACK - 105, 115 or 135 membrane

Membrane, Base Layer and Top Layer Adhesive:
 Flexible FAST and Flexible FAST Dual Tank

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 EPDM FB	Sure-White EPDM FB	Sure-Weld TPO FB	Sure-Flex PVC FB	Sure-Flex KEE HP FB
					RoofNAV Number				
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.)	Min. 1/4" Securock over Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	1-90	-	-	-	-	-
Min. 1/2" DensDeck Prime or Securock	20 (1.6 sq. ft.)	Min. 1/2" Securock over Min. 1-1/2" InsulBase Polyiso	6" ribbons of FAST	1-135	-	-	-	-	-
Steel Deck (Min. 22-Gauge) with SureMB 90TG or 120TG Base Torch Applied									
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft.)	Min. 1/4" Securock over Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	1-90	-	-	-	-	-
Min. 1/2" DensDeck Prime or Securock	20 (1.6 sq. ft.)	Min. 1/2" Securock over Min. 1-1/2" InsulBase Polyiso	6" ribbons of FAST	1-135	-	-	-	-	-
Concrete Deck									
Min. 1/2" InsulBase Polyiso	12" ribbons or Rig Splatter of FAST	Min. 1/4" Securock	12" ribbons of FAST	1-270	-	-	-	459251-0-0 4" o.c.	459262-0-0 4" o.c.
Min. 1/2" InsulBase Polyiso	Loose laid	Min. 1/2" Securock	10 (3.2 sq. ft.)	1-90	-	-	-	397995-0-0	-
FM Approved	Loose laid	Min. 1/2" Securock	20 (1.6 sq. ft.)	1-150	-	-	-	398844-0-0 4" o.c.	-
FM Approved	Loose laid	Min. 1/2" Securock	32 (1 sq. ft.)	1-270	-	-	-	398845-0-0	-
Min. 2" InsulBase Polyiso	16 (2 sq. ft.)	Min. 1/2" Securock	12" ribbons or Rig Splatter of FAST	1-120	513066-0-0 4" o.c.	513067-0-0 4" o.c.	513068-0-0 4" o.c.	513069-0-0 4" o.c.	513070-0-0 4" o.c.
Min. 2" InsulBase Polyiso	20 (1.6 sq. ft.)	Min. 1/2" Securock	6" ribbons or Rig Splatter of FAST	1-135	513075-0-0 4" o.c.	513076-0-0 4" o.c.	513077-0-0 4" o.c.	513078-0-0 4" o.c.	513079-0-0 4" o.c.
Concrete Deck with VapAir Seal 725TR and Cav-Grip III, 702-LV or 702 Primer									
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1/4" Securock	12" ribbons of FAST	1-255	460703-0-0 4" o.c.	-	450325-0-0 4" o.c.	-	-
				1-165	460701-0-0 6" o.c.	-	-	-	-
				1-90	460700-0-0 12" o.c.	-	-	-	-
Concrete Deck with SureMB 70 SA and Cav-Grip III Primer									
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1/4" Securock	12" ribbons of FAST	1-285	-	-	-	-	-
Concrete Deck with SureMB 90TG and 120TG Base Torch Applied/Cut-Back Asphalt Primer									
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1/4" Securock	12" ribbons of FAST	1-255	-	-	-	-	-
Gypsum Deck Tear-Off									

Factory Mutual Approvals
FleeceBACK with Flexible FAST Adhered Roofing System

Securock Ratings - New Construction

Membrane Type: Sure-Seal EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-White EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-Weld TPO FleeceBACK - 100, 115 or 135 membrane
 Sure-Flex PVC FleeceBACK - 105, 115 or 135 membrane
 Sure-Flex KEE HP FleeceBACK - 105, 115 or 135 membrane

Membrane, Base Layer and Top Layer Adhesive: Flexible FAST and Flexible FAST Dual Tank

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 EPDM FB	Sure-White EPDM FB	Sure-Weld TPO FB	Sure-Flex PVC FB	Sure-Flex KEE HP FB
					RoofNAV Number				
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1/4" Securock	12" ribbons of FAST	1-90	-	-	-	-	-
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. 1/4" Securock	12" ribbons or Rig Splatter of FAST	1-90	-	-	-	-	-
(Celcore) Cellular Lightweight Insulating Concrete Over Steel Decking (Min. 22 Gauge)									
FM Approved	Loose laid	Min. 1/4" Securock	12 (2.67 sq. ft)	1-75	-	-	-	-	-
FM Approved	Loose laid	Min. 1/2" Securock	10 (3.2 sq. ft)	1-90	-	-	-	-	-
FM Approved	Loose laid	Min. 5/8" Securock	8 (4 sq. ft)	1-90	-	-	-	-	-
FM Approved	Loose laid	Min. 1/2" Securock	20 (1.6 sq. ft)	1-150	-	-	-	-	-
FM Approved	Loose laid	Min. 1/2" Securock	32 (1 sq. ft)	1-255	-	-	-	-	-

