

Sure-Flex[™] PVC Roofing Systems

Code Approval Guide

December, 2018

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Carlisle SynTec, a division of Carlisle Construction Materials, LLC

CODE APPROVAL GUIDE

December, 2018

INTRODUCTION

This Code Approval Guide addresses both general information pertaining to Underwriters Laboratories (UL) and FM Approvals (FM) test criteria as well as specific UL and FM code approvals achieved with Carlisle's Sure-Flex Adhered and Mechanically-Fastened Roofing Systems. Various independent test laboratory results along with national building code approvals are also identified in this guide. Code approvals available with Carlisle's FleeceBACK™, Hot Mopped, Sure-Weld and Sure-Seal® Roofing Systems are identified in separately published Code Approval Guides.

Code ratings are categorized by roof system type (Mechanically-Fastened, Adhered) and are separated into 2 sections; UL Approvals and FM Approvals. Underwriters Laboratories rated roof assemblies are grouped according to deck type (non-combustible or combustible) and are further categorized by the severity of fire exposure (Class A, B or C). FM Approvals approved assemblies are categorized according to deck type and the specific type of construction (new, tear-off or retrofit).

The listed assemblies contained in this guide are grouped generically based on deck classification. Specific substrate requirements for each Carlisle Roofing System can be identified in the respective Carlisle Specifications.

In the UL and FM Approvals throughout this guide, when multiple layers of insulation are referenced, the product listed first identifies the insulation directly below the membrane. For example; a listing of HP Recovery Board/Polyisocyanurate indicates the HP Recovery Board is installed directly under the membrane. A listing of Gypsum Board/Polystyrene indicates the Gypsum Board is installed directly under the membrane.

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General Guidelines for Underwriters Laboratories and FM Approvals Code Compliance

These guidelines are intended to focus on the essential criteria to be followed when an Underwriters Laboratories (UL) and/or FM Approvals (FM) approved assembly is specified. Generally, the Carlisle published specifications reflect the minimum requirements necessary to obtain the applicable Carlisle warranty. Code requirements are not specifically covered in the Carlisle specifications and are considered to be above and beyond the provisions of the Carlisle warranty.

Individuals specifying an approved assembly or selecting various products to achieve a specific UL/FM rating must recognize the importance of ensuring proper component selection to fully comply with the most current listings published. **All materials used in the roofing system must be UL and/or FM approved and must have been tested together as part of a complete roofing assembly.**

In addition to the code approval listings in this guide, information pertaining to approved assemblies can also be obtained directly from UL and FM as follows:

1. *Underwriters Laboratories On-Line Certifications Directory (ul.com).*
2. *FM Approvals RoofNav website (roofnav.com).* FM RoofNav assembly numbers can be obtained from this website.

Underwriters Laboratories, FM Approvals and ANSI/SPRI WD-1 Clarifications/Enhancements:

Underwriters Laboratories

1. The criteria required to obtain **UL external fire ratings** (Class A, B or C) can be identified in this guide or can be searched for on the UL website using the UL Category Code TGFU. UL ratings approved for use on combustible decks are also acceptable on non-combustible decks.
2. For **UL internal fire ratings** (hourly constructions - P Numbers), search the UL website using the UL Category Code BXUV.

FM Approvals

Uplift ratings listed in this guide are for the field of the roof. Additional requirements/enhancements are required by FM in the perimeter and corner areas, for deck securement and for perimeter nailer/edge attachment. Refer to FM Property Loss Prevention Data Sheets 1-28, 1-29 and 1-49 for specific requirements. On FM insured projects, the local FM insuring agent **MUST** review and approve the proposed roofing assembly prior to installation. When FM is not the insuring entity for the building, use the **Approved American National Standard ANSI/SPRI WD-1** for design purposes.

Note: All Carlisle Roof Systems referenced within this document meet Class 1 construction and Severe Hail (SH) ratings.

Approved American National Standard ANSI/SPRI WD-1

The ANSI/SPRI Wind Design Standard Practice for Roofing Assemblies should be referenced when a project is not FM insured. This document was developed as a consensus National Standard and provides a methodology for designing for wind uplift resistance of roofing system assemblies. Insulation fastening patterns are included in this document. The fastening patterns are approved for use by Carlisle.

RECOVERS

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.

SUMMARY

Due to complexity of the code documents and the variety of information that must be reviewed, it is important to consult with Carlisle and other respective manufacturers concerning the most current available approvals.

- **Prior to project bid** - Products specified by the architect must be thoroughly investigated to determine if the specified rating can be achieved and local building codes must be consulted regarding any additional requirements.
- **Prior to installation** - Project managers should review the code requirements with field construction personnel to ensure compliance with project requirements.

Upon completion of the roofing installation, each project is inspected by a Carlisle Technical Representative to ensure compliance with Carlisle's current specification requirements for the issuance of the applicable warranty. However, this inspection is not for the purpose of verifying code compliance.

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Sure-Flex™ (PVC) Mechanically-Fastened Roofing System

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

Membrane .050'', .060'' or .080'' Sure-Flex PVC Reinforced Membrane (White, Gray or Tan)

Type: .050'', .060'' or .080'' Sure-Flex KEE HP Reinforced Membrane (White)

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

System ID	Deck Type	Insulation	Cover Board	Maximum Slope
1	Non-Combustible	InsulBase, SecurShield, SecurShield HD, SecurShield HD Plus or SecurShield HD Composite- any combination, any thickness	N/A	2-1/2"
2		Any UL Classified EPS or XPS Insulation, any thickness	Minimum 1/2" SecurShield HD, SecurShield HD Plus or SecurShield HD Composite	1"
3		Minimum 1" layer of InsulBase, SecurShield, or SecurShield HD Composite over any UL Classified EPS or XPS Insulation, maximum 1.25 pcf, any thickness	N/A	1"
4		Insulfoam SP or Insulfoam SP over Insulfoam EPS, any thickness and density.	N/A	1"
5		Insulfoam HD Composite or Insulfoam HD Composite over Insulfoam EPS, any thickness and density.	N/A	1"
6		Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 1/4" SECUROCK® Gypsum-Fiber or Glass Mat Roof Boards	Unlimited
7		Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 1/4" Dens Deck/DensDeck Prime Roof Boards	Unlimited
8		Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 1/2" HP Recovery Board	1"
9		Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 7/16" APA Rated OSB or minimum 1-1/2" StormBase	1"
10	Precast concrete with grouted joints	N/A	N/A	1"

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Sure-Flex™ (PVC) Mechanically-Fastened Roofing System

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

Membrane .050", .060" or .080" Sure-Flex PVC Reinforced Membrane (White, Gray or Tan)

Type: .050", .060" or .080" Sure-Flex KEE HP Reinforced Membrane (White)

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 (2)	Maximum Slope
Combustible (7) - ANSI/UL 790 Spread of Flame Test-Class A				
1	Minimum 1/4" SECUROCK® Gypsum Fiber or Glass Mat Roof Boards (1)	Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness.	N/A	2-1/2"
2	Minimum 1/4" DensDeck or DensDeck Prime Roof Boards (1)	Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness.	N/A	2-1/2"
3	N/A	Minimum 3" layer or two layers of 1-1/2" SecurShield or SecurShield HD Composite. (1)(3)	N/A	1/2"
4	N/A	Minimum 2-1/2" layer SecurShield or SecurShield HD Composite over a 2-1/2" (minimum) layer of Carlisle InsulBase Insulation. (1)(4)	N/A	1/2"
5	Carlisle FR Base Sheet	Minimum 1.9" layer of SecurShield or SecurShield HD Composite. (1)(4)	N/A	1/2"
6	N/A	Minimum 2-1/2" layer of any UL Classified Carlisle Polyisocyanurate Insulation, any combination. (1)	Minimum 1/2" SecurShield HD or SecurShield HD Plus	1/2"
7	Carlisle FR Base Sheet	Minimum 1.4" layer of any UL Classified Carlisle Polyisocyanurate Insulation, any combination. (1)	Minimum 1/2" SecurShield HD or SecurShield HD Plus	1/2"
8	N/A	Minimum 1" layer of SecurShield CD. (1)(5)	N/A	1/2"
9	N/A	Minimum 4" layer of any UL Classified EPS Insulation. (1)(6)	Minimum 1/2" SecurShield HD or SecurShield HD Plus	1/2"
10	N/A	Minimum 1" layer of SecurShield CD over a minimum 3-1/2" layer of any UL Classified EPS Insulation. (1)(6)	N/A	1/2"
11	N/A	Minimum 1-1/2" layer of Insulfoam HD Composite over a minimum 3" layer of Insulfoam EPS. (1)(6)	N/A	1/2"
12	N/A	Minimum 2" layer of Insulfoam HD Composite over a minimum 2-1/2" layer of Insulfoam EPS. (1)(6)	N/A	1/2"
13	N/A	Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness.	Minimum 1/4" SECUROCK® Gypsum Fiber Roof Board (1)	Unlimited
14	N/A	Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 3/8" SECUROCK® Gypsum Fiber Roof Board (1)	2"
15	N/A	Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 1/2" SECUROCK® Gypsum Fiber Roof Board (1)	4"
16	One Ply of Type G2	Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 1/4" SECUROCK® Gypsum Fiber Roof Board (1)	3"
17	N/A	Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 1/4" SECUROCK® Glass Mat Roof Board (1)	Unlimited
18	N/A	Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 1/4" Dens Deck/DensDeck Prime Roof Boards (1)	Unlimited
19	Three or Two layers of Carlisle FR Base Sheet	Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness.	N/A	1/2"
20	N/A	Any UL Classified Polyiso Insulation, any thickness (OPTIONAL)	SecurShield HD FR	1/2"
21	N/A	Min 3.5" Layer of UL Classified EPS Insulation. (OPTIONAL)	SecurShield HD FR	1/2"

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Sure-Flex™ (PVC) Mechanically-Fastened Roofing System

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

Membrane .050", .060" or .080" Sure-Flex PVC Reinforced Membrane (White, Gray or Tan)

Type: .050", .060" or .080" Sure-Flex KEE HP Reinforced Membrane (White)

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
Combustible - ANSI/UL 790 Spread of Flame Test-Class B				
1	N/A	Minimum 1.9" layer of SecurShield or SecurShield HD Composite. (7)(8)	N/A	1/2"
2	N/A	Minimum 1.4" layer of any UL Classified Carlisle Polyisocyanurate Insulation. (7)	Minimum 1/2" SecurShield HD or SecurShield HD Plus	1/2"
3	N/A	Minimum 1" layer of SecurShield CD. (7)(9)	N/A	1/2"
4	One Layer of Carlisle FR Base Sheet	Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness. (OPTIONAL)	N/A	1/2"
5	Inverted G3 cap sheet	N/A	N/A	1/2"

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Sure-Flex™ (PVC) Mechanically-Fastened Roofing System

UL Approval - Combustible and Non-Combustible - ANSI/UL 790 Spread of Flame Test - Class C

Membrane .050", .060" or .080" Sure-Flex PVC Reinforced Membrane (White, Gray or Tan)
Type: .050", .060" or .080" Sure-Flex KEE HP Reinforced Membrane (White)

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)

