Sure-Weld® (TPO) Adhered Roofing Systems
Code Approval Guide
October, 2016

Table of Contents

CARLISLE SynTec

A Division of Carlisle Construction Materials, Incorporated

CODE APPROVAL GUIDE
October, 2016

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-Weld™ 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 Flex 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 two sections: UL Approvals and FM Approvals. UL rated roof assemblies are grouped according to deck type (non-combustible or combustible) and are further categorized according to deck type and the specific type of construction (new, recover, tear-off or retrofit).

The listed assemblies contained in the 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.

GENERAL GUIDELINES FOR UL AND FM APPROVALS
CODE COMPLIANCE

No table of figures entries found. 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 systems must be UL and/or FM approved and must have been tested together as part of a complete roof 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 Laboritories On-Line Certification Directory (ul.com)*
2. *FM Approvals RoofNav website (roofnav.com).* FM RoofNav assembly numbers can be obtained from this website.

UL, FM Approvals and ASNI/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 use 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 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) rating.

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 patters 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 manufactures 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.

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

Membrane Type:
.045" or .060" Sure-Weld Standard Reinforced Membrane (White, Gray or Tan)
.045" or .060" Sure-Weld HS Reinforced Membrane (White, Gray or Tan)
.080" Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan)
.060" or .080" Spectro-Weld Reinforced Membrane (White)

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

System ID	Deck Type	Insulation	Cover Board	Maximum Slope	
				Sure-Weld, Sure-Weld EXTRA or Spectro-Weld	Sure-Weld HS
1	Non-Combustible	HP-H, SecurShield, SecurShield HD, SecurShield HD Plus or SecurShield HD Composite- any combination, any thickness	N/A	1/2"	1-1/2"
2		Any UL Classified EPS or XPS Insulation, any thickness	Minimum 1/2" SecurShield HD, SecurShield HD Plus or SecurShield HD Composite	1/2"	1/2"
3		Minimum 1" layer of HP-H, SecurShield, or SecurShield HD Composite over any UL Classified EPS or XPS Insulation, maximum 1.25 pcf, any thickness	N/A	1/2"	1/2"
4		Insulfoam SP or Insulfoam SP over Insulfoam EPS, any thickness and density.	N/A	1"	1"
5		Insulfoam HD Composite or Insulfoam HD Composite over Insulfoam EPS, any thickness and density.	N/A	1/2"	1/2"
6		Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 1/4" SECUROCK® Gypsum-Fiber Board	3"	3"
7		Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 1/4" SECUROCK® Glass Mat Board	3"	Unlimited
8		Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 1/4" DensDeck/DensDeck Prime Roof Boards	3" Sure-Weld 2-1/2" Sure-Weld EXTRA	Unlimited
9		Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 1/2" HP Recovery Board	1-1/2"	1-1/2"
10		Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 7/16" APA Rated OSB or Minimum 1-1/2" HP-HNB	1-1/2"	1-1/2"
11		Any UL Classified Insulation, any combination, any thickness	Carlisle FR Base Sheet	1"	1"
12	Cellular Lightweight Concrete	N/A	N/A	1-1/2"	1-1/2"
13	Structural (poured-in-place) concrete	N/A	N/A	1-1/2"	1-1/2"

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

Membrane Type:
.045" or .060" Sure-Weld Standard Reinforced Membrane (White, Gray or Tan)
.045" or .060" Sure-Weld HS Reinforced Membrane (White, Gray or Tan)
.080" Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan)
.060" or .080" Spectro-Weld 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	
				Sure-Weld, Sure-Weld EXTRA or Spectro-Weld	Sure-Weld HS
Combustible - 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	1/2"	1/2"
2	Minimum 1/4" DensDeck/DensDeck Prime Roof Boards (1)	Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness.	N/A	1/2"	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"	1/2"
4	N/A	Minimum 2-1/2" layer SecurShield or SecurShield HD Composite over a 2-1/2" (minimum) layer of Carlisle HP-H Insulation. (1)(4)	N/A	1/2"	1/2"
5	Carlisle FR Base Sheet	Minimum 1.9" layer of SecurShield or SecurShield HD Composite. (1)(4)	N/A	1/2"	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"	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"	1/2"
8	N/A	Minimum 1" layer of SecurShield CD. (1)(5)	N/A	1/2"	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"	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"	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"	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"	1/2"
13	N/A	Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness.	Minimum 1/4" SECUROCK® Gypsum Fiber Roof Board (1)	3"	3"
14	N/A	Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 3/8" SECUROCK® Gypsum Fiber Roof Board (1)	3"	3"
15	N/A	Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 1/2" SECUROCK® Gypsum Fiber Roof Board (1)	3"	3"
16	One Ply of Type G2	Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 1/4" SECUROCK® Gypsum Fiber Roof Board (1)	3"	3"
17	N/A	Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 1/4" SECUROCK® Glass Mat Roof Board (1)	3"- Sure-Weld 2-1/2"- Sure-Weld EXTRA	Unlimited
18	N/A	Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 1/4" Dens Deck/DensDeck Prime Roof Boards (1)	3"- Sure-Weld 2-1/2"- Sure-Weld EXTRA	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"	1/2"

<< TABLE OF CONTENTS

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

Membrane Type:
.045" or .060" Sure-Weld Standard Reinforced Membrane (White, Gray or Tan)
.045" or .060" Sure-Weld HS Reinforced Membrane (White, Gray or Tan)
.080" Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan)
.060" or .080" Spectro-Weld 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	
				Sure-Weld, Sure-Weld EXTRA or Spetro-Weld	Sure-Weld HS
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"	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"	1/2"
3	N/A	Minimum 1" layer of SecurShield CD. (7)(9)	N/A	1/2"	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"	1/2"
5	Inverted G3 cap sheet	N/A	N/A	1/2"	1/2"

<< TABLE OF CONTENTS

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

Membrane Type:
.045" or .060" Sure-Weld Standard Reinforced Membrane (White, Gray or Tan)
.045" or .060" Sure-Weld HS Reinforced Membrane (White, Gray or Tan)
.080" Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan)
.060" or .080" Spectro-Weld 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	
				Sure-Weld, Sure-Weld EXTRA or Spectro-Weld	Sure-Weld HS
Combustible - ANSI/UL 790 Spread of Flame Test-Class C					
1	N/A	2" layer of any UL Classified Carlisle Polyisocranurate Isulation	N/A	Unlimited	Unlimited
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	Unlimited

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

System ID	Deck Type	Existing Substrate	Insulation	Maximum Slope	
				Sure-Weld, Sure-Weld EXTRA or Spectro-Weld	Sure-Weld HS
1	N/A	Direct application over Smooth Asphalt BUR (Type III or IV Asphalt)	N/A	1/2"	1/2"
2	N/A	Direct application over Mineral Surfaced Cap Sheet	N/A	1/2"	1/2"
3	N/A	Direct application over Modified Bitumen	N/A	1/2"	1/2"
4	N/A	Direct application over approved single-ply	N/A	1/2"	1/2"
5	N/A	Carlisle FR Base Sheet IS over existing min. UL Class "C" rated Type III or IV Smooth Asphalt BUR, Mineral Cap Sheet, Modified Bitumen or approved single-ply to remain	Base Sheet	1/2"	3/4"
6	N/A	Existing minimum Class C smooth or gravel surface (gravel maintained) DUR, mineral cap sheet or Modified Bitumen	Max. 1" Insulfoam R-Tech or SP	1/2"	1/2"

<< TABLE OF CONTENTS

FM Approval - Field Sheet Securement Criteria
(Please see notes 10, 11, 12 and 15)

Membrane Type:	.045" or .060" Sure-Weld Standard Reinforced Membrane (White, Gray or Tan) .045" or .060" Sure-Weld HS Reinforced Membrane (White, Gray or Tan) .080" Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan) .060" or .080" Spectro-Weld Reinforced Membrane (White)

Membrane Width (11)	Fastener/Plate (12)	Spacing	Min. 22 Gauge Grade C Steel (33 ksi)		Min. 22 Gauge Grade E Steel (80 ksi) (13) or Structural Concrete		Min. 18 Gauge Steel
			Sure-Weld, Sure-Weld EXTRA or Spectro-Weld	Sure-Weld HS	Sure-Weld, Sure-Weld EXTRA or Spectro-Weld	Sure-Weld HS	Sure-Weld or Sure-Weld EXTRA
4 Feet (14)	HP-X /Piranha	6"	1-165 136102-0-0	-	1-165 136102-0-0	-	-
		12"	1-105 136101-0-0	-	-	-	-
6 Feet	HP-X/Piranha	12"	1-90 392183-0-0	-	-	-	-
8 Feet	HP-X /Piranha	6"	1-75 350392-0-0	-	1-135 12496-0-0	1-120 106202-0-0	-
		12"	1-75 392184-0-0	-	1-90 12562-0-0	1-75 142983-0-0	-
	HP-Xtra /Piranha Xtra	12"	1-75 350394-0-0	1-75 142996-0-0	1-90 143000-0-0	1-75 142996-0-0	-
10 Feet	HP-X /Piranha	6"	-	-	1-90 107469-0-0	-	-
		12"	-	-	1-75 107470-0-0	1-75 106205-0-0	1-90 12807-0-0
	HP-Xtra /Piranha Xtra	6"	-	-	-	-	-
		12"	-	-	1-90 12788-0-0	-	-
12 Feet	HP-X /Piranha	6"	-	-	1-105 140986-0-0	1-75 106197-0-0	1-120 141042-0-0
		12"	-	-	1-60 140548-0-0	1-60 106201-0-0	1-105 140986-0-0
	HP-Xtra /Piranha Xtra	6"	-	-	1-120 141023-0-0	-	1-120 141023-0-0
		12"	-	-	-	-	-

(RoofNAV Number) - directly over Min. 1.5" of Polyiso HP-H or SecurShield

<< TABLE OF CONTENTS

FM Approvals – Induction Welding Grid Securement

Membrane Type:
.045" or .060" Sure-Weld Standard Reinforced Membrane (White, Gray or Tan)
.045" or .060" Sure-Weld HS Reinforced Membrane (White, Gray or Tan)
.080" Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan)
.060" or .080" Spectro-Weld Reinforced Membrane (White)

Deck Type	Fastener/Plate	Rating	Fasteners per 4' x 8' Board		
			Field	Perimeter	Corner
Min. 22 gauge Grade C Steel Deck	HP-X/Induction Plate	1-90 RhinoBond and IsoWeld	6 RB 222555-0-0 IW 378853-0-0	10	15
	HP-X/RhinoBond	1-105 (RhinoBond Only)	8 222553-0-0	14	20
	HP-X/IsoWeld	1-150 (IsoWeld Only)	10 378890-0-0	17	25
	HP-X/RhinoBond	1-165 (RhinoBond Only)	16 386367-0-0	27	40
Min. 22 gauge Grade E Steel Deck	HP-X / RhinoBond	1-120 (RhinoBond Only)	8 222375-0-0	14	20
	HP-X/RhinoBond	1-195 (RhinoBond Only)	16 387161-0-0	27	40
Concrete	HD 14-10/RhinoBond	1-90 RhinoBond	6	10	15
		1-105 (RhinoBond Only)	8 311967-0-0	14	20
		1-120 (RhinoBond Only)	8 312569-0-0	14	20
		1-195 (RhinoBond Only)	16 386369-0-0	27	40

FM Approvals - Induction Welding Linear Securement

Deck Type	Fastener	Plate	Row Spacings	Fastener Spacing in Rows	Rating
Min. 22 gauge Grade E Steel Deck	HP-X	RhinoBond	5'	12"	1-75 323353-0-0
			5'	6"	1-135 323355-0-0
			10'	6"	1-75 323398-0-0

(RoofNAV Number) over Polyiso HP-H

90 psf Uplift Resistance Test (1-90 Equivalency on 12' x 24' Table)

Wind uplift testing has been completed in accordance with the FM 4470 Test Procedure which is witnessed and certified by Architectural Testing, Incorporated, an industry recognized Independent Testing Laboratory. Over a 22 gauge Grade E Steel roof deck, the following results were obtained using HP-X Fasteners and Piranha Plates for membrane securement. The Performance Test Report is on file and available from Carlisle.