Factory Mutual Approvals
FleeceBACK with Flexible FAST Adhered Roofing System

Securock Ratings - Recover

Membrane Type: Sure-Seal EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-White EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-Weld TPO FleeceBACK - 100, 115 or 135 membrane
 Sure-Flex PVC FleeceBACK - 105, 115 or 135 membrane
 Sure-Flex KEE HP FleeceBACK - 105, 115 or 135 membrane

Membrane, Base Layer and Top Layer Adhesive: Flexible FAST and Flexible FAST Dual Tank

Base Insulation Layer	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 EPDM FB	Sure-White EPDM FB	Sure-Weld TPO FB	Sure-Flex PVC FB	Sure-Flex KEE HP FB
					RoofNAV Number				
Concrete Deck									
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1/4" Securock	12" ribbons of FAST	1-90	-	-	-	-	-

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
FleeceBACK with Flexible FAST Adhered Roofing System

DensDeck Prime Ratings - New Construction

Membrane Type: Sure-Seal EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-White EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-Weld TPO FleeceBACK - 100, 115 or 135 membrane
 Sure-Flex PVC FleeceBACK - 105, 115 or 135 membrane
 Sure-Flex KEE HP FleeceBACK - 105, 115 or 135 membrane

Membrane, Base Layer and Top Layer Adhesive: Flexible FAST and Flexible FAST Dual Tank

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 EPDM FB	Sure-White EPDM FB	Sure-Weld TPO FB	Sure-Flex PVC FB	Sure-Flex KEE HP FB
					RoofNAV Number				
Steel Deck (Min. 22-Gauge)									
FM Approved	Loose laid	Min. 1/4" DensDeck Prime	16 (2 sq. ft)	1-90	154329-0-0	154328-0-0	154488-0-0	343633-0-0	384857-0-0
FM Approved	Loose laid	Min. 1/2" DensDeck Prime	8 (4 sq. ft)	1-90	454399-00	-	439660-0-0	-	-
Min. 1/2" InsulBase Polyiso	Loose laid	Min. 1/4" DensDeck Prime	18 (1.8 sq. ft)	1-105	-	-	-	452710-0-0	452711-0-0
Min. 1-1/2" InsulBase Polyiso	Loose laid	Min. 1/2" DensDeck Prime	18 (1.8 sq. ft)	1-135	543857-0-0 4" o.c.	-	-	495280-0-0 4" o.c.	495281-0-0 4" o.c.
Min. 1-1/2" InsulBase Polyiso	Loose laid	Min. 1/2" DensDeck Prime	20 (1.6 sq. ft)	1-150	-	-	-	495278-0-0 4" o.c.	495279-0-0 4" o.c.
Min. 1-1/2" InsulBase Polyiso	Loose laid	Min. 1/2" DensDeck Prime	32 (1 sq. ft)	1-165	328907-0-0 Splatter	328905-0-0 Splatter	328909-0-0 Splatter	343755-0-0 Splatter	385028-0-0 Splatter
Min. 1" InsulBase Polyiso	Loose laid	Min. 1/2" DensDeck Prime	32 (1 sq. ft)	1-255	399337-0-0 Splatter	-	-	-	-
Min. 1-1/2" InsulBase Polyiso	Loose laid	Min. 1/2" DensDeck Prime	32 (1 sq. ft)	1-270	203920-0-0 Splatter	203919-0-0 Splatter	211699-0-0 Splatter	386393-0-0 Splatter	385029-0-0 Splatter
Min. 1-1/2" InsulBase Polyiso	10 (3.2 sq. ft.)	Min. 1/4" DensDeck Prime	12" ribbons or Rig Splatter of FAST	1-90	212382-0-0 12" o.c.	212390-0-0 12" o.c.	212422-0-0 12" o.c.	343651-0-0 12" o.c.	343651-0-0 12" o.c.
Min. 2" InsulBase Polyiso	8 (4 sq. ft)	Min. 1/4" DensDeck Prime	12" ribbons or Rig Splatter of FAST	1-90	212397-0-0 12" o.c.	212405-0-0 12" o.c.	212430-0-0 12" o.c.	343655-0-0 12" o.c.	343655-0-0 12" o.c.

