



Sure-Weld® (TPO) Roofing Systems
Code Approval Guide
 November 2025
Table of Contents

Introduction..... 2

Guidelines..... 3

Sure-Weld Mechanically Fastened or Induction Welding Roofing Systems

UL Approvals

Non-Combustible - ANSI UL - Class A..... 4

Combustible - ANSI UL - Class A..... 5

Combustible - ANSI UL - Class B..... 6

Combustible and Non-Combustible - ANSI UL - Class C..... 7

Existing UL Rating Retained..... 7

FM Approvals

FM Approval - Field Sheet Securement Criteria For InsulBase and SecurShield..... 8

FM Approval - Field Sheet Securement Criteria For InsulBase and SecurShield Recover..... 9

FM Approval - Field Sheet Securement Criteria For SecurShield HD and InsulBase HD..... 10

FM Approval - Field Sheet Securement Criteria For SecurShield HD and InsulBase HD Recover..... 11

FM Approval - Field Sheet Securement Criteria For Dens-Deck/Securock/DEXcell Glass Mat..... 12

FM Approval - Field Sheet Securement Criteria For HP Recovery Board..... 13

FM Approval - Induction Welding Securement Criteria..... 14

90 psf Uplift Resistance Test..... 16

FM Class A Roof Deck..... 17

FM 4474..... 18

Sure-Weld Metal Retrofit Roofing Systems

Metal Retrofit..... 19

Sure-Weld Adhered Roofing Systems

UL Approvals

Non-Combustible - ANSI UL - Class A..... 21

Combustible - ANSI UL - Class A..... 22

Combustible - ANSI UL - Class B..... 23

Combustible and Non-Combustible - ANSI UL - Class C..... 24

FM Approvals

SecurShield HD New Construction..... 25

SecurShield HD Recover..... 27

SecurShield HD Plus New Construction..... 28

SecurShield HD Plus Recover..... 30

InsulBase Polyiso New Construction..... 31

InsulBase Polyiso Recover..... 33

SecurShield and SecurShield HD Composite New Construction..... 34

SecurShield Recover..... 36

Securock New Construction..... 37

Securock Recover..... 40

DensDeck Prime New Construction..... 41

DensDeck Prime Recover..... 44

DEXcell Glass-Mat FA New Construction..... 45

DEXcell Glass-Mat FA Recover..... 46

StormBase New Construction..... 47

HP Recovery Board New Construction..... 48

HP Recovery Board Recover..... 49

EcoStorm VSH New Construction..... 50

EcoStorm VSH Recover..... 52

Lightweight..... 53

National, State & City Building Code Approvals..... 54

Dade County (South Florida) Approvals..... 54

Reference Notes..... 55

Carlisle SynTec Systems

A Division of Carlisle Construction Materials, LLC

CODE APPROVAL GUIDE

November 2025

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. In addition, 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 Laboratories On-Line Certification Directory** (<https://productiq.ulprospector.com/en>)
2. **FM Approvals RoofNAV website** (roofnav.com). FM RoofNAV assembly numbers can be obtained from this website.

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.

FM 4474

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.

Sure-Weld® (TPO) Mechanically-Fastened or Induction Welding Roofing Systems

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

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane
 .045" or .060" Sure-Weld HS Reinforced Membrane
 .080" Sure-Weld EXTRA Reinforced Membrane
 .060" or .080" Spectro-Weld Reinforced Membrane

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 | InsulBase or SecurShield- any combination, any thickness | N/A | 1/2" | 1-1/2" |
| 2 | | Any UL Classified Insulation, any thickness (OPTIONAL) | Minimum 1/2" SecurShield HD, SecurShield HD Plus or SecurShield HD Composite | 1/2" | 1-1/2" |
| 3 | | Minimum 1" layer of InsulBase or SecurShield over any UL Classified EPS or XPS Insulation, maximum 1.25 pcf, any thickness | N/A | 1/2" | 1" |
| 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 & Ultralight Glass Mat Roof Boards | 3" Sure-Weld 2-1/2" Sure-Weld EXTRA | Unlimited |
| 7 | | 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 |
| 8 | | Any UL Classified Insulation, any thickness (OPTIONAL) | Minimum 1/4" DEXcell Glass Mat/DEXcell FA Glass Mat 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" StormBase | 1-1/2" | 1-1/2" |
| 11 | | Any UL Classified Carlisle Polyisocyanurate Insulation- any combination, any thickness (OPTIONAL) | 1/2" InsulBase HD | 1/2" | 1-1/2" |
| 12 | | Any UL Classified Insulation, any combination, any thickness | Carlisle FR Base Sheet | 1" | 1" |
| 13 | | Any UL Classified Insulation, any thickness (OPTIONAL) | Min. 5/16" EcoStorm VSH | 1/2" | 1-1/2" |
| 14 | Cellular Lightweight Concrete | N/A | N/A | 1-1/2" | 1-1/2" |
| 15 | Precast concrete with grouted joints | N/A | N/A | 1-1/2" | 1-1/2" |
| 16 | Structural (poured-in-place) concrete | N/A | N/A | 1-1/2" | 1-1/2" |

Sure-Weld® (TPO) Mechanically-Fastened or Induction Welding Roofing Systems

UL Approval - Combustible (1) - ANSI/UL 790 Spread of Flame Test (Class A)

Membrane Type:
 .045" or .060" Sure-Weld Standard Reinforced Membrane
 .045" or .060" Sure-Weld HS Reinforced Membrane
 .080" Sure-Weld EXTRA Reinforced Membrane
 .060" or .080" Spectro-Weld Reinforced Membrane

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

| System ID | Thermal Barrier/Base Sheet | Insulation | Cover Board | Maximum Slope | |
|---|--|--|---|--|--------------|
| | | | | Sure-Weld, Sure-Weld EXTRA or Spectro-Weld | Sure-Weld HS |
| Combustible (1) - ANSI/UL 790 Spread of Flame Test-Class A | | | | | |
| 1 | Minimum 1/4" SECUROCK® Gypsum Fiber or Ultralight Glass Mat Roof Board (2) | Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness. | N/A | 1/2" | 1-1/2" |
| 2 | Minimum 1/4" DensDeck or DensDeck Prime Roof Boards (2) | Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness. | N/A | 1/2" | 1-1/2" |
| 3 | Minimum 1/4" DEXcell Glass Mat or DEXcell FA Glass Mat Roof Boards (2) | Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness. | N/A | 1/2" | 1-1/2" |
| 4 | N/A | Minimum 1" thick layer of SecurShield or SecurShield HD Composite is placed directly over a combustible roof deck. An optional layer or layers of any Carlisle Polyisocyanurate Insulation may be used below the minimum 1" thick top layer, any combination, any thickness. (3) | N/A | 1/2" | 1/2" |
| 5 | N/A | Minimum 1" thick layer of SecurShield or SecurShield HD Composite over a minimum 3-1/2" thick layer of any UL Classified EPS insulation is placed directly over a combustible roof deck. (3) | N/A | 1/2" | 1/2" |
| 6 | N/A | OPTIONAL layer or layers of any Carlisle Polyisocyanurate Insulation may be used below the minimum 1/2" thick top layer, any combination, any thickness. (3) | 1/2" thick SecurShield HD or SecurShield HD Plus is placed directly over a combustible roof deck. (3) | 1/2" | 1/2" |
| 7 | N/A | Minimum 4" thick layer of any UL Classified EPS insulation is placed directly over a combustible roof deck. (3) | 1/2" thick SecurShield HD or SecurShield HD Plus. (3) | 1/2" | 1/2" |
| 8 | N/A | Minimum 1-1/2" layer of Insulfoam HD Composite over a minimum 3" layer of Insulfoam EPS. (2) | N/A | 1/2" | 1/2" |
| 9 | N/A | Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness. | Minimum 1/4" SECUROCK® Gypsum Fiber Roof Board (2) | 3" Sure-Weld 2-1/2" Sure-Weld EXTRA | 3" |
| 10 | N/A | Any UL Classified Insulation, any thickness (OPTIONAL) | Minimum 3/8" SECUROCK® Gypsum Fiber Roof Board (2) | 2" | 2" |
| 11 | N/A | Any UL Classified Insulation, any thickness (OPTIONAL) | Minimum 1/2" SECUROCK® Gypsum Fiber Roof Board (2) | 3" Sure-Weld 2-1/2" Sure-Weld EXTRA | 4" |
| 12 | N/A | Any UL Classified Insulation, any thickness (OPTIONAL) | Minimum 1/4" SECUROCK® Ultralight Glass-Mat or Ultralight Coated Glass Mat Roof Boards (2) | 3" Sure-Weld 2-1/2" Sure-Weld EXTRA | Unlimited |
| 13 | N/A | Any UL Classified Insulation, any thickness (OPTIONAL) | Minimum 1/4" DensDeck/DensDeck Prime Roof Board (2) | 3" Sure-Weld 2-1/2" Sure-Weld EXTRA | Unlimited |
| 14 | N/A | Any UL Classified Insulation, any thickness (OPTIONAL) | Minimum 1/4" DEXcell Glass Mat/DEXcell FA Glass Mat Roof Board (2) | 3" Sure-Weld 2-1/2" Sure-Weld EXTRA | Unlimited |
| 15 | Two layers of Carlisle FR Base Sheet | Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness. (OPTIONAL) | N/A | 1/2" | 3/4" |

| System ID | Thermal Barrier/Base Sheet | Insulation | Cover Board | Maximum Slope |
|---|------------------------------------|------------|-------------|--|
| | | | | Sure-Weld FleeceBACK FR- Mechanically Fastened |
| Combustible - ANSI/UL 790 Spread of Flame Test-Class A | | | | |
| 14 | 6-mil polyethylene film (OPTIONAL) | N/A | N/A | 1/4" |