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

System ID	Thermal Barrier/Base Sheet	Insulation	Cover Board	Maximum Slope
Combustible - ANSI/UL 790 Spread of Flame Test-Class C				
1	N/A	Any combination, any thickness of UL Classified Carlisle Polyisocyanurate Isulation	N/A	Unlimited
2	N/A	1/2" Min. HP Recovery Board	N/A	1"
Non-Combustible - ANSI/UL 790 Spread of Flame Test-Class C				
1	N/A	Any combination, any thickness of UL Classified Carlisle Polyisocyanurate Isulation	N/A	Unlimited

**Existing UL Rating Retained - Non-Combustible or Combustible
 (Directly over existing Class A, B or C)**

System ID	Deck Type	Insulation	Cover Board	Maximum Slope
1	N/A	Smooth Asphalt BUR (Type II or IV Asphalt)	N/A	1/2"
2	N/A	Mineral Surfaced Cap Sheet	N/A	1/2"
3	N/A	Modified Bitumen	N/A	1/2"
4	N/A	Sprayed-in-Place Urethane	N/A	1/2"
5	N/A	Single-Ply (28)	N/A	1/2"

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Sure-Flex™ (PVC) Mechanically-Fastened Roofing System
Factory Mutual (FM) Approvals

FM Approval - Field Sheet Securement Criteria (10)(11)

Membrane Type: .050", .060" or .080" Sure-Flex PVC Reinforced Membrane (White, Gray or Tan)
.050", .060" or .080" Sure-Flex KEE HP Reinforced Membrane (White)(120" only)

Membrane Width	Fastener/Plate (10)	Fastener Spacing	FM Ratings over Min. 22 Gauge	FM Ratings over Min. 22 Gauge
			Grade C Steel (33 ksi)	Grade E Steel (80 ksi) (11) or Structural Concrete
120"	HP-X/Piranha	6"		1-75 (307057-0-0)
	HP-Xtra/Piranha Xtra	12"		1-60 (307052-0-0)
	HP-X/Oval Barbed	6"		1-90 (323786-0-0)
81"	HP-X/Piranha	6"	1-75	1-105 (143334-0-0)
		12"	1-75 (143339-0-0)	1-90 (143340-0-0)
	HP-Xtra/Piranha Xtra	12"	1-75 (336447-0-0)	1-90 (143337-0-0)
	HP-X/Piranha	18"	1-60 (143349-0-0)	1-60
	HP-Xtra/Piranha Xtra	18"	1-60 (143336-0-0)	1-60
60"	HP-X/Piranha	12"	1-90 (393514-0-0)	1-90
		6"	1-120 (394663-0-0)	1-150 (393538-0-0)
40-1/2"	HP-X/Piranha	6"	1-165 (143335-0-0)	1-165
		12"	1-120 (353942-0-0)	1-120

(RoofNAV Number) for systems over InsulBase Polyiso

FM Approvals – Induction Welding Securement Criteria

Membrane Type: .050", .060" or .080" Sure-Flex PVC Reinforced Membrane (White, Gray or Tan)
.050", .060" or .080" Sure-Flex KEE HP Reinforced Membrane (White)(120" only)

FM Approvals – Induction Welding Securement					
Deck Type	Fastener/Plate	Rating	Fasteners per 4' x 8' Board		
			Field	Perimeter	Corner
Min. 22 Gauge Grade C Steel (33 ksi)	HP-X / RhinoBond PVC Plate	1-90 (341110-0-0)	6	10	16
		1-105 (341109-0-0)	8	16	20
		1-165 (387207-0-0)	16	28	40
Min. 22 Gauge Grade E Steel (11) (80 ksi)	HP-Xtra / RhinoBond PVC Plate	1-135 (346217-0-0)	8	16	20
		HP-X / RhinoBond PVC Plate	1-120 (341108-0-0)	8	16
Min. 22 Gauge Grade E Steel (11) (80 ksi)	HP-X / RhinoBond PVC Plate	1-195 (387224-0-0)	16	28	40

(RoofNAV Number) for systems over InsulBase Polyiso

FM Approvals – Induction Welding Linear Securement					
Deck Type	Fastener	Plate	Row Spacing	Fastener Spacing in Rows	Rating
Min. 22 Gauge Grade E Steel (80 ksi)	HP-X	RhinoBond PVC PLATE	5'	6"	1-180 (323359-0-0)
			5'	12"	1-105 (323363-0-0)
			5'	18"	1-75 (323361-0-0)
			10'	6"	1-120 (323358-0-0)
			10'	12"	1-60 (323357-0-0)

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FM Class A Roof Deck Construction and Insulation Approvals (14)

Membrane Type: .050", .060" or .080" Sure-Flex PVC Reinforced Membrane (White, Gray or Tan)
 .050", .060" or .080" Sure-Flex KEE HP Reinforced Membrane (White)(120" only)

Deck Type	Insulation	Insulation Thickness	Maximum Slope for ASTM E-108 Class "A" Rating	
			Sure-Flex PVC	Sure-Flex KEE HP
New Construction/Tear-off: Steel (Minimum 22 gauge) Structural Concrete	Carlisle HP Recovery Board or FM Approved High Density Wood Fiberboard	1/2" Min.	1"	2-1/2"
	Carlisle HP Recovery Board (min. 1/2"), DensDeck Prime (min. 1/4") or Securock (min. 1/4") Over: FM Approved Insulation (12)	Refer to FM RoofNAV website	5" (with DensDeck Prime overlay)	5" (with DensDeck Prime overlay)
	Carlisle SecurShield HD or SecurShield HD Plus Over: FM Approved Insulation (12)	1/2" Refer to FM RoofNAV website	1"	2"
Retrofit (No Tear-off) (13): Structural Concrete	Carlisle Polyisocyanurate InsulBase	1" - 12"	1"	1-1/2"
	Carlisle Insulfoam SP (12)	2" - 12"	2"	2"
Retrofit (No Tear-off) (13): Steel (Minimum 22 gauge)	Carlisle HP Recovery Board	1/2" - 1"	1"	2-1/2"
	Carlisle SecurShield HD or SecurShield HD Plus	1/2"		
	Carlisle Polyisocyanurate InsulBase	1" Max.	1"	1-1/2"

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Sure-Flex™ (PVC) Mechanically-Fastened Roofing System

ANSI-SPRI 4474 Approvals

Membrane Type: .050", .060" or .080" Sure-Flex PVC Reinforced Membrane (White, Gray or Tan)
 .050", .060" or .080" Sure-Flex KEE HP Reinforced Membrane (White)(120" only)

Membrane Width	Fastener/Plate (15)	Fastener Spacing	Ratings over Min. 22 Gauge	
			Grade C Steel (30 ksi)	Grade E Steel (80 ksi) or Structural Concrete
120"	HP-X/Piranha	6"	1-75	1-75
	HP-Xtra/Piranha Xtra	12"	1-60	1-60
	HP-X/Oval Barbed	6"	1-90	1-90
81"	HP-X/Piranha	6"	1-105	1-105
		12"	1-75	1-90
	HP-Xtra/Piranha Xtra	12"	1-90	1-90
	HP-X/Piranha	18"	1-60	1-60
	HP-Xtra/Piranha Xtra	18"	1-60	1-60
40-1/2"	HP-X/Piranha	6"	1-165	1-165
		12"	1-120	1-120

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Sure-Flex™ (PVC) Metal Retrofit Roofing System

Underwriters Laboratories (UL) Approvals

The UL ratings achieved with the Metal Retrofit Roofing System are identical to the approvals listed for the Sure-Flex™ Mechanically-Fastened Roofing System over non-combustible decks depending on the membrane selected. [Click here for ratings.](#)

FM Approvals

As referenced in FM Approvals Loss Prevention Data Sheet 1-31, the method of recovering an existing metal roof system with a single-ply mechanically fastened roofing system where the membrane is secured through the existing metal roof directly to the structural purlins is recognized as an appropriate recovery system when installed per the recommendations of FM.

As a standard FM Approvals requirement, additional membrane and insulation securement is necessary in the corner and/or perimeter areas as outlined in FM Property Loss Prevention Data Sheets 1-28, 1-29 and 1-31. These bulletins should be reviewed in their entirety for specific requirements concerning insulation types, fastening enhancements and other items that may be necessary.

Membrane Type: .050", .060" or .080" Sure-Flex PVC Reinforced Membrane (White, Gray or Tan)
 .050", .060" or .080" Sure-Flex KEE HP Reinforced Membrane (White)(120" only)

FM Approvals – Metal Retrofit

Purlin Spacing	Fastener/Plate	Spacing	Sure-Flex PVC and Sure Flex KEE HP
60 Inches	HP Purlin/Piranha	6"	1-105 (272712-0-0)
		12"	1-90 (272720-0-0)
		18"	1-60 (272723-0-0)

FM Approvals – Induction Welding Metal Retrofit

Deck Type	Fastener	Plate	Row Spacings	Fastener Spacing in Rows	Rating
Structural Steel Purlin (Metal Retrofit)	HP Purlin	RhinoBond PVC Plate	5'	6"	1-180
			5'	12"	1-105
			5'	18"	1-75
			10'	6"	1-120
			10'	12"	1-60

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Sure-Flex™ (PVC) Adhered Roofing System

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

Membrane Type: .050", .060" or .080" Sure-Flex PVC Reinforced Membrane (White, Gray or Tan)
 .050", .060" or .080" Sure-Flex KEE HP Reinforced Membrane (White)

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

System ID	Deck Type	Insulation	Cover Board	Maximum Slope
1	Non-Combustible	InsulBase, SecurShield, SecurShield HD, SecurShield HD Plus or SecurShield HD Composite- any combination, any thickness	N/A	2"
2		Any UL Classified EPS or XPS Insulation, any thickness	Minimum 1/2" SecurShield HD, SecurShield HD Plus or SecurShield HD Composite	2"
3		Minimum 1/2" layer of InsulBase, SecurShield, or SecurShield HD Composite over any UL Classified EPS or XPS Insulation, maximum 1-1/4" pcf, any thickness	N/A	2"
4		Insulfoam HD Composite or Insulfoam HD Composite over Insulfoam EPS, any thickness and density.	N/A	2"
5		Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 1/4" SECUROCK® Gypsum-Fiber Roof Boards	Unlimited
6		Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 1/4" DensDeck Prime Roof Boards	Unlimited
7		Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 1/2" HP Recovery Board	1-1/2"
8		Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 7/16" APA Rated OSB or minimum 1-1/2" StormBase	3"
9	Precast concrete with grouted joints	N/A	N/A	1-1/2"

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Sure-Flex™ (PVC) Adhered Roofing System

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

Membrane .050", .060" or .080" Sure-Flex PVC Reinforced Membrane (White, Gray or Tan)

Type: .050", .060" or .080" Sure-Flex KEE HP Reinforced Membrane (White)