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane (white, gray or tan).

Deck Type	Field Membrane Width	Fastener Spacing	Insulation Type and Thickness	Insulation Fastening
Min. 22 gauge	10' See notes 16 and 17.	12"	Per Carlisle Specification	Per Carlisle Specification

<< TABLE OF CONTENTS

FM Class A Roof Deck Construction and Insulation Approvals (18)

Membrane Type:
.045" or .060" Sure-Weld Standard Reinforced Membrane (White, Gray or Tan)
.045" or .060" Sure-Weld HS Reinforced Membrane (White, Gray or Tan)
.080" Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan)
.060" or .080" Spectro-Weld Reinforced Membrane (White)

Deck Type	Insulation (19)	Insulation Thickness	Maximum Slope for ASTM E-108 Class "A" Rating	
			Sure-Weld, Sure-Weld EXTRA or Spectro-Weld	Sure-Weld HS
New Construction/Tearoff: Steel (Minimum 22 gauge) Structural Concrete **Retrofit (No Tearoff) (21): Structural Concrete**	**Carlisle HP Recovery Board**	1/2" Min.	1-1/2" (with Recovery Board or Securock overlay) 5" (with Dens-Deck overlay and Sure-Weld Standard) 3" (with Dens-Deck overlay and Sure-Weld EXTRA)	2" (with Recovery Board or Securock overlay) 5" (with Dens-Deck overlay)
	Carlisle HP Recovery Board (min. 1/2"), DensDeck (min. 1/4") or Securock (min. 1/4") Over: FM Approved Insulation (20)	Refer to FM RoofNav website		
	Carlisle Polyisocyanurate HP-H or SecurShield	1-1/2"-12"	1/2"	1-1/2"
	Carlisle SecurShield HD or SecurShield HD Plus Over: FM Approved Insulation (20)	1/2" / Refer to FM RoofNAV website		
Retrofit (No Tearoff) (21): Steel (Minimum 22 gauge)	**Carlisle** HP Recovery Board	1/2"-1"	1-1/2"	2"
	Carlisle Polyisocyanurate HP-H or SecurShield	1" Max.	1/2"	1-1/2"
	Carlisle SecurShield HD or SecurShield HD Plus	1/2"		

ANSI-SPRI WD-1/ASCE 7-10 Approvals

Membrane Type:
.045" or .060" Sure-Weld Standard Reinforced Membrane (White, Gray or Tan)
.045" or .060" Sure-Weld HS Reinforced Membrane (White, Gray or Tan)
.080" Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan)
.060" or .080" Spectro-Weld Reinforced Membrane (White)

Membrane Width	Fastener/Plate	Spacing	Min. 22 Gauge Grade C Steel (33 ksi)		Min. 22 Gauge Grade E Steel (80 ksi) or Structural Concrete		Wood Deck	Min. 18 Gauge Steel
			Sure-Weld, Sure-Weld EXTRA or Spectro-Weld	Sure-Weld HS	Sure-Weld, Sure-Weld EXTRA or Spectro-Weld	Sure-Weld HS	Sure-Weld, Sure-Weld EXTRA or Spectro-Weld	Sure-Weld or Sure-Weld EXTRA
4 Feet	HP-X /Piranha	6"	1-165	-	1-165	-	-	-
		12"	1-105	-	1-105	-	-	-
6 Feet	HPX/Piranha	12"	1-90	-	-	-	-	-
8 Feet	HP-X /Piranha	6"	1-105	-	1-135	1-120	1-90	-
		12"	1-75	1-60	1-90	1-75	1-75	-
	HP-Xtra /Piranha Xtra	12"	1-90	1-75	1-90	1-75	-	-
10 Feet	HP-X /Piranha	6"	1-105	1-90	1-120	1-75	-	-
		9"	1-75	1-60	1-90	1-90	-	-
		12"	1-60	-	1-75	1-75	-	1-90
	HP-Xtra /Piranha Xtra	6"	1-120	-	1-120	-	-	-
		12"	1-60	-	1-90*	-	-	-
12 Feet	HP-X /Piranha	6"	1-105	-	1-120	1-75	-	-
		9"	1-75	1-60	1-75	-	-	-
		12"	1-60	-	1-60	1-60	-	-
	HP-Xtra /Piranha Xtra	6"	1-120	-	1-120	-	-	-
		9"	1-75	-	1-75	-	-	-
		12"	1-60	-	1-60	-	-	-

*Max 1-75 using Spectro-Weld

Sure-Weld® 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-Weld[TM] 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.

FM Approvals – Metal Retrofit

Purlin Spacing	Fastener/Plate	Spacing	Sure-Weld, Sure-Weld EXTRA or Spectro-Weld	Sure-Weld HS
60 Inches	HP Purlin/Piranha	6"	1-135 272454-0-0	1-120
60 Inches	HP Purlin/Piranha	12"	1-75 272513-0-0	1-75
120 Inches	HP Purlin/Piranha	6"	1-120 272710-0-0	1-75
120 Inches	HP Purlin/Piranha	12"	1-60 272642-0-0	1-60
138 inches	HP Purlin/Piranha	6"	1-105 272663-0-0	1-75

(RoofNAV Number) - For selected systems using 1/4" thick Gypsum top layer.

FM Approvals – Metal Retrofit Pressure-Sensitive RUSS Strip

Purlin Spacing	Fastener/Plate	Spacing	Sure-Weld, Sure-Weld EXTRA or Spectro-Weld	Sure-Weld HS
60 Inches	HP Purlin/Piranha	12"	1-120 272568-0-0	1-75
120 Inches	HP Purlin/Piranha	6"	1-120 272563-0-0	1-75
120 Inches	HP Purlin/Piranha	12"	1-75 272576-0-0	1-60

(RoofNAV Number) - For selected systems using 1/4" thick Gypsum top layer.

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	5'	12"	1-75 373501-0-0
Structural Steel Purlin (Metal Retrofit)	HP Purlin	RhinoBond	5'	6"	1-135 373505-0-0
Structural Steel Purlin (Metal Retrofit)	HP Purlin	RhinoBond	10'	6"	1-75 373498-0-0

(RoofNAV Number) - For selected systems using 1/4" thick Gypsum top layer.

<< TABLE OF CONTENTS

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

Membrane Type:
.045" or .060" Sure-Weld Standard Reinforced Membrane (White, Gray or Tan)
.045" or .060" Sure-Weld HS Reinforced Membrane (White, Gray or Tan)
.080" Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan)
.060" or .080" Spectro-Weld Reinforced Membrane (White)

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

System ID	Deck Type	Insulation	Cover Board	Maximum Slope		
				Sure-Weld or Spectro-Weld	Sure-Weld HS	Sure-Weld EXTRA
1	Non-Combustible	HP-H, SecurShield, SecurShield HD, SecurShield HD Plus or SecurShield HD Composite- any combination, any thickness	N/A	1/4"	1/2"	1/4"
2		Any UL Classified EPS or XPS Insulation, any thickness	Minimum 1/2" SecurShield HD, SecurShield HD Plus or SecurShield HD Composite	1/4"	1/2"	1/4"
3		Minimum 1" layer of HP-H, SecurShield, or SecurShield HD Composite over any UL Classified EPS or XPS Insulation, maximum 1.25 pcf, any thickness	N/A	1/4"	1/2"	1/4"
4		Insulfoam HD Composite or Insulfoam HD Composite over Insulfoam EPS, any thickness and density.	N/A	1/4"	1/2"	1/4"
5		Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 1/4" SECUROCK® Gypsum-Fiber	3"	3"	2-1/2"
6		Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 1/4" DensDeck Prime Roof Boards	3"	Unlimited	2-1/2"
7		Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 1/2" HP Recovery Board	1-1/2"	1"	1/4"
8		Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 7/16" APA Rated OSB or Minimum 1-1/2" HP-HNB	1-1/2"	1"	1/4"
9	Cellular Lightweight Concrete	N/A	N/A	3"	Unlimited	2-1/2"
10	Structural (poured-in-place) concrete	N/A	N/A	3"	Unlimited	2-1/2"