Sure-Weld® (TPO) Mechanically-Fastened or Induction Welding Roofing Systems

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

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane
 .045" or .060" Sure-Weld HS Reinforced Membrane
 .080" Sure-Weld EXTRA Reinforced Membrane
 .060" or .080" Spectro-Weld Reinforced Membrane

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

| System ID | Thermal Barrier/Base Sheet | Insulation | Cover Board | Maximum Slope | |
|---|-------------------------------------|--|-------------|--|--------------|
| | | | | Sure-Weld, Sure-Weld EXTRA or Spectro-Weld | Sure-Weld HS |
| Combustible - ANSI/UL 790 Spread of Flame Test-Class B | | | | | |
| 1 | One Layer of Carlisle FR Base Sheet | Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness. (OPTIONAL) | N/A | 1/2" | 1/2" |
| 2 | Inverted G3 cap sheet | N/A | N/A | 1/2" | 1/2" |
| System ID | Thermal Barrier/Base Sheet | Insulation | Cover Board | Maximum Slope | |
| | | | | Sure-Weld FleeceBACK FR- Mechanically Fastened | |
| Combustible - ANSI/UL 790 Spread of Flame Test-Class B | | | | | |
| 3 | 6-mil polyethylene film (OPTIONAL) | N/A | N/A | 1/2" | |

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
 .045" or .060" Sure-Weld HS Reinforced Membrane
 .080" Sure-Weld EXTRA Reinforced Membrane
 .060" or .080" Spectro-Weld Reinforced 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, Sure-Weld EXTRA or Spectro-Weld | Sure-Weld HS |
| Non-Combustible or Combustible - ANSI/UL 790 Spread of Flame Test-Class C | | | | | |
| 1 | N/A | Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness. Optionally, any UL Classified insulation, any combination, any thickness may be used below the Carlisle Polyisocyanurate Insulation. | N/A | Unlimited | Unlimited |
| 2 | N/A | Any UL Classified insulation, any combination, any thickness. (OPTIONAL) | Minimum 5/16" EcoStorm VSH (2) | 1/2" | 1/2" |

**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 | Non-Combustible and Combustible | Any Class A, B or C roof covering system. | One layer of Carlisle FR Base Sheet (OPTIONAL) | 1/2" | 3/4" |
| 2 | Non-Combustible and Combustible | Class A, B or C built-up system, smooth surface, cap sheet or gravel surfaced (gravel maintained) to retain the existing Classification | Insulfoam "R-TECH" Type "I", "VIII", "II", "IX", "FanFold" or "Insulfoam" Type "I", "VIII", "II", "IX", 1 in. maximum thickness | 1/2" | 1/2" |
| 3 | Non-Combustible | Existing Class A, B or C built-up or modified bitumen system, (smooth surface, cap sheet or gravel surfaced with gravel maintained). Or Class A, B or C single-ply system (polystyrene in existing single-ply system must be below a coverboard or minimum 1 in. thickness of polyisocyanurate), to retain the existing Classification. | Insulfoam "R-TECH" Type "I", "VIII", "II", "IX" or "FanFold" 1 in. maximum thickness. | 1/2" | 1/2" |

Field Sheet Securement Criteria For InsulBase and SecurShield

(Please see notes 10, 11, 12 and 15)

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane
 .045" or .060" Sure-Weld HS Reinforced Membrane
 .080" Sure-Weld EXTRA Reinforced Membrane
 .060" or .080" Spectro-Weld Reinforced Membrane

| 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 | |
|--|---------------------------------|---------|--------------------------------------|---------------------|--|---------------------|
| | | | Sure-Weld | Sure-Weld EXTRA | Sure-Weld | Sure-Weld EXTRA |
| 4 Feet (14) | HP-X /Piranha | 6" | 1-165 136102-0-0 | 1-165 136102-0-0 | 1-165 136102-0-0 | 1-165 136102-0-0 |
| | | 12" | 1-105 136101-0-0 | 1-105 136101-0-0 | - | - |
| 6 Feet | HP-X/Piranha | 12" | 1-90 392183-0-0 | 1-90 392183-0-0 | - | - |
| 8 Feet | HP-X /Piranha | 6" | 1-75 350392-0-0 | 1-75 350392-0-0 | 1-135 12496-0-0 | 1-135 12496-0-0 |
| | | 12" | 1-75 392184-0-0 | 1-75 392184-0-0 | 1-90 12562-0-0 | 1-90 12562-0-0 |
| 10 Feet | HP-X /Piranha | 6" | - | - | 1-90 107469-0-0 | 1-90 107469-0-0 |
| | | 12" | - | - | 1-75 107470-0-0 | 1-75 107470-0-0 |
| | HP-Xtra /Piranha Xtra | 6" | - | - | - | - |
| | | 12" | - | - | 1-90 12788-0-0 | 1-90 12788-0-0 |
| 10 Feet split with TPO Rhino Plates at 4'9" | HP-X/Piranha and HP-X/TPO Rhino | 12" | 1-90 554061-0-0 | 1-90 554061-0-0 | - | - |
| 12 Feet | HP-X /Piranha | 6" | - | - | - | - |
| | | 12" | - | - | 1-75 553284-0-0 | 1-75 553284-0-0 |
| | HP-Xtra /Piranha Xtra | 6" | - | - | - | - |
| | | 12" | - | - | 1-60 140550-0-0 | 1-60 140550-0-0 |
| 16 Feet split with TPO Rhino Plates at 7'-9" | HP-X/Piranha and HP-X/TPO Rhino | 6" | - | - | 1-120 518767-0-0 | 1-120 518767-0-0 |
| | | 12" | 1-60 579154-0-0 | 1-60 579154-0-0 | - | - |

Field Sheet Securement Criteria For InsulBase and SecurShield Recover

(Please see notes 10, 11, 12 and 15)

Membrane .045" or .060" Sure-Weld Standard Reinforced Membrane
 .045" or .060" Sure-Weld HS Reinforced Membrane
Type: .080" Sure-Weld EXTRA Reinforced Membrane
 .060" or .080" Spectro-Weld Reinforced Membrane

| 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 | |
|--|---------------------------------|---------|--------------------------------------|---------------------|--|---------------------|
| | | | Sure-Weld | Sure-Weld EXTRA | Sure-Weld | Sure-Weld EXTRA |
| 4 Feet (14) | HP-X /Piranha | 6" | 1-165 352663-0-0 | 1-165 352663-0-0 | 1-165 352663-0-0 | 1-165 352663-0-0 |
| | | 12" | 1-105 240337-0-0 | 1-105 240337-0-0 | 1-105 240337-0-0 | 1-105 240337-0-0 |
| 6 Feet | HP-X/Piranha | 12" | 1-90 392185-0-0 | 1-90 392185-0-0 | 1-90 392185-0-0 | 1-90 392185-0-0 |
| 8 Feet | HP-X /Piranha | 6" | - | - | 1-135 | 1-135 |
| | | 12" | 1-75 392186-0-0 | 1-75 392186-0-0 | 1-90 | 1-90 |
| 10 Feet | HP-X /Piranha | 6" | - | - | 1-90 | 1-90 |
| | | 12" | - | - | 1-75 | 1-75 |
| | HP-Xtra /Piranha Xtra | 6" | - | - | - | - |
| | | 12" | - | - | 1-90 13768-0-0 | 1-90 13768-0-0 |
| 10 Feet split with TPO Rhino Plates at 4'9" | HP-X/Piranha and HP-X/TPO Rhino | 12" | 1-90 | 1-90 | - | - |
| 12 Feet | HP-X /Piranha | 6" | - | - | - | - |
| | | 12" | - | - | - | - |
| | HP-Xtra /Piranha Xtra | 6" | - | - | - | - |
| | | 12" | - | - | 1-60 140549-0-0 | 1-60 140549-0-0 |
| 16 Feet split with TPO Rhino Plates at 7'-9" | HP-X/Piranha and HP-X/TPO Rhino | 6" | - | - | 1-120 | 1-120 |
| | | 12" | 1-60 | 1-60 | - | - |

Field Sheet Securement Criteria For SecurShield HD and InsulBase HD

(Please see notes 10, 11, 12 and 15)