Factory Mutual Approvals
FleeceBACK with Flexible FAST Adhered Roofing System

DensDeck Prime Ratings - New Construction

Membrane Type: Sure-Seal EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-White EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-Weld TPO FleeceBACK - 100, 115 or 135 membrane
 Sure-Flex PVC FleeceBACK - 105, 115 or 135 membrane
 Sure-Flex KEE HP FleeceBACK - 105, 115 or 135 membrane

Membrane, Base Layer and Top Layer Adhesive: Flexible FAST and Flexible FAST Dual Tank

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 EPDM FB	Sure-White EPDM FB	Sure-Weld TPO FB	Sure-Flex PVC FB	Sure-Flex KEE HP FB
					RoofNAV Number				
Min. 2" InsulBase Polyiso	16 (2 sq. ft.)	Min. 1/2" DensDeck Prime	12" ribbons or Rig Splatter of FAST	1-120	466248-0-0 4" o.c.	511655-0-0 4" o.c.	511656-0-0 4" o.c.	511657-0-0 4" o.c.	511658-0-0 4" o.c.
Min. 2" InsulBase Polyiso	16 (2 sq. ft.)	Min. 1/2" DensDeck Prime over Min. 1-1/2" InsulBase Polyiso	12" ribbons or Rig Splatter of FAST	1-105	466244-0-0 4" o.c.	-	-	-	-
Min. 2" InsulBase Polyiso	20 (1.6 sq. ft.)	Min. 1/2" DensDeck Prime	6" ribbons or Rig Splatter of FAST	1-135	513071-0-0 4" o.c.	515729-0-0 4" o.c.	459646-0-0 4" o.c.	513073-0-0 4" o.c.	513074-0-0 4" o.c.
Min. 2" InsulBase Polyiso	32 (1 sq. ft.)	Min. 1/2" DensDeck Prime	4" ribbons or Rig Splatter of FAST	1-225	-	-	459647-0-0 4" o.c.	-	549101-0-0 4" o.c.
Min. 3" InsulFoam EPS	16 (2 sq. ft.)	Min. 1/2" DensDeck Prime	6" ribbons of FAST	1-135	-	-	516925-0-0 4" o.c.	-	-
Min. 1/2" DensDeck Prime or 5/8" Securock	8 (4 sq. ft.)	Min. 1/2" DensDeck Prime over InsulBase Polyiso	12" ribbons of FAST	1-90	-	-	483459-0-0	-	-
-	-	Min. 1/2" DensDeck Prime	20 (1.6 sq. ft.)	1-150	493784-0-0 4" o.c.	493785-0-0 4" o.c.	493786-0-0 4" o.c.	-	-
-	-	Min. 1/2" DensDeck Prime	32 (1.0 sq. ft.)	1-255	493787-0-0 4" o.c.	493788-0-0 4" o.c.	493789-0-0 4" o.c.	-	-
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.)	Min. 1/4" DensDeck Prime over Min. 1-1/2" InsulBase Polyiso	12" ribbons or Rig Splatter of FAST	1-90	459964-0-0 12" o.c.	459965-0-0 12" o.c.	317157-0-0 6" o.c.	343679-0-0 6" o.c.	343679-0-0 6" o.c.
Min. 1/2" DensDeck Prime or Securock	20 (1.6 sq. ft.)	Min. 1/2" DensDeck Prime over Min. 1-1/2" InsulBase Polyiso	FAST - Rig Splatter	1-135	-	-	-	-	-
Min. 1/2" DensDeck Prime or Securock	32 (1 sq. ft.)	Min. 1/2" DensDeck Prime over Min. 1-1/2" InsulBase Polyiso	FAST - Rig Splatter	1-240	-	-	-	-	-
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.)	Min. 1/4" DensDeck Prime over Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	1-90	-	-	-	-	-
Min. 1/2" DensDeck Prime or Securock	20 (1.6 sq. ft.)	Min. 1/4" DensDeck Prime over Min. 1-1/2" InsulBase Polyiso	6" ribbons of FAST	1-135	-	-	-	-	-
Steel Deck (Min. 22-Gauge) with SureMB 90TG and 120TG Base Torch Applied									