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 (17)	Maximum Slope
Combustible (7) - ANSI/UL 790 Spread of Flame Test-Class A				
1	Minimum 1/4" SECUROCK® Gypsum Fiber or Glass Mat Roof Boards (16)	Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness.	N/A	2"
2	Minimum 1/4" DensDeck or DensDeck Prime Roof Boards (16)	Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness.	N/A	2"
3	N/A	Minimum 3" layer or two layers of 1-1/2" SecurShield or SecurShield HD Composite. (16)(18)	N/A	1/2"
4	N/A	Minimum 1/2" layer SecurShield or SecurShield HD Composite over a 2-1/2" (minimum) layer of Carlisle InsulBase Insulation. (16)(19)	N/A	1/2"
5	Carlisle FR Base Sheet	Minimum 1-9/10" layer of SecurShield or SecurShield HD Composite. (16)(19)	N/A	1/2"
6	N/A	Minimum 2-1/2" layer of any UL Classified Carlisle Polyisocyanurate Insulation, any combination. (16)	Minimum 1/2" SecurShield HD or SecurShield HD Plus	1/2"
7	Carlisle FR Base Sheet	Minimum 1-2/5" layer of any UL Classified Carlisle Polyisocyanurate Insulation, any combination. (16)	Minimum 1/2" SecurShield HD or SecurShield HD Plus	1/2"
8	N/A	Minimum 1" layer of SecurShield CD. (16)(20)	N/A	1/2"
9	N/A	Minimum 4" layer of any UL Classified EPS Insulation. (16)(21)	Minimum 1/2" SecurShield HD or SecurShield HD Plus	1/2"
10	N/A	Minimum 1" layer of SecurShield CD over a minimum 3-1/2" layer of any UL Classified EPS Insulation. (16)(21)	N/A	1/2"
11	N/A	Minimum 1-1/2" layer of Insulfoam HD Composite over a minimum 3" layer of Insulfoam EPS. (16)(21)	N/A	1/2"
12	N/A	Minimum 2" layer of Insulfoam HD Composite over a minimum 2-1/2" layer of Insulfoam EPS. (16)(21)	N/A	1/2"
13	N/A	Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness.	Minimum 1/4" SECUROCK® Gypsum Fiber Roof Board (16)	Unlimited
14	N/A	Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 3/8" SECUROCK® Gypsum Fiber Roof Board (16)	2"
15	N/A	Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 1/2" SECUROCK® Gypsum Fiber Roof Board (16)	4"
16	One Ply of Type G2	Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 1/4" SECUROCK® Gypsum Fiber Roof Board (16)	3"
17	N/A	Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 1/4" DensDeck Prime Roof Boards (16)	Unlimited
18	Three or Two layers of Carlisle FR Base Sheet	Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness.	N/A	3/4"
19	N/A	Any UL Classified Polyiso Insulation, any thickness (OPTIONAL)	SecurShield HD FR	1/2"
20	N/A	Min 3.5" Layer of UL Classified EPS Insulation. (OPTIONAL)	SecurShield HD FR	1/2"

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Sure-Flex™ (PVC) Adhered Roofing System

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

Membrane Type: .050", .060" or .080" Sure-Flex PVC Reinforced Membrane (White, Gray or Tan)
 .050", .060" or .080" Sure-Flex KEE HP Reinforced Membrane (White)

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
Combustible - ANSI/UL 790 Spread of Flame Test-Class B				
1	N/A	Minimum 1-9/10" layer of SecurShield or SecurShield HD Composite. (22)(23)	N/A	1/2"
2	N/A	Minimum 1-2/5" layer of any UL Classified Carlisle Polyisocyanurate Insulation. (22)	Minimum 1/2" SecurShield HD or SecurShield HD Plus	1/2"
3	N/A	Minimum 1" layer of SecurShield CD. (22)(24)	N/A	1/2"
4	One Layer of Carlisle FR Base Sheet	Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness. (OPTIONAL)	N/A	1/2"
Non-Combustible - ANSI/UL 790 Spread of Flame Test-Class B				
1	N/A	Polyisocyanurate InsulBase, SecurShield, any thickness.	N/A	2-1/2"

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Sure-Flex™ (PVC) Adhered Roofing System

UL Approval - Combustible and Non-Combustible - ANSI/UL 790 Spread of Flame Test - Class C

Membrane Type: .050", .060" or .080" Sure-Flex PVC Reinforced Membrane (White, Gray or Tan)
 .050", .060" or .080" Sure-Flex KEE HP Reinforced Membrane (White)

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)

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

System ID	Thermal Barrier/Base Sheet	Insulation	Cover Board	Maximum Slope
Combustible - ANSI/UL 790 Spread of Flame Test-Class C				
1	N/A	2" layer of any UL Classified Carlisle Polyisocyanurate Insulation	N/A	Unlimited
2	N/A	1/2" Recovery Board	N/A	1"
Non-Combustible - ANSI/UL 790 Spread of Flame Test-Class C				
1	N/A	Any layer of UL Classified Carlisle Polyisocyanurate Insulation	N/A	Unlimited

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FM Approvals
Design "A" Adhered Roofing Systems

SecurShield HD Ratings - New Construction

Membrane Type: .050", .060" or .080" Sure-Flex PVC Reinforced Membrane (White, Gray or Tan)
.050", .060" or .080" Sure-Flex KEE HP Reinforced Membrane (White)

Membrane Adhesive: Low VOC PVC Bonding Adhesive (LVOC) or HydroBond Water-Based PVC Bonding Adhesive (HydroBond)

Base and Top Layer Adhesive: FAST = FAST 100LV, Flexible FAST, FAST Bag in a Box, FAST Dual Cartridge and FAST Dual Tank
(FAST Dual Tank can only be used on Steel and Concrete Decking)

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Rating	Sure-Flex PVC	Sure-Flex KEE HP (LVOC Only)
					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	385920-0-0	385924-0-0
Min. 1-1/2" InsulBase Polyiso	10 (3.2 sq. ft.)	1/2" SecurShield HD	6" ribbons of FAST	1-90	345060-0-0 (LVOC)	354061-0-0 (LVOC)
Min. 1-1/2" InsulBase Polyiso	10 (3.2 sq. ft.)	1/2" SecurShield HD	6" ribbons of FAST	1-90	353920-0-0 (HydroBond)	-
Min. 2" InsulBase Polyiso	8 (4 sq. ft)	1/2" SecurShield HD	6" ribbons of FAST	1-90	353921-0-0 (LVOC)	353925-0-0 (LVOC)
Min. 1-1/2" InsulBase Polyiso	18 (1.8 sq. ft.)	1/2" SecurShield HD	6" ribbons of FAST	1-105	-	-
Min. 1-1/2" InsulBase Polyiso	24 (1.33 sq. ft.)	1/2" SecurShield HD	4" ribbons of FAST	1-150	-	-
Min. 1-1/2" InsulBase Polyiso	24 (1.33 sq. ft.)	1/2" SecurShield HD	4" ribbons of FAST	1-165	-	-
Min. 1/2" DensDeck Prime or Securock	16 (2 sq. ft.)	SecurShield HD over InsulBase Polyiso	6" ribbons of FAST	1-90	-	-
Steel Deck (Min. 22 Gauge)/VapAir Seal 725 TR and Cav-Grip Primer						
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min.1/2" SecurShield HD	12" ribbons of FAST	1-90	404126-0-0	404128-0-0 (LVOC)
Min. 1/2" DensDeck Prime or 5/8" Securock	16 (2 sq. ft.)	Min.1/2" SecurShield HD over Min. 1" Insulfoam	6" ribbons of FAST	1-90	-	-
Concrete Deck						
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	1/2" SecurShield HD	12" ribbons of FAST	1-225	424763-0-0 (Hydrobond)	-
Min. 1/2" InsulBase Polyiso	10 (3.2 sq. ft.)	1/2" SecurShield HD	12" ribbons of FAST	1-90	424668-0-0 (Hydrobond)	-
Min. 2" Insulfoam EPS	12" ribbons of FAST	1/2" SecurShield HD	12" ribbons of FAST	1-285	429737-0-0 (HydroBond)	-
Min. 2" Insulfoam EPS	12" ribbons of FAST	1/2" SecurShield HD	12" ribbons of FAST	1-285	429725-0-0 (LVOC)	429726-0-0 (LVOC)
Min. 1-1/2" Insulfoam HD Comp	Full-Coverage FAST	-	-	1-225	424573-0-0 (Hydrobond)	-
Min. 1/2" InsulBase Polyiso	12" ribbons of Olybond 500 BA	1/2" SecurShield HD	12" ribbons of Olybond 500 BA	1-240	-	-
Min. 1/2" InsulBase Polyiso	Hot Asphalt	1/2" SecurShield HD	Hot Asphalt	1-240	-	-
Min. 2" ChannelDry EPS	Loose laid	Min. 2" Insulfoam HD Comp	6" ribbons of FAST	1-90	427788-0-0	427788-0-0
Concrete Deck/VapAir Seal 725 TR and Cav-Grip, 702-LV or 702 Primer						
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	1/2" SecurShield HD	12" ribbons of FAST	1-240 Cav-Grip	424839-0-0	-
				1-195 702-LV	424832-0-0	-

FM Approvals
Design "A" Adhered Roofing Systems

SecurShield HD Ratings - New Construction

Membrane Type: .050", .060" or .080" Sure-Flex PVC Reinforced Membrane (White, Gray or Tan)
.050", .060" or .080" Sure-Flex KEE HP Reinforced Membrane (White)

Membrane Adhesive: Low VOC PVC Bonding Adhesive (LVOC) or HydroBond Water-Based PVC Bonding Adhesive (HydroBond)

Base and Top Layer Adhesive: FAST = FAST 100LV, Flexible FAST, FAST Bag in a Box, FAST Dual Cartridge and FAST Dual Tank
(FAST Dual Tank can only be used on Steel and Concrete Decking)

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Rating	Sure-Flex PVC	Sure-Flex KEE HP (LVOC Only)
					RoofNAV Number	
				1-90 702	424842-0-0	-
Min. 2" Insulfoam EPS	12" ribbons of FAST	1/2" SecurShield HD	12" ribbons of FAST	1-255 Cav-Grip	429729-0-0 (LVOC)	429730-0-0 (LVOC)
				1-255 Cav-Grip	429739-0-0 (HydroBond)	-
				1-195 702-LV	429733-0-0 (LVOC)	429734-0-0 (LVOC)
				1-195 702-LV	429741-0-0 (HydroBond)	-
				1-135 702	429735-0-0 (LVOC)	429736-0-0 (LOOC)
				1-135 702	429742-0-0 (HydroBond)	-
Concrete Deck /SureMB 90TG and 120TG Base Torch Applied/Cut-Back Asphalt Primer						
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	1/2" SecurShield HD	12" ribbons of FAST	1-240	-	-
Min. 1/2" InsulBase Polyiso or 1-1/2" Securshield	12" ribbons of FAST	1/2" SecurShield HD	12" ribbons of FAST	1-225	424798-0-0 (Hydrobond)	-
Gypsum Deck Tear-Off						
Min. 1-1/2" InsulBase Polyiso	6" ribbons of FAST	1/2" SecurShield HD	6" ribbons of FAST	1-90	-	-
Min. 1-1/2" InsulBase Polyiso	12" ribbons of Olybond 500 BA	1/2" SecurShield HD	12" ribbons of Olybond 500 BA	1-90	-	-
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	-	-
Min. 1-1/2" InsulBase Polyiso	4" ribbons of FAST	1/2" SecurShield HD	4" ribbons of FAST	1-135	-	-
-	-	1/2" SecurShield HD	4" ribbons of FAST	1-135	-	-
Cellular Lightweight Insulating Concrete Over Concrete Decking						
Min. 1-1/2" InsulBase Polyiso	4" ribbons of FAST	1/2" SecurShield HD	4" ribbons of FAST	1-135	-	-
-	-	1/2" SecurShield HD	4" ribbons of FAST	1-135	-	-