Membrane .045" or .060" Sure-Weld Standard Reinforced Membrane
 .045" or .060" Sure-Weld HS Reinforced Membrane
Type: .080" Sure-Weld EXTRA Reinforced Membrane
 .060" or .080" Spectro-Weld Reinforced Membrane

| 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 | |
|--|---------------------------------|---------|--------------------------------------|---------------------|--|---------------------|
| | | | Sure-Weld | Sure-Weld EXTRA | Sure-Weld | Sure-Weld EXTRA |
| 4 Feet (14) | HP-X /Piranha | 6" | 1-165 352663-0-0 | 1-165 352663-0-0 | 1-165 352663-0-0 | 1-165 352663-0-0 |
| | | 12" | 1-105 | 1-105 | 1-105 | 1-105 |
| 6 Feet | HP-X/Piranha | 12" | 1-90 393936-0-0 | 1-90 393936-0-0 | 1-90 393936-0-0 | 1-90 393936-0-0 |
| 8 Feet | HP-X /Piranha | 6" | 1-75 332741-0-0 | 1-75 332741-0-0 | 1-135 281881-0-0 | 1-135 281881-0-0 |
| | | 12" | 1-75 393938-0-0 | 1-75 393938-0-0 | 1-90 281972-0-0 | 1-90 281972-0-0 |
| 10 Feet | HP-X /Piranha | 6" | - | - | 1-75 330173-0-0 | 1-75 330173-0-0 |
| | | 12" | - | - | 1-75 | 1-75 |
| | HP-Xtra /Piranha Xtra | 6" | - | - | - | - |
| | | 12" | - | - | 1-90 281885-0-0 | 1-90 281885-0-0 |
| 10 Feet split with TPO Rhino Plates at 4'9" | HP-X/Piranha and HP-X/TPO Rhino | 12" | 1-90 | 1-90 | - | - |
| 12 Feet | HP-X /Piranha | 6" | - | - | - | - |
| | | 12" | - | - | - | - |
| | HP-Xtra /Piranha Xtra | 6" | - | - | - | - |
| | | 12" | - | - | 1-60 282218-0-0 | 1-60 282218-0-0 |
| 16 Feet split with TPO Rhino Plates at 7'-9" | HP-X/Piranha and HP-X/TPO Rhino | 6" | - | - | 1-120 582334-0-0 | 1-120 582334-0-0 |
| | | 12" | 1-60 581763-0-0 | 1-60 581763-0-0 | - | - |

Field Sheet Securement Criteria For SecurShield HD and InsulBase HD Recover

(Please see notes 10, 11, 12 and 15)

Membrane .045" or .060" Sure-Weld Standard Reinforced Membrane
 .045" or .060" Sure-Weld HS Reinforced Membrane
Type: .080" Sure-Weld EXTRA Reinforced Membrane
 .060" or .080" Spectro-Weld Reinforced Membrane

| 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 | |
|--|---------------------------------|---------|--------------------------------------|---------------------|--|---------------------|
| | | | Sure-Weld | Sure-Weld EXTRA | Sure-Weld | Sure-Weld EXTRA |
| 4 Feet (14) | HP-X /Piranha | 6" | 1-165 352663-0-0 | 1-165 352663-0-0 | 1-165 352663-0-0 | 1-165 352663-0-0 |
| | | 12" | 1-105 | 1-105 | 1-105 | 1-105 |
| 6 Feet | HP-X/Piranha | 12" | 1-90 392185-0-0 | 1-90 392185-0-0 | 1-90 392185-0-0 | 1-90 392185-0-0 |
| 8 Feet | HP-X /Piranha | 6" | - | - | 1-135 | 1-135 |
| | | 12" | 1-75 392186-0-0 | 1-75 392186-0-0 | 1-90 | 1-90 |
| 10 Feet | HP-X /Piranha | 6" | - | - | 1-90 | 1-90 |
| | | 12" | - | - | 1-75 | 1-75 |
| | HP-Xtra /Piranha Xtra | 6" | - | - | - | - |
| | | 12" | - | - | 1-90 12800-0-0 | 1-90 12800-0-0 |
| 10 Feet split with TPO Rhino Plates at 4'9" | HP-X/Piranha and HP-X/TPO Rhino | 12" | 1-90 | 1-90 | - | - |
| 12 Feet | HP-X /Piranha | 6" | - | - | - | - |
| | | 12" | - | - | - | - |
| | HP-Xtra /Piranha Xtra | 6" | - | - | - | - |
| | | 12" | - | - | 1-60 140549-0-0 | 1-60 140549-0-0 |
| 16 Feet split with TPO Rhino Plates at 7'-9" | HP-X/Piranha and HP-X/TPO Rhino | 6" | - | - | 1-120 | 1-120 |
| | | 12" | 1-60 | 1-60 | - | - |

Field Sheet Securement Criteria For DensDeck/Securock/DEXcell Glass Mat
(Please see notes 10, 11, 12 and 15)

Membrane .045" or .060" Sure-Weld Standard Reinforced Membrane
 .045" or .060" Sure-Weld HS Reinforced Membrane
Type: .080" Sure-Weld EXTRA Reinforced Membrane
 .060" or .080" Spectro-Weld Reinforced Membrane

| 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 | |
|--|---------------------------------|---------|--------------------------------------|---------------------|--|---------------------|
| | | | Sure-Weld | Sure-Weld EXTRA | Sure-Weld | Sure-Weld EXTRA |
| 4 Feet (14) | HP-X/Piranha | 6" | 1-165 136104-0-0 | 1-165 136108-0-0 | 1-165 136104-0-0 | 1-165 136108-0-0 |
| | | 12" | 1-105 136103-0-0 | 1-105 136107-0-0 | - | - |
| 6 Feet | HP-X/Piranha | 12" | 1-90 392179-0-0 | 1-90 393937-0-0 | - | - |
| 8 Feet | HP-X/Piranha | 6" | 1-75 349303-0-0 | - | 1-135 12511-0-0 | 1-135 12511-0-0 |
| | | 12" | 1-75 392180-0-0 | 1-75 393939-0-0 | 1-90 12565-0-0 | 1-90 12565-0-0 |
| 10 Feet | HP-X/Piranha | 6" | - | - | 1-90 | 1-90 |
| | | 12" | - | - | 1-75 12546-0-0 | 1-75 12546-0-0 |
| | HP-Xtra/Piranha Xtra | 6" | - | - | - | - |
| | | 12" | - | - | 1-90 12792-0-0 | 1-90 12792-0-0 |
| 10 Feet split with TPO Rhino Plates at 4'-9" | HP-X/Piranha and HP-X/TPO Rhino | 12" | 1-90 | 1-90 | - | - |
| 12 Feet | HP-X/Piranha | 6" | - | - | - | - |
| | | 12" | - | - | - | - |
| | HP-Xtra/Piranha Xtra | 6" | - | - | - | - |
| | | 12" | - | - | 1-60 140537-0-0 | 1-60 140537-0-0 |
| 16 Feet split with TPO Rhino Plates at 7'-9" | HP-X/Piranha and HP-X/TPO Rhino | 6" | - | - | 1-120 582338-0-0 | 1-120 |
| | | 12" | 1-60 581765-0-0 | 1-60 | - | - |

Field Sheet Securement Criteria For HP Recovery Board

(Please see notes 10, 11, 12 and 15)

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane
 .045" or .060" Sure-Weld HS Reinforced Membrane
 .080" Sure-Weld EXTRA Reinforced Membrane
 .060" or .080" Spectro-Weld Reinforced Membrane

| 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 | |
|--|---------------------------------|---------|--------------------------------------|---------------------|--|---------------------|
| | | | Sure-Weld | Sure-Weld EXTRA | Sure-Weld | Sure-Weld EXTRA |
| 4 Feet (14) | HP-X/Piranha | 6" | 1-165 | 1-165 | 1-165 | 1-165 |
| | | 12" | 1-105 136113-0-0 | 1-105 136113-0-0 | 1-105 136113-0-0 | 1-105 136113-0-0 |
| 6 Feet | HP-X/Piranha | 12" | 1-90 | 1-90 | 1-90 | 1-90 |
| 8 Feet | HP-X/Piranha | 6" | 1-75 350380-0-0 | 1-75 350380-0-0 | 1-135 14053-0-0 | 1-135 14053-0-0 |
| | | 12" | 1-75 | 1-75 | 1-90 14102-0-0 | 1-90 14102-0-0 |
| 10 Feet | HP-X/Piranha | 6" | - | - | 1-90 | 1-90 |
| | | 12" | - | - | 1-75 13545-0-0 | 1-75 13545-0-0 |
| | HP-Xtra/Piranha Xtra | 6" | - | - | - | - |
| | | 12" | - | - | 1-90 13741-0-0 | 1-90 13741-0-0 |
| 10 Feet split with TPO Rhino Plates at 4'-9" | HP-X/Piranha and HP-X/TPO Rhino | 12" | 1-90 | 1-90 | - | - |
| 12 Feet | HP-X/Piranha | 6" | - | - | - | - |
| | | 12" | - | - | - | - |
| | HP-Xtra/Piranha Xtra | 6" | - | - | - | - |
| | | 12" | - | - | 1-60 140537-0-0 | 1-60 140537-0-0 |
| 16 Feet split with TPO Rhino Plates at 7'-9" | HP-X/Piranha and HP-X/TPO Rhino | 6" | - | - | 1-120 582335-0-0 | 1-120 582335-0-0 |
| | | 12" | 1-60 581764-0-0 | 1-60 581764-0-0 | - | - |