Factory Mutual Approvals
FleeceBACK with Flexible FAST Adhered Roofing System

DensDeck Prime Ratings - New Construction

Membrane Type: Sure-Seal EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-White EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-Weld TPO FleeceBACK - 100, 115 or 135 membrane
 Sure-Flex PVC FleeceBACK - 105, 115 or 135 membrane
 Sure-Flex KEE HP FleeceBACK - 105, 115 or 135 membrane

Membrane, Base Layer and Top Layer Adhesive: Flexible FAST and Flexible FAST Dual Tank

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 EPDM FB	Sure-White EPDM FB	Sure-Weld TPO FB	Sure-Flex PVC FB	Sure-Flex KEE HP FB
					RoofNAV Number				
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft.)	Min. 1/4" DensDeck Prime over Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	1-90	-	-	-	-	-
Min. 1/2" DensDeck Prime or Securock	20 (1.6 sq. ft.)	Min. 1/4" DensDeck Prime over Min. 1-1/2" InsulBase Polyiso	6" ribbons of FAST	1-135	-	-	-	-	-
Concrete Deck									
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1/4" DensDeck Prime	12" ribbons or Rig Splatter of FAST	1-315	-	-	-	400227-0-0 Spray	400231-0-0 Spray
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1/4" DensDeck Prime	12" ribbons or Rig Splatter of FAST	1-90	-	-	-	464243-0-0 12" o.c.	464244-0-0 12" o.c.
Min. 2" InsulBase Polyiso	16 (2 sq. ft.)	Min. 1/2" DensDeck Prime	12" ribbons or Rig Splatter of FAST	1-120	513066-0-0 4" o.c.	513067-0-0 4" o.c.	513068-0-0 4" o.c.	513069-0-0 4" o.c.	513070-0-0 4" o.c.
Min. 2" InsulBase Polyiso	20 (1.6 sq. ft.)	Min. 1/2" DensDeck Prime	6" ribbons or Rig Splatter of FAST	1-135	513075-0-0 4" o.c.	513076-0-0 4" o.c.	513077-0-0 4" o.c.	513078-0-0 4" o.c.	513079-0-0 4" o.c.
Min. 1/2" InsulBase Polyiso	Loose laid	Min. 1/2" DensDeck Prime	18 (1.8 sq. ft.)	1-135	-	-	-	437373-0-0 4" o.c.	437389-0-0 4" o.c.
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. 1/4" DensDeck Prime	12" ribbons of FAST	1-255	-	-	-	400228-0-0 Spray	400233-0-0 Spray
Concrete Deck with SureMB 70 SA and Cav-Grip III Primer									
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1/4" DensDeck Prime	12" ribbons of FAST	1-285	-	-	-	-	-
Concrete Deck with SureMB 90TG and 120TG Base Torch Applied/Cut-Back Asphalt Primer									
Min. 1/2" InsulBase Polyiso	Full-Coverage FAST	Min. 1/4" DensDeck Prime	12" ribbons of FAST	1-255	-	-	-	392855-0-0	-
Min. 1" Insulfoam Roofing EPS	12" ribbons of FAST	Min. 1/4" DensDeck Prime	12" ribbons of FAST	1-105	-	-	-	394471-0-0 6" o.c.	394578-0-0 6" o.c.
Gypsum Deck Tear-Off									
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1/4" DensDeck Prime	12" ribbons of FAST	1-90	-	-	-	343688-0-0 12" o.c.	343688-0-0 12" o.c.
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. 1/4" DensDeck Prime	12" ribbons or Rig Splatter of FAST	1-90	457961-0-0 12" o.c.	-	-	343688-0-0 12" o.c.	343688-0-0 12" o.c.
(Celcore) Cellular Lightweight Insulating Concrete Over Steel Decking (Min. 22 Gauge)									

Factory Mutual Approvals
FleeceBACK with Flexible FAST Adhered Roofing System

DensDeck Prime Ratings - New Construction

Membrane Type: Sure-Seal EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-White EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-Weld TPO FleeceBACK - 100, 115 or 135 membrane
 Sure-Flex PVC FleeceBACK - 105, 115 or 135 membrane
 Sure-Flex KEE HP FleeceBACK - 105, 115 or 135 membrane

Membrane, Base Layer and Top Layer Adhesive: Flexible FAST and Flexible FAST Dual Tank

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 EPDM FB	Sure-White EPDM FB	Sure-Weld TPO FB	Sure-Flex PVC FB	Sure-Flex KEE HP FB
					RoofNAV Number				
FM Approved	Loose laid	Min. 1/4" DensDeck Prime	12 (2.67 sq. ft)	1-90	-	-	-	-	-
FM Approved	Loose laid	Min. 1/2" DensDeck Prime	10 (3.2 sq. ft)	1-90	-	-	-	-	-
FM Approved	Loose laid	Min. 5/8" DensDeck Prime	8 (4 sq. ft)	1-90	-	-	-	-	-