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FM Approvals
 Design "A" Adhered Roofing Systems
SecurShield HD Ratings - Recover

Membrane Type: .050", .060" or .080" Sure-Flex PVC Reinforced Membrane (White, Gray or Tan)
 .050", .060" or .080" Sure-Flex KEE HP Reinforced Membrane (White)

Membrane Adhesive: Low VOC PVC Bonding Adhesive (LVOC) or HydroBond Water-Based PVC Bonding Adhesive (HydroBond)

Base and Top Layer Adhesive: FAST = FAST 100LV, Flexible FAST, FAST Bag in a Box, FAST Dual Cartridge and FAST Dual Tank
 (FAST Dual Tank can only be used on Steel and Concrete Decking)

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Rating	Sure-Flex PVC	Sure-Flex KEE HP (LVOC Only)
					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	395944-0-0	395945-0-0
-	-	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	6" ribbons of FAST	1/2" SecurShield HD	6" ribbons of FAST	1-150	-	-
-	-	1/2" SecurShield HD	6" ribbons of FAST	1-150	-	-
Gypsum Deck Tear-Off						
-	-	1/2" SecurShield HD	6" ribbons of FAST	1-90	-	-
-	-	1/2" SecurShield HD	12" ribbons of Olybond 500 BA	1-90	-	-

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FM Approvals
Design "A" Adhered Roofing Systems

SecurShield HD Plus Ratings - New Construction

Membrane Type: .050", .060" or .080" Sure-Flex PVC Reinforced Membrane (White, Gray or Tan)
.050", .060" or .080" Sure-Flex KEE HP Reinforced Membrane (White)

Membrane Adhesive: Low VOC PVC Bonding Adhesive (LVOC) or HydroBond Water-Based PVC Bonding Adhesive (HydroBond)

Base and Top Layer Adhesive: FAST = FAST 100LV, Flexible FAST, FAST Bag in a Box, FAST Dual Cartridge and FAST Dual Tank
(FAST Dual Tank can only be used on Steel and Concrete Decking)

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Rating	Sure-Flex PVC	Sure-Flex KEE HP (LVOC Only)
					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	343627-0-0	343628-0-0
FM Approved	Loose laid	1/2" SecurShield HD Plus	18 (1.8 sq. ft.)	1-120	371287-0-0 LVOC 369888-0-0 (HydroBond)	371288-0-0
FM Approved	Loose laid	1/2" SecurShield HD Plus	24 (1.33 sq. ft.)	1-165	371285-0-0	-
FM Approved	Loose laid	1/2" SecurShield HD Plus	24 (1.33 sq. ft.)	1-225 (30)	371286-0-0	-
Min. 1-1/2" InsulBase Polyiso	10 (3.2 sq. ft.)	1/2" SecurShield HD Plus	6" ribbons of FAST	1-90	-	-
Min. 2" InsulBase Polyiso	8 (4 sq. ft.)	1/2" SecurShield HD Plus	6" ribbons of FAST	1-90	-	-
Min. 1-1/2" InsulBase Polyiso	18 (1.8 sq. ft.)	1/2" SecurShield HD Plus	6" ribbons of FAST	1-105	-	-
Min. 1-1/2" InsulBase Polyiso	24 (1.33 sq. ft.)	1/2" SecurShield HD Plus	4" ribbons of FAST	1-150	-	-
Min. 1-1/2" InsulBase Polyiso	24 (1.33 sq. ft.)	1/2" SecurShield HD Plus	4" ribbons of FAST	1-165	-	-
Min. 1/2" DensDeck Prime or Securock	16 (2 sq. ft.)	1/2" SecurShield HD Plus over InsulBase Polyiso	6" ribbons of FAST	1-90	-	-
Steel Deck (Min. 22 Gauge)/VapAir Seal 725 TR and Cav-Grip Primer						
Min. 1/2" DensDeck Prime or Securock	16 (2 sq. ft.)	1/2" SecurShield HD Plus over InsulBase Polyiso	6" ribbons of FAST	1-90	-	-
Concrete Deck						
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	1/2" SecurShield HD Plus	12" ribbons of FAST	1-225	-	387338-0-0
Min. 1/2" InsulBase Polyiso	12" ribbons of Olybond 500 BA	1/2" SecurShield HD Plus	12" ribbons of Olybond 500 BA	1-240	-	-
Min. 1/2" InsulBase Polyiso	Hot Asphalt	1/2" SecurShield HD Plus	Hot Asphalt	1-240	-	-
Concrete Deck/VapAir Seal 725 TR and Cav-Grip, 702-LV or 702 Primer						
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	1/2" SecurShield HD Plus	12" ribbons of FAST	1-255 Cav-Grip	-	-
				1-195 702-LV	-	-
				1-90 702	-	-
Concrete Deck/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	1-330	-	-

FM Approvals
Design "A" Adhered Roofing Systems

SecurShield HD Plus Ratings - New Construction

Membrane Type: .050", .060" or .080" Sure-Flex PVC Reinforced Membrane (White, Gray or Tan)
.050", .060" or .080" Sure-Flex KEE HP Reinforced Membrane (White)

Membrane Adhesive: Low VOC PVC Bonding Adhesive (LVOC) or HydroBond Water-Based PVC Bonding Adhesive (HydroBond)

Base and Top Layer Adhesive: FAST = FAST 100LV, Flexible FAST, FAST Bag in a Box, FAST Dual Cartridge and FAST Dual Tank
(FAST Dual Tank can only be used on Steel and Concrete Decking)

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Rating	Sure-Flex PVC	Sure-Flex KEE HP (LVOC Only)
					RoofNAV Number	
Gypsum Deck Tear-Off						
Min. 1-1/2" InsulBase Polyiso	Full-Coverage FAST	1/2" SecurShield HD Plus	Full-Coverage FAST	1-90	-	-
Min. 1-1/2" InsulBase Polyiso	12" ribbons of Olybond 500 BA	1/2" SecurShield HD Plus	12" ribbons of Olybond 500 BA	1-90	-	-
Cellular Lightweight Insulating Concrete Over Steel Decking (Min. 22 Gauge)						
FM Approved	Loose laid	1/2" SecurShield HD Plus	12 (2.67 sq. ft)	1-75	-	-
FM Approved	Loose laid	1/2" SecurShield HD Plus	16 (2 sq. ft)	1-90	-	-
-	-	1/2" SecurShield HD Plus	12 (2.67 sq. ft)	1-75	-	-
-	-	1/2" SecurShield HD Plus	16 (2 sq. ft)	1-90	-	-
Min. 1-1/2" InsulBase Polyiso	4" ribbons of FAST	1/2" SecurShield HD Plus	4" ribbons of FAST	1-135	-	-
-	-	1/2" SecurShield HD Plus	4" ribbons of FAST	1-135	-	-
Cellular Lightweight Insulating Concrete Over Concrete Decking						
Min. 1/2" InsulBase Polyiso	4" ribbons of FAST	1/2" SecurShield HD Plus	4" ribbons of FAST	1-135	-	-
-	-	1/2" SecurShield HD Plus	4" ribbons of FAST	1-135	-	-

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FM Approvals
Design "A" Adhered Roofing Systems
SecurShield HD Plus Ratings - Recover

Membrane Type: .050", .060" or .080" Sure-Flex PVC Reinforced Membrane (White, Gray or Tan)
.050", .060" or .080" Sure-Flex KEE HP Reinforced Membrane (White)

Membrane Adhesive: Low VOC PVC Bonding Adhesive (LVOC) or HydroBond Water-Based PVC Bonding Adhesive (HydroBond)

Base and Top Layer Adhesive: FAST = FAST 100LV, Flexible FAST, FAST Bag in a Box, FAST Dual Cartridge and FAST Dual Tank
(FAST Dual Tank can only be used on Steel and Concrete Decking)

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Rating	Sure-Flex PVC	Sure-Flex KEE HP (LVOC Only)
					RoofNAV Number	
Steel Deck (Min. 22 Gauge)						
-	-	1/2" SecurShield HD Plus	8 (4 sq. ft)	1-90	396132-0-0	396133-0-0
-	-	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	-	-
Gypsum Deck Tear-Off						
Min. 1-1/2" InsulBase Polyiso	Full-Coverage FAST	1/2" SecurShield HD Plus	Full-Coverage FAST	1-90	-	-
Min. 1-1/2" InsulBase Polyiso	12" ribbons of Olybond 500 BA	1/2" SecurShield HD Plus	12" ribbons of Olybond 500 BA	1-90	-	-

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FM Approvals
Design "A" Adhered Roofing Systems

InsulBase Polyiso Ratings - New Construction

Membrane Type: .050", .060" or .080" Sure-Flex PVC Reinforced Membrane (White, Gray or Tan)
.050", .060" or .080" Sure-Flex KEE HP Reinforced Membrane (White)

Membrane Adhesive: Low VOC PVC Bonding Adhesive (LVOC) or HydroBond Water-Based PVC Bonding Adhesive (HydroBond)

Base and Top Layer Adhesive: FAST = FAST 100LV, Flexible FAST, FAST Bag in a Box, FAST Dual Cartridge and FAST Dual Tank
(FAST Dual Tank can only be used on Steel and Concrete Decking)

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Rating	Sure-Flex PVC	Sure-Flex KEE HP (LVOC Only)
					RoofNAV Number	
Steel Deck (Min. 22 Gauge)						
Min. 1-1/2" InsulBase Polyiso	16 (2 sq. ft)	-	-	1-90	187383-0-0 (LVOC)	-
Min. 2" InsulBase Polyiso	8 (4 sq. ft)	-	-	1-90	187575-0-0 (LVOC)	-
Min. 2" InsulBase Polyiso	8 (4 sq. ft)	-	-	1-90	345900-0-0 (HydroBond)	-
Min. 2" InsulBase Polyiso	20 (1.6 sq. ft)	-	-	1-135	325911-0-0 (LVOC)	-
Min. 1/2" InsulBase Polyiso	Loose laid	Min. 2' InsulBase Polyiso	20 (1.6 sq. ft)	1-135	424164-0-0	-
Min. 1-1/2" InsulBase Polyiso	10 (3.2 sq. ft.)	Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	1-90	-	-
Min. 2" InsulBase Polyiso	8 (4 sq. ft)	Min. 2" InsulBase Polyiso	12" ribbons of FAST	1-90	187137-0-0 (LVOC)	-
Min. 1-1/2" InsulBase Polyiso	18 (1.8 sq. ft.)	Min. 1-1/2" InsulBase Polyiso	6" ribbons of FAST	1-105	-	-
Min. 1-1/2" InsulBase Polyiso	24 (1.33 sq. ft.)	Min. 1-1/2" InsulBase Polyiso	4" ribbons of FAST	1-165	-	-
Min. 1/2" Dens Deck or DensDeck Prime	16 (2 sq. ft.)	Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	1-90	181116-0-0 (LVOC)	-
Steel Deck (Min. 22 Gauge)/VapAir Seal 725 TR and Cav-Grip Primer						
Min. 1/2" DensDeck Prime or 5/8"Securock	16 (2 sq. ft.)	Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	1-90	211245-0-0 (LVOC)	400229-0-0
Concrete Deck						
Min. 1-1/2" InsulBase Polyiso	FAST Full-Coverage	-	-	1-450	424518-0-0 (HydroBond)	-
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	-	-	1-315	424559-0-0 (HydroBond)	-
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	-	-	1-315	269947-0-0 (LVOC)	-
Min. 1-1/2" InsulBase Polyiso	12" ribbons of Olybond 500 BA	-	-	1-315	269947-0-0 (LVOC)	-
Min. 1-1/2" InsulBase Polyiso	Hot Asphalt	-	-	1-315	269947-0-0 (LVOC)	-
Min. 1" InsulBase Polyiso	Hot Asphalt	-	-	1-300	424551-0-0 (HydroBond)	-
Min. 2" InsulBase Polyiso	8 (4 sq. ft)	Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	1-90	424561-0-0 (HydroBond)	-
Min. 1-1/2" InsulBase Polyiso	16 (2 sq. ft.)	Min. 1-1/2" InsulBase Polyiso	Full-Coverage FAST	1-90	424523-0-0 (HydroBond)	-
Min. 1" InsulBase Polyiso	20 (1.6 sq. ft)	-	-	1-90	424552-0-0 (HydroBond)	-