FM Approvals – Induction Welding Grid Securement

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane
 .045" or .060" Sure-Weld HS Reinforced Membrane
 .080" Sure-Weld EXTRA Reinforced Membrane
 .060" or .080" Spectro-Weld Reinforced Membrane

| Deck Type | Fastener/Plate | Fasteners per 4' x 8' Board | Rating | Insulation | RhinoBond | IsoWeld |
|-------------------------------------|--------------------------|-----------------------------|--|----------------------------------|------------|------------|
| Min. 22 gauge Grade C Steel Deck | HP/Induction Plate | Zone 1 - 6 | 1-90 | SecurShield HD / InsulBase HD | 553408-0-0 | N/A |
| | | Zone 2 - 9 | | InsulBase/SecurShield | 553278-0-0 | N/A |
| | | Zone 3 - 12 | | DensDeck / Securock / DEXcell | 553280-0-0 | N/A |
| | HP-X/Induction Plate | Zone 1 - 6 | 1-90 | SecurShield HD / InsulBase HD | 312416-0-0 | |
| | | Zone 2 - 9 | | InsulBase/SecurShield | 222555-0-0 | 378853-0-0 |
| | | Zone 3 - 12 | | DensDeck / Securock / DEXcell | 312399-0-0 | |
| | HP-X/Induction Plate | Zone 1 - 8 | 1-105 (RhinoBond) 1-90 (IsoWeld) | SecurShield HD / InsulBase HD | 312412-0-0 | |
| | | Zone 2 - 12 | | InsulBase/SecurShield | 222553-0-0 | 378881-0-0 |
| | | Zone 3 - 16 | | DensDeck / Securock / DEXcell | 312325-0-0 | |
| | HP-X/RhinoBond | Zone 1 - 12 | 1-135 (.060" or .080" only) | SecurShield HD / InsulBase HD | 551502-0-0 | N/A |
| | | Zone 2 - 18 | | InsulBase/SecurShield | 502832-0-0 | N/A |
| | | Zone 3 - 24 | | DensDeck / Securock / DEXcell | 551500-0-0 | N/A |
| | HP-X/IsoWeld | Zone 1 - 10 | 1-150 | SecurShield HD / InsulBase HD | N/A | |
| | | Zone 2 - 15 | | InsulBase/SecurShield | N/A | 378890-0-0 |
| | | Zone 3 - 20 | | DensDeck / Securock / DEXcell | N/A | |
| | HP-X/RhinoBond | Zone 1 - 16 | 1-165 | SecurShield HD / InsulBase HD | 387011-0-0 | |
| | | Zone 2 - 24 | | InsulBase/SecurShield | 386367-0-0 | |
| | | Zone 3 - 32 | | DensDeck / Securock / DEXcell | 387010-0-0 | |
| Min. 22 gauge Grade E Steel Deck | HP-X / RhinoBond | Zone 1 - 8 | 1-120 | SecurShield HD / InsulBase HD | 312414-0-0 | |
| | | Zone 2 - 12 | | InsulBase/SecurShield | 222375-0-0 | |
| | | Zone 3 - 16 | | DensDeck / Securock / DEXcell | 312376-0-0 | |
| | HP-X/Induction Plate | Zone 1 - 16 | 1-195 | SecurShield HD / InsulBase HD | 387159-0-0 | |
| | | Zone 2 - 24 | | InsulBase/SecurShield | 387161-0-0 | 441954-0-0 |
| | | Zone 3 - 32 | | DensDeck / Securock / DEXcell | 387158-0-0 | |
| Concrete | HD 14-10/Induction Plate | Zone 1 - 6 | 1-90 | SecurShield HD / InsulBase HD | 312579-0-0 | |
| | | Zone 2 - 9 | | InsulBase/SecurShield | | 378850-0-0 |
| | | Zone 3 - 12 | | DensDeck / Securock / DEXcell | 312577-0-0 | |
| | | Zone 1 - 8 | 1-105 (RhinoBond) 1-90 (IsoWeld) | SecurShield HD / InsulBase HD | | |
| | | Zone 2 - 12 | | InsulBase/SecurShield | 311967-0-0 | 378839-0-0 |
| | | Zone 3 - 16 | | DensDeck / Securock / DEXcell | | |
| | | Zone 1 - 8 | 1-120 | SecurShield HD / InsulBase HD | 312569-0-0 | |
| | | Zone 2 - 12 | | InsulBase/SecurShield | | |
| | | Zone 3 - 16 | | DensDeck / Securock / DEXcell | 312567-0-0 | |
| | | Zone 1 - 16 | 1-195 | SecurShield HD / InsulBase HD | 387015-0-0 | |
| | | Zone 2 - 24 | | InsulBase/SecurShield | 386369-0-0 | 442231-0-0 |
| | | Zone 3 - 32 | | DensDeck / Securock / DEXcell | 387014-0-0 | |

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 |

FM Approvals - Hybrid Induction Welding in Field of sheet (10' & 16' sheet) and In-Seam Securement

| Deck Type | Fastener | Plate | Row Spacings | Fastener Spacing in Rows | Rating |
|----------------------------------|----------|-------------------|--------------|--------------------------|---------------------|
| Min. 22 gauge Grade C Steel Deck | HP-X | RhinoBond/Piranha | 5' | 12" | 1-90 554061-0-0 |
| Min. 22 gauge Grade C Steel Deck | HP-X | RhinoBond/Piranha | 8' | 12" | 1-60 579154-0-0 |
| Min. 22 gauge Grade E Steel Deck | HP-X | RhinoBond/Piranha | 8' | 6" | 1-120 581767-0-0 |

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 .

| 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 |

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

Membrane Type:
 .045" or .060" Sure-Weld Standard Reinforced Membrane
 .045" or .060" Sure-Weld HS Reinforced Membrane
 .080" Sure-Weld EXTRA Reinforced Membrane
 .060" or .080" Spectro-Weld Reinforced Membrane

| 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/Tear off: Steel (Minimum 22 gauge) Structural Concrete Retrofit (No Tear off) (21): Structural Concrete | Carlisle HP Recovery Board | 1/2" Min. | 1-1/2" (with Recovery Board or Securock overlay) 5" (with DensDeck/DEXcell overlay and Sure-Weld Standard) 3" (with DensDeck/DEXcell overlay and Sure-Weld EXTRA) | 2" (with Recovery Board or Securock overlay) 5" (with DensDeck/DEXcell overlay) |
| | Carlisle HP Recovery Board (min. 1/2"), DensDeck (min. 1/4"), Securock (min. 1/4") or DEXcell Glass-Mat (min. 1/4") Over: FM Approved Insulation (20) | Refer to FM RoofNAV website | | |
| | Carlisle Polyisocyanurate InsulBase 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 Tear off) (21): Steel (Minimum 22 gauge) | Carlisle HP Recovery Board | 1/2"-1" | 1-1/2" | 2" |
| | Carlisle Polyisocyanurate InsulBase or SecurShield | 1" Max. | 1/2" | 1-1/2" |
| | Carlisle SecurShield HD or SecurShield HD Plus | 1/2" | | |

Sure-Weld® (TPO) Mechanically Fastened Roofing Systems

FM 4474 Approvals

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane
 .045" or .060" Sure-Weld HS Reinforced Membrane
 .080" Sure-Weld EXTRA Reinforced Membrane
 .060" or .080" Spectro-Weld Reinforced Membrane

| 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™ Mechanically-Fastened Roofing System over non-combustible decks depending on the membrane selected.

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 (In Seam Securement)

| Purlin Spacing | Fastener/Plate | Spacing | Coverboard | Rating | Sure-Weld, Sure-Weld EXTRA or Spectro-Weld | Rating | Sure-Weld HS |
|----------------|-------------------|---------|-------------------------------|--------|--|--------|--------------|
| 60 Inches | HP Purlin/Piranha | 6" | InsulBase HD/SecurShield HD | 1-135 | 272454-0-0 | 1-120 | 281696-0-0 |
| | | | HP Recovery Board | 1-135 | 272491-0-0 | 1-120 | 272501-0-0 |
| | | | InsulBase/SecurShield | | | | |
| | | | DensDeck / SECUROCK / DEXcell | 1-135 | 272456-0-0 | 1-120 | 272502-0-0 |
| | | 12" | InsulBase HD/SecurShield HD | 1-120 | 393577-0-0 | 1-75 | 281716-0-0 |
| | | | HP Recovery Board | 1-60 | 242483-0-0 | 1-75 | 272504-0-0 |
| | | | InsulBase/SecurShield | 1-120 | 399954-0-0 | | |
| | | | DensDeck / SECUROCK / DEXcell | 1-75 | 272513-0-0 | 1-75 | 272504-0-0 |
| 120 Inches | HP Purlin/Piranha | 6" | InsulBase HD/SecurShield HD | 1-120 | 393574-0-0 | 1-75 | 281692-0-0 |
| | | | HP Recovery Board | 1-105 | 272661-0-0 | 1-75 | 272497-0-0 |
| | | | InsulBase/SecurShield | 1-120 | 399955-0-0 | | |
| | | | DensDeck / SECUROCK / DEXcell | 1-120 | 272710-0-0 | 1-75 | 272498-0-0 |
| | | 12" | InsulBase HD/SecurShield HD | 1-60 | 393572-0-0 | 1-60 | 281694-0-0 |
| | | | HP Recovery Board | 1-60 | 272632-0-0 | 1-60 | 272499-0-0 |
| | | | InsulBase/SecurShield | 1-60 | 399950-0-0 | 1-60 | |
| | | | DensDeck / SECUROCK / DEXcell | 1-60 | 272642-0-0 | 1-60 | 379730-0-0 |
| 138 inches | HP Purlin/Piranha | 6" | InsulBase HD/SecurShield HD | 1-120 | 393574-0-0 | 1-75 | 281692-0-0 |
| | | | HP Recovery Board | 1-105 | 272661-0-0 | 1-75 | 272497-0-0 |
| | | | InsulBase/SecurShield | 1-120 | 399955-0-0 | | |
| | | | DensDeck / SECUROCK / DEXcell | 1-105 | 272663-0-0 | 1-75 | 272498-0-0 |