Factory Mutual Approvals
FleeceBACK with Flexible FAST Adhered Roofing System

DensDeck Prime Ratings - Recover

Membrane Type: Sure-Seal EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-White EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-Weld TPO FleeceBACK - 100, 115 or 135 membrane
 Sure-Flex PVC FleeceBACK - 105, 115 or 135 membrane
 Sure-Flex KEE HP FleeceBACK - 105, 115 or 135 membrane

Membrane, Base Layer and Top Layer Adhesive: Flexible FAST and Flexible FAST Dual Tank

Base Insulation Layer	Base Layer Fastening <small>(mechanically fastened see notes 11, 12 & 13)</small>	Top Insulation Layer	Top Layer Fastening <small>(mechanically fastened see notes 11, 12 & 13)</small>	Rating	Sure-Seal EPDM FB	Sure-White EPDM FB	Sure-Weld TPO FB	Sure-Flex PVC FB	Sure-Flex KEE HP FB
					RoofNAV Number				
Steel Deck (Min. 22-Gauge) with VapAir Seal 725TR and Cav-Grip III Primer									
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1/4" DensDeck Prime over Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	1-90	-	-	-	-	-
Concrete Deck									
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1/4" DensDeck Prime	12" ribbons of FAST	1-90	-	-	-	-	-

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
FleeceBACK with Flexible FAST Adhered Roofing System

StormBase Ratings - New Construction

Membrane Type: Sure-Seal EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-White EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-Weld TPO FleeceBACK - 100, 115 or 135 membrane
 Sure-Flex PVC FleeceBACK - 105, 115 or 135 membrane
 Sure-Flex KEE HP FleeceBACK - 105, 115 or 135 membrane

Membrane, Base Layer and Top Layer Adhesive: Flexible FAST and Flexible FAST Dual Tank

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 EPDM FB	Sure-White EPDM FB	Sure-Weld TPO FB	Sure-Flex PVC FB	Sure-Flex KEE HP FB
					RoofNAV Number				
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 VSH	439042-0-0 VSH	-	-
Min. 1-1/2" InsulBase Polyiso	Loose laid	Min. 2" StormBase	32 (1 sq. ft)	1-270	-	439045-0-0 VSH	439044-0-0 VSH	-	-
Min. 2" InsulBase Polyiso	8 (4 sq. ft.)	Min. 2" StormBase	12" ribbons of FAST	1-90	-	439066-0-0 VSH	439065-0-0 VSH	-	-
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 VSH	439067-0-0 VSH	-	-
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 VSH	-	-	-
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	-	-	439059-0-0 VSH	-	-
Min. 1/2" Dens Deck Prime or Securock	16 (2 sq. ft.)	Min. 2" StormBase	12" ribbons of FAST	1-90	483463-0-0	439062-0-0 VSH	439061-0-0 VSH	-	-
Min. 1-1/2" InsulBase Polyiso	10 (3.2 sq. ft.)	Min. 2" StormBase	12" ribbons of FAST	1-90	-	439064-0-0 VSH	439063-0-0 VSH	-	-
Min. 1/2" Dens Deck Prime or Securock	20 (1.6 sq. ft.)	Min. 2" StormBase over min 1-1/2" InsulBase	6" ribbons of FAST	1-135	-	-	-	-	-

Factory Mutual Approvals
FleeceBACK with Flexible FAST Adhered Roofing System

StormBase Ratings - New Construction

Membrane Type: Sure-Seal EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-White EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-Weld TPO FleeceBACK - 100, 115 or 135 membrane
 Sure-Flex PVC FleeceBACK - 105, 115 or 135 membrane
 Sure-Flex KEE HP FleeceBACK - 105, 115 or 135 membrane

Membrane, Base Layer and Top Layer Adhesive: Flexible FAST and Flexible FAST Dual Tank