<< TABLE OF CONTENTS

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

Membrane Type:
.045" or .060" Sure-Weld Standard Reinforced Membrane (White, Gray or Tan)
.045" or .060" Sure-Weld HS Reinforced Membrane (White, Gray or Tan)
.080" Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan)
.060" or .080" Spectro-Weld 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 (26)	Maximum Slope		
				Sure-Weld or Spectro-Weld	Sure-Weld HS	Sure-Weld EXTRA
Combustible - ANSI/UL 790 Spread of Flame Test-Class A						
1	Minimum 1/4" SECUROCK® Gypsum Fiber or Glass Mat Roof Boards (25)	Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness.	N/A	1/4"	1/2"	1/4"
2	Minimum 1/4" DensDeck/DensDeck Prime Roof Boards (25)	Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness.	N/A	1/4"	1/2"	1/4"
3	N/A	Minimum 3" layer or two layers of 1-1/2" SecurShield or SecurShield HD Composite. (25)(27)	N/A	1/4"	1/2"	1/4"
4	N/A	Minimum 2-1/2" layer SecurShield or SecurShield HD Composite over a 2-1/2"" (minimum) layer of Carlisle HP-H Insulation. (25)(28)	N/A	1/4"	1/2"	1/4"
5	Carlisle FR Base Sheet	Minimum 1-9/10" layer of SecurShield or SecurShield HD Composite. (25)(28)	N/A	1/4"	1/2"	1/4"
6	N/A	Minimum 2-1/2"" layer of any UL Classified Carlisle Polyisocyanurate Insulation, any combination. (25)	Minimum 1/2" SecurShield HD or SecurShield HD Plus	1/4"	1/2"	1/4"
7	Carlisle FR Base Sheet	Minimum 1-1/4" layer of any UL Classified Carlisle Polyisocyanurate Insulation, any combination. (25)	Minimum 1/2" SecurShield HD or SecurShield HD Plus	1/4"	1/2"	1/4"
8	N/A	Minimum 1" layer of SecurShield CD. (25)(29)	N/A	1/4"	1/2"	1/4"
9	N/A	Minimum 4" layer of any UL Classified EPS Insulation. (25)(30)	Minimum 1/2" SecurShield HD or SecurShield HD Plus	1/4"	1/2"	1/4"
10	N/A	Minimum 1" layer of SecurShield CD over a minimum 3-1/2" layer of any UL Classified EPS Insulation. (25)(30)	N/A	1/4"	1/2"	1/4"
11	N/A	Minimum 1-1/2" layer of Insulfoam HD Composite over a minimum 3" layer of Insulfoam EPS. (25)(30)	N/A	1/4"	1/2"	1/4"
12	N/A	Minimum 2" layer of Insulfoam HD Composite over a minimum 2-1/2" layer of Insulfoam EPS. (25)(30)	N/A	1/4"	1/2"	1/4"
13	N/A	Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness.	Minimum 1/4" SECUROCK® Gypsum Fiber Roof Board (25)	3"	3"	2-1/2"
14	N/A	Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 3/8" SECUROCK® Gypsum Fiber Roof Board (25)	3"	3"	2-1/2"
15	N/A	Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 1/2" SECUROCK® Gypsum Fiber Roof Board (25)	3"	3"	2-1/2"

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

Membrane Type:
.045" or .060" Sure-Weld Standard Reinforced Membrane (White, Gray or Tan)
.045" or .060" Sure-Weld HS Reinforced Membrane (White, Gray or Tan)
.080" Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan)
.060" or .080" Spectro-Weld 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 (26)	Maximum Slope		
				Sure-Weld or Spectro-Weld	Sure-Weld HS	Sure-Weld EXTRA
Combustible - ANSI/UL 790 Spread of Flame Test-Class A						
16	One Ply of Type G2	Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 1/4" SECUROCK® Gypsum Fiber Roof Board (25)	3"	3"	2-1/2"
17	N/A	Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 1/4" DensDeck Prime Roof Board (25)	3"	Unlimited	2-1/2"

<< TABLE OF CONTENTS

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

Membrane Type:	.045" or .060" Sure-Weld Standard Reinforced Membrane (White, Gray or Tan) .045" or .060" Sure-Weld HS Reinforced Membrane (White, Gray or Tan) .080" Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan) .060" or .080" Spectro-Weld 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 (26)	Maximum Slope		
				Sure-Weld or Spectro-Weld	Sure-Weld HS	Sure-Weld EXTRA
Combustible - ANSI/UL 790 Spread of Flame Test-Class B						
1	N/A	Minimum 1.9" layer of SecurShield or SecurShield HD Composite. (31)(32)	N/A	1/4"	1/2"	1/4"
2	N/A	Minimum 1.4" layer of any UL Classified Carlisle Polyisocyanurate Insulation. (31)	Minimum 1/2" SecurShield HD or SecurShield HD Plus	1/4"	1/2"	1/4"
3	N/A	Minimum 1" layer of SecurShield CD. (31)(33)	N/A	1/4"	1/2"	1/4"
4	One Layer of Carlisle FR Base Sheet	Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness.	N/A	1/4"	1/2"	1/4"

<< TABLE OF CONTENTS

Sure-Weld® (TPO) Adhered Roofing Systems

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

Membrane Type:
.045" or .060" Sure-Weld Standard Reinforced Membrane (White, Gray or Tan)
.045" or .060" Sure-Weld HS Reinforced Membrane (White, Gray or Tan)
.080" Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan)
.060" or .080" Spectro-Weld 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		
				Sure-Weld or Spectro-Weld	Sure-Weld HS	Sure-Weld EXTRA
Combustible - ANSI/UL 790 Spread of Flame Test-Class C						
1	N/A	2" layer of any UL Classified Carlisle Polyisocranurate Isulation	N/A	Unlimited	Unlimited	Unlimited
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	Unlimited	Unlimited

SecurShield HD Ratings - New Construction

Membrane Type:	.045" or .060" Sure-Weld Standard Reinforced Membrane (White, Gray or Tan) .045" or .060" Sure-Weld HS Reinforced Membrane (White, Gray or Tan) .080" Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan) .060" or .080" Spectro-Weld Reinforced Membrane (White)
Membrane Adhesive:	Sure-Weld Bonding Adhesive (SWBA) or Low VOC Bonding Adhesive (LVOC)
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 22, 23 & 24)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 22, 23 & 24)	Rating	Sure-Weld or Spectro-Weld	Sure-Weld EXTRA	Sure-Weld HS
					RoofNAV Number		
Steel Deck (Min. 22 Gauge)							
Min. 1-1/2" Polyiso HP-H or SecurShield	Loose laid	1/2" SecurShield HD	12 (2.67 sq. ft)	1-75	295747-0-0	295747-0-0	295747-0-0
Min. 1-1/2" Polyiso HP-H or SecurShield	Loose laid	1/2" SecurShield HD	16 (2 sq. ft)	1-90	385909-0-0	-	-
Min. 1-1/2" Polyiso HP-H	10 (3.2 sq. ft.)	1/2" SecurShield HD	6" ribbons of FAST	1-90	353874-0-0	353916-0-0 SWBA Only	353918-0-0 SWBA Only
Min. 2" Polyiso HP-H	8 (4 sq. ft)	1/2" SecurShield HD	6" ribbons of FAST	1-90	353875-0-0	353917-0-0 LVOC Only	353919-0-0 LVOC Only
Min. 1-1/2" Polyiso HP-H	18 (1.8 sq. ft.)	1/2" SecurShield HD	6" ribbons of FAST	1-105	325939-0-0 LVOC Only	326014-0-0 LVOC Only	-
Min. 1-1/2" Polyiso HP-H	24 (1.33 sq. ft.)	1/2" SecurShield HD	6" ribbons of FAST	1-150	325941-0-0 SWBA Only	326019-0-0 SWBA Only	-
Min. 1-1/2" Polyiso HP-H	24 (1.33 sq. ft.)	1/2" SecurShield HD	4" ribbons of FAST	1-165	325940-0-0 LVOC Only	326017-0-0 LVOC Only	-
Min. 1/2" DensDeck Prime or Securock	16 (2 sq. ft.)	1/2" SecurShield HD over Polyiso HP-H	6" ribbons FAST	1-90	-	-	-
Steel Deck (Min. 22 Gauge)/VapAir Seal 725TR with Cav-Grip Primer							
Min. 1/2" DensDeck Prime or Securock	16 (2 sq. ft.)	1/2" SecurShield HD over Polyiso HP-H	6" ribbons of FAST	1-90	-	-	-
Concrete Deck							
Min. 1/2" Polyiso HP-H	12" ribbons of FAST	1/2" SecurShield HD	12" ribbons of FAST	1-225	381226-0-0	382997-0-0	382998-0-0
Min. 1/2" Polyiso HP-H	12" ribbons of Olybond 500 BA	1/2" SecurShield HD	12" ribbons of Olybond 500 BA	1-240	-	-	-
Min. 1/2" Polyiso HP-H	Hot Asphalt	1/2" SecurShield HD	Hot Asphalt	1-240	-	-	-
Concrete Deck/VapAir Seal 725TR with Cav-Grip Primer, Carlisle 702 LV Primer or Carlisle 702 Primer							
Min. 1/2" Polyiso HP-H	12" ribbons of FAST	1/2" SecurShield HD	12" ribbons of FAST	1-240 Cav-Grip	364507-0-0 SWBA Only	364508-0-0 SWBA Only	364509-0-0 SWBA Only
				1-225 Cav-Grip	364523-0-0 LVOC Only	-	-
				1-195 702 LV	364526-0-0 SWBA Only / 364525-0-0 LVOC Only	364621-0-0 SWBA Only / 364620-0-0 LVOC Only	364635-0-0 SWBA Only / 364637-0-0 LVOC Only
				1-90 702	-	-	-

SecurShield HD Ratings - New Construction

Membrane Type:
.045" or .060" Sure-Weld Standard Reinforced Membrane (White, Gray or Tan)
.045" or .060" Sure-Weld HS Reinforced Membrane (White, Gray or Tan)
.080" Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan)
.060" or .080" Spectro-Weld Reinforced Membrane (White)

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA) or Low VOC Bonding Adhesive (LVOC)

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 22, 23 & 24)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 22, 23 & 24)	Rating	Sure-Weld or Spectro-Weld	Sure-Weld EXTRA	Sure-Weld HS
					RoofNAV Number		
Concrete Deck/SureMB 90TG or 120TG Base Torch Applied/Cut-Back Asphalt Primer							
Min. 1/2" Polyiso HP-H or Min. 1-1/2" SecurShield	12" ribbons of FAST	1/2" SecurShield HD	12" ribbons of FAST	1-240	392965-0-0 SWBA Only	392966-0-0 SWBA Only	392967-0-0 SWBA Only
Tectum Deck							
Min. 1-1/2" Polyiso HP-H	Full-Coverage of FAST	1/2" SecurShield HD	Full-Coverage of FAST	1-150	-	-	-
Min. 1-1/2" Polyiso HP-H	12" ribbons of Olybond 500 BA	1/2" SecurShield HD	12" ribbons of Olybond 500 BA	1-90	-	-	-
Gypsum Deck Tear-Off							
Min. 1-1/2" Polyiso HP-H	12" ribbons of Olybond 500 BA	1/2" SecurShield HD	12" ribbons of Olybond 500 BA	1-90	-	-	-
Cellular Lightweight Insulating Concrete/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	-	-	-
-	4" ribbons of FAST	1/2" SecurShield HD	4" ribbons of FAST	1-135	-	-	-
-	-	1/2" SecurShield HD	4" ribbons of FAST	1-135	-	-	-
(Celcore) Cellular Lightweight Insulating Concrete/Concrete Decking							
Min. 1/2" Polyiso HP-H	4" ribbons of FAST	1/2" SecurShield HD	4" ribbons of FAST	1-135	-	-	-
-	-	1/2" SecurShield HD	4" ribbons of FAST	1-135	-	-	-

