



**Sure-Weld® TPO  
Self-Adhered Technology (SAT) Roofing System**

**Code Approval Guide  
August, 2020**

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# **CARLISLE SynTec**

A Division of Carlisle Construction Materials, Incorporated

## **CODE APPROVAL GUIDE**

August, 2020

### **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™ SAT Adhered Roofing System. 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 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 Laboratories On-Line Certification Directory ([ul.com](http://ul.com))**
2. **FM Approvals RoofNav website ([roofnav.com](http://roofnav.com)).** FM RoofNav assembly numbers can be obtained from this website.

### UL, 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 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 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 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  
Sure-Weld® TPO (SAT) Roofing System

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

**Membrane Type:** .060" Sure-Weld TPO SAT (Self-Adhered) Membrane

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

System ID	Deck Type	Insulation	Cover Board	Maximum Slope
				Sure-Weld SAT TPO
1	<b>Non-Combustible</b>	InsulBase, SecurShield, SecurShield HD, SecurShield HD Plus or SecurShield HD Composite- any combination, any thickness	N/A	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"
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	1/2"
4		Insulfoam HD Composite or Insulfoam HD Composite over Insulfoam EPS, any thickness and density.	N/A	1/2"
5		Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 1/4" SECUROCK® Gypsum-Fiber	Unlimited
6		Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 1/4" DensDeck Prime Roof Board	Unlimited
7		Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 7/16" APA Rated OSB or Minimum 1-1/2" StormBase	2"
8	<b>Cellular Lightweight Concrete</b>	N/A	N/A	2"
9	<b>Structural (poured-in-place) concrete</b>	N/A	N/A	2"

UL Approval  
Sure-Weld® TPO (SAT) Roofing System

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

**Membrane Type:** .060" Sure-Weld TPO SAT (Self-Adhered) Membrane

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

System ID	Thermal Barrier/ Base Sheet	Insulation	Cover Board (2)	Maximum Slope
				Sure-Weld SAT TPO
<b>Combustible - ANSI/UL 790 Spread of Flame Test-Class A</b>				
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"
2	Minimum 1/4" DensDeck/DensDeck Prime Roof Boards (1)	Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness.	N/A	1/2"
3	N/A	Minimum 3" layer or two layers of 1.5" SecurShield, SecurShield NH or SecurShield HD Composite. (1)(3)	N/A	1/2"
4	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"
5	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"
6	N/A	Minimum 4" layer of any UL Classified EPS Insulation. (1)(6)	Minimum 1/2" SecurShield HD or SecurShield HD Plus	1/2"
7	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"
8	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"
9	One Ply of Type G2 (Optional)	Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness.	Minimum 1/4" SECUROCK® Gypsum Fiber Roof Board (1)	3"
10	N/A	Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 3/8" SECUROCK® Gypsum Fiber Roof Board (1)	2"
11	N/A	Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 1/2" SECUROCK® Gypsum Fiber Roof Board (1)	4"
12	N/A	Any UL Classified Insulation, any thickness (OPTIONAL)	Minimum 1/4" DensDeck/DensDeck Prime Roof Boards (1)	4"
13	Three layers of Carlisle FR Base Sheet	Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness (OPTIONAL)	N/A	1/2"
14	N/A	Any UL Classified Polyiso Insulation, any thickness (OPTIONAL)	SecurShield HD (all insulation and roof deck joints must be staggered 12")	1/2"
15	N/A	Any UL Classified Polyiso Insulation, any thickness (OPTIONAL)	Minimum 1" SecurShield, SecurShield NH or SecurShield HD Composite. (1)(3) (all insulation and roof deck joints must be staggered 12")	1/2"
16	Carlisle FR Base Sheet 1S (Optional)	Minimum 1" layer of SecurShield, SecurShield NH or SecurShield HD Composite over a minimum 3-1/2" layer of any UL Classified EPS Insulation. (1)(3) (all insulation and roof deck joints must be staggered 12")	N/A	1/2"

UL Approval  
Sure-Weld® TPO (SAT) Roofing System

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

**Membrane Type:** .060" Sure-Weld TPO SAT (Self-Adhered) Membrane

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

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

System ID	Thermal Barrier/Base Sheet	Insulation	Cover Board	Maximum Slope
				Sure-Weld SAT TPO
<b>Combustible - ANSI/UL 790 Spread of Flame Test-Class B</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	One Layer of Carlisle FR Base Sheet	Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness.	N/A	1/2"
<b>Combustible - ANSI/UL 790 Spread of Flame Test-Class C</b>				
1	N/A	Any combination, any thickness of UL Classified Carlisle Polyisocyanurate Insulation	N/A	Unlimited
<b>Non-Combustible - ANSI/UL 790 Spread of Flame Test-Class C</b>				
1	N/A	Any combination, any thickness of UL Classified Carlisle Polyisocyanurate Insulation	N/A	Unlimited