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 EPDM FB	Sure-White EPDM FB	Sure-Weld TPO FB	Sure-Flex PVC FB	Sure-Flex KEE HP FB
Concrete Deck									
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 2" StormBase	12" ribbons of FAST	1-315	-	-	-	-	-
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 2" StormBase	Full-Coverage FAST	1-270	-	439021-0-0 VSH	439020-0-0 VSH	-	-
-	-	Min. 2" StormBase	Full-Coverage FAST	1-270	-	439019-0-0 VSH	439018-0-0 VSH	-	-
Min. 1/2" InsulBase Polyiso	Hot Asphalt	Min. 2" StormBase	Hot Asphalt	1-300	-	-	-	-	-
Min. 2" ChannelDry EPS	Loose laid	Min. 2" Insulam OSB	6" ribbons of FAST	1-150	427764-0-0	427769-0-0	427778-0-0	-	-
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	Full-Coverage FAST	1-255	-	439023-0-0 VSH	439022-0-0 VSH	-	-
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 2" StormBase	12" ribbons of FAST	1-255	-	-	-	-	-
Concrete Deck with SureMB 70 SA and Cav-Grip III Primer									
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 2" StormBase	Full-Coverage FAST	1-255	-	-	-	-	-
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	1-330	-	-	-	-	-
Gypsum Deck Tear-Off									
Min. 1-1/2" InsulBase Polyiso	Full-Coverage FAST	Min. 2" StormBase	Full-Coverage FAST	1-90	-	-	-	-	-
(Celcore) Cellular Lightweight Insulating Concrete Over Steel Decking (Min. 22 Gauge)									
FM Approved	Loose laid	Min. 2" StormBase	17 (1.8 sq. ft)	1-105	-	-	-	-	-

Factory Mutual Approvals
FleeceBACK with Flexible FAST Adhered Roofing System

StormBase Ratings - Recover

Membrane Type: Sure-Seal EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-White EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-Weld TPO FleeceBACK - 100, 115 or 135 membrane
 Sure-Flex PVC FleeceBACK - 105, 115 or 135 membrane
 Sure-Flex KEE HP FleeceBACK - 105, 115 or 135 membrane

Membrane, Base Layer and Top Layer Adhesive: Flexible FAST and Flexible FAST Dual Tank

Base Insulation Layer	Base Layer Fastening <small>(mechanically fastened see notes 11, 12 & 13)</small>	Top Insulation Layer	Top Layer Fastening <small>(mechanically fastened see notes 11, 12 & 13)</small>	Rating	Sure-Seal EPDM FB	Sure-White EPDM FB	Sure-Weld TPO FB	Sure-Flex PVC FB	Sure-Flex KEE HP FB
					RoofNAV Number				
Steel Deck (Min. 22 Gauge)									
FM Approved	Loose laid	Min. 2" StormBase	17 (1.8 sq. ft)	1-105	-	-	-	-	-
Concrete Deck									
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 2" StormBase	12" ribbons of FAST	1-90	-	-	-	-	-

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
FleeceBACK with Flexible FAST Adhered Roofing System

EcoStorm VSH Ratings - New Construction

Sure-Seal EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-White EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-Weld TPO FleeceBACK - 100, 115 or 135 membrane
 Sure-Flex PVC FleeceBACK - 105, 115 or 135 membrane
 Sure-Flex KEE HP FleeceBACK - 105, 115 or 135 membrane

Membrane Type:

**Membrane,
Base Layer and
Top Layer Adhesive:**

Flexible FAST and Flexible FAST Dual Tank (VSH Approvals are all 4" o.c. ribbons)