FM Approvals
Design "A" Adhered Roofing Systems

SecurShield HD Ratings - Recover

Membrane Type:	.045" or .060" Sure-Weld Standard Reinforced Membrane (White, Gray or Tan) .045" or .060" Sure-Weld HS Reinforced Membrane (White, Gray or Tan) .080" Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan) .060" or .080" Spectro-Weld Reinforced Membrane (White)
Membrane Adhesive:	Sure-Weld Bonding Adhesive (SWBA) or Low VOC Bonding Adhesive (LVOC)
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 22, 23 & 24)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 22, 23 & 24)	Rating	Sure-Weld or Spectro-Weld	Sure-Weld EXTRA	Sure-Weld HS
					RoofNAV Number		
Steel Deck (Min. 22 Gauge)							
-	-	1/2" SecurShield HD	12 (2.67 sq. ft)	1-75	299384-0-0	299384-0-0	299384-0-0
-	-	1/2" SecurShield HD	16 (2 sq. ft)	1-90	-	-	-
-	-	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" Polyiso HP-H	6" ribbons of FAST	1/2" SecurShield HD	6" ribbons of FAST	1-150	-	-	-
-	-	1/2" SecurShield HD	6" ribbons of FAST	1-150	389428-0-0	389430-0-0	389429-0-0
Tectum Deck							
-	-	1/2" SecurShield HD	Full-Coverage FAST	1-150	-	-	-
-	-	1/2" SecurShield HD	6" ribbons of FAST	1-90	-	-	-
-	-	1/2" SecurShield HD	4" ribbons of FAST	1-150	-	-	-
-	-	1/2" SecurShield HD	12" ribbons of Olybond 500 BA	1-90	-	-	-
Gypsum Deck Tear-Off							
-	-	1/2" SecurShield HD	6" ribbons of FAST	1-90	386254-0-0	386255-0-0	-
-	-	1/2" SecurShield HD	12" ribbons of Olybond 500 BA	1-90	-	-	-

SecurShield HD Plus Ratings - New Construction

Membrane Type:
.045" or .060" Sure-Weld Standard Reinforced Membrane (White, Gray or Tan)
.045" or .060" Sure-Weld HS Reinforced Membrane (White, Gray or Tan)
.080" Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan)
.060" or .080" Spectro-Weld Reinforced Membrane (White)

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA) or Low VOC Bonding Adhesive (LVOC)

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 22, 23 & 24)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 22, 23 & 24)	Rating	Sure-Weld or Spectro-Weld	Sure-Weld EXTRA	Sure-Weld HS
					RoofNAV Number		
Steel Deck (Min. 22 Gauge)							
Min. 1-1/2" Polyiso HP-H or SecurShield	Loose laid	1/2" SecurShield HD Plus	8 (4 sq. ft)	1-90	325933-0-0	326002-0-0	-
Min. 1-1/2" Polyiso HP-H or SecurShield	Loose laid	1/2" SecurShield HD Plus	18 (1.8 sq. ft)	1-120	325934-0-0 LVOC Only	326005-0-0 LVOC Only	-
Min. 1-1/2" Polyiso HP-H or SecurShield	Loose laid	1/2" SecurShield HD Plus	24 (1.33 sq. ft)	1-150	325936-0-0 SWBA Only	326024-0-0 SWBA Only	-
Min. 1-1/2" Polyiso HP-H or SecurShield	Loose laid	1/2" SecurShield HD Plus	24 (1.33 sq. ft)	1-225 (35)	325937-0-0 LVOC Only	326010-0-0 LVOC Only	-
Min. 1-1/2" Polyiso HP-H or SecurShield	10 (3.2 sq. ft.)	1/2" SecurShield HD Plus	6" ribbons of FAST	1-90	353874-0-0	353916-0-0 SWBA Only	353918-0-0 SWBA Only
Min. 2" Polyiso HP-H	8 (4 sq. ft)	1/2" SecurShield HD Plus	6" ribbons of FAST	1-90	353875-0-0	353917-0-0 LVOC Only	353919-0-0 LVOC Only
Min. 1-1/2" Polyiso HP-H	18 (1.8 sq. ft.)	1/2" SecurShield HD Plus	6" ribbons of FAST	1-105	-	-	-
Min. 1-1/2" Polyiso HP-H	24 (1.33 sq. ft.)	1/2" SecurShield HD Plus	4" ribbons of FAST	1-150	-	-	-
Min. 1-1/2" Polyiso HP-H	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 Polyiso HP-H	6" ribbons of FAST	1-90	-	-	-
Steel Deck (Min. 22 Gauge)/VapAir Seal 725TR with Cav-Grip Primer							
Min. 1/2" DensDeck Prime or Securock	16 (2 sq. ft.)	1/2" SecurShield HD Plus over Polyiso HP-H	6" ribbons of FAST	1-90	-	-	-
Concrete Deck							
Min. 1/2" Polyiso HP-H	12" ribbons of FAST	1/2" SecurShield HD Plus	12" ribbons of FAST	1-225	381226-0-0	382997-0-0	382998-0-0
Min. 1/2" Polyiso HP-H	12" ribbons of Olybond 500 BA	1/2" SecurShield HD Plus	12" ribbons of Olybond 500 BA	1-240	-	-	-
Min. 1/2" Polyiso HP-H	Hot Asphalt	1/2" SecurShield HD Plus	Hot Asphalt	1-240	-	-	-
Concrete Deck/VapAir Seal 725TR with Cav-Grip Primer, Carlisle 702 LV Primer or Carlisle 702 Primer							
Min. 1/2" Polyiso HP-H or Min. 1-1/2" SecurShield	12" ribbons of FAST	1/2" SecurShield HD Plus	12" ribbons of FAST	1-255 Cav-Grip	364507-0-0 SWBA Only / 364523-0-0 LVOC Only	364508-0-0 SWBA Only	364509-0-0 SWBA Only
				1-195 702 LV	364526-0-0 SWBA Only / 364525-0-0 LVOC Only	364621-0-0 SWBA Only / 364620-0-0 LVOC Only	364635-0-0 LVOC Only / 364637-0-0 SWBA Only
				1-90 702	-	-	-

SecurShield HD Plus Ratings - New Construction

Membrane Type:	.045" or .060" Sure-Weld Standard Reinforced Membrane (White, Gray or Tan) .045" or .060" Sure-Weld HS Reinforced Membrane (White, Gray or Tan) .080" Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan) .060" or .080" Spectro-Weld Reinforced Membrane (White)
Membrane Adhesive:	Sure-Weld Bonding Adhesive (SWBA) or Low VOC Bonding Adhesive (LVOC)
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 22, 23 & 24)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 22, 23 & 24)	Rating	Sure-Weld or Spectro-Weld	Sure-Weld EXTRA	Sure-Weld HS
					RoofNAV Number		
Concrete Deck/SureMB 90TG or 120TG Base Torch Applied/Cut-Back Asphalt Primer							
Min. 1/2" Polyiso HP-H or Min. 1-1/2" SecurShield	12" ribbons of FAST	1/2" SecurShield HD Plus	12" ribbons of FAST	1-240	392965-0-0 SWBA Only	392966-0-0 SWBA Only	392967-0-0 SWBA Only
Tectum Deck							
Min. 1-1/2" Polyiso HP-H	Full-Coverage FAST	1/2" SecurShield HD Plus	Full-Coverage FAST	1-150	-	-	-
Min. 1-1/2" Polyiso HP-H	12" ribbons of Olybond 500 BA	1/2" SecurShield HD Plus	12" ribbons of Olybond 500 BA	1-90	-	-	-
Gypsum Deck Tear-Off							
Min. 1-1/2" Polyiso HP-H	Full-Coverage FAST	1/2" SecurShield HD Plus	Full-Coverage FAST	1-90	-	-	-
Min. 1-1/2" Polyiso HP-H	12" ribbons of Olybond 500 BA	1/2" SecurShield HD Plus	12" ribbons of Olybond 500 BA	1-90	-	-	-
(Celcore) Cellular Lightweight Insulating Concrete/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" Polyiso HP-H	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	-	-	-
(Celcore) Cellular Lightweight Insulating Concrete/Concrete Decking							
Min. 1/2" Polyiso HP-H	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	-	-	-

SecurShield HD Plus Ratings - Recover

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane (White, Gray or Tan)
.045" or .060" Sure-Weld HS Reinforced Membrane (White, Gray or Tan)
.080" Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan)
.060" or .080" Spectro-Weld Reinforced Membrane (White)

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA) or Low VOC Bonding Adhesive (LVOC)

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 22, 23 & 24)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 22, 23 & 24)	Rating	Sure-Weld or Spectro-Weld	Sure-Weld EXTRA	Sure-Weld HS
					RoofNAV Number		
Steel Deck (Min. 22 Gauge)							
-	-	1/2" SecurShield HD Plus	8 (4 sq. ft)	1-90	-	-	-
-	-	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" Polyiso HP-H	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	-	-	-
Tectum Deck							
Min. 1-1/2" Polyiso HP-H	Full-Coverage FAST	1/2" SecurShield HD Plus	Full-Coverage FAST	1-150	-	-	-
Min. 1-1/2" Polyiso HP-H	12" ribbons of Olybond 500 BA	1/2" SecurShield HD Plus	12" ribbons of Olybond 500 BA	1-90	-	-	-
Gypsum Deck Tear-Off							
Min. 1-1/2" Polyiso HP-H	Full-Coverage FAST	1/2" SecurShield HD Plus	Full-Coverage FAST	1-90	-	-	-
Min. 1-1/2" Polyiso HP-H	12" ribbons of Olybond 500 BA	1/2" SecurShield HD Plus	12" ribbons of Olybond 500 BA	1-90	-	-	-

Polyiso HP-H Ratings - New Construction

Membrane Type:
.045" or .060" Sure-Weld Standard Reinforced Membrane (White, Gray or Tan)
.045" or .060" Sure-Weld HS Reinforced Membrane (White, Gray or Tan)
.080" Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan)
.060" or .080" Spectro-Weld Reinforced Membrane (White)

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA) or Low VOC Bonding Adhesive (LVOC)