FM Approvals – Metal Retrofit with Pressure-Sensitive RUSS Strip

| Purlin Spacing | Fastener/Plate | Spacing | Coverboard | Rating | Sure-Weld, Sure-Weld EXTRA or Spectro-Weld | Rating | Sure-Weld HS |
|----------------|-------------------|---------|-------------------------------|--------|--|--------|--------------|
| 60 Inches | HP Purlin/Piranha | 12" | InsulBase HD/SecurShield HD | 1-120 | 272568-0-0 | 1-75 | 281720-0-0 |
| | | | HP Recovery Board | | | 1-120 | 272587-0-0 |
| | | | InsulBase/SecurShield | | | | |
| | | | DensDeck / SECUROCK / DEXcell | 1-120 | 272568-0-0 | 1-120 | 379735-0-0 |
| 120 Inches | HP Purlin/Piranha | 6" | InsulBase HD/SecurShield HD | | | 1-120 | 281719-0-0 |
| | | | HP Recovery Board | | | 1-120 | 272578-0-0 |
| | | | InsulBase/SecurShield | | | | |
| | | | DensDeck / SECUROCK / DEXcell | 1-120 | 272563-0-0 | 1-120 | 212578-0-0 |
| 120 Inches | HP Purlin/Piranha | 12" | InsulBase HD/SecurShield HD | | | 1-75 | 281722-0-0 |
| | | | HP Recovery Board | | | 1-75 | 379736-0-0 |
| | | | InsulBase/SecurShield | | | | |
| | | | DensDeck / SECUROCK / DEXcell | 1-75 | 272576-0-0 | 1-75 | 379736-0-0 |

FM Approvals – Induction Welding Metal Retrofit (.045" Min. thickness membrane)

| Deck Type | 46 | Plate | Row Spacings | Fastener Spacing in Rows | Rating | Coverboard | Rating | RoofNAV Number | | |
|---|-----------|------------|--------------|--------------------------|--------|-------------------------------|--------|-------------------------------|-------|------------|
| Structural Steel Purlin (Metal Retrofit) | HP Purlin | Rhino Bond | 5' | 12" | 1-75 | InsulBase HD / SecurShield HD | 1-75 | 408547-0-0 | | |
| | | | | | | HP Recovery Board | | 373502-0-0 | | |
| | | | | | | InsulBase/SecurShield | | 373503-0-0 | | |
| | | | | | | DensDeck / SECUROCK / DEXcell | | 373500-0-0 | | |
| | | | 5' | 6" | 1-135 | 6" | 1-135 | InsulBase HD / SecurShield HD | 1-135 | 408560-0-0 |
| | | | | | | | | HP Recovery Board | | 373506-0-0 |
| | | | | | | | | InsulBase/SecurShield | | 373507-0-0 |
| | | | | | | | | DensDeck / SECUROCK / DEXcell | | 373504-0-0 |
| | | | 10' | 6" | 1-75 | 6" | 1-75 | InsulBase HD / SecurShield HD | 1-75 | 408558-0-0 |
| | | | | | | | | HP Recovery Board | | 373499-0-0 |
| | | | | | | | | InsulBase/SecurShield | | 373497-0-0 |
| | | | | | | | | DensDeck / SECUROCK / DEXcell | | 373496-0-0 |

FM Approvals – Induction Welding Metal Retrofit (.060" Min. thickness membrane)

| Deck Type | Fastener | Plate | Row Spacings | Fastener Spacing in Rows | Rating | Coverboard | Rating | RoofNAV Number | | |
|---|-----------------|------------|--------------|--------------------------|--------|-------------------------------|--------|-------------------------------|-------|------------|
| Structural Steel Purlin (Metal Retrofit) | HP RetroDriller | Rhino Bond | 5' | 12" | 1-90 | InsulBase HD / SecurShield HD | 1-90 | 487712-0-0 | | |
| | | | | | | InsulBase | | 487712-0-0 | | |
| | | | | | | SecurShield | | 487713-0-0 | | |
| | | | | | | DensDeck / SECUROCK / DEXcell | | 487715-0-0 | | |
| | | | 10' | 6" | 1-105 | 6" | 1-105 | InsulBase HD / SecurShield HD | 1-105 | 487716-0-0 |
| | | | | | | | | Insulbase | | 487716-0-0 |
| | | | | | | | | SecurShield | | 487717-0-0 |
| | | | | | | | | DensDeck / SECUROCK / DEXcell | | 487719-0-0 |

Sure-Weld® (TPO) Adhered Roofing Systems

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

Membrane Adhesive: Sure-Weld Bonding Adhesive, Low VOC Bonding Adhesive, Low VOC Bonding Adhesive 1168 or Cav-Grip III

.045" or .060" Sure-Weld Standard Reinforced Membrane
 .045" or .060" Sure-Weld HS Reinforced Membrane

Membrane Type: .080" Sure-Weld EXTRA Reinforced Membrane
 .060" or .080" Spectro-Weld Reinforced Membrane

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 | InsulBase, or SecurShield- any combination, any thickness | N/A | 1/4" | 1/2" | 1/4" |
| 2 | | Any UL Classified Insulation, any thickness (OPTIONAL) | Minimum 1/2" SecurShield HD, SecurShield HD Plus or SecurShield HD Composite | 1/4" | 1/2" | 1/4" |
| 3 | | Minimum 1" layer of InsulBase or SecurShield over any UL Classified EPS or XPS Insulation, maximum 1.25 pcf, any thickness | N/A | 1/4" | 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 or Ultralight Coated Glass Mat Roof Boards | 3" | Unlimited | 2-1/2" 3" w/ CGIII |
| 6 | | Any UL Classified Insulation, any thickness (OPTIONAL) | Minimum 1/4" DensDeck Prime Roof Boards | 3" | Unlimited | 2-1/2" 3" w/ CGIII |
| 7 | | Any UL Classified Insulation, any thickness (OPTIONAL) | Minimum 1/4" DEXcell FA Glass Mat Roof Boards | 3" | Unlimited | 2-1/2" 3" w/ CGIII |
| 8 | | Any UL Classified Insulation, any thickness (OPTIONAL) | Minimum 1/2" HP Recovery Board | 1-1/2" 1" w/ CGIII | 1" | 1/4" 1" w/ CGIII |
| 9 | | Any UL Classified Insulation, any thickness (OPTIONAL) | Minimum 7/16" APA Rated OSB or minimum 1-1/2" StormBase | 1-1/2" 1" w/ CGIII | 1" | 1/4" 1" w/ CGIII |
| 10 | | Any UL Classified Insulation, any thickness (OPTIONAL) | Minimum 5/16" EcoStorm VSH | 1/4" | 1/2" | 1/4" |
| 11 | Cellular Lightweight Concrete | N/A | N/A | 1-1/2" 1" w/ CGIII | 1" | 1/4" 1" w/ CGIII |
| 12 | Precast concrete with grouted joints | N/A | N/A | 1-1/2" 1" w/ CGIII | 1" | 1/4" 1" w/ CGIII |
| 13 | Structural (poured-in-place) concrete | N/A | N/A | 1-1/2" 1" w/ CGIII | 1" | 1/4" 1" w/ CGIII |

Sure-Weld® (TPO) Adhered Roofing Systems

UL Approval - Combustible (1) - ANSI/UL 790 Spread of Flame Test (Class A)

Membrane Adhesive: Sure-Weld Bonding Adhesive, Low VOC Bonding Adhesive, Low VOC Bonding Adhesive 1168 or Cav-Grip III