FM Approvals
Design "A" Adhered Roofing Systems

InsulBase Polyiso Ratings - New Construction

Membrane Type: .050", .060" or .080" Sure-Flex PVC Reinforced Membrane (White, Gray or Tan)
.050", .060" or .080" Sure-Flex KEE HP Reinforced Membrane (White)

Membrane Adhesive: Low VOC PVC Bonding Adhesive (LVOC) or HydroBond Water-Based PVC Bonding Adhesive (HydroBond)

Base and Top Layer Adhesive: FAST = FAST 100LV, Flexible FAST, FAST Bag in a Box, FAST Dual Cartridge and FAST Dual Tank
(FAST Dual Tank can only be used on Steel and Concrete Decking)

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Rating	Sure-Flex PVC	Sure-Flex KEE HP (LVOC Only)
					RoofNAV Number	
Min. 1-1/2" InsulBase Polyiso	16 (2 sq. ft.)	-	-	1-90	424534-0-0 (HydroBond)	-
Min. 2" InsulBase Polyiso	8 (4 sq. ft.)	-	-	1-90	424562-0-0 (HydroBond)	-
Concrete Deck/VapAir Seal 725 TR and Cav-Grip, 702-LV or 702 Primer						
Min. 1-1/2" InsulBase Polyiso	FAST Full-Coverage	-	-	1-255 Cav-Grip	-	-
				1-195 702-LV	273989-0-0 (LVOC)	-
				1-90 702	-	-
Concrete Deck/SureMB 90TG and 120TG Base Torch Applied/Cut-Back Asphalt Primer						
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	1-330	-	-
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	-	-	1-120	-	410153-0-0
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	164217-0-0 (LVOC)	-
Min. 1-1/2" InsulBase Polyiso	12" ribbons of Olybond 500 BA	-	-	1-90	-	-
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	-	-
Min. 1-1/2" InsulBase Polyiso	4" ribbons of FAST	-	-	1-135	-	-
Cellular Lightweight Insulating Concrete Over Concrete Decking						
Min. 1" InsulBase Polyiso	4" ribbons of FAST	-	-	1-135	424566-0-50918 (Hydrobond)	-

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InsulBase Polyiso Ratings - Recover

Membrane Type: .050", .060" or .080" Sure-Flex PVC Reinforced Membrane (White, Gray or Tan)
.050", .060" or .080" Sure-Flex KEE HP Reinforced Membrane (White)

Membrane Adhesive: Low VOC PVC Bonding Adhesive (LVOC) or HydroBond Water-Based PVC Bonding Adhesive (HydroBond)

Base and Top Layer Adhesive: FAST = FAST 100LV, Flexible FAST, FAST Bag in a Box, FAST Dual Cartridge and FAST Dual Tank
(FAST Dual Tank can only be used on Steel and Concrete Decking)

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Rating	Sure-Flex PVC	Sure-Flex KEE HP (LVOC Only)
					RoofNAV Number	
Steel Deck (Min. 22 Gauge)						
Min. 1" InsulBase Polyiso	20 (1.6 sq. ft)	-	-	1-90	164654-0-0 (LVOC)	-
Min. 1/2" InsulBase Polyiso	6" ribbons of FAST	-	-	1-90	-	-
Min. 1/2" InsulBase Polyiso	12" ribbons of Olybond 500 BA	-	-	1-90	278913-0-0 (LVOC)	-
Concrete Deck						
Min. 1/2" InsulBase Polyiso	Full-Coverage FAST	-	-	1-90	303378-0-0 (LVOC)	-
Gypsum Deck Tear-Off						
1-1/2" InsulBase Polyiso	16 (2 sq. ft.)	-	-	1-90	371869-0-0 (LVOC)	371870-0-0
Min. 1/2" InsulBase Polyiso	Full-Coverage FAST	-	-	1-90	-	-
Min. 1/2" InsulBase Polyiso	12" ribbons of Olybond 500 BA	-	-	1-90	-	-

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SecurShield and SecurShield HD Composite Ratings - New Construction

Membrane Type: .050", .060" or .080" Sure-Flex PVC Reinforced Membrane (White, Gray or Tan)
.050", .060" or .080" Sure-Flex KEE HP Reinforced Membrane (White)

Membrane Adhesive: Low VOC PVC Bonding Adhesive (LVOC) or HydroBond Water-Based PVC Bonding Adhesive (HydroBond)

Base and Top Layer Adhesive: FAST = FAST 100LV, Flexible FAST, FAST Bag in a Box, FAST Dual Cartridge and FAST Dual Tank
(FAST Dual Tank can only be used on Steel and Concrete Decking)

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Rating	Sure-Flex PVC	Sure-Flex KEE HP (LVOC Only)
					RoofNAV Number	
Steel Deck (Min. 22 Gauge)						
Min. 1-1/2" SecurShield or SecurShield HD Comp.	16 (2 sq. ft.)	-	-	1-90	-	-
Min. 2" SecurShield or SecurShield HD Comp.	8 (4 sq. ft.)	-	-	1-90	345915-0-0 (HydroBond)	-
Min. 2" SecurShield or SecurShield HD Comp.	20 (1.6 sq. ft.)	-	-	1-150	-	-
Min. 2" SecurShield or SecurShield HD Comp.	32 (1 sq. ft.)	-	-	1-225 (30)	325903-0-0	399391-0-0
Min. 2" SecurShield or SecurShield HD Comp.	33 (1 sq. ft.)	-	-	1-225 (30)	424166-0-0 (HydroBond)	-
Min. 1-1/2" InsulBase Polyiso	10 (3.2 sq. ft.)	1/2" SecurShield or SecurShield HD Comp.	12" ribbons of FAST	1-90	-	-
Min. 2" InsulBase Polyiso	8 (4 sq. ft.)	1/2" SecurShield or SecurShield HD Comp.	12" ribbons of FAST	1-90	-	-
Min. 1-1/2" InsulBase Polyiso	18 (1.8 sq. ft.)	1/2" SecurShield or SecurShield HD Comp.	6" ribbons of FAST	1-105	-	-
Min. 2" InsulBase Polyiso	20 (1.6 sq. ft.)	1/2" SecurShield or SecurShield HD Comp.	6" ribbons of FAST	1-135	-	-
Min. 1-1/2" InsulBase Polyiso	24 (1.33 sq. ft.)	1/2" SecurShield or SecurShield HD Comp.	4" ribbons of FAST	1-165	-	-
Min. 1/2" DensDeck Prime or Securock	16 (2 sq. ft.)	1/2" SecurShield or SecurShield HD Comp.	6" ribbons of FAST	1-90	-	-
Steel Deck (Min. 22 Gauge)/VapAir Seal 725 TR and Cav-Grip Primer						
Min. 1/2" DensDeck Prime or Securock	16 (2 sq. ft.)	1/2" SecurShield or SecurShield HD Comp.	12" ribbons of FAST	1-105	-	-
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1-1/2" SecurShield HD Comp.	12" ribbons of FAST	1-90	-	400819-0-0
Concrete Deck						
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1-1/2" SecurShield	12" ribbons of FAST	1-225	424569-0-0 (HydroBond)	-
Min. 1-1/2" SecurShield	12" ribbons of FAST	-	-	1-225	424570-0-0 (HydroBond)	-
Min. 1/2" SecurShield or SecurShield HD Comp.	Hot Asphalt	-	-	1-300	-	-
Concrete Deck/VapAir Seal 725 TR and Cav-Grip, 702-LV or 702 Primer						
Min. 2" SecurShield or SecurShield HD Comp.	Full-Coverage FAST	-	-	1-255 Cav-Grip	-	-
				1-195 702-LV	273989-0-0 (LVOC)	-
				1-90 702	-	-
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1-1/2" SecurShield HD Comp.	12" ribbons of FAST	1-255 Cav-Grip	400838-0-0	400832-0-0
				1-195 702-LV	400839-0-0	400833-0-0

FM Approvals
Design "A" Adhered Roofing Systems

SecurShield and SecurShield HD Composite Ratings - New Construction

Membrane Type: .050", .060" or .080" Sure-Flex PVC Reinforced Membrane (White, Gray or Tan)
.050", .060" or .080" Sure-Flex KEE HP Reinforced Membrane (White)

Membrane Adhesive: Low VOC PVC Bonding Adhesive (LVOC) or HydroBond Water-Based PVC Bonding Adhesive (HydroBond)

Base and Top Layer Adhesive: FAST = FAST 100LV, Flexible FAST, FAST Bag in a Box, FAST Dual Cartridge and FAST Dual Tank
(FAST Dual Tank can only be used on Steel and Concrete Decking)

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Rating	Sure-Flex PVC	Sure-Flex KEE HP (LVOC Only)
					RoofNAV Number	
				1-135 702	400840-0-0	400834-0-0
Concrete Deck/SureMB 90TG and 120TG Base Torch Applied/Cut-Back Asphalt Primer						
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	1/2" SecurShield or SecurShield HD Comp.	12" ribbons of FAST	1-330	-	-
Gypsum Deck Tear-Off						
Min. 1-1/2" SecurShield or SecurShield HD Comp.	16 (2 sq. ft)	-	-	1-90	-	-
Min. 1-1/2" SecurShield or SecurShield HD Comp.	Full-Coverage FAST	-	-	1-90	-	-
Min. 1-1/2" SecurShield or SecurShield HD Comp.	12" ribbons of Olybond 500 BA	-	-	1-90	-	-
Cellular Lightweight Insulating Concrete Over Steel Decking (Min. 22 Gauge)						
Min. 1-1/2" SecurShield or SecurShield HD Comp.	16 (2 sq. ft)	-	-	1-75	-	-
Min. 2" SecurShield or SecurShield HD Comp.	8 (4 sq. ft)	-	-	1-90	-	-
Min. 2" SecurShield or SecurShield HD Comp.	20 (1.6 sq. ft.)	-	-	1-150	-	-
Min. 2" SecurShield or SecurShield HD Comp.	32 (1 sq. ft.)	-	-	1-225	-	-
Min. 1-1/2" SecurShield or SecurShield HD Comp.	4" ribbons of FAST	-	-	1-135	-	-
Cellular Lightweight Insulating Concrete Over Concrete Decking						
Min. 1/2" SecurShield or SecurShield HD Comp.	4" ribbons of FAST	-	-	1-135	-	-