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 22, 23 & 24)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 22, 23 & 24)	Rating	Sure-Weld or Spectro-Weld	Sure-Weld EXTRA	Sure-Weld HS
					RoofNAV Number		
Steel Deck (Min. 22 Gauge)							
Min. 1-1/2" Polyiso HP-H	16 (2 sq. ft)	-	-	1-90	13221-0-0	13256-0-0	63400-0-0
Min. 2" Polyiso HP-H	8 (4 sq. ft)	-	-	1-90	13222-0-0	13259-0-0	63401-0-0
Min. 2" Polyiso HP-H	20 (1.6 sq. ft)	-	-	1-150	135476-0-0 SWBA Only	135474-0-0 SWBA Only	135477-0-0 SWBA Only
Min. 1-1/2" Polyiso HP-H	10 (3.2 sq. ft.)	Min. 1-1/2" Polyiso HP-H	12" ribbons of FAST	1-90	-	-	-
Min. 2" Polyiso HP-H	8 (4 sq. ft)	Min. 2" Polyiso HP-H	12" ribbons of FAST	1-90	188863-0-0	188878-0-0	188900-0-0
Min. 1-1/2" Polyiso HP-H	18 (1.8 sq. ft.)	Min. 1-1/2" Polyiso HP-H	6" ribbons of FAST	1-105	-	-	-
Min. 1-1/2" Polyiso HP-H	24 (1.33 sq. ft.)	Min. 1-1/2" Polyiso HP-H	4" ribbons of FAST	1-165	-	-	-
Min. 1/2" DensDeck Prime or Securock	16 (2 sq. ft.)	Min. 1-1/2" Polyiso HP-H	12" ribbons of FAST	1-90	-	-	-
Steel Deck (Min. 22 Gauge)/VapAir Seal 725TR with Cav-Grip Primer							
Min. 1/2" DensDeck Prime or 5/8" Securock	16 (2 sq. ft.)	Min. 1-1/2" Polyiso HP-H	12" ribbons of FAST	1-105	352057-0-0	-	-
Concrete Deck							
Min. 1/2" Polyiso HP-H	Full Coverage FAST	-	-	1-315	279654-0-0	279656-0-0	279705-0-0
Min. 1-1/2" Polyiso HP-H	12" ribbons of FAST	-	-	1-480	222698-0-0 SWBA Only	222698-0-0 SWBA Only	222698-0-0 SWBA Only
Min. 1/2" Polyiso HP-H	12" ribbons of Olybond 500 BA	-	-	1-315	279654-0-0	279656-0-0	279705-0-0
Min. 1/2" Polyiso HP-H	Hot Asphalt	-	-	1-315	279654-0-0	279656-0-0	279705-0-0
Concrete Deck/VapAir Seal 725TR with Cav-Grip Primer, Carlisle 702 LV Primer or Carlisle 702 Primer							
Min. 1-1/2" Polyiso HP-H	12" ribbons of FAST	-	-	1-255 Cav-Grip	-	-	-
				1-195 702 LV	-	-	-
				1-90 702	275361-0-0 LVOC Only	275361-0-0 LVOC Only	275361-0-0 LVOC Only
Concrete Deck/SureMB 90TG or 120TG Base Torch Applied/Cut-Back Asphalt Primer							
Min. 1/2" Polyiso HP-H	12" ribbons of FAST	Min. 1-1/2" Polyiso HP-H	12" ribbons of FAST	1-330	-	-	-
Tectum Deck							
Min. 1-1/2" Polyiso HP-H	16 (2 sq. ft)	-	-	1-90	93418-0-0	95300-0-0	93419-0-0
Min. 2" Polyiso HP-H	Full-Coverage FAST	-	-	1-150	211688-0-0 SWBA Only	224896-0-0 SWBA Only	224898-0-0 SWBA Only
Min. 1-1/2" Polyiso HP-H	12" ribbons of Olybond 500 BA	-	-	1-90	-	-	-

Polyiso HP-H Ratings - New Construction

Membrane Type:
.045" or .060" Sure-Weld Standard Reinforced Membrane (White, Gray or Tan)
.045" or .060" Sure-Weld HS Reinforced Membrane (White, Gray or Tan)
.080" Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan)
.060" or .080" Spectro-Weld Reinforced Membrane (White)

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA) or Low VOC Bonding Adhesive (LVOC)

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 22, 23 & 24)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 22, 23 & 24)	Rating	Sure-Weld or Spectro-Weld	Sure-Weld EXTRA	Sure-Weld HS
					RoofNAV Number		
Gypsum Deck Tear-Off							
Min. 2" Polyiso HP-H	8 (4 sq. ft)	-	-	1-90	93423-0-0	95309-0-0	-
Min. 1-1/2" Polyiso HP-H	Full-Coverage FAST	-	-	1-90	144203-0-0	144202-0-0	144204-0-0
Min. 1" Polyiso HP-H	12" ribbons of Olybond 500 BA	-	-	1-90	189744-0-0	189745-0-0	189746-0-0
Cellular Lightweight Insulating Concrete/Steel Decking (Min. 22 Gauge)							
Min. 1-1/2" Polyiso HP-H	16 (2 sq. ft)	-	-	1-90	-	-	-
Min. 2" Polyiso HP-H	8 (4 sq. ft)	-	-	1-90	-	-	-
Min. 2" Polyiso HP-H	20 (1.6 sq. ft)	-	-	1-150	-	-	-
Celcore							
Min. 1" Polyiso HP-H	4" ribbons of FAST	-	-	1-135	309398-0-194470	309406-0-194470	309497-0-194470
Cellular Lightweight Insulating Concrete/Concrete Decking							
Celcore							
Min. 1" Polyiso HP-H	4" ribbons of FAST	-	-	1-135	309997-0-50916	310002-0-50916	310052-0-50916
Elastizell							
Min. 1" Polyiso HP-H tapered	12" ribbons of Olybond 500 BA	-	-	1-180	93280-0-50936	96122-0-50936	93283-0-50936

Polyiso HP-H Ratings - Recover

Membrane Type:
.045" or .060" Sure-Weld Standard Reinforced Membrane (White, Gray or Tan)
.045" or .060" Sure-Weld HS Reinforced Membrane (White, Gray or Tan)
.080" Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan)
.060" or .080" Spectro-Weld Reinforced Membrane (White)

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA) or Low VOC Bonding Adhesive (LVOC)

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 22, 23 & 24)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 22, 23 & 24)	Rating	Sure-Weld or Spectro-Weld	Sure-Weld EXTRA	Sure-Weld HS
					RoofNAV Number		
Steel Deck (Min. 22 Gauge)							
Min. 1/2" Polyiso HP-H	20 (1.6 sq. ft)	-	-	1-90	164685-0-0	164687-0-0	164695-0-0
1" Polyiso HP-H	6" ribbons of FAST	-	-	1-90	-	-	-
Min. 1/2" Polyiso HP-H	12" ribbons of Olybond 500 BA	-	-	1-90	278922-0-0	278923-0-0	278925-0-0
Concrete Deck							
1/2" Polyiso HP-H	12" ribbons of FAST	-	-	1-90	-	-	-
Tectum Deck							
1" Polyiso HP-H	20 (1.6 sq. ft)	-	-	1-90	-	-	-
1" Polyiso HP-H	Full-Coverage FAST	-	-	1-150	-	-	-
1" Polyiso HP-H	12" ribbons of Olybond 500 BA	-	-	1-90	-	-	-
Gypsum Deck Tear-Off							
1" Polyiso HP-H	20 (1.6 sq. ft)	-	-	1-90	-	-	-
1" Polyiso HP-H	Full-Coverage FAST	-	-	1-90	-	-	-
1" Polyiso HP-H	12" ribbons of Olybond 500 BA	-	-	1-90	-	-	-

<< TABLE OF CONTENTS

SecurShield and SecurShield HD Composite Ratings - New Construction

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane (White, Gray or Tan)
.045" or .060" Sure-Weld HS Reinforced Membrane (White, Gray or Tan)
.080" Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan)
.060" or .080" Spectro-Weld Reinforced Membrane (White)

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA) or Low VOC Bonding Adhesive (LVOC)

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 22, 23 & 24)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 22, 23 & 24)	Rating	Sure-Weld or Spectro-Weld	Sure-Weld EXTRA	Sure-Weld HS
					RoofNAV Number		
Steel Deck (Min. 22 Gauge)							
Min. 1-1/2" SecurShield or SecurShield HD Composite	16 (2 sq. ft)	-	-	1-90	188569-0-0	188569-0-0	188569-0-0
Min. 2" SecurShield or SecurShield HD Composite	8 (4 sq. ft)	-	-	1-90	188870-0-0	188870-0-0	188870-0-0
Min. 2" SecurShield or SecurShield HD Composite	20 (1.6 sq. ft.)	-	-	1-150	135476-0-0 SWBA Only	135476-0-0 SWBA Only	135476-0-0 SWBA Only
Min. 2" SecurShield Only	32 (1 sq. ft.)	-	-	1-225 (35)	245513-0-0 SWBA Only	245509-0-0 SWBA Only	245516-0-0 SWBA Only
Min. 1-1/2" Polyiso HP-H	10 (3.2 sq. ft.)	Min. 1-1/2" SecurShield or SecurShield HD Composite	12" ribbons of FAST	1-90	-	-	-
Min. 2" Polyiso HP-H or SecurShield	8 (4 sq. ft)	Min. 2" SecurShield or SecurShield HD Composite	12" ribbons of FAST	1-90	254630-0-0	254630-0-0	254630-0-0
Min. 1-1/2" Polyiso HP-H	18 (1.8 sq. ft.)	Min. 1-1/2" SecurShield or SecurShield HD Composite	6" ribbons of FAST	1-105	-	-	-
Min. 1-1/2" Polyiso HP-H	24 (1.33 sq. ft.)	Min. 1-1/2" SecurShield or SecurShield HD Composite	4" ribbons of FAST	1-165	-	-	-
Min. 1/2" DensDeck Prime or Securock	16 (2 sq. ft.)	Min. 1-1/2" SecurShield or SecurShield HD Composite	6" ribbons of FAST	1-90	-	-	-
Steel Deck (Min. 22 Gauge)/VapAir Seal 725TR with Cav-Grip Primer							
Min. 1/2" DensDeck Prime or 5/8" of Securock	16 (2 sq. ft.)	Min. 1-1/2" SecurShield or SecurShield HD Composite	12" ribbons of FAST	1-105	352057-0-0	-	-
Concrete Deck							
Min. 1/2" Polyiso HP-H	12" ribbons of FAST	Min. 2" SecurShield or SecurShield HD Composite	12" ribbons of FAST	1-225	323655-0-0	-	-
Min. 2" SecurShield or SecurShield HD Composite	12" ribbons of Olybond 500 BA	-	-	1-240	-	-	-
Min. 2" SecurShield or SecurShield HD Composite	Hot Asphalt	-	-	1-300	-	-	-
Concrete Deck/VapAir Seal 725TR with Cav-Grip Primer, Carlisle 702 LV Primer or Carlisle 702 Primer							
Min. 1/2" SecurShield or SecurShield HD Composite	12" ribbons of FAST	-	-	1-255 Cav-Grip	-	-	-
				1-195 702 LV	-	-	-
				1-90 702	-	-	-

SecurShield and SecurShield HD Composite Ratings - New Construction

Membrane Type:
.045" or .060" Sure-Weld Standard Reinforced Membrane (White, Gray or Tan)
.045" or .060" Sure-Weld HS Reinforced Membrane (White, Gray or Tan)
.080" Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan)
.060" or .080" Spectro-Weld Reinforced Membrane (White)

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA) or Low VOC Bonding Adhesive (LVOC)