FM Approvals  
Sure-Weld® TPO (SAT) Roofing System

**SecurShield HD Ratings - New Construction**

**Membrane Type:** .060" Sure-Weld TPO SAT (Self-Adhered) Membrane

**Base and Top Layer Adhesive:** FAST = Flexible FAST and Flexible FAST Dual Tank

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 10, 11 & 12)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 10, 11 & 12)	Rating	Sure-Weld SAT TPO
					RoofNAV Number
<b>Steel Deck (Min. 22 Gauge)</b>					
Min. 1-1/2" InsulBase Polyiso or SecurShield	Loose laid	1/2" SecurShield HD	12 (2.67 sq. ft)	1-75	-
Min. 1-1/2" InsulBase Polyiso or SecurShield	Loose laid	1/2" SecurShield HD	16 (2 sq. ft)	1-90	460514-0-0
Min. 1-1/2" InsulBase Polyiso	10 (3.2 sq. ft.)	1/2" SecurShield HD	6" ribbons of FAST	1-90	-
Min. 2" InsulBase Polyiso	8 (4 sq. ft)	1/2" SecurShield HD	6" ribbons of FAST	1-90	-
Min. 1/2" DensDeck Prime or Securock	16 (2 sq. ft.)	1/2" SecurShield HD over InsulBase Polyiso	6" ribbons FAST	1-90	-
<b>Steel Deck (Min. 22 Gauge)/VapAir Seal 725TR with Cav-Grip III or 702 Primer</b>					
Min. 1/2" DensDeck Prime or Securock	16 (2 sq. ft.)	1/2" SecurShield HD over InsulFoam EPS	6" ribbons of FAST	1-90	391965-0-0
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft)	1/2" SecurShield HD over InsulBase Polyiso	6" ribbons of FAST	1-90	-
<b>Steel Deck (Min. 22 Gauge)/SureMB 90TG or 120TG Base Torch Applied</b>					
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft.)	1/2" SecurShield HD over InsulBase Polyiso	6" ribbons of FAST	1-90	-
<b>Concrete Deck</b>					
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	1/2" SecurShield HD	12" ribbons of FAST	1-150	464175-0-0
3/4" Optim-R	6" ribbons of FAST	1/2" SecurShield HD	6" ribbons of FAST	1-90	438109-0-0
Min. 1/2" InsulBase Polyiso	Hot Asphalt	1/2" SecurShield HD	Hot Asphalt	1-90	-
Min. 2" InsulBase Polyiso	8 (4 sq. ft)	1/2" SecurShield HD	6" ribbons of FAST	1-90	423358-0-0
<b>Concrete Deck/VapAir Seal 725TR with Cav-Grip III, 702 LV or 702 Primer</b>					
3/4" Optim-R	6" ribbons of FAST	1/2" SecurShield HD	6" ribbons of FAST	1-90	437594-0-0
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	1/2" SecurShield HD	12" ribbons of FAST	1-150	460510-0-0
<b>Concrete Deck/SureMB 90TG or 120TG Base Torch Applied/Cut-Back Asphalt Primer</b>					
Min. 1/2" InsulBase Polyiso or Min. 1- 1/2" SecurShield	12" ribbons of FAST	1/2" SecurShield HD	12" ribbons of FAST	1-90	-
<b>Gypsum Deck Tear-Off</b>					
Min. 1/2" InsulBase Polyiso or Min. 1- 1/2" SecurShield	12" ribbons of FAST	1/2" SecurShield HD	12" ribbons of FAST	1-90	-
<b>Gypsum Deck Tear-Off/VapAir Seal 725TR with Cav-Grip III, 702-LV or 702 Primer</b>					
Min. 1/2" InsulBase Polyiso or Min. 1- 1/2" SecurShield	12" ribbons of FAST	1/2" SecurShield HD	12" ribbons of FAST	1-90	-
<b>Cellular Lightweight Insulating Concrete/Steel Decking (Min. 22 Gauge)</b>					
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	-

FM Approvals  
 Sure-Weld® TPO (SAT) Roofing System  
**SecurShield HD Ratings - Recover**