.045" or .060" Sure-Weld Standard Reinforced Membrane

Membrane Type: .045" or .060" Sure-Weld HS Reinforced Membrane

.080" Sure-Weld EXTRA Reinforced Membrane

.060" or .080" Spectro-Weld Reinforced Membrane

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

| System ID | Thermal Barrier/ Base Sheet | Insulation | Cover Board | Maximum Slope | | |
|---|--|--|---|---------------------------|--------------|--------------------|
| | | | | Sure-Weld or Spectro-Weld | Sure-Weld HS | Sure-Weld EXTRA |
| Combustible (1) - ANSI/UL 790 Spread of Flame Test-Class A | | | | | | |
| 1 | Minimum 1/4" SECUROCK® Gypsum Fiber or Ultralight Glass Mat Roof Board (2) | Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness. | N/A | 1/4" | 1/2" | 1/4" |
| 2 | Minimum 1/4" DensDeck or DensDeck Prime Roof Boards (2) | Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness. | N/A | 1/4" | 1/2" | 1/4" |
| 3 | Minimum 1/4" DEXcell Glass Mat or DEXcell FA Glass Mat Roof Boards (2) | Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness. | N/A | 1/4" | 1/2" | 1/4" |
| 4 | N/A | Minimum 1" thick layer of SecurShield or SecurShield HD Composite is placed directly over a combustible roof deck. An optional layer or layers of any Carlisle Polyisocyanurate Insulation may be used below the minimum 1" thick top layer, any combination, any thickness. (3) | N/A | 1/4" | 1/2" | 1/4" |
| 5 | N/A | Minimum 1" thick layer of SecurShield or SecurShield HD Composite over a minimum 3-1/2" thick layer of any UL Classified EPS insulation is placed directly over a combustible roof deck. (3) | N/A | 1/4" | 1/2" | 1/4" |
| 6 | N/A | OPTIONAL layer or layers of any Carlisle Polyisocyanurate Insulation may be used below the minimum 1/2" thick top layer, any combination, any thickness. (3) | 1/2" thick SecurShield HD or SecurShield HD Plus is placed directly over a combustible roof deck. (3) | 1/4" | 1/2" | 1/4" |
| 7 | N/A | Minimum 4" thick layer of any UL Classified EPS insulation is placed directly over a combustible roof deck. (3) | 1/2" thick SecurShield HD or SecurShield HD Plus. (3) | 1/4" | 1/2" | 1/4" |
| 8 | N/A | Minimum 1-1/2" layer of Insulfoam HD Composite over a minimum 3" layer of Insulfoam EPS. (2) | N/A | 1/4" | 1/2" | 1/4" |
| 9 | N/A | Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness. | Minimum 1/4" SECUROCK® Gypsum Fiber or Ultralight Coated Glass Mat Roof Board (2) | 3" | 3" | 2-1/2" 3" w/ CGIII |
| 10 | N/A | Any UL Classified Insulation, any thickness (OPTIONAL) | Minimum 3/8" SECUROCK® Gypsum Fiber or Ultralight Coated Glass Mat Roof Board (2) | 2" | 2" | 2" |
| 11 | N/A | Any UL Classified Insulation, any thickness (OPTIONAL) | Minimum 1/2" SECUROCK® Gypsum Fiber or Ultralight Coated Glass Mat Roof Board (2) | 3" | 4" | 2-1/2" 3" w/ CGIII |
| 12 | N/A | Any UL Classified Insulation, any thickness (OPTIONAL) | Minimum 1/4" DensDeck Prime Roof Board (2) | 3" | Unlimited | 2-1/2" 3" w/ CGIII |
| 13 | N/A | Any UL Classified Insulation, any thickness (OPTIONAL) | Minimum 1/4" DEXcell FA Glass Mat Roof Board (2) | 3" | Unlimited | 2-1/2" 3" w/ CGIII |
| 14 | Two layers of Carlisle FR Base Sheet | Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness. | N/A | 1/4" | 1/2" | 1/4" |

Sure-Weld® (TPO) Adhered Roofing Systems

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

Membrane Adhesive: Sure-Weld Bonding Adhesive, Low VOC Bonding Adhesive, Low VOC Bonding Adhesive 1168 or Cav-Grip III

.045" or .060" Sure-Weld Standard Reinforced Membrane
 .045" or .060" Sure-Weld HS Reinforced Membrane

Membrane Type: .080" Sure-Weld EXTRA Reinforced Membrane
 .060" or .080" Spectro-Weld Reinforced Membrane

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

| System ID | Thermal Barrier/Base Sheet | Insulation | Cover Board | Maximum Slope | | |
|---|-------------------------------------|---|-------------|---------------------------|--------------|-----------------|
| | | | | Sure-Weld or Spectro-Weld | Sure-Weld HS | Sure-Weld EXTRA |
| Combustible - ANSI/UL 790 Spread of Flame Test-Class B | | | | | | |
| 1 | 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" |

Sure-Weld® (TPO) Adhered Roofing Systems

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

Membrane Adhesive: Sure-Weld Bonding Adhesive, Low VOC Bonding Adhesive, Low VOC Bonding Adhesive 1168 or Cav-Grip III

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane
 .045" or .060" Sure-Weld HS Reinforced Membrane
 .080" Sure-Weld EXTRA Reinforced Membrane
 .060" or .080" Spectro-Weld Reinforced 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 or Spectro-Weld | Sure-Weld HS | Sure-Weld EXTRA |
| Non-Combustible or Combustible - ANSI/UL 790 Spread of Flame Test-Class C | | | | | | |
| 1 | N/A | Any UL Classified Carlisle Polyisocyanurate Insulation, any combination, any thickness. Optionally, any UL Classified insulation, any combination, any thickness may be used below the Carlisle Polyisocyanurate Insulation. | N/A | Unlimited | Unlimited | Unlimited |
| 2 | N/A | Any UL Classified insulation, any combination, any thickness. (OPTIONAL) | Minimum 5/16" EcoStorm VSH (2) | 1/2" | 1/2" | 1/2" |

FM Approvals
Design "A" Adhered Roofing Systems

SecurShield HD Ratings - New Construction

.045" or .060" Sure-Weld Standard Reinforced Membrane
.045" or .060" Sure-Weld HS Reinforced Membrane
.080" Sure-Weld EXTRA Reinforced Membrane
.060" or .080" Spectro-Weld Reinforced Membrane

Membrane Type:

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA), Cav-Grip III (CGIII) or Low VOC Bonding Adhesive (LVOC)

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 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 |
|---|---|---|---|--------|------------------------------|----------------------|----------------------|
| | | | | | Roof/NAV Number | | |
| Steel Deck (Min. 22 Gauge) | | | | | | | |
| Min. 1-1/2" InsulBase Polyiso or SecurShield | Loose laid | 1/2" SecurShield HD | 12 (2.67 sq. ft) | 1-75 | 473742-0-0 | 473742-0-0 | 295747-0-0 |
| Min. 1-1/2" InsulBase Polyiso or SecurShield | Loose laid | 1/2" SecurShield HD | 16 (2 sq. ft) | 1-90 | 385909-0-0 | - | - |
| Min. 1-1/2" InsulBase Polyiso or SecurShield | Loose laid | 1/2" SecurShield HD | 8 (4 sq. ft.) AccuTrac Plates only | 1-60 | 454501-0-0 60 mil only | 454502-0-0 | - |
| Min. 1-1/2" InsulBase Polyiso or SecurShield | Loose laid | 1/2" SecurShield HD | 11 (2.9 sq. ft.) AccuTrac Plates only | 1-90 | 454506-0-0 60 mil only | 454507-0-0 | - |
| Min. 1-1/2" InsulBase Polyiso | 10 (3.2 sq. ft.) | 1/2" SecurShield HD | 12" ribbons or Rig Splatter of FAST | 1-90 | 353874-0-0 | 353916-0-0 (SWBA) | 353918-0-0 (SWBA) |
| Min. 1-1/2" InsulBase Polyiso | 10 (3.2 sq. ft.) | 1/2" SecurShield HD over Min. 1" InsulBase | 12" ribbons or Rig Splatter of FAST | 1-90 | 410040-0-0 | 410041-0-0 | 410042-0-0 |
| Min. 2" InsulBase Polyiso | 8 (4 sq. ft) | 1/2" SecurShield HD | 12" ribbons or Rig Splatter of FAST | 1-90 | 353875-0-0 | 353917-0-0 (LVOC) | 353919-0-0 (LVOC) |
| Min. 1-1/2" InsulBase Polyiso | 18 (1.8 sq. ft.) | 1/2" SecurShield HD | 12" ribbons or Rig Splatter of FAST | 1-105 | 485952-0-0 | - | - |
| Min. 1-1/2" InsulBase Polyiso | 18 (1.8 sq. ft.) | 1/2" SecurShield HD | 6" ribbons or Rig Splatter of FAST | 1-105 | 325939-0-0 (LVOC) | 326014-0-0 (LVOC) | - |
| Min. 1-1/2" InsulBase Polyiso | 24 (1.33 sq. ft.) | 1/2" SecurShield HD | 6" ribbons or Rig Splatter of FAST | 1-150 | 325941-0-0 (SWBA) | 326019-0-0 (SWBA) | - |
| Min. 2" InsulBase Polyiso | 16 (2 sq. ft.) | 1/2" SecurShield HD | 12" ribbons or Rig Splatter of FAST | 1-120 | 454516-0-0 | 454520-0-0 | - |
| Min. 2" InsulBase Polyiso | 20 (1.6 sq. ft.) | 1/2" SecurShield HD | 6" ribbons or Rig Splatter of FAST | 1-135 | 454518-0-0 | 454524-0-0 | - |
| Min. 2" InsulBase Polyiso | 32 (1 sq. ft.) | 1/2" SecurShield HD | 4" ribbons or Rig Splatter of FAST | 1-225 | 454538-0-0 | 454540-0-0 | - |
| Min. 2" InsulBase Polyiso | 32 (1 sq. ft.) | 1/2" SecurShield HD over Min. 1" InsulBase | 4" ribbons or Rig Splatter of FAST | 1-225 | 495495-0-0 | 495495-0-0 | - |
| Min. 1-1/2" InsulBase Polyiso | 24 (1.33 sq. ft.) | 1/2" SecurShield HD | 4" ribbons or Rig Splatter of FAST | 1-165 | 325940-0-0 | 326017-0-0 | - |
| Min. 1/2" DensDeck Prime or Securock | 16 (2 sq. ft.) | 1/2" SecurShield HD over InsulBase Polyiso | 6" ribbons FAST | 1-90 | - | - | - |
| Steel Deck (Min. 22 Gauge)/VapAir Seal 725TR with Cav-Grip III or 702 Primer | | | | | | | |
| Min. 1/2" DensDeck Prime or Securock | 8 (4 sq. ft.) | 1/2" SecurShield HD over InsulBase Polyiso | 12" ribbons or Rig Splatter of FAST | 1-90 | 404100-0-0 | 404113-0-0 | 404114-0-0 |
| Min. 1/2" DensDeck Prime or Securock | 20 (1.6 sq. ft.) | 1/2" SecurShield HD over InsulBase Polyiso | FAST - Rig Splatter | 1-135 | - | - | - |
| Min. 1/2" DensDeck Prime or Securock | 32 (1 sq. ft.) | 1/2" SecurShield HD over InsulBase Polyiso | FAST - Rig Splatter | 1-225 | - | - | - |
| Steel Deck (Min. 22 Gauge)/SureMB 90TG or 120TG Base Torch Applied | | | | | | | |
| Min. 1/2" DensDeck Prime or Securock | 8 (4 sq. ft.) | 1/2" SecurShield HD over InsulBase Polyiso | 12" ribbons of FAST | 1-90 | - | - | - |
| Min. 1/2" DensDeck Prime or Securock | 20 (1.6 sq. ft.) | 1/2" SecurShield HD over InsulBase Polyiso | 6" ribbons of FAST | 1-135 | - | - | - |
| Steel Deck (Min. 22 Gauge)/SureMB 70 SA with Cav-Grip III | | | | | | | |
| Min. 1/2" DensDeck Prime or Securock | 8 (4 sq. ft.) | 1/2" SecurShield HD over InsulBase Polyiso | 12" ribbons of FAST | 1-90 | - | - | - |
| Min. 1/2" DensDeck Prime or Securock | 20 (1.6 sq. ft.) | 1/2" SecurShield HD over InsulBase Polyiso | 6" ribbons of FAST | 1-135 | - | - | - |