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening <small>(mechanically fastened see notes 11, 12 & 13)</small>	Top Insulation Layer	Top Layer Fastening <small>(mechanically fastened see notes 11, 12 & 13)</small>	Rating	Sure-Seal EPDM FB	Sure- White EPDM FB	Sure-Weld TPO FB	Sure-Flex PVC FB	Sure-Flex KEE HP FB
					RoofNAV Number				
Steel Deck (Min. 22-Gauge)									
Min. 1-1/2" InsulBase Polyiso	Loose laid	1/2" EcoStorm VSH	8 (4 sq. ft)	1-90	461161-0-0 (VSH)	-	461162-0-0 (VSH)	-	-
FM Approved	Loose laid	1/2" EcoStorm VSH	18 (1.8 sq. ft)	1-120	461163-0-0 (VSH)	-	461164-0-0 (VSH)	-	-
FM Approved	Loose laid	1/2" EcoStorm VSH	24 (1.33 sq. ft)	1-225	461166-0-0 (VSH)	-	461168-0-0 (VSH)	-	-
FM Approved	Loose laid	1/2" EcoStorm VSH	32 (1 sq. ft.)	1-270	461112-0-0 (VSH)	-	461114-0-0 (VSH)	-	-
Min. 1-1/2" InsulBase Polyiso	10 (3.2 sq. ft.)	1/2" EcoStorm VSH	6" ribbons or Rig Splatter of FAST	1-90	-	-	-	-	-
Min. 2" InsulBase Polyiso	8 (4 sq. ft)	1/2" EcoStorm VSH	6" ribbons or Rig Splatter of FAST	1-90	461287-0-0 (VSH)	551572-0-0 (VSH)	461305-0-0 (VSH)	-	-
Min. 2" InsulBase Polyiso	18 (1.8 sq. ft.)	1/2" EcoStorm VSH	6" ribbons or Rig Splatter of FAST	1-120	461201-0-0 (VSH)	-	461202-0-0 (VSH)	-	-
Min. 2" InsulBase Polyiso	18 (1.8 sq. ft.)	1/2" EcoStorm VSH over 1-1/2" InsulBase Polyiso	6" ribbons or Rig Splatter of FAST	1-120	-	-	498829-0-0 (VSH)	-	-
Min. 2" InsulBase Polyiso	24 (1.33 sq. ft.)	1/2" EcoStorm VSH	4" ribbons or Rig Splatter of FAST	1-165	461206-0-0 (VSH)	-	461207-0-0 (VSH)	482271-0-0 4" o.c.	482272-0-0 4" o.c.
Min. 2" InsulBase Polyiso	24 (1.33 sq. ft.)	1/2" EcoStorm VSH	4" ribbons or Rig Splatter of FAST	1-180	461217-0-0 (VSH)	-	461218-0-0 (VSH)	-	-
Min. 1/2" DensDeck Prime or 5/8" Securock	16 (2 sq. ft.)	1/2" EcoStorm VSH over 1-1/2" InsulBase Polyiso	6" ribbons of FAST	1-90	-	-	-	-	-

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	6" ribbons of FAST	1-90	461290-0-0 (VSH)	479253-0-0	461314-0-0 (VSH)	-	-
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	-	-	-	-	-
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	-	-	-	-	-
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.)	1/2" EcoStorm VSH over 1-1/2" InsulBase Polyiso	6" ribbons of FAST	1-90	-	-	-	-	-
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	-	-	-	-	-
Steel Deck (Min. 22-Gauge) with SureMB 90TG, 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	-	-	-	-	-
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	-	-	-	-	-
Concrete Deck									
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	1/2" EcoStorm VSH	12" ribbons or Rig Splatter of FAST	1-315	461179-0-0	-	461180-0-0	-	-
Concrete Deck with VapAir Seal 725TR and Cav-Grip III, 702-LV or 702 Primer									
Min. 1/2" InsulBase Polyiso	Full-Coverage FAST	1/2" EcoStorm VSH	12" ribbons of FAST	1-315	461175-0-0	-	461176-0-0 (VSH)	-	-
Concrete Deck with SureMB 70 SA and Cav-Grip III Primer									
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	1/2" EcoStorm VSH	12" ribbons of FAST	1-285	519866-0-0	-	519867-0-0	-	-
Concrete Deck with SureMB 90TG and 120TG Base Torch Applied/Cut-Back Asphalt Primer									
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	1/2" EcoStorm VSH	12" ribbons of FAST	1-255	461273-0-0 (VSH)	-	461302-0-0 (VSH)	-	-
Gypsum Deck Tear-Off									
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	1/2" EcoStorm VSH	12" ribbons of FAST	1-90	-	-	-	-	-
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	1/2" EcoStorm VSH	12" ribbons or Rig Splatter of FAST	1-90	-	-	-	-	-
(Celcore) Cellular Lightweight Insulating Concrete Over Steel Decking (Min. 22 Gauge)									
FM Approved	Loose laid	1/2" EcoStorm VSH	8 (2.67 sq. ft)	1-90	-	-	-	-	-
-	-	1/2" EcoStorm VSH	8 (2.67 sq. ft)	1-90	-	-	-	-	-

Factory Mutual Approvals
FleeceBACK with Flexible FAST Adhered Roofing System

EcoStorm VSH Ratings - Recover

Membrane Type: Sure-Seal EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-White EPDM FleeceBACK - 100, 115 or 145 membrane
 Sure-Weld TPO FleeceBACK - 100, 115 or 135 membrane
 Sure-Flex PVC FleeceBACK - 105, 115 or 135 membrane
 Sure-Flex KEE HP FleeceBACK - 105, 115 or 135 membrane

Membrane, Base Layer and Top Layer Adhesive: Flexible FAST and Flexible FAST Dual Tank (VSH Approvals are all 4" o.c. ribbons)