**Membrane Type:** .060" Sure-Weld TPO SAT (Self-Adhered) Membrane

**Base and Top Layer Adhesive:** FAST = Flexible FAST and Flexible FAST Dual Tank

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 10, 11 & 12)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 10, 11 & 12)	Rating	Sure-Weld SAT TPO
					RoofNAV Number
<b>Steel Deck (Min. 22 Gauge)</b>					
-	-	1/2" SecurShield HD	12 (2.67 sq. ft)	1-75	-
-	-	1/2" SecurShield HD	16 (2 sq. ft)	1-90	393509-0-0
-	-	1/2" SecurShield HD	6" ribbons of FAST	1-90	-
-	-	1/2" SecurShield HD	4" ribbons of FAST	1-90	-
<b>Concrete Deck</b>					
Min. 1/2" InsulBase Polyiso	6" ribbons of FAST	1/2" SecurShield HD	6" ribbons of FAST	1-90	-
-	-	1/2" SecurShield HD	6" ribbons of FAST	1-90	-
<b>Gypsum Deck</b>					
-	-	1/2" SecurShield HD	6" ribbons of FAST	1-90	386256-0-0



FM Approvals  
Sure-Weld® TPO (SAT) Roofing System

**SecurShield HD Plus Ratings - New Construction**

**Membrane Type:** .060" Sure-Weld TPO SAT (Self-Adhered) Membrane

**Base and Top Layer Adhesive:** FAST = Flexible FAST and Flexible FAST Dual Tank

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 10, 11 & 12)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 10, 11 & 12)	Rating	Sure-Weld SAT TPO
					RoofNAV Number
<b>Steel Deck (Min. 22 Gauge)</b>					
Min. 1-1/2" InsulBase Polyiso or SecurShield	Loose laid	1/2" SecurShield HD Plus	8 (4 sq. ft)	1-90	428868-0-0
Min. 1-1/2" InsulBase Polyiso or SecurShield	Loose laid	1/2" SecurShield HD Plus	16 (2 sq. ft)	1-90	460519-0-0
Min. 1-1/2" InsulBase Polyiso or SecurShield	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	1-90	-
Min. 1-1/2" InsulBase Polyiso	24 (1.33 sq. ft.)	1/2" SecurShield HD Plus	4" ribbons of FAST	1-90	-
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	-
<b>Steel Deck (Min. 22 Gauge)/VapAir Seal 725TR with Cav-Grip III or 702 Primer</b>					
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft.)	1/2" SecurShield HD Plus over InsulBase Polyiso	6" ribbons of FAST	1-90	-
<b>Steel Deck (Min. 22 Gauge)/SureMB 90TG or 120TG Base Torch Applied</b>					
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft.)	1/2" SecurShield HD Plus over InsulBase Polyiso	6" ribbons of FAST	1-90	-
<b>Concrete Deck</b>					
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	1/2" SecurShield HD Plus	12" ribbons of FAST	1-150	464175-0-0
Min. 1/2" InsulBase Polyiso	Hot Asphalt	1/2" SecurShield HD Plus	Hot Asphalt	1-90	-
Min. 1-1/2" InsulBase Polyiso or SecurShield	10 (3.2 sq. ft.)	1/2" SecurShield HD Plus	6" ribbons of FAST	1-90	423336-0-0
Min. 2" InsulBase Polyiso	8 (4 sq. ft)	1/2" SecurShield HD Plus	6" ribbons of FAST	1-90	423358-0-0
<b>Concrete Deck/VapAir Seal 725TR with Cav-Grip III, 702-LV or 702 Primer</b>					
Min. 1/2" InsulBase Polyiso or Min. 1-1/2" SecurShield	12" ribbons of FAST	1/2" SecurShield HD Plus	12" ribbons of FAST	1-150	-
<b>Concrete Deck/SureMB 90TG or 120TG Base Torch Applied/Cut-Back Asphalt Primer</b>					
Min. 1/2" InsulBase Polyiso or Min. 1-1/2" SecurShield	12" ribbons of FAST	1/2" SecurShield HD Plus	12" ribbons of FAST	1-90	-
<b>Gypsum Deck Tear-Off</b>					
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	1/2" SecurShield HD Plus	12" ribbons of FAST	1-90	-
<b>Gypsum Deck Tear-Off/VapAir Seal 725TR with Cav-Grip III, 702-LV or 702 Primer</b>					
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	1/2" SecurShield HD Plus	12" ribbons of FAST	1-90	-
<b>(Celcore) Cellular Lightweight Insulating Concrete/Steel Decking (Min. 22 Gauge)</b>					
FM Approved	Loose laid	1/2" SecurShield HD Plus	8 (4 sq. ft)	1-90	-
-	-	1/2" SecurShield HD Plus	8 (4 sq. ft)	1-90	-