FM Approvals
Design "A" Adhered Roofing Systems

SecurShield HD Ratings - New Construction

.045" or .060" Sure-Weld Standard Reinforced Membrane
.045" or .060" Sure-Weld HS Reinforced Membrane
.080" Sure-Weld EXTRA Reinforced Membrane
.060" or .080" Spectro-Weld Reinforced Membrane

Membrane Type:

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA), Cav-Grip III (CGIII) or Low VOC Bonding Adhesive (LVOC)

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 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 | | | | | | | |
| Min. 1/2" InsulBase Polyiso | 12" ribbons of FAST | 1/2" SecurShield HD | 12" ribbons of FAST | 1-225 | 381226-0-0 | 382997-0-0 | 382998-0-0 |
| 3/4" Optim-R | 6" ribbons of FAST | 1/2" SecurShield HD | 6" ribbons of FAST | 1-120 | 438104-0-0 | 438107-0-0 (SWBA) | 438108-0-0 |
| Min. 2" Insulfoam EPS | 12" ribbons of FAST | 1/2" SecurShield HD | 12" ribbons of FAST | 1-225 | 429710-0-0 | 429711-0-0 | - |
| Min. 2" ChannelDry EPS adhered to deck with min. 1" Insulfoam EPS adhered to ChannelDry | 12" ribbons of FAST | 1/2" SecurShield HD | 12" ribbons of FAST | 1-225 | 490709-0-0 | 490710-0-0 | - |
| Min. 1-1/2" InsulBase Polyiso | 8 (4 sq. ft.) | 1/2" SecurShield HD | 6" ribbons of FAST | 1-90 | 423342-0-0 | - | - |
| Min. 1-1/2" InsulBase Polyiso | 10 (3.2 sq. ft.) | 1/2" SecurShield HD | 6" ribbons of FAST | 1-90 | 423338-0-0 | - | 423333-0-0 |
| Concrete Deck/VapAir Seal 725TR with Cav-Grip III, 702-LV or 702 Primer | | | | | | | |
| 3/4" Optim-R | 6" ribbons of FAST | 1/2" SecurShield HD | 6" ribbons of FAST | 1-165 702 | 437589-0-0 | 437591-0-0 (SWBA) | 437592-0-0 |
| Min. 1/2" InsulBase Polyiso | 12" ribbons of FAST | 1/2" SecurShield HD | 12" ribbons of FAST | 1-240 | 364507-0-0 (SWBA) | 364508-0-0 (SWBA) | 364509-0-0 (SWBA) |
| Min. 2" Insulfoam EPS | 12" ribbons of FAST | 1/2" SecurShield HD | 12" ribbons of FAST | 1-255 | 429712-0-0 | 429713-0-0 | 429714-0-0 |
| Min. 1/2" InsulBase Polyiso | 6" ribbons of FAST | 1/2" SecurShield HD | 6" ribbons of FAST | 1-315 | 364523-0-0 | 364618-0-0 | - |
| Min. 1-1/2" InsulBase Polyiso | 6" ribbons of FAST | 1/2" SecurShield HD | 6" ribbons of FAST | 1-465 | 538069-0-0 | - | - |
| Concrete Deck/SureMB 90TG or 120TG Base Torch Applied/Cut-Back Asphalt Primer | | | | | | | |
| Min. 1/2" InsulBase Polyiso or Min. 1-1/2" SecurShield | 12" ribbons of FAST | 1/2" SecurShield HD | 12" ribbons of FAST | 1-240 | 394501-0-0 | 394540-0-0 (SWBA) | 392967-0-0 (SWBA) |
| | | | | 1-225 | - | 394536-0-0 | - |
| | | | | 1-195 | 394514-0-0 | 394538-0-0 | 394548-0-0 |
| Min. 1/2" InsulBase Polyiso | 6" ribbons of FAST | 1/2" SecurShield HD | 6" ribbons of FAST | 1-315 | - | - | - |
| Min. 1-1/2" InsulBase Polyiso | 6" ribbons of FAST | 1/2" SecurShield HD | 6" ribbons of FAST | 1-465 | - | - | - |
| Concrete Deck/SureMB 70 SA with Cav-Grip III Primer | | | | | | | |
| Min. 1/2" InsulBase Polyiso | 12" ribbons of FAST | 1/2" SecurShield HD | 12" ribbons of FAST | 1-285 | 519842-0-0 | 519846-0-0 | - |
| Gypsum Deck Tear-Off | | | | | | | |
| Min. 1-1/2" InsulBase Polyiso | 12" ribbons of FAST | 1/2" SecurShield HD | 12" ribbons of FAST | 1-90 | - | - | - |
| Min. 1-1/2" InsulBase Polyiso | 16 (2 sq. ft.) | 1/2" SecurShield HD | 12" ribbons of FAST | 1-90 | 466951-0-0 | 466956-0-0 | - |
| Gypsum Deck Tear-Off/VapAir Seal 725TR with Cav-Grip III, 702-LV or 702 Primer | | | | | | | |
| Min. 1-1/2" InsulBase Polyiso | 12" ribbons or Rig Splatter of FAST | 1/2" SecurShield HD | 12" ribbons or Rig Splatter of FAST | 1-90 | 466952-0-0 | 466967-0-0 | - |
| 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 | - | - | - |

FM Approvals
Design "A" Adhered Roofing Systems

SecurShield HD Ratings - Recover

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane
 .045" or .060" Sure-Weld HS Reinforced Membrane
 .080" Sure-Weld EXTRA Reinforced Membrane
 .060" or .080" Spectro-Weld Reinforced Membrane

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA), Cav-Grip III (CGIII) or Low VOC Bonding Adhesive (LVOC)

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

| Base Insulation Layer | 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 | 427475-0-0 | 427485-0-0 | 427477-0-0 |
| - | - | 1/2" SecurShield HD | 6" ribbons of FAST | 1-150 | 430659-0-0 | 430661-0-0 | - |
| Concrete Deck | | | | | | | |
| - | - | 1/2" SecurShield HD | 6" ribbons of FAST | 1-150 | 389428-0-0 | 389430-0-0 | 389429-0-0 |
| Gypsum Deck | | | | | | | |
| - | - | 1/2" SecurShield HD | 6" ribbons of FAST | 1-90 | 386254-0-0 | 386255-0-0 | - |

FM Approvals
Design "A" Adhered Roofing Systems

SecurShield HD Plus Ratings - New Construction

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane
.045" or .060" Sure-Weld HS Reinforced Membrane
.080" Sure-Weld EXTRA Reinforced Membrane
.060" or .080" Spectro-Weld Reinforced Membrane

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA), Cav-Grip III (CGIII) or Low VOC Bonding Adhesive (LVOC)