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SecurShield Ratings - Recover

Membrane Type: .050", .060" or .080" Sure-Flex PVC Reinforced Membrane (White, Gray or Tan)
.050", .060" or .080" Sure-Flex KEE HP Reinforced Membrane (White)

Membrane Adhesive: Low VOC PVC Bonding Adhesive (LVOC) or HydroBond Water-Based PVC Bonding Adhesive (HydroBond)

Base and Top Layer Adhesive: FAST = FAST 100LV, Flexible FAST, FAST Bag in a Box, FAST Dual Cartridge and FAST Dual Tank
(FAST Dual Tank can only be used on Steel and Concrete Decking)

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Rating	Sure-Flex PVC	Sure-Flex KEE HP (LVOC Only)
					RoofNAV Number	
Steel Deck (Min. 22 Gauge)						
1" SecurShield	20 (1.6 sq. ft)	-	-	1-90	-	-
Concrete Deck						
1/2" SecurShield	12" ribbons of FAST	-	-	1-90	-	-
Gypsum Deck Tear-Off						
1" SecurShield	20 (1.6 sq. ft)	-	-	1-90	-	-
1" SecurShield	Full-Coverage FAST	-	-	1-90	-	-
1" SecurShield	12" ribbons of Olybond 500 BA	-	-	1-90	-	-

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Securock Ratings - New Construction

Membrane Type: .050", .060" or .080" Sure-Flex PVC Reinforced Membrane (White, Gray or Tan)
.050", .060" or .080" Sure-Flex KEE HP Reinforced Membrane (White)

Membrane Adhesive: Low VOC PVC Bonding Adhesive (LVOC) or HydroBond Water-Based PVC Bonding Adhesive (HydroBond)

Base and Top Layer Adhesive: FAST = FAST 100LV, Flexible FAST, FAST Bag in a Box, FAST Dual Cartridge and FAST Dual Tank
(FAST Dual Tank can only be used on Steel and Concrete Decking)

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Rating	Sure-Flex PVC	Sure-Flex KEE HP (LVOC Only)
					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	-	-
Min. 1-1/2" InsulBase Polyiso	Loose laid	Min. 1/4" Securock	10 (3.2 sq. ft) SecurFAST Plate	1-90	-	-
Min. 1-1/2" InsulBase Polyiso	Loose laid	Min. 3/8" Securock	8 (4 sq. ft) SureFAST Plate	1-90	-	-
FM Approved	Loose laid	Min. 5/8" Securock	8 (4 sq. ft)	1-90	-	-
Min. 1-1/2" InsulBase Polyiso	Loose laid	Min. 1/2" Securock	8 (4 sq. ft) SecurFAST Plate	1-90	-	-
Min. 1-1/2" InsulBase Polyiso	Loose laid	Min. 1/2" Securock	6 (5.33 sq. ft) SecurFAST Plate	1-75	-	-
Min. 1-1/2" InsulBase Polyiso	Loose laid	Min. 5/8" Securock	6 (5.33 sq. ft) SecurFAST Plate	1-90	-	-
Min. 1-1/2" InsulBase Polyiso	Loose laid	Min. 1/2" Securock	20 (1.6 sq. ft)	1-165	424163-0-0 (HydroBond)	-
Min. 1-1/2" InsulBase Polyiso	Loose laid	Min. 1/2" Securock	32 (1 sq. ft)	1-285	424162-0-0 (HydroBond)	-
Min. 1-1/2" InsulBase Polyiso	Loose laid	Min. 1/2" Securock	32 (1 sq. ft)	1-225	399395-0-0 (LVOC)	399399-0-0 (LVOC)
FM Approved	Loose laid	Min. 1/2" Securock	20 (1.6 sq. ft)	1-165	-	-
FM Approved	Loose laid	Min. 1/2" Securock	32 (1 sq. ft)	1-255 (30)	-	-
Min. 1-1/2" InsulBase Polyiso	10 (3.2 sq. ft.)	Min. 1/4" Securock	12" ribbons of FAST	1-90	403963-0-0 (LVOC)	408074-0-0 (LVOC)
Min. 1-1/2" InsulBase Polyiso	8 (4 sq. ft)	Min. 1/4" Securock	12" ribbons of FAST	1-90	187180-0-0 (LVOC)	-
Min. 1-1/2" InsulBase Polyiso	18 (1.8 sq. ft.)	Min. 1/4" Securock	6" ribbons of FAST	1-105	-	-
Min. 1-1/2" InsulBase Polyiso	24 (1.33 sq. ft.)	Min. 1/4" Securock	4" ribbons of FAST	1-165	-	-
Min. 1/2" DensDeck Prime or Securock	16 (2 sq. ft.)	Min. 1/4" Securock over InsulBase Polyiso	12" ribbons of FAST	1-90	-	-
Steel Deck (Min. 22 Gauge)/VapAir Seal 725 TR and Cav-Grip Primer						
Min. 1/2" DensDeck Prime or 5/8" Securock	16 (2 sq. ft.)	1/4" Securock over Min. 1- 1/2" InsulBase Polyiso	12" ribbons of FAST	1-90	-	387334-0-0
Concrete Deck						
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1/4" Securock	12" ribbons of FAST	1-120	424738-0-0 (HydroBond)	-
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1/4" Securock	12" ribbons of FAST	1-285	429656-0-0 (LVOC)	-
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1/4" Securock	12" ribbons of FAST	1-225	400710-0-0 (LVOC)	400711-0-0 (LVOC)
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1/4" Securock	12" ribbons of FAST	1-315	-	-

FM Approvals
Design "A" Adhered Roofing Systems

Securock Ratings - New Construction

Membrane Type: .050", .060" or .080" Sure-Flex PVC Reinforced Membrane (White, Gray or Tan)
.050", .060" or .080" Sure-Flex KEE HP Reinforced Membrane (White)

Membrane Adhesive: Low VOC PVC Bonding Adhesive (LVOC) or HydroBond Water-Based PVC Bonding Adhesive (HydroBond)

Base and Top Layer Adhesive: FAST = FAST 100LV, Flexible FAST, FAST Bag in a Box, FAST Dual Cartridge and FAST Dual Tank
(FAST Dual Tank can only be used on Steel and Concrete Decking)

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Rating	Sure-Flex PVC	Sure-Flex KEE HP (LVOC Only)
					RoofNAV Number	
Min. 1/2" InsulBase Polyiso	12" ribbons of Olybond 500 BA	Min. 1/4" Securock	12" ribbons of Olybond 500 BA	1-240	-	-
Min. 2" InsulBase Polyiso or 2" SecurShield	Hot Asphalt or 12" ribbons Olybond 500 BA	Min. 1/4" Securock	Hot Asphalt or 12" ribbons Olybond 500 BA	1-495	424543-0-0 (HydroBond)	-
Min. 2" InsulBase Polyiso	Hot Asphalt or 12" ribbons Olybond 500 MP	Min. 1/4" Securock	Hot Asphalt or 12" ribbons Olybond 500 MP	1-495	211711-0-0 (LVOC)	211711-0-0
FM Approved	Loose laid	Min. 1/2" Securock	10 (3.2 sq. ft)	1-90	395790-0-0	-
Min. 1/2" InsulBase Polyiso	Loose laid	Min. 1/2" Securock	10 (3.2 sq. ft.)	1-90	424818-0-0	398874-0-0
Min. 1/2" InsulBase Polyiso	Loose laid	Min. 1/2" Securock	20 (1.6 sq. ft)	1-150	424819-0-0	398909-0-0

FM Approvals
Design "A" Adhered Roofing Systems

Securock Ratings - New Construction

Membrane Type: .050", .060" or .080" Sure-Flex PVC Reinforced Membrane (White, Gray or Tan)
.050", .060" or .080" Sure-Flex KEE HP Reinforced Membrane (White)

Membrane Adhesive: Low VOC PVC Bonding Adhesive (LVOC) or HydroBond Water-Based PVC Bonding Adhesive (HydroBond)

Base and Top Layer Adhesive: FAST = FAST 100LV, Flexible FAST, FAST Bag in a Box, FAST Dual Cartridge and FAST Dual Tank
(FAST Dual Tank can only be used on Steel and Concrete Decking)

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Rating	Sure-Flex PVC	Sure-Flex KEE HP (LVOC Only)
					RoofNAV Number	
Min. 1/2" InsulBase Polyiso	Loose laid	Min. 1/2" Securock	32 (1 sq. ft)	1-270	424821-0-0	398910-0-0
Concrete Deck/VapAir Seal 725 TR and Cav-Grip, 702-LV or 702 Primer						
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1/4" Securock	12" ribbons of FAST	1-225 Cav-Grip	424743-0-0 (Hydrobond)	364511-0-0
				1-195 702-LV	424755-0-0	364655-0-0
				1-90 702	-	-
Concrete Deck/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	1-330	424801-0-0	394638-0-0
Min. 1/2" InsulBase Polyiso or 1-1/2" SecurShield	12" ribbons of FAST	Min. 1/4" Securock	12" ribbons of FAST	1-315	424778-0-0 (Hydrobond)	-
Gypsum Deck Tear-Off						
Min. 1-1/2" InsulBase Polyiso	Full-Coverage FAST	Min. 1/4" Securock	Full-Coverage FAST	1-90	-	-
Min. 1-1/2" InsulBase Polyiso	12" ribbons of Olybond 500 BA	Min. 1/4" Securock	12" ribbons of Olybond 500 BA	1-90	-	-
Cellular Lightweight Insulating Concrete Over Steel Decking (Min. 22 Gauge)						
Celcore						
Min. 1" InsulBase Polyiso	12" ribbons of FAST	Min. 1/4" Securock	12" ribbons of FAST	1-135	309976-0-50914	-
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)	1-225	-	-
Cellular Lightweight Insulating Concrete Over Concrete Decking						
Celcore						
Min. 1" InsulBase Polyiso	12" ribbons of FAST	Min. 1/4" Securock	12" ribbons of FAST	1-135	309976-0-50918	-

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Securock Ratings - Recover

Membrane Type: .050", .060" or .080" Sure-Flex PVC Reinforced Membrane (White, Gray or Tan)
.050", .060" or .080" Sure-Flex KEE HP Reinforced Membrane (White)

Membrane Adhesive: Low VOC PVC Bonding Adhesive (LVOC) or HydroBond Water-Based PVC Bonding Adhesive (HydroBond)

Base and Top Layer Adhesive: FAST = FAST 100LV, Flexible FAST, FAST Bag in a Box, FAST Dual Cartridge and FAST Dual Tank
(FAST Dual Tank can only be used on Steel and Concrete Decking)

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Rating	Sure-Flex PVC	Sure-Flex KEE HP (LVOC Only)
					RoofNAV Number	
Concrete Deck						
Min. 2" InsulBase Polyiso	Hot Asphalt	Min. 1/4" Securock	Hot Asphalt	1-495	303398-0-0 (LVOC)	303398-0-0
Min. 1-1/2" InsulBase Polyiso	6" ribbons of FAST	Min. 1/4" Securock	6" ribbons of FAST	1-150	-	-

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FM Approvals
Design "A" Adhered Roofing Systems