FM Approvals  
Sure-Weld® TPO (SAT) Roofing System

**SecurShield HD Plus Ratings - Recover**

**Membrane Type:** .060" Sure-Weld TPO SAT (Self-Adhered) Membrane

**Base and Top Layer Adhesive:** FAST = Flexible FAST and Flexible FAST Dual Tank

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 10, 11 & 12)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 10, 11 & 12)	Rating	Sure-Weld SAT TPO
					RoofNAV Number
<b>Steel Deck (Min. 22 Gauge)</b>					
-	-	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	1-90	-
<b>Concrete Deck</b>					
Min. 1/2" InsulBase Polyiso	6" ribbons of FAST	1/2" SecurShield HD Plus	6" ribbons of FAST	1-90	-
-	-	1/2" SecurShield HD Plus	6" ribbons of FAST	1-90	-
<b>Gypsum Deck</b>					
Min. 1-1/2" InsulBase Polyiso	Full-Coverage FAST	1/2" SecurShield HD Plus	Full-Coverage FAST	1-90	-

FM Approvals  
Sure-Weld® TPO (SAT) Roofing System

**InsulBase Polyiso Ratings - New Construction**

**Membrane Type:** .060" Sure-Weld TPO SAT (Self-Adhered) Membrane

**Base and Top Layer Adhesive:** FAST = Flexible FAST and Flexible FAST Dual Tank

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 10, 11 & 12)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 10, 11 & 12)	Rating	Sure-Weld SAT TPO
					RoofNAV Number
<b>Steel Deck (Min. 22 Gauge)</b>					
Min. 1-1/2" InsulBase Polyiso	16 (2 sq. ft.)	-	-	1-90	211158-0-0
Min. 2" InsulBase Polyiso	8 (4 sq. ft.)	-	-	1-90	-
Min. 2" InsulBase Polyiso	20 (1.6 sq. ft.)	-	-	1-90	211139-0-0
Min. 2" InsulBase Polyiso	32 (1 sq. ft.)	-	-	1-150	450651-0-0
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	-
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	1-150	-
Min. 1/2" DensDeck Prime or Securock	16 (2 sq. ft.)	Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	1-90	-
<b>Steel Deck (Min. 22 Gauge)/VapAir Seal 725TR with Cav-Grip III or 702 Primer</b>					
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft.)	Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	1-90	-
<b>Steel Deck (Min. 22 Gauge)/SureMB 90TG or 120TG Base Torch Applied</b>					
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft.)	Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	1-90	-
<b>Concrete Deck</b>					
Min. 1-1/2" InsulBase Polyiso	16 (2 sq. ft.)	-	-	1-90	211164-0-0
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	-	-	1-150	466129-0-0
Min. 1/2" InsulBase Polyiso	Full Coverage FAST	-	-	1-150	-
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	-	-	1-90	389499-0-0
Min. 1/2" InsulBase Polyiso	Hot Asphalt	-	-	1-90	-
<b>Concrete Deck/VapAir Seal 725TR with Cav-Grip III, 702- LV or 702 Primer</b>					
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	-	-	1-150	-
<b>Concrete Deck/SureMB 90TG or 120TG Base Torch Applied/Cut-Back Asphalt Primer</b>					
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	1-150	-
<b>Gypsum Deck Tear-Off</b>					
Min. 1-1/2" InsulBase Polyiso	16 (2 sq. ft.)	-	-	1-90	-
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	-	-	1-90	-
<b>Gypsum Deck Tear-Off/VapAir Seal 725TR with Cav-Grip III, 702-LV or 702 Primer</b>					
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	-	-	1-90	-
<b>Cellular Lightweight Insulating Concrete/Steel Decking (Min. 22 Gauge)</b>					
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.)	-	-	1-90	-