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 22, 23 & 24)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 22, 23 & 24)	Rating	Sure-Weld or Spectro-Weld	Sure-Weld EXTRA	Sure-Weld HS
					RoofNAV Number		
Concrete Deck/SureMB 90TG or 120TG Base Torch Applied/Cut-Back Asphalt Primer							
Min. 1/2" Polyiso HP-H	12" ribbons of FAST	Min. 2" SecurShield or SecurShield HD Composite	12" ribbons of FAST	1-330	-	-	-
Tectum Deck							
Min. 1-1/2" SecurShield or SecurShield HD Composite	16 (2 sq. ft)	-	-	1-90	-	-	-
Min. 1-1/2" SecurShield or SecurShield HD Composite	Full-Coverage FAST	-	-	1-150	-	-	-
Min. 1-1/2" SecurShield or SecurShield HD Composite	12" ribbons of Olybond 500 BA	-	-	1-90	-	-	-
Gypsum Deck Tear-Off							
Min. 1-1/2" SecurShield or SecurShield HD Composite	16 (2 sq. ft)	-	-	1-90	-	-	-
Min. 1-1/2" SecurShield or SecurShield HD Composite	Full-Coverage FAST	-	-	1-90	-	-	-
Min. 1-1/2" SecurShield or SecurShield HD Composite	12" ribbons of Olybond 500 BA	-	-	1-90	-	-	-
Cellular Lightweight Insulating Concrete/Steel Decking (Min. 22 Gauge)							
Min. 1-1/2" SecurShield or SecurShield HD Composite	16 (2 sq. ft)	-	-	1-75	-	-	-
Min. 2" SecurShield or SecurShield HD Composite	8 (4 sq. ft)	-	-	1-90	-	-	-
Min. 2" SecurShield or SecurShield HD Composite	20 (1.6 sq. ft.)	-	-	1-150	-	-	-
Min. 2" SecurShield or SecurShield HD Composite	32 (1 sq. ft.)	-	-	1-225	-	-	-
Min. 1-1/2" SecurShield or SecurShield HD Composite	4" ribbons of FAST	-	-	1-135	-	-	-
(Celcore) Cellular Lightweight Insulating Concrete/Concrete Decking							
Min. 1/2" SecurShield or SecurShield HD Composite	4" ribbons of FAST	-	-	1-135	-	-	-

SecurShield Ratings - Recover

Membrane Type:	.045" or .060" Sure-Weld Standard Reinforced Membrane (White, Gray or Tan) .045" or .060" Sure-Weld HS Reinforced Membrane (White, Gray or Tan) .080" Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan) .060" or .080" Spectro-Weld Reinforced Membrane (White)
Membrane Adhesive:	Sure-Weld Bonding Adhesive (SWBA) or Low VOC Bonding Adhesive (LVOC)
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 22, 23 & 24)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 22, 23 & 24)	Rating	Sure-Weld or Spectro-Weld	Sure-Weld EXTRA	Sure-Weld HS
					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	-	-	-
Tectum Deck							
1" SecurShield	20 (1.6 sq. ft)	-	-	1-90	-	-	-
1" SecurShield	Full-Coverage FAST	-	-	1-150	-	-	-
1" SecurShield	12" ribbons of Olybond 500 BA	-	-	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	-	-	-

<< TABLE OF CONTENTS

Securock Ratings - New Construction

Membrane Type:
.045" or .060" Sure-Weld Standard Reinforced Membrane (White, Gray or Tan)
.045" or .060" Sure-Weld HS Reinforced Membrane (White, Gray or Tan)
.080" Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan)
.060" or .080" Spectro-Weld Reinforced Membrane (White)

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA) or Low VOC Bonding Adhesive (LVOC)

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 22, 23 & 24)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 22, 23 & 24)	Rating	Sure-Weld or Spectro-Weld	Sure-Weld EXTRA	Sure-Weld HS
					RoofNAV Number		
Steel Deck (Min. 22 Gauge)							
Min. 1-1/2" Polyiso HP-H	Loose laid	Min. 1/4" Securock	12 (2.66 sq. ft)	1-75	269962-0-0 LVOC Only	269964-0-0 LVOC Only	269968-0-0 LVOC Only
Min. 1-1/2" Polyiso HP-H	Loose laid	Min. 1/4" Securock	10 (3.2 sq. ft) SecurFAST Plate	1-90	-	-	-
Min. 1-1/2" Polyiso HP-H	Loose laid	Min. 3/8" Securock	8 (4 sq. ft) SureFAST Plate	1-90	-	-	-
Min. 1-1/2" Polyiso HP-H	Loose laid	Min. 1/2" Securock	10 (3.2 sq. ft)	1-90	269985-0-0	269986-0-0 LVOC Only	269988-0-0 LVOC Only
Min. 1-1/2" Polyiso HP-H	Loose laid	Min. 1/2" Securock	8 (4 sq. ft) SecurFAST Plate	1-90	-	-	-
Min. 1-1/2" Polyiso HP-H	Loose laid	Min. 1/2" Securock	6 (5.33 sq. ft) SecurFAST Plate	1-75	-	-	-
Min. 1-1/2" Polyiso HP-H	Loose laid	Min. 5/8" Securock	8 (4 sq. ft)	1-90	269989-0-0 LVOC Only	269990-0-0 LVOC Only	269992-0-0 LVOC Only
Min. 1-1/2" Polyiso HP-H	Loose laid	Min. 5/8" Securock	6 (5.33 sq. ft) SecurFAST Plate	1-90	-	-	-
Min. 1" Polyiso HP-H	Loose laid	Min. 1/2" Securock	20 (1.6 sq. ft)	1-150	269993-0-0	269994-0-0	269996-0-0 LVOC Only
Min. 1-1/2" Polyiso HP-H	Loose laid	Min. 1/2" Securock	32 (1 sq. ft)	1-255	239271-0-0 LVOC Only	239272-0-0 LVOC Only	269952-0-0 LVOC Only
Min. 1-1/2" Polyiso HP-H	10 (3.2 sq. ft.)	Min. 1/4" Securock	12" ribbons of FAST	1-90	-	301750-0-0	301753-0-0 LVOC Only
Min. 2" Polyiso HP-H	8 (4 sq. ft)	Min. 1/4" Securock	12" ribbons of FAST	1-90	-	-	-
Min. 1-1/2" Polyiso HP-H	18 (1.8 sq. ft.)	Min. 1/4" Securock	6" ribbons of FAST or Dual Tank	1-105	-	-	-
Min. 1-1/2" Polyiso HP-H	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 Min. 1/2" Polyiso HP-H	12" ribbons of FAST	1-105	-	-	-
Steel Deck (Min. 22 Gauge)/VapAir Seal 725TR with Cav-Grip Primer							
Min. 1/2" DensDeck Prime or 5/8" Securock	16 (2 sq. ft.)	Min. 1/4" Securock over Min. 1/2" Polyiso HP-H	12" ribbons of FAST	1-90	327597-0-0	-	-
Concrete Deck							
Min. 1/2" Polyiso HP-H	FAST Full Coverage	Min. 1/4" Securock	FAST Full Coverage	1-315	307662-0-0 SWBA Only	307751-0-0 SWBA Only	307702-0-0 SWBA Only
Min. 1-1/2" Polyiso HP-H	12" ribbons of Olybond 500 BA	Min. 1/4" Securock	12" ribbons of Olybond 500 BA	1-240	301747-0-0 LVOC Only	301755-0-0 LVOC Only	301761-0-0 LVOC Only
Min. 1/2" Polyiso HP-H	Hot Asphalt	Min. 1/4" Securock	Hot Asphalt	1-300	-	-	-

Securock Ratings - New Construction

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane (White, Gray or Tan)
.045" or .060" Sure-Weld HS Reinforced Membrane (White, Gray or Tan)
.080" Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan)
.060" or .080" Spectro-Weld Reinforced Membrane (White)

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA) or Low VOC Bonding Adhesive (LVOC)

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 22, 23 & 24)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 22, 23 & 24)	Rating	Sure-Weld or Spectro-Weld	Sure-Weld EXTRA	Sure-Weld HS
					RoofNAV Number		
Concrete Deck/VapAir Seal 725TR with Cav-Grip Primer, Carlisle 702 LV Primer or Carlisle 702 Primer							
Min. 1/2" Polyiso HP-H	12" ribbons of FAST	Min. 1/4" Securock	12" ribbons of FAST	1-255 Cav-Grip	333171-0-0	364616-0-0 LVOC Only	364627-0-0 LVOC Only
				1-195 702 LV	364524-0-0 LVOC Only	364619-0-0 LVOC Only	364633-0-0 LVOC Only
				1-90 702	286420-0-0 LVOC Only	285982-0-0 LVOC Only	286420-0-0 LVOC Only
Concrete Deck/SureMB 90TG or 120TG Base Torch Applied/Cut-Back Asphalt Primer							
Min. 1/2" Polyiso HP-H	12" ribbons of FAST	Min. 1/4" Securock	12" ribbons of FAST	1-330	-	-	-
Tectum Deck							
Min. 1-1/2" Polyiso HP-H	Full-Coverage FAST	Min. 1/4" Securock	Full-Coverage FAST	1-150	-	-	-
Min. 1-1/2" Polyiso HP-H	12" ribbons of Olybond 500 BA	Min. 1/4" Securock	12" ribbons of Olybond 500 BA	1-90	-	-	-
Gypsum Deck Tear-Off							
Min. 1-1/2" Polyiso HP-H	Full-Coverage FAST	Min. 1/4" Securock	Full-Coverage FAST	1-90	-	-	-
Min. 1-1/2" Polyiso HP-H	12" ribbons of Olybond 500 BA	Min. 1/4" Securock	12" ribbons of Olybond 500 BA	1-90	-	-	-
Cellular Lightweight Insulating Concrete/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)	1-225	-	-	-
Min. 1-1/2" Polyiso HP-H	4" ribbons of FAST	Min. 1/2 "Securock	4" ribbons of FAST	1-135	-	-	-
(Celcore) Cellular Lightweight Insulating Concrete/Concrete Decking							
Min. 1" Polyiso HP-H	12" ribbons of FAST	Min. 1/4" Securock	12" ribbons of FAST	1-135	310009-0-50914	310012-0-50914	310049-0-50914

<< TABLE OF CONTENTS

Securock Ratings - Recover

Membrane Type:
.045" or .060" Sure-Weld Standard Reinforced Membrane (White, Gray or Tan)
.045" or .060" Sure-Weld HS Reinforced Membrane (White, Gray or Tan)
.080" Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan)
.060" or .080" Spectro-Weld Reinforced Membrane (White)

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA) or Low VOC Bonding Adhesive (LVOC)

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 22, 23 & 24)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 22, 23 & 24)	Rating	Sure-Weld or Spectro-Weld	Sure-Weld EXTRA	Sure-Weld HS
					RoofNAV Number		
Steel Deck (Min. 22 Gauge)							
1/2" Polyiso HP-H	10 (3.2 sq. ft)	Min. 1/4" Securock	12" ribbons of FAST or OlyBond 500 BA	1-90	301766-0-0 LVOC Only	288835-0-0 LVOC Only	288837-0-0 LVOC Only