DensDeck Prime Ratings - New Construction

Membrane Type: .050", .060" or .080" Sure-Flex PVC Reinforced Membrane (White, Gray or Tan)
.050", .060" or .080" Sure-Flex KEE HP Reinforced Membrane (White)

Membrane Adhesive: Low VOC PVC Bonding Adhesive (LVOC) or HydroBond Water-Based PVC Bonding Adhesive (HydroBond)

Base and Top Layer Adhesive: FAST = FAST 100LV, Flexible FAST, FAST Bag in a Box, FAST Dual Cartridge and FAST Dual Tank
(FAST Dual Tank can only be used on Steel and Concrete Decking)

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Rating	Sure-Flex PVC	Sure-Flex KEE HP (LVOC Only)
					RoofNAV Number	
Steel Deck (Min. 22 Gauge)						
FM Approved	Loose laid	Min. 1/4" DensDeck Prime	12 (2.67 sq. ft)	1-90	345893-0-0 (HydroBond)	-
FM Approved	Loose laid	Min. 1/2" DensDeck Prime	10 (3.2 sq. ft)	1-90	345920-0-0 (HydroBond)	379949-0-0
FM Approved	Loose laid	Min. 1/2" DensDeck Prime	20 (1.6 sq. ft)	1-105	345904-0-0 (HydroBond)	-
Min. 1-1/2" InsulBase Polyiso	Loose laid	Min. 1/2" DensDeck Prime	8 (4 sq. ft)	1-90	388252-0-0	-
Min. 1-1/2" InsulBase Polyiso	Loose laid	Min. 1/4" DensDeck Prime	18 (1.8 sq. ft)	1-105	382311-0-0	-
Min. 1-1/2" InsulBase Polyiso	Loose laid	Min. 1/2" DensDeck Prime	18 (1.8 sq. ft)	1-135	383701-0-0	396259-0-0
Min. 1-1/2" InsulBase Polyiso	Loose laid	Min. 1/2" DensDeck Prime	20 (1.6 sq. ft)	1-150	383711-0-0	-
Min. 1-1/2" InsulBase Polyiso	Loose laid	Min. 1/2" DensDeck Prime	32 (1 sq. ft)	1-165	387932-0-0	-
Min. 1-1/2" InsulBase Polyiso	Loose laid	Min. 1/2" DensDeck Prime	32 (1 sq. ft)	1-180 (29)	384597-0-0	-
Min. 1-1/2" InsulBase Polyiso	Loose laid	Min. 1/2" DensDeck Prime	32 (1 sq. ft)	1-255 (30)	387933-0-0	-
Min. 1-1/2" InsulBase Polyiso	10 (3.2 sq. ft.)	Min. 1/4" DensDeck Prime	12" ribbons of FAST	1-90	403961-0-0 (LVOC)	403961-0-0 (LVOC)
Min. 2" InsulBase Polyiso	8 (4 sq. ft)	Min. 1/4" DensDeck Prime	12" ribbons of FAST	1-90	187145-0-0 (LVOC)	-
Min. 2" InsulBase Polyiso	8 (4 sq. ft)	Min. 1/4" DensDeck Prime	12" ribbons of FAST	1-90	428869-0-0 (HydroBond)	428869-0-0 (HydroBond)
Min. 1-1/2" InsulBase Polyiso	18 (1.8 sq. ft.)	Min. 1/4" DensDeck Prime	6" ribbons of FAST	1-105	-	-
Min. 1-1/2" InsulBase Polyiso	24 (1.33 sq. ft.)	Min. 1/4" DensDeck Prime	4" ribbons of FAST	1-165	-	-
Min. 1/2" DensDeck Prime or Securock	16 (2 sq. ft.)	Min. 1/4" DensDeck Prime over InsulBase Polyiso	12" ribbons of FAST	1-90	-	-
Steel Deck (Min. 22 Gauge)/VapAir Seal 725 TR and Cav-Grip Primer						
Min. 1/2" DensDeck Prime or Securock	16 (2 sq. ft.)	Min. 1/4" DensDeck Prime over InsulBase Polyiso	6" ribbons of FAST	1-90	-	-
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1/4" DensDeck Prime	12" ribbons of FAST	1-90	400374-0-0 (HydroBond)	-
Concrete Deck						
Min. 1-1/2" InsulBase Polyiso	Full-Coverage FAST	Min. 1/4" DensDeck Prime	Full-Coverage FAST	1-315	-	-
Min. 1/2" InsulBase Polyiso	12" ribbons of Olybond 500 BA	Min. 1/4" DensDeck Prime	12" ribbons of Olybond 500 BA	1-240	-	-
Min. 1/2" InsulBase Polyiso	Hot Asphalt	Min. 1/4" DensDeck Prime	Hot Asphalt	1-300	-	-
Min. 1" InsulBase Polyiso	Loose laid	Min. 5/8" DensDeck Prime	8 (4 sq. ft)	1-90	424540-0-0	-
Min. 2" InsulBase Polyiso	8 (4 sq. ft)	Min. 1/4" DensDeck Prime	Full-Coverage FAST	1-90	424532-0-0	-

FM Approvals
Design "A" Adhered Roofing Systems

DensDeck Prime Ratings - New Construction

Membrane Type: .050", .060" or .080" Sure-Flex PVC Reinforced Membrane (White, Gray or Tan)
.050", .060" or .080" Sure-Flex KEE HP Reinforced Membrane (White)

Membrane Adhesive: Low VOC PVC Bonding Adhesive (LVOC) or HydroBond Water-Based PVC Bonding Adhesive (HydroBond)

Base and Top Layer Adhesive: FAST = FAST 100LV, Flexible FAST, FAST Bag in a Box, FAST Dual Cartridge and FAST Dual Tank
(FAST Dual Tank can only be used on Steel and Concrete Decking)

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Rating	Sure-Flex PVC	Sure-Flex KEE HP (LVOC Only)
					RoofNAV Number	
Min. 2" InsulBase Polyiso	8 (4 sq. ft)	Min. 1/4" DensDeck Prime	12" ribbons of FAST	1-90	424531-0-0	-
Concrete Deck/VapAir Seal 725 TR and Cav-Grip, 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 Cav-Grip	424748-0-0	-
				1-195 702-LV	424755-0-0	-
				1-90 702	-	-
Min. 1-1/2" InsulBase Polyiso	12" ribbons of Olybond 500 BA	Min. 1/4" DensDeck Prime	12" ribbons of Olybond 500 BA	1-165 Cav-Grip	424766-0-0	-
Concrete Deck/SureMB 90TG and 120TG Base Torch Applied/Cut-Back Asphalt Primer						
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1/4" DensDeck Prime	12" ribbons of FAST	1-330	424803-0-0 (Hydrobond)	-
Gypsum Deck Tear-Off						
Min. 1-1/2" InsulBase Polyiso	Full-Coverage FAST	Min. 1/4" DensDeck Prime	Full-Coverage FAST	1-90	-	-
Min. 1-1/2" InsulBase Polyiso	12" ribbons of Olybond 500 BA	Min. 1/4" DensDeck Prime	12" ribbons of Olybond 500 BA	1-90	-	-
Cellular Lightweight Insulating Concrete Over Steel Decking (Min. 22 Gauge)						
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	-	-
Min. 1-1/2" InsulBase Polyiso	4" ribbons of FAST	Min. 1/2" DensDeck Prime	4" ribbons of FAST	1-135	-	-
Cellular Lightweight Insulating Concrete Over Concrete Decking						
Min. 1/2" InsulBase Polyiso	4" ribbons of FAST	Min. 1/4" DensDeck Prime	12" ribbons of FAST	1-135	424567-0-50918 (Hydrobond)	-

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Design "A" Adhered Roofing Systems

DensDeck Prime Ratings - Recover

Membrane Type: .050", .060" or .080" Sure-Flex PVC Reinforced Membrane (White, Gray or Tan)
.050", .060" or .080" Sure-Flex KEE HP Reinforced Membrane (White)

Membrane Adhesive: Low VOC PVC Bonding Adhesive (LVOC) or HydroBond Water-Based PVC Bonding Adhesive (HydroBond)

Base and Top Layer Adhesive: FAST = FAST 100LV, Flexible FAST, FAST Bag in a Box, FAST Dual Cartridge and FAST Dual Tank
(FAST Dual Tank can only be used on Steel and Concrete Decking)

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Rating	Sure-Flex PVC	Sure-Flex KEE HP (LVOC Only)
					RoofNAV Number	
Concrete Deck						
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	1/4" DensDeck Prime	12" ribbons of FAST	1-90	-	-

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FM Approvals
Design "A" Adhered Roofing Systems

OSB Ratings - New Construction

Membrane Type: .050", .060" or .080" Sure-Flex PVC Reinforced Membrane (White, Gray or Tan)
.050", .060" or .080" Sure-Flex KEE HP Reinforced Membrane (White)

Membrane Adhesive: Low VOC PVC Bonding Adhesive (LVOC) or HydroBond Water-Based PVC Bonding Adhesive (HydroBond)

Base and Top Layer Adhesive: FAST = FAST 100LV, Flexible FAST, FAST Bag in a Box, FAST Dual Cartridge and FAST Dual Tank
(FAST Dual Tank can only be used on Steel and Concrete Decking)

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Rating	Sure-Flex PVC	Sure-Flex KEE HP (LVOC Only)
					RoofNAV Number	
Steel Deck (Min. 22 Gauge)						
FM Approved	Loose Laid	Min. 7/16" OSB	18 (1.8 sq. ft)	1-135	143332-0-0 (LVOC)	-
Steel Deck (Min. 22 Gauge)/VapAir Seal 725 TR and Cav-Grip Primer						
Min. 1/2" DensDeck Prime or Securock	16 (2 sq. ft.)	Min. 7/16" OSB over InsulBase Polyiso	6" ribbons of FAST	1-90	-	-
Concrete Deck						
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 7/16" OSB	12" ribbons of FAST	1-360	424576-0-0	-
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 7/16" OSB	12" ribbons of FAST	1-315	-	-
Min. 1/2" InsulBase Polyiso	12" ribbons of Olybond 500 BA	Min. 7/16" OSB	12" ribbons of Olybond 500 BA	1-240	-	-
Min. 1/2" InsulBase Polyiso	Hot Asphalt	Min. 7/16" OSB	Hot Asphalt	1-300	-	-
Concrete Deck/VapAir Seal 725 TR and Cav-Grip, 702-LV or 702 Primer						
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 7/16" OSB	12" ribbons of FAST	1-255 Cav-Grip	-	-
				1-195 702-LV	-	-
				1-90 702	-	-
Steel Deck (Min. 22 Gauge)/VapAir Seal 725 TR and Cav-Grip, 702-LV or 702 Primer						
Min. 1/2" DensDeck Prime or Securock	16 (2 sq. ft.)	Min. 7/16" OSB over InsulBase Polyiso	6" ribbons of FAST	1-90	-	-
Concrete Deck/SureMB 90TG and 120TG Base Torch Applied/Cut-Back Asphalt Primer						
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 7/16" OSB	12" ribbons of FAST	1-330	-	-
Gypsum Deck Tear-Off						
Min. 1-1/2" InsulBase Polyiso	Full-Coverage FAST	Min. 7/16" OSB	Full-Coverage FAST	1-90	-	-
Min. 1-1/2" InsulBase Polyiso	12" ribbons of Olybond 500 BA	Min. 7/16" OSB	12" ribbons of Olybond 500 BA	1-90	-	-
Cellular Lightweight Insulating Concrete Over Steel Decking (Min. 22 Gauge)						
FM Approved	Loose Laid	Min. 7/16" OSB	18 (1.8 sq. ft)	1-150	-	-
Cellular Lightweight Insulating Concrete Over Concrete Decking						
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 7/16" OSB	12" ribbons of FAST	1-135	-	-