FM Approvals  
Sure-Weld® TPO (SAT) Roofing System

**InsulBase Polyiso Ratings - Recover**

**Membrane Type:** .060" Sure-Weld TPO SAT (Self-Adhered) Membrane

**Base and Top Layer Adhesive:** FAST = Flexible FAST and Flexible FAST Dual Tank

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 10, 11 & 12)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 10, 11 & 12)	Rating	Sure-Weld SAT TPO
					RoofNAV Number
<b>Steel Deck (Min. 22 Gauge)</b>					
1" InsulBase Polyiso	20 (1.6 sq. ft)	-	-	1-90	269886-0-0
1" InsulBase Polyiso	6" ribbons of FAST	-	-	1-90	-
<b>Concrete Deck</b>					
1" InsulBase Polyiso	20 (1.6 sq. ft)	-	-	1-90	267271-0-0
1/2" InsulBase Polyiso	12" ribbons of FAST	-	-	1-90	-
<b>Gypsum Deck</b>					
1" InsulBase Polyiso	20 (1.6 sq. ft)	-	-	1-90	-
1" InsulBase Polyiso	Full-Coverage FAST	-	-	1-90	-

### SecurShield and SecurShield HD Composite Ratings - New Construction

**Membrane Type:** .060" Sure-Weld TPO SAT (Self-Adhered) Membrane

**Base and Top Layer Adhesive:** FAST = Flexible FAST and Flexible FAST Dual Tank

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 10, 11 & 12)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 10, 11 & 12)	Rating	Sure-Weld SAT TPO
					Roofing System
<b>Steel Deck (Min. 22 Gauge)</b>					
Min. 1-1/2" SecurShield or SecurShield HD Composite	16 (2 sq. ft)	-	-	1-90	-
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.)	-	-	1-90	211139-0-0
Min. 1-1/2" InsulBase Polyiso	10 (3.2 sq. ft.)	Min. 1-1/2" SecurShield or SecurShield HD Composite	12" ribbons of FAST	1-90	-
Min. 2" InsulBase Polyiso or SecurShield	8 (4 sq. ft)	Min. 2" SecurShield or SecurShield HD Composite	12" ribbons of FAST	1-90	-
Min. 1-1/2" InsulBase Polyiso	18 (1.8 sq. ft.)	Min. 1-1/2" SecurShield or SecurShield HD Composite	6" ribbons of FAST	1-90	-
Min. 1-1/2" InsulBase Polyiso	24 (1.33 sq. ft.)	Min. 1-1/2" SecurShield or SecurShield HD Composite	4" ribbons of FAST	1-90	-
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	-
<b>Steel Deck (Min. 22 Gauge)/VapAir Seal 725TR with Cav-Grip III or 702 Primer</b>					
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft.)	Min. 1-1/2" SecurShield or SecurShield HD Composite	12" ribbons of FAST	1-90	-
<b>Steel Deck (Min. 22 Gauge)/SureMB 90TG or 120TG Base Torch Applied</b>					
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft.)	Min. 1-1/2" SecurShield or SecurShield HD Composite	12" ribbons of FAST	1-90	-
<b>Concrete Deck</b>					
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 2" SecurShield or SecurShield HD Composite	12" ribbons of FAST	1-150	464176-0-0
Min. 2" SecurShield or SecurShield HD Composite	Hot Asphalt	-	-	1-90	-
<b>Concrete Deck/VapAir Seal 725TR with Cav-Grip III, 702-LV or 702 Primer</b>					
Min. 1/2" SecurShield or SecurShield HD Composite	12" ribbons of FAST	-	-	1-150	-
<b>Concrete Deck/SureMB 90TG or 120TG Base Torch Applied/Cut-Back Asphalt Primer</b>					
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 2" SecurShield or SecurShield HD Composite	12" ribbons of FAST	1-150	-
<b>Gypsum Deck Tear-Off</b>					
Min. 1-1/2" SecurShield or SecurShield HD Composite	16 (2 sq. ft)	-	-	1-90	-

FM Approvals  
Sure-Weld® TPO (SAT) Roofing System

**SecurShield and SecurShield HD Composite Ratings - New Construction**

**Membrane Type:** .060" Sure-Weld TPO SAT (Self-Adhered) Membrane

**Base and Top Layer Adhesive:** FAST = Flexible FAST and Flexible FAST Dual Tank

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 10, 11 & 12)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 10, 11 & 12)	Rating	Sure-Weld SAT TPO
					ROOFING SYSTEMS
Min. 1-1/2" SecurShield or SecurShield HD Composite	12" ribbons of FAST	-	-	1-90	-
<b>Gypsum Deck Tear-Off/VapAir Seal 725TR with Cav-Grip III, 702-LV or 702 Primer</b>					
Min. 1-1/2" SecurShield or SecurShield HD Composite	12" ribbons of FAST	-	-	1-90	-
<b>Cellular Lightweight Insulating Concrete/Steel Decking (Min. 22 Gauge)</b>					
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.)	-	-	1-90	-
Min. 2" SecurShield or SecurShield HD Composite	32 (1 sq. ft.)	-	-	1-90	-