DensDeck Prime Ratings - New Construction

Membrane Type:
.045" or .060" Sure-Weld Standard Reinforced Membrane (White, Gray or Tan)
.045" or .060" Sure-Weld HS Reinforced Membrane (White, Gray or Tan)
.080" Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan)
.060" or .080" Spectro-Weld Reinforced Membrane (White)

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA) or Low VOC Bonding Adhesive (LVOC)

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 22, 23 & 24)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 22, 23 & 24)	Rating	Sure-Weld or Spectro-Weld	Sure-Weld EXTRA	Sure-Weld HS
					RoofNAV Number		
Steel Deck (Min. 22 Gauge)							
Min. 1-1/2" Polyiso HP-H or SecurShield	Loose laid	Min. 1/4" DensDeck Prime	12 (2.67 sq. ft)	1-90	92102-0-0	95279-0-0	92103-0-0
Min. 1-1/2" Polyiso HP-H or SecurShield	Loose laid	Min. 1/2" DensDeck Prime	10 (3.2 sq. ft)	1-90	92073-0-0	95221-0-0	92074-0-0
Min. 1-1/2" Polyiso HP-H or Securshield	Loose laid	5/8" DensDeck Prime	8 (4 sq. ft)	1-90	92098-0-0	95274-0-0	92099-0-0
Min. 1-1/2" Polyiso HP-H	Loose laid	Min. 1/2" DensDeck Prime	8 (4 sq.ft)	1-90	388249-0-0	388251-0-0	-
Min. 1-1/2" Polyiso HP-H	Loose laid	Min. 1/4" DensDeck Prime	18 (1.8 sq. ft)	1-105	382309-0-0	382310-0-0	-
Min. 1-1/2" Polyiso HP-H	Loose laid	Min. 1/2" DensDeck Prime	18 (1.8 sq. ft)	1-135	383699-0-0	383700-0-0	-
Min. 1-1/2" Polyiso HP-H	Loose laid	Min. 1/2" DensDeck Prime	20 (1.6 sq. ft)	1-150	383709-0-0	383710-0-0	-
Min. 1-1/2" Polyiso HP-H	Loose laid	Min. 1/2" DensDeck Prime	32 (1 sq. ft)	1-165	384592-0-0	384594-0-0	-
Min. 1-1/2" Polyiso HP-H	Loose laid	Min. 1/2" DensDeck Prime	32 (1 sq. ft)	1-180 (34)	384593-0-0	384595-0-0	-
Min. 1-1/2" Polyiso HP-H	Loose laid	Min. 1/2" DensDeck Prime	32 (1 sq. ft)	1-255 (35)	387928-0-0	387931-0-0	-
Min. 1-1/2" Polyiso HP-H	10 (3.2 sq. ft.)	Min. 1/4" DensDeck Prime	12" ribbons of FAST	1-90	-	-	-
Min. 2" Polyiso HP-H	8 (4 sq. ft)	Min. 1/4" DensDeck Prime	12" ribbons of FAST	1-90	188976-0-0	188980-0-0	188976-0-0
Min. 1-1/2" Polyiso HP-H	18 (1.8 sq. ft.)	Min. 1/4" DensDeck Prime	6" ribbons of FAST	1-105	-	-	-
Min. 1-1/2" Polyiso HP-H	24 (1.33 sq. ft.)	Min. 1/4" DensDeck Prime	4" ribbons of FAST	1-165	-	-	-
Min. 1/2" DensDeck Prime	16 (2 sq. ft.)	Min. 1/4" DensDeck Prime over Min. 1-1/2" Polyiso HP-H	12" ribbons of FAST	1-90	303447-0-0	303448-0-0	303451-0-0
Steel Deck (Min. 22 Gauge)/VapAir Seal 725TR with Cav-Grip Primer							
Min. 1/2" DensDeck Prime	16 (2 sq. ft.)	1/4" DensDeck Prime over Min. 1/2" Polyiso HP-H	12" ribbons of FAST	1-90	327597-0-0	-	-
Concrete Deck							
Min. 1/2" Polyiso HP-H	12" ribbons of FAST	Min. 1/4" DensDeck Prime	12" ribbons of FAST	1-315	-	-	-
Min. 1-1/2" Polyiso HP-H	12" ribbons of Olybond 500 BA	Min. 1/4" DensDeck Prime	12" ribbons of Olybond 500 BA	1-240	375399-0-0	378777-0-0	378778-0-0
Min. 1-1/2" Polyiso HP-H	Hot Asphalt	Min. 1/4" DensDeck Prime	Hot Asphalt	1-300	224136-0-0	224138-0-0	224136-0-0

DensDeck Prime Ratings - New Construction

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane (White, Gray or Tan)
.045" or .060" Sure-Weld HS Reinforced Membrane (White, Gray or Tan)
.080" Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan)
.060" or .080" Spectro-Weld Reinforced Membrane (White)

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA) or Low VOC Bonding Adhesive (LVOC)

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 22, 23 & 24)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 22, 23 & 24)	Rating	Sure-Weld or Spectro-Weld	Sure-Weld EXTRA	Sure-Weld HS
					RoofNAV Number		
Concrete Deck/VapAir Seal 725TR with Cav-Grip Primer, Carlisle 702 LV Primer or Carlisle 702 Primer							
Min. 1/2" Polyiso HP-H	12" ribbons of FAST	Min. 1/4" DensDeck Prime	12" ribbons of FAST	1-255 Cav-Grip	333171-0-0	-	-
				1-195 702 LV	-	-	-
				1-90 702	-	-	-
Concrete Deck/SureMB 90TG or 120TG Base Torch Applied/Cut-Back Asphalt Primer							
Min. 1/2" Polyiso HP-H	12" ribbons of FAST	Min. 1/4" DensDeck Prime	12" ribbons of FAST	1-330	-	-	-
Tectum Deck							
Min. 1-1/2" Polyiso HP-H	Full-Coverage FAST	Min. 1/4" DensDeck Prime	Full-Coverage FAST	1-150	-	-	-
Min. 1-1/2" Polyiso HP-H	12" ribbons of Olybond 500 BA	Min. 1/4" DensDeck Prime	12" ribbons of Olybond 500 BA	1-90	92503-0-0	94036-0-0	92524-0-0
Gypsum Deck Tear-Off							
Min. 1-1/2" Polyiso HP-H	Full-Coverage FAST	Min. 1/4" DensDeck Prime	Full-Coverage FAST	1-90	157790-0-0	157790-0-0	157790-0-0
Min. 1-1/2" Polyiso HP-H	12" ribbons of FAST	Min. 1/4" DensDeck Prime	12" ribbons of FAST	1-90	-	-	-
Min. 1-1/2" Polyiso HP-H	12" ribbons of Olybond 500 BA	Min. 1/4" DensDeck Prime	12" ribbons of Olybond 500 BA	1-90	92638-0-0	94046-0-0	92641-0-0
Cellular Lightweight Insulating Concrete/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" Polyiso HP-H	4" ribbons of FAST	Min. 1/2" DensDeck Prime	4" ribbons of FAST	1-135	-	-	-
(Celcore) Cellular Lightweight Insulating Concrete/Concrete Decking							
Min. 1" Polyiso HP-H	12" ribbons of FAST	Min. 1/4" DensDeck Prime	12" ribbons of FAST	1-135	310009-0-50914	310012-0-50914	310049-0-50914

<< TABLE OF CONTENTS

DensDeck Prime Ratings - Recover

Membrane Type:	.045" or .060" Sure-Weld Standard Reinforced Membrane (White, Gray or Tan) .045" or .060" Sure-Weld HS Reinforced Membrane (White, Gray or Tan) .080" Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan) .060" or .080" Spectro-Weld Reinforced Membrane (White)
Membrane Adhesive:	Sure-Weld Bonding Adhesive (SWBA) or Low VOC Bonding Adhesive (LVOC)
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 22, 23 & 24)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 22, 23 & 24)	Rating	Sure-Weld or Spectro-Weld	Sure-Weld EXTRA	Sure-Weld HS
					RoofNAV Number		
Steel Deck							
Min. 1/2" Polyiso HP-H	20 (1.6 sq. ft)	Min. 1/4" DensDeck Prime	Hot Asphalt	1-90	265212-0-0	265212-0-0	265212-0-0
Concrete Deck							
Min. 1-1/2" Polyiso HP-H	12" ribbons of Olybond 500 BA	Min. 1/4" DensDeck Prime	12" ribbons of Olybond 500 BA	1-90	91885-0-0	95011-0-0	91888-0-0
Min. 1" Polyiso HP-H	20 (1.6 sq. ft)	Min. 1/4" DensDeck Prime	Hot Asphalt	1-90	265217-0-0	265218-0-0	265217-0-0

OSB Ratings - New Construction

Membrane Type:
.045" or .060" Sure-Weld Standard Reinforced Membrane (White, Gray or Tan)
.045" or .060" Sure-Weld HS Reinforced Membrane (White, Gray or Tan)
.080" Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan)
.060" or .080" Spectro-Weld Reinforced Membrane (White)

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA) or Low VOC Bonding Adhesive (LVOC)

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 22, 23 & 24)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 22, 23 & 24)	Rating	Sure-Weld or Spectro-Weld	Sure-Weld EXTRA	Sure-Weld HS
					RoofNAV Number		
Steel Deck (Min. 22 Gauge)							
Min. 1-1/2" Polyiso HP-H	Loose laid	Min. 7/16" OSB	17 (1.9 sq. ft)	1-150	13335-0-0 SWBA Only	13341-0-0 SWBA Only	13335-0-0 SWBA Only
Tectum Deck							
Min. 2" Polyiso HP-H	Full-Coverage FAST	Min. 7/16" OSB	Full-Coverage FAST	1-150	224838-0-0 SWBA Only	224901-0-0 SWBA Only	224838-0-0 SWBA Only
Gypsum Deck Tear-Off							
Min. 1-1/2" Polyiso HP-H	Full-Coverage FAST	Min. 7/16" OSB	Full-Coverage FAST	1-90	-	-	-
Min. 1-1/2" Polyiso HP-H	12" ribbons of Olybond 500 BA	Min. 7/16" OSB	12" ribbons of Olybond 500 BA	1-90	-	-	-
Cellular Lightweight Insulating Concrete/Steel Decking (Min. 22 Gauge)							
FM Approved	Loose laid	Min. 7/16" OSB	17 (1.8 sq. ft)	1-150	-	-	-

<< TABLE OF CONTENTS

OSB Ratings - Recover

Membrane Type:	.045" or .060" Sure-Weld Standard Reinforced Membrane (White, Gray or Tan) .045" or .060" Sure-Weld HS Reinforced Membrane (White, Gray or Tan) .080" Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan) .060" or .080" Spectro-Weld Reinforced Membrane (White)
Membrane Adhesive:	Sure-Weld Bonding Adhesive (SWBA) or Low VOC Bonding Adhesive (LVOC)
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 22, 23 & 24)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 22, 23 & 24)	Rating	Sure-Weld or Spectro-Weld	Sure-Weld EXTRA	Sure-Weld HS
					RoofNAV Number		
Steel Deck (Min. 22 Gauge)							
FM Approved	Loose laid	Min. 7/16" OSB	17 (1.8 sq. ft)	1-150	-	-	-