Base Insulation Layer	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 EPDM FB	Sure-White EPDM FB	Sure-Weld TPO FB	Sure-Flex PVC FB	Sure-Flex KEE HP FB
					RoofNAV Number				
Steel Deck (Min. 22-Gauge)									
-	-	1/2" EcoStorm VSH	16 (2 sq. ft)	1-90	-	-	-	-	-
-	-	1/2" EcoStorm VSH	12" ribbons of FAST	1-90	461280-0-0 (VSH)	-	-	-	-
Min. 1/2" InsulBase Polyiso	6" ribbons of FAST	1/2" EcoStorm VSH	6" ribbons of FAST	1-150	466719-0-0 (VSH)	-	-	-	-
Concrete Deck									
Min. 1/2" InsulBase Polyiso	6" ribbons of FAST	1/2" EcoStorm VSH	6" ribbons of FAST	1-150	-	-	467534-0-0 (VSH)	-	-
-	-	1/2" EcoStorm VSH	6" ribbons of FAST	1-150	466720-0-0 (VSH)	-	466721-0-0 (VSH)	-	-
Gypsum Deck									
Min. 1-1/2" InsulBase Polyiso	6" ribbons of FAST	1/2" EcoStorm VSH	6" ribbons of FAST	1-90	-	-	-	-	-

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

Premiseal 60 SPF Ratings - New Construction

Membrane Type: Sure-White EPDM FleecceBACK - 100, 115 or 145 membrane

Membrane and Insulation Adhesive: Flexible FAST

Base Insulation Layer	Base Layer Fastening <small>(mechanically fastened see notes 11, 12 & 13)</small>	Top Insulation Layer	Top Layer Fastening <small>(mechanically fastened see notes 11, 12 & 13)</small>	Rating	Sure-White EPDM FB
					RoofNAV Number
Steel Deck (Min. 22-Gauge)					
Min. 1.5" Premiseal 60	Spray Applied to deck	-	-	1-285	-
Min. 2" InsulBase/SecurShield	10 (1 per 3.2 sq.ft.)	Min. 1" Premiseal 60	Spray Applied to Insulation	1-90	-
Min. 1/2" DensDeck Prime or Securock	8 (1 per 4 sq. ft.)	Min. 1" Premiseal 60	Spray Applied to Insulation	1-90	-
Concrete Deck					
Min. 1.5" Premiseal 60	Spray Applied to deck	-	-	1-990	-
Min. 2" InsulBase/SecurShield	Flexible FAST 4" ribbons	Min. 1" Premiseal 60	Spray Applied to Insulation	1-420	-

Wind Uplift Testing
Insulation Attached to Steel Deck with Flexible FAST Adhesive (14)

Sure-Seal/Sure-White FleeceBACK Adhered Roofing Systems
 Insulation attachment to Steel Decks with Flexible FAST Adhesive

Insulation and Membrane adhered with Flexible FAST Adhesive			
Deck Type	Insulation	Insulation Thickness	Rating
Steel - 22 gauge Approved Grade C deck fastened to structural purlins (positioned maximum 6' apart) with ITW Buildex Traxx/5 Fasteners spaced 6" on center	InsulBase Polyiso	Minimum 1-1/2"	Passed 210 psf with beads 6-inches on center (every flute)

Adhered FleeceBACK® with Flexible FAST Adhesive

Reference Notes

1. Any roof covering system listed for use over a combustible roof deck can be installed over a non-combustible roof deck and achieve the same classification.
2. All insulation joints must be staggered a minimum of 6 inches from the deck joints or from the insulation joints directly below.
3. All insulation joints must be staggered a minimum of 12 inches from the deck joints or from the insulation joints directly below.
4. DELETED
5. DELETED
6. DELETED
7. DELETED
8. DELETED
9. DELETED
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. DELETED
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. DELETED
18. 80 ksi with one fastener per attachment point.
19. 80 ksi with two fasteners per attachment point.

Carlisle SynTec Systems, a division of Carlisle Construction Materials LLC, P.O. Box 7000, Carlisle, PA 17013
(800)-4SYNTEC (800-479-6832)

Carlisle, Sure-Seal, Sure-Flex, Sure-Weld, Sure-White, FleeceBACK and FAST are Trademarks
of Carlisle SynTec Systems, a division of Carlisle Construction Materials LLC

DensDeck Prime is a Trademark of Georgia-Pacific

The contents of this issue represent the applicable information available at the time of publication. The contents of older issues are no longer accurate due to subsequent changes.

2022 Copyright Carlisle SynTec Systems, a division of Carlisle Construction Materials LLC