FM Approvals  
Sure-Weld® TPO (SAT) Roofing System

**SecurShield Ratings - Recover**

**Membrane Type:** .060" Sure-Weld TPO SAT (Self-Adhered) Membrane

**Base and Top Layer Adhesive:** FAST = Flexible FAST and Flexible FAST Dual Tank

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 10, 11 & 12)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 10, 11 & 12)	Rating	Sure-Weld SAT TPO
					RoofNAV Number
<b>Steel Deck (Min. 22 Gauge)</b>					
1" SecurShield	20 (1.6 sq. ft)	-	-	1-90	-
<b>Concrete Deck</b>					
1/2" SecurShield	12" ribbons of FAST	-	-	1-90	-
<b>Gypsum Deck</b>					
1" SecurShield	20 (1.6 sq. ft)	-	-	1-90	-
1" SecurShield	Full-Coverage FAST	-	-	1-90	-

FM Approvals  
Sure-Weld® TPO (SAT) Roofing System

**Securock Ratings - New Construction**

**Membrane Type:** .060" Sure-Weld TPO SAT (Self-Adhered) Membrane

**Base and Top Layer Adhesive:** FAST = Flexible FAST and Flexible FAST Dual Tank

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 10, 11 & 12)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 10, 11 & 12)	Rating	Sure-Weld SAT TPO
					RoofNAV Number
<b>Steel Deck (Min. 22 Gauge)</b>					
Min. 1-1/2" InsulBase Polyiso	Loose laid	Min. 1/4" Securock	12 (2.66 sq. ft)	1-75	-
Min. 1-1/2" InsulBase Polyiso	Loose laid	Min. 1/4" Securock	16 (2 sq. ft.)	1-90	211160-0-0
-	-	Min. 1/2" Securock	16 (2 sq. ft.)	1-90	367892-0-0
Min. 1-1/2" InsulBase Polyiso	Loose laid	Min. 1/4" Securock	10 (3.2 sq. ft) SecurFAST Plate	1-90	443294-0-0
Min. 1-1/2" InsulBase Polyiso	Loose laid	Min. 3/8" Securock	8 (4 sq. ft) SecurFAST Plate	1-90	-
Min. 1-1/2" InsulBase Polyiso	Loose laid	Min. 1/2" Securock	10 (3.2 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	8 (4 sq. ft)	1-90	-
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	10 (3.2 sq. ft.)	Min. 1/4" Securock	12" ribbons of FAST	1-90	-
Min. 2" InsulBase Polyiso	8 (4 sq. ft)	Min. 1/4" Securock	12" ribbons of FAST	1-90	-
Min. 1-1/2" InsulBase Polyiso	18 (1.8 sq. ft.)	Min. 1/4" Securock	6" ribbons of FAST or Dual Tank	1-90	-
Min. 1-1/2" InsulBase Polyiso	24 (1.33 sq. ft.)	Min. 1/4" Securock	4" ribbons of FAST	1-90	-
Min. 1/2" DensDeck Prime or Securock	16 (2 sq. ft.)	Min. 1/4" Securock over Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	1-90	-
<b>Steel Deck (Min. 22 Gauge)/VapAir Seal 725TR with Cav-Grip III or 702 Primer</b>					
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft.)	Min. 1/4" Securock over Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	1-90	-
<b>Steel Deck (Min. 22 Gauge)/SureMB 90TG or 120TG Base Torch Applied</b>					
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft.)	Min. 1/4" Securock over Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	1-90	-
<b>Concrete Deck</b>					
Min. 1-1/2" InsulBase Polyiso	Loose laid	Min. 1/4" Securock	16 (2 sq. ft.)	1-90	211163-0-0
Min. 1/2" InsulBase Polyiso	FAST Full Coverage	Min. 1/4" Securock	FAST Full Coverage	1-90	-
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1/4" Securock	12" ribbons of FAST	1-150	464174-0-0
Min. 1/2" InsulBase Polyiso	Hot Asphalt	Min. 1/4" Securock	Hot Asphalt	1-90	-
<b>Concrete Deck/VapAir Seal 725TR with Cav-Grip III Primer, Carlisle 702 LV Primer or Carlisle 702 Primer</b>					
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1/4" Securock	12" ribbons of FAST	1-150	459563-0-0
<b>Concrete Deck/SureMB 90TG or 120TG Base Torch Applied/Cut-Back Asphalt Primer</b>					