<< TABLE OF CONTENTS

HP Recovery Board Ratings - New Construction

Membrane Type:
.045" or .060" Sure-Weld Standard Reinforced Membrane (White, Gray or Tan)
.045" or .060" Sure-Weld HS Reinforced Membrane (White, Gray or Tan)
.080" Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan)
.060" or .080" Spectro-Weld Reinforced Membrane (White)

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA) or Low VOC Bonding Adhesive (LVOC)

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 22, 23 & 24)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 22, 23 & 24)	Rating	Sure-Weld or Spectro-Weld	Sure-Weld EXTRA	Sure-Weld HS
					RoofNAV Number		
Steel Deck (Min. 22 Gauge)							
Min. 1-1/2" Polyiso HP-H	Loose laid	Min. 1/2" HP Recovery Board	16 (2 sq. ft)	1-90	212437-0-0	-	-
Min. 1-1/2" Polyiso HP-H	10 (3.2 sq. ft.)	Min. 1/2" HP Recovery Board	6" ribbons of FAST	1-90	-	-	-
Min. 2"-12" Polyiso HP-H	8 (4 sq. ft)	Min. 1/2" HP Recovery Board	12" ribbons of FAST	1-90	188976-0-0	188980-0-0	188976-0-0
Min. 1/2" DensDeck Prime	16 (2 sq. ft.)	Min. 1/2" HP Recovery Board over Min. 1-1/2" Polyiso HP-H	12" ribbons of FAST	1-90	303447-0-0	303448-0-0	303447-0-0
Steel Deck (Min. 22 Gauge)/VapAir Seal 725TR with Cav-Grip Primer							
Min. 1/2" DensDeck Prime or Securock	16 (2 sq. ft.)	Min. 1/2" HP Recovery Board over Polyiso HP-H	6" ribbons of FAST	1-90	-	-	-
Concrete Deck							
Min. 1/2" Polyiso HP-H	12" ribbons of FAST	Min. 1/2" HP Recovery Board	12" ribbons of FAST	1-315	-	-	-
Min. 1-1/2" Polyiso HP-H	12" ribbons of Olybond 500 BA	Min. 1/2" HP Recovery Board	12" ribbons of Olybond 500 BA	1-240	230435-0-0 SWBA Only	230436-0-0 SWBA Only	230435-0-0 SWBA Only
Min. 1-1/2" Polyiso HP-H	Hot Asphalt	Min. 1/2" HP Recovery Board	Hot Asphalt	1-300	224117-0-0	224118-0-0	224117-0-0
Concrete Deck/VapAir Seal 725TR with Cav-Grip Primer, Carlisle 702 LV Primer or Carlisle 702 Primer							
Min. 1/2" Polyiso HP-H	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/SureMB 90TG or 120TG Base Torch Applied/Cut-Back Asphalt Primer							
Min. 1/2" Polyiso HP-H	12" ribbons of FAST	Min. 1/2" HP Recovery Board	12" ribbons of FAST	1-330	-	-	-
Tectum Deck							
Min. 1-1/2" Polyiso HP-H	Full-Coverage FAST	Min. 1/2" HP Recovery Board	Full-Coverage FAST	1-90	-	-	-
Min. 1-1/2" Polyiso HP-H	12" ribbons of Olybond 500 BA	Min. 1/2" HP Recovery Board	12" ribbons of Olybond 500 BA	1-90	92503-0-0	94036-0-0	92503-0-0

HP Recovery Board Ratings - New Construction

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane (White, Gray or Tan)
.045" or .060" Sure-Weld HS Reinforced Membrane (White, Gray or Tan)
.080" Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan)
.060" or .080" Spectro-Weld Reinforced Membrane (White)

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA) or Low VOC Bonding Adhesive (LVOC)

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 22, 23 & 24)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 22, 23 & 24)	Rating	Sure-Weld or Spectro-Weld	Sure-Weld EXTRA	Sure-Weld HS
					RoofNAV Number		
Gypsum Deck Tear-Off							
Min. 1-1/2" Polyiso HP-H	Full-Coverage FAST	Min. 1/2" HP Recovery Board	Full-Coverage FAST	1-90	157790-0-0	157790-0-0	157790-0-0
Min. 1-1/2" Polyiso HP-H	12" ribbons of Olybond 500 BA	Min. 1/2" HP Recovery Board	12" ribbons of Olybond 500 BA	1-90	91835-0-0	94046-0-0	91835-0-0
Cellular Lightweight Insulating Concrete/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" Polyiso HP-H	4" ribbons of FAST	Min. 1/2" HP Recovery Board	4" ribbons of FAST	1-90	-	-	-
(Celcore) Cellular Lightweight Insulating Concrete/Concrete Decking							
Min 1" Polyiso HP-H	12" ribbons of FAST	Min. 1/2" HP Recovery Board	12" ribbons of FAST	1-135	310009-0-50918	310012-0-50918	310009-0-50918

<< TABLE OF CONTENTS

HP Recovery Board Ratings - Recover

Membrane Type:	.045" or .060" Sure-Weld Standard Reinforced Membrane (White, Gray or Tan) .045" or .060" Sure-Weld HS Reinforced Membrane (White, Gray or Tan) .080" Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan) .060" or .080" Spectro-Weld Reinforced Membrane (White)
Membrane Adhesive:	Sure-Weld Bonding Adhesive (SWBA) or Low VOC Bonding Adhesive (LVOC)
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 22, 23 & 24)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 22, 23 & 24)	Rating	Sure-Weld or Spectro-Weld	Sure-Weld EXTRA	Sure-Weld HS
					RoofNAV Number		
Steel Deck							
Min. 1/2" Polyiso HP-H	20 (1.6 sq. ft)	1/2" HP Recovery Board	Hot Asphalt	1-90	265212-0-0	265214-0-0	265212-0-0
Concrete Deck							
Min. 1" Polyiso HP-H	20 (1.6 sq. ft)	1/2" HP Recovery Board	Hot Asphalt	1-90	265217-0-0	265218-0-0	265217-0-0

Lightweight Insulating Concrete - New Construction

Membrane Type:
.045" or .060" Sure-Weld Standard Reinforced Membrane (White, Gray or Tan)
.045" or .060" Sure-Weld HS Reinforced Membrane (White, Gray or Tan)
.080" Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan)
.060" or .080" Spectro-Weld Reinforced Membrane (White)

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA) or Low VOC Bonding Adhesive (LVOC)

Deck Type	Lightweight Insulating Concrete	Rating	Maximum Slope		
			Sure-Weld or Spectro-Weld	Sure-Weld EXTRA	Sure-Weld HS
			RoofNAV Number		
Steel	Celcore	1-135	243956-0-194470 1-1/2" Slope	244212-0-194470 3/4" Slope	-
Concrete	Elastizell	1-180	191311-0-50936 1-1/2" Slope SWBA Only	-	-
			173455-0-50936 3/4" Slope SWBA Only	-	-

<< TABLE OF CONTENTS

National, State & City Building Code Approvals

Authority	Approval	Approved Systems
ICC - International Code Council	Report ESR 1463	"A" and "MF"
SBCCI	These Code Bodies merged to form ICC as of March 2003 Refer to ICC approval	-
BOCA		-
NES – National Evaluation Service, Inc.		"A" and "MF"
ICBO		"A" and "MF"

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

(Using Sure-Weld™ Standard or EXTRA Reinforced Membrane)

1.   **Sure-Weld™ White and Tan TPO Membranes** exceed the requirements for the **U.S.E.P.A. ENERGY STAR® Program** for reflective roofing materials.

2.   **Sure-Weld™ TPO Membranes** conform to requirements of the **U.S.E.P.A. Toxic Leachate Test** (40 CFR part 136) performed by an independent analytical laboratory.

<< TABLE OF CONTENTS

SURE-WELD® TPO

Reference Notes

1. All insulation joints must be staggered a minimum of 6 inches from the deck joints or from the insulation joints directly. (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 1-9/10" 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 1-9/10" 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. For roof deck construction (new, tear-off or retrofit), approved insulations and maximum roof slopes, click here. (return to table)

11. Refer to Carlisle specifications for minimum requirements regarding sheet widths and fastener spacing. (return to table)

12. On steel decks, 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 Concreate Spikes or HD 14-10 Fasteners are used with Piranha Plates. (return to table)

13. Testing conducted on FM approved 22-gauge Grade E Steel decking (ASTM Designation A611 or A653 Grade 80). Refer to FM requirements for deck installation. (click here for FM requirements) (return to table)

14. Ratings achieved using steel decking attached to structural purlins spaced 5' o.c. (return to table)

15. Please reference for ANSI-SPRI WD-1/ASCE 7-10 for non-FM insured projects, click here. (return to table)

16. For roof deck construction (new, tear-off or retrofit), approved insulations and maximum roof slopes, click here. (return to table)

17. On steel decks, 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 Concreate Spikes or HD 14-10 Fasteners are used with Piranha Plates. (return to table)

18. The fastener spacing for membrane securement is dependent on the deck type, desired wind uplift rating and the Carlisle Fastening Plate and Fastener utilized as identified, click here for more information. (return to table)

19. Insulation shall be fastened in accordance with Carlisle Specifications. (return to table)

20. On steel decks, a thermal barrier of FM approved gypsum board is required under expanded or extruded polystyrene. For specific thermal barrier requirements, refer to FM's RoofNAV web-site. (return to table)

21. Existing roof must be FM Class 1 rated. (return to table)

22. Sure-Seal HP fastener/Sure-Seal Insulation plate.

23. InsulFAST fastener/Sure-Seal Insulation plate.

24. InsulFAST fastener/SecurFAST Insulation Fastening plate.

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

25. 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)

26. 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)

27. 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)

28. Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness may be used below the 1-9/10" thickness of SecurShield or SecurShield HD Composite. (return to table)

29. Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness may be used below the 1" thickness of SecurShield CD. (return to table)

30. Any UL Classified Insulation, any combination, any thickness, may be used below the 4-1/2" minimum total thickness. (return to table)

31. 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)

32. Any thickness of UL Classified Carlisle Polyisocyanurate Insulation may be used below the 1-9/10" thickness of SecurShield or SecurShield HD Composite. (return to table)

33. Any UL Classified insulation, any combination, any thickness, may be used below the SecurShield CD. (return to table)

34. 80 ksi with one per fastener per attachment point. (return to table)

35. 80 ksi with two fasteners per attachment point. (return to table: SecurShield HP Plus, SecurShield or DensDeck Prime)

<< TABLE OF CONTENTS