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FM Approvals
Design "A" Adhered Roofing Systems

OSB Rating - Recover

Membrane Type: .050", .060" or .080" Sure-Flex PVC Reinforced Membrane (White, Gray or Tan)
.050", .060" or .080" Sure-Flex KEE HP Reinforced Membrane (White)

Membrane Adhesive: Low VOC PVC Bonding Adhesive (LVOC) or HydroBond Water-Based PVC Bonding Adhesive (HydroBond)

Base and Top Layer Adhesive: FAST = FAST 100LV, Flexible FAST, FAST Bag in a Box, FAST Dual Cartridge and FAST Dual Tank
(FAST Dual Tank can only be used on Steel and Concrete Decking)

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Rating	Sure-Flex PVC	Sure-Flex KEE HP (LVOC Only)
					RoofNAV Number	
Steel Deck (Min. 22 Gauge)						
Min. 1" InsulBase Polyiso	Loose laid	Min. 7/16" OSB	17 (1.9 sq. ft)	1-105	-	-
Concrete Deck						
Min. 1/2" InsulBase Polyiso	FAST Full-Coverage	Min. 7/16" OSB	FAST Full-Coverage	1-90	303956-0-0 (LVOC)	-

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FM Approvals
Design "A" Adhered Roofing Systems

HP Recovery Board Ratings - New Construction

Membrane Type: .050", .060" or .080" Sure-Flex PVC Reinforced Membrane (White, Gray or Tan)
.050", .060" or .080" Sure-Flex KEE HP Reinforced Membrane (White)

Membrane Adhesive: Low VOC PVC Bonding Adhesive (LVOC) or HydroBond Water-Based PVC Bonding Adhesive (HydroBond)

Base and Top Layer Adhesive: FAST = FAST 100LV, Flexible FAST, FAST Bag in a Box, FAST Dual Cartridge and FAST Dual Tank
(FAST Dual Tank can only be used on Steel and Concrete Decking)

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Rating	Sure-Flex PVC	Sure-Flex KEE HP (LVOC Only)
					RoofNAV Number	
Steel Deck (Min. 22 Gauge)						
FM Approved	Loose laid	Min. 1/2" HP Recovery Board	16 (2 sq. ft)	1-90	-	-
Min. 1-1/2" InsulBase Polyiso	10 (3.2 sq. ft.)	Min. 1/2" HP Recovery Board	6" ribbons of FAST	1-90	-	-
Min. 2" InsulBase Polyiso	8 (4 sq. ft)	Min. 1/2" HP Recovery Board	12" ribbons of FAST	1-90	-	-
Min. 1/2" DensDeck Prime or Securock	16 (2 sq. ft.)	Min. 1/2" HP Recovery Board	6" ribbons of FAST	1-90	-	-
Steel Deck (Min. 22 Gauge)/VapAir Seal 725 TR and Cav-Grip Primer						
Min. 1/2" DensDeck Prime or Securock	16 (2 sq. ft.)	Min. 1/2" HP Recovery Board over InsulBase Polyiso	6" ribbons of FAST	1-90	-	-
Concrete Deck						
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1/2" HP Recovery Board	12" ribbons of FAST	1-315	-	-
Min. 1/2" InsulBase Polyiso	12" ribbons of Olybond 500 BA	Min. 1/2" HP Recovery Board	12" ribbons of Olybond 500 BA	1-240	-	-
Min. 1/2" InsulBase Polyiso	Hot Asphalt	Min. 1/2" HP Recovery Board	Hot Asphalt	1-300	-	-
Concrete Deck/VapAir Seal 725 TR and Cav-Grip, 702-LV or 702 Primer						
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1/2" HP Recovery Board	12" ribbons of FAST	1-255 Cav-Grip	-	-
				1-195 702-LV	-	-
				1-90 702	-	-
Concrete Deck with SureMB 90TG and 120TG Base Torch Applied/Cut-Back Asphalt Primer						
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1/2" HP Recovery Board	12" ribbons of FAST	1-330	-	-
Gypsum Deck Tear-Off						
Min. 1-1/2" InsulBase Polyiso	Full-Coverage FAST	Min. 1/2" HP Recovery Board	Full-Coverage FAST	1-90	-	-
Min. 1-1/2" InsulBase Polyiso	12" ribbons of Olybond 500 BA	Min. 1/2" HP Recovery Board	12" ribbons of Olybond 500 BA	1-90	-	-
Cellular Lightweight Insulating Concrete Over Steel Decking (Min. 22 Gauge)						
FM Approved	Loose laid	Min. 1/2" HP Recovery Board	16 (2 sq. ft)	1-90	-	-
Min. 1-1/2" InsulBase Polyiso	4" ribbons of FAST	Min. 1/2" HP Recovery Board	4" ribbons of FAST	1-90	-	-
Cellular Lightweight Insulating Concrete Over Concrete Decking						
Min. 1/2" InsulBase Polyiso	4" ribbons of FAST	Min. 1/2" HP Recovery Board	4" ribbons of FAST	1-135	-	-

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FM Approvals
Design "A" Adhered Roofing Systems

HP Recovery Board Ratings - Recover

Membrane Type: .050", .060" or .080" Sure-Flex PVC Reinforced Membrane (White, Gray or Tan)
.050", .060" or .080" Sure-Flex KEE HP Reinforced Membrane (White)

Membrane Adhesive: Low VOC PVC Bonding Adhesive (LVOC) or HydroBond Water-Based PVC Bonding Adhesive (HydroBond)

Base and Top Layer Adhesive: FAST = FAST 100LV, Flexible FAST, FAST Bag in a Box, FAST Dual Cartridge and FAST Dual Tank
(FAST Dual Tank can only be used on Steel and Concrete Decking)

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 25, 26 & 27)	Rating	Sure-Flex PVC	Sure-Flex KEE HP (LVOC Only)
					RoofNAV Number	
Concrete Deck						
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1/2" HP Recovery Board	12" ribbons of FAST	1-90	-	-

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NATIONAL, STATE & CITY BUILDING CODE APPROVALS

Authority	Approval #
ICC – International Code Council	Report ESR-1463

State of Florida Evaluation Report

Evaluation Report Number	Evaluation Report Use
FL-14165	Not for use in High Velocity Hurricane Zone area
FL-16438	For use in High Velocity Hurricane Zone area

Dade County (South Florida) Approvals Expires August, 2018

Deck Type	Acceptance #
Lightweight Concrete	14-0626.07
Wood	14-0626.03
Steel	14-0626.02
Structural Concrete	14-0626.05
Cementitious Wood Fiber	14-0626.04
Gypsum	14-0626.08
Recover	14-0626.06

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

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Sure-Flex™ (PVC) Reference Notes

1. All insulation joints must be staggered a minimum of 6 inches from the deck joints or from the insulation joints directly below. [\(return to table\)](#)
2. 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. [\(return to table\)](#)
3. Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness may be used below the 3" minimum total thickness of SecurShield or SecurShield HD Composite. [\(return to table\)](#)
4. Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness may be used below the 1.9" thickness of SecurShield or SecurShield HD Composite. [\(return to table\)](#)
5. Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness may be used below the 1" thickness of SecurShield CD. [\(return to table\)](#)
6. Any UL Classified Insulation, any combination, any thickness, may be used below the 4-1/2" minimum total thickness. [\(return to table\)](#)
7. All insulation joints must be staggered a minimum of 6 inches from the deck joints or from the insulation joints directly below. [\(return to table\)](#)
8. Any thickness of UL Classified Carlisle Polyisocyanurate Insulation may be used below the 1.9" thickness of SecurShield or SecurShield HD Composite. [\(return to table\)](#)
9. Any UL Classified insulation, any combination, any thickness, may be used below the SecurShield CD. [\(return to table\)](#)
10. On Steel Deck (Min. 22 Gauge), Carlisle HP-X Fasteners and Piranha Plates or HP-Xtra Fasteners and Piranha Xtra Plates are required as identified in this chart. On structural concrete decks, CD-10, HP Concrete Spikes or HD 14-10 Fasteners are used with Piranha Plates. [\(return to table\)](#)
11. Testing conducted on FM approved 22-gauge Grade E Steel Deck (Min. 22 Gauge) meeting ASTM Designation A611 or A653 Grade 80. [\(return to table\)](#)
12. On Steel Deck (Min. 22 Gauge), a thermal barrier of FM approved gypsum board (Type X or Type C) is required under these insulations. For specific thermal barrier requirements, refer to the current published FM Approval Guide or contact the respective manufacturer. [\(return to table\)](#)
13. Existing roof must be FM Class 1 rated. [\(return to table\)](#)
14. Severe Hail (SH) rating applies to all FM listed assemblies. [\(return to table\)](#)
15. On Steel Deck (Min. 22 Gauge), Carlisle HP-X Fasteners and Piranha Plates or HP-Xtra Fasteners and Piranha Xtra Plates are required as identified in this chart. On structural concrete decks, CD-10, HP Concrete Spikes or HD 14-10 Fasteners are used with Piranha Plates. [\(return to table\)](#)
16. All insulation joints must be staggered a minimum of 6 inches from the deck joints or from the insulation joints directly below. [\(return to table\)](#)
17. 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. [\(return to table\)](#)
18. Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness may be used below the 3" minimum total thickness of SecurShield or SecurShield HD Composite. [\(return to table\)](#)
19. Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness may be used below the 1.9" thickness of SecurShield or SecurShield HD Composite. [\(return to table\)](#)
20. Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness may be used below the 1" thickness of SecurShield CD. [\(return to table\)](#)
21. Any UL Classified Insulation, any combination, any thickness, may be used below the 4-1/2" minimum total thickness. [\(return to table\)](#)
22. All insulation joints must be staggered a minimum of 6 inches from the deck joints or from the insulation joints directly below. [\(return to table\)](#)
23. Any thickness of UL Classified Carlisle Polyisocyanurate Insulation may be used below the 1.9" thickness of SecurShield or SecurShield HD Composite. [\(return to table\)](#)
24. Any UL Classified insulation, any combination, any thickness, may be used below the SecurShield CD. [\(return to table\)](#)
25. Sure-Seal HP fastener/Sure-Seal Insulation plate.
26. InsulFAST fastener/Sure-Seal Insulation plate.
27. InsulFAST fastener/SecurFAST Insulation Fastening plate.
28. Existing adhered or mechanically fastened EPDM or Hypalon roofing system contact Carlisle regarding suitability and specific requirements. [\(return to table\)](#)
29. 80 ksi with one fastener per attachment point. [\(return to table\)](#)
30. 80 ksi with two fasteners per attachment point. [\(return to table: SecurShield HD Plus, DensDeck Prime or SecurShield\)](#)

Click on one of the following to return to chart: SecurShield HD, SecurShield HD Plus, InsulBase Polyiso, SecurShield, SecurShield HD Composite, Securock, DensDeck Prime, OSB or HP Recovery Board

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