FM Approvals  
Sure-Weld® TPO (SAT) Roofing System

**Securock Ratings - New Construction**

**Membrane Type:** .060" Sure-Weld TPO SAT (Self-Adhered) Membrane

**Base and Top Layer Adhesive:** FAST = Flexible FAST and Flexible FAST Dual Tank

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 10, 11 & 12)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 10, 11 & 12)	Rating	Sure-Weld SAT TPO
					RoofNAV Number
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1/4" Securock	12" ribbons of FAST	1-90	-
<b>Gypsum Deck Tear-Off</b>					
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1/4" Securock	12" ribbons of FAST	1-90	-
<b>Gypsum Deck Tear-Off/VapAir Seal 725TR with Cav-Grip III, 702-LV or 702 Primer</b>					
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1/4" Securock	12" ribbons of FAST	1-90	-
<b>Cellular Lightweight Insulating Concrete/Steel Decking (Min. 22 Gauge)</b>					
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)	1-90	-
FM Approved	Loose laid	Min. 1/2" Securock	32 (1 sq. ft)	1-90	-

FM Approvals  
Sure-Weld® TPO (SAT) Roofing System

**Securock Ratings - Recover**

**Membrane Type:** .060" Sure-Weld TPO SAT (Self-Adhered) Membrane

**Base and Top Layer Adhesive:** FAST = Flexible FAST and Flexible FAST Dual Tank

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 10, 11 & 12)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 10, 11 & 12)	Rating	Sure-Weld SAT TPO
					RoofNAV Number
<b>Steel Deck (Min. 22 Gauge)</b>					
-	-	Min. 1/4" Securock	16 (2 sq. ft.)	1-90	349155-0-0
<b>Gypsum</b>					
-	-	Min. 1/4" Securock	6" ribbons of FAST	1-90	386162-0-0

FM Approvals  
Sure-Weld® TPO (SAT) Roofing System

**DensDeck Prime Ratings - New Construction**

**Membrane Type:** .060" Sure-Weld TPO SAT (Self-Adhered) Membrane

**Base and Top Layer Adhesive:** FAST = Flexible FAST and Flexible FAST Dual Tank

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 10, 11 & 12)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 10, 11 & 12)	Rating	Sure-Weld SAT TPO
					RoofNAV Number
<b>Steel Deck (Min. 22 Gauge)</b>					
Min. 1-1/2" InsulBase Polyiso or SecurShield	Loose laid	Min. 1/4" DensDeck Prime	12 (2.67 sq. ft)	1-90	-
Min. 1-1/2" InsulBase Polyiso or SecurShield	Loose laid	Min. 1/2" DensDeck Prime	20 (1.6 sq. ft)	1-150	459569-0-0
Min. 1-1/2" InsulBase Polyiso or Securshield	Loose laid	5/8" DensDeck Prime	8 (4 sq. ft)	1-90	-
Min. 1-1/2" InsulBase Polyiso	Loose laid	Min. 1/2" DensDeck Prime	8 (4 sq. ft)	1-90	-
Min. 1-1/2" InsulBase Polyiso	10 (3.2 sq. ft.)	Min. 1/4" DensDeck Prime	12" ribbons of FAST	1-90	-
Min. 2" InsulBase Polyiso	8 (4 sq. ft)	Min. 1/4" DensDeck Prime	12" ribbons of FAST	1-90	-
Min. 1-1/2" InsulBase Polyiso	18 (1.8 sq. ft.)	Min. 1/4" DensDeck Prime	6" ribbons of FAST	1-90	-
Min. 1-1/2" InsulBase Polyiso	24 (1.33 sq. ft.)	Min. 1/4" DensDeck Prime	4" ribbons of FAST	1-90	-
Min. 1/2" DensDeck Prime	16 (2 sq. ft.)	Min. 1/4" DensDeck Prime over Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	1-90	-
<b>Steel Deck (Min. 22 Gauge)/VapAir Seal 725TR with Cav-Grip III or 702 Primer</b>					
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft.)	1/4" DensDeck Prime over Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	1-90	-
<b>Steel Deck (Min. 22 Gauge)/SureMB 90TG or 120TG Base Torch Applied</b>					
Min. 1/2" DensDeck Prime or Securock	8 (4 sq. ft.)	1/4" DensDeck Prime over Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	1-90	-
<b>Concrete Deck</b>					
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1/4" DensDeck Prime	12" ribbons of FAST	1-150	464174-0-0
Min. 1-1/2" InsulBase Polyiso	Hot Asphalt	Min. 1/4" DensDeck Prime	Hot Asphalt	1-90	-
<b>Concrete Deck/VapAir Seal 725TR with Cav-Grip III, 702-LV or 702 Primer</b>					
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1/4" DensDeck Prime	12" ribbons of FAST	1-150	459563-0-0
<b>Concrete Deck/SureMB 90TG or 120TG Base Torch Applied/Cut-Back Asphalt Primer</b>					
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	1/4" DensDeck Prime	12" ribbons of FAST	1-90	-
<b>Gypsum Deck Tear-Off</b>					
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1/4" DensDeck Prime	12" ribbons of FAST	1-90	-
<b>Gypsum Deck Tear-Off/VapAir Seal 725TR with Cav-Grip III, 702-LV or 702 Primer</b>					
Min. 1-1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 1/4" DensDeck Prime	12" ribbons of FAST	1-90	-
<b>Cellular Lightweight Insulating Concrete/Steel Decking (Min. 22 Gauge)</b>					
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	-

FM Approvals  
Sure-Weld® TPO (SAT) Roofing System

**DensDeck Prime Ratings - Recover**

**Membrane Type:** .060" Sure-Weld TPO SAT (Self-Adhered) Membrane

**Base and Top Layer Adhesive:** FAST = Flexible FAST and Flexible FAST Dual Tank

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 10, 11 & 12)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 10, 11 & 12)	Rating	Sure-Weld SAT TPO
					RoofNAV Number
<b>Steel Deck</b>					
Min. 1" InsulBase Polyiso	20 (1.6 sq. ft)	Min. 1/4" DensDeck Prime	12" ribbons of FAST	1-90	-
<b>Concrete Deck</b>					
Min. 1" InsulBase Polyiso	20 (1.6 sq. ft)	Min. 1/4" DensDeck Prime	12" ribbons of FAST	1-90	-

FM Approvals  
Sure-Weld® TPO (SAT) Roofing System

**StormBase Ratings - New Construction**

**Membrane Type:** .060" Sure-Weld TPO SAT (Self-Adhered) Membrane

**Base and Top Layer Adhesive:** FAST = Flexible FAST and Flexible FAST Dual Tank

Base Insulation Layer (Max. thickness 36")	Base Layer Fastening (mechanically fastened see notes 10, 11 & 12)	Top Insulation Layer	Top Layer Fastening (mechanically fastened see notes 10, 11 & 12)	Rating	Sure-Weld SAT TPO
					RoofNAV Number
<b>Steel Deck (Min. 22 Gauge)</b>					
Min. 1-1/2" InsulBase Polyiso	Loose laid	Min. 2" StormBase	17 (1.9 sq. ft)	1-90	220250-0-0
<b>Concrete Deck</b>					
Min. 1-1/2" InsulBase Polyiso	Loose laid	Min. 2" StormBase	16 (2 sq. ft)	1-90	211162-0-0
Min. 1-1/2" InsulBase Polyiso	Loose laid	Min. 2" StormBase	17 (1.9 sq. ft)	1-90	220251-0-0
Min. 1/2" InsulBase Polyiso	12" ribbons of FAST	Min. 2" StormBase	12" ribbons of FAST	1-90	389498-0-0
<b>Gypsum Deck Tear-Off</b>					
Min. 1-1/2" InsulBase Polyiso	Full-Coverage FAST	Min. 2" StormBase	Full-Coverage FAST	1-90	-
<b>Cellular Lightweight Insulating Concrete/Steel Decking (Min. 22 Gauge)</b>					
FM Approved	Loose laid	Min. 2" StormBase	17 (1.8 sq. ft)	1-90	-

## SURE-WELD® TPO - Self Adhered Technology

### 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.
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.
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.
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.
5. Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness may be used below the 1" thickness of SecurShield CD.
6. Any UL Classified Insulation, any combination, any thickness, may be used below the 4-1/2" minimum total thickness.
7. All insulation joints must be staggered a minimum of 6 inches from the deck joints or from the insulation joints directly below.
  
8. Any thickness of UL Classified Carlisle Polyisocyanurate Insulation may be used below the 1-9/10" thickness of SecurShield or SecurShield HD Composite.
9. Any UL Classified insulation, any combination, any thickness, may be used below the SecurShield CD.
10. Sure-Seal HP fastener/Sure-Seal Insulation plate.
11. InsulFAST fastener/Sure-Seal Insulation plate.
12. InsulFAST fastener/SecurFAST Insulation Fastening plate.

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