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 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" InsulBase Polyiso 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" InsulBase Polyiso or SecurShield | Loose laid | 1/2" SecurShield HD Plus | 18 (1.8 sq. ft.) | 1-120 | 325934-0-0 | 326005-0-0 (LVOC) | - |
| Min. 1-1/2" InsulBase Polyiso or SecurShield | Loose laid | 1/2" SecurShield HD Plus | 24 (1.33 sq. ft.) | 1-150 | 325936-0-0 (SWBA) | 326024-0-0 (SWBA) | - |
| Min. 1-1/2" InsulBase Polyiso or SecurShield | Loose laid | 1/2" SecurShield HD Plus | 24 (1.33 sq. ft.) | 1-225 (35) | 325937-0-0 | 326010-0-0 (LVOC) | - |
| Min. 1-1/2" InsulBase Polyiso or SecurShield | 10 (3.2 sq. ft.) | 1/2" SecurShield HD Plus | 12" ribbons or Rig Splatter of FAST | 1-90 | 353874-0-0 | 353916-0-0 (SWBA) | 353918-0-0 (SWBA) |
| Min. 2" InsulBase Polyiso | 8 (4 sq. ft.) | 1/2" SecurShield HD Plus | 12" ribbons or Rig Splatter of FAST | 1-90 | 353875-0-0 | 353917-0-0 (LVOC) | 353919-0-0 (LVOC) |
| Min. 1-1/2" InsulBase Polyiso | 18 (1.8 sq. ft.) | 1/2" SecurShield HD Plus | 6" ribbons or Rig Splatter of FAST | 1-105 | - | - | - |
| Min. 1-1/2" InsulBase Polyiso | 24 (1.33 sq. ft.) | 1/2" SecurShield HD Plus | 4" ribbons or Rig Splatter of FAST | 1-150 | - | - | - |
| Min. 2" InsulBase Polyiso | 16 (2 sq. ft.) | 1/2" SecurShield HD Plus | 12" ribbons or Rig Splatter of FAST | 1-120 | - | - | - |
| Min. 2" InsulBase Polyiso | 20 (1.6 sq. ft.) | 1/2" SecurShield HD Plus | 6" ribbons or Rig Splatter of FAST | 1-135 | - | - | - |
| Min. 2" InsulBase Polyiso | 32 (1 sq. ft.) | 1/2" SecurShield HD Plus | 4" ribbons or Rig Splatter of FAST | 1-225 | - | - | - |
| Min. 1-1/2" InsulBase Polyiso | 24 (1.33 sq. ft.) | 1/2" SecurShield HD Plus | 4" ribbons or Rig Splatter of FAST | 1-165 | - | - | - |
| Min. 1/2" DensDeck Prime or Securock | 16 (2 sq. ft.) | 1/2" SecurShield HD Plus over InsulBase Polyiso | 6" ribbons of FAST | 1-90 | - | - | - |
| Steel Deck (Min. 22 Gauge)/VapAir Seal 725TR with Cav-Grip III or 702 Primer | | | | | | | |
| Min. 1/2" DensDeck Prime or Securock | 8 (4 sq. ft.) | 1/2" SecurShield HD Plus over InsulBase Polyiso | 12" ribbons or Rig Splatter of FAST | 1-90 | 485959-0-0 | - | - |
| Min. 1/2" DensDeck Prime or Securock | 20 (1.6 sq. ft.) | 1/2" SecurShield HD Plus over InsulBase Polyiso | FAST - Rig Splatter | 1-135 | - | - | - |
| Min. 1/2" DensDeck Prime or Securock | 32 (1 sq. ft.) | 1/2" SecurShield HD Plus over InsulBase Polyiso | FAST - Rig Splatter | 1-225 | - | - | - |
| Steel Deck (Min. 22 Gauge)/SureMB 90TG or 120TG Base Torch Applied | | | | | | | |
| Min. 1/2" DensDeck Prime or Securock | 8 (4 sq. ft.) | 1/2" SecurShield HD Plus over InsulBase Polyiso | 12" ribbons of FAST | 1-90 | - | - | - |
| Min. 1/2" DensDeck Prime or Securock | 20 (1.6 sq. ft.) | 1/2" SecurShield HD Plus over InsulBase Polyiso | 6" ribbons of FAST | 1-135 | - | - | - |
| Steel Deck (Min. 22 Gauge)/SureMB 70 SA with Cav-Grip III Primer | | | | | | | |
| Min. 1/2" DensDeck Prime or Securock | 8 (4 sq. ft.) | 1/2" SecurShield HD Plus over InsulBase Polyiso | 12" ribbons of FAST | 1-90 | - | - | - |
| Min. 1/2" DensDeck Prime or Securock | 20 (1.6 sq. ft.) | 1/2" SecurShield HD Plus over InsulBase Polyiso | 6" ribbons of FAST | 1-135 | - | - | - |

FM Approvals
Design "A" Adhered Roofing Systems

SecurShield HD Plus Ratings - New Construction

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane
.045" or .060" Sure-Weld HS Reinforced Membrane
.080" Sure-Weld EXTRA Reinforced Membrane
.060" or .080" Spectro-Weld Reinforced Membrane

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA), Cav-Grip III (CGIII) or Low VOC Bonding Adhesive (LVOC)

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 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 | | | | | | | |
| Min. 1/2" InsulBase Polyiso | 12" ribbons of FAST | 1/2" SecurShield HD Plus | 12" ribbons or Rig Splatter of FAST | 1-225 | 381226-0-0 | 382997-0-0 | 382998-0-0 |
| Min. 2" InsulBase Polyiso or SecurShield over Min. 2" ChannelDry EPS | 8 (4 sq. ft.) | 1/2" SecurShield HD Plus | 6" ribbons of FAST | 1-90 | 486752-0-0 | - | - |
| Concrete Deck/VapAir Seal 725TR with Cav-Grip III, 702-LV or 702 Primer | | | | | | | |
| Min. 1/2" InsulBase Polyiso or Min. 1-1/2" SecurShield | 12" ribbons of FAST | 1/2" SecurShield HD Plus | 12" ribbons of FAST | 1-255 | 364507-0-0 (SWBA) | 364508-0-0 (SWBA) | 364509-0-0 (SWBA) |
| | | | | | 364523-0-0 (LVOC) | - | - |
| Min. 2" Insulfoam EPS | 12" ribbons of FAST | 1/2" SecurShield HD Plus | 12" ribbons of FAST | 1-225 | 429715-0-0 | 429716-0-0 | 429717-0-0 |
| Min. 1/2" InsulBase Polyiso | 6" ribbons of FAST | 1/2" SecurShield HD Plus | 6" ribbons of FAST | 1-315 | - | - | - |
| Min. 1-1/2" InsulBase Polyiso | 6" ribbons of FAST | 1/2" SecurShield HD Plus | 6" ribbons of FAST | 1-465 | 538069-0-0 | - | - |
| Concrete Deck/SureMB 90TG or 120TG Base Torch Applied/Cut-Back Asphalt Primer | | | | | | | |
| Min. 1/2" InsulBase Polyiso or Min. 1-1/2" SecurShield | 12" ribbons of FAST | 1/2" SecurShield HD Plus | 12" ribbons of FAST | 1-240 | 394501-0-0 | 394540-0-0 (SWBA) | 392967-0-0 (SWBA) |
| Min. 1/2" InsulBase Polyiso | 6" ribbons of FAST | 1/2" SecurShield HD Plus | 6" ribbons of FAST | 1-315 | - | - | - |
| Min. 1-1/2" InsulBase Polyiso | 6" ribbons of FAST | 1/2" SecurShield HD Plus | 6" ribbons of FAST | 1-465 | - | - | - |
| Concrete Deck/SureMB 70 SA with Cav-Grip III Primer | | | | | | | |
| Min. 1/2" InsulBase Polyiso or Min. 1-1/2" SecurShield | 12" ribbons of FAST | 1/2" SecurShield HD Plus | 12" ribbons of FAST | 1-285 | 519842-0-0 | 519846-0-0 | - |
| Gypsum Deck Tear-Off | | | | | | | |
| Min. 1-1/2" InsulBase Polyiso | 12" ribbons of FAST | 1/2" SecurShield HD Plus | 12" ribbons of FAST | 1-90 | - | - | - |
| Gypsum Deck Tear-Off/VapAir Seal 725TR with Cav-Grip III, 702-LV or 702 Primer | | | | | | | |
| Min. 1-1/2" InsulBase Polyiso | 12" ribbons or Rig Splatter of FAST | 1/2" SecurShield HD Plus | 12" ribbons or Rig Splatter of FAST | 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 | - | - | - |

FM Approvals
Design "A" Adhered Roofing Systems

SecurShield HD Plus Ratings - Recover

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane
.045" or .060" Sure-Weld HS Reinforced Membrane
.080" Sure-Weld EXTRA Reinforced Membrane
.060" or .080" Spectro-Weld Reinforced Membrane

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA), Cav-Grip III (CGIII) or Low VOC Bonding Adhesive (LVOC)

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

| Base Insulation Layer | 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 | 18 (1.8 sq. ft) | 1-120 | 466155-0-0 (LVOC) | 466156-0-0 (LVOC) | - |
| - | - | 1/2" SecurShield HD Plus | 18 (1.8 sq. ft) | 1-120 | 466157-0-0 (CAV-GRIP III) | - | - |
| - | - | 1/2" SecurShield HD Plus | 24 (1.33 sq. ft) | 1-225 | 466158-0-0 (LVOC) | 466159-0-0 (LVOC) | - |
| - | - | 1/2" SecurShield HD Plus | 24 (1.33 sq. ft) | 1-225 | 466160-0-0 (CAV-GRIP III) | - | - |
| - | - | 1/2" SecurShield HD Plus | 8 (4 sq. ft) | 1-90 | 325932-0-0 | - | - |
| - | - | 1/2" SecurShield HD Plus | 6" ribbons of FAST | 1-90 | - | - | - |
| - | - | 1/2" SecurShield HD Plus | 4" ribbons of FAST | 1-150 | - | - | - |
| Concrete Deck | | | | | | | |
| Min. 1/2" InsulBase Polyiso | 6" ribbons of FAST | 1/2" SecurShield HD Plus | 6" ribbons of FAST | 1-150 | - | - | - |
| - | - | 1/2" SecurShield HD Plus | 6" ribbons of FAST | 1-150 | - | - | - |
| Gypsum Deck | | | | | | | |
| Min. 1-1/2" InsulBase Polyiso | Full-Coverage FAST | 1/2" SecurShield HD Plus | 12" ribbons of FAST | 1-90 | 458915-0-0 | 458918-0-0 | - |

FM Approvals
Design "A" Adhered Roofing Systems

InsulBase Polyiso Ratings - New Construction

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane
.045" or .060" Sure-Weld HS Reinforced Membrane
.080" Sure-Weld EXTRA Reinforced Membrane
.060" or .080" Spectro-Weld Reinforced Membrane

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA), Cav-Grip III (CGIII) or Low VOC Bonding Adhesive (LVOC)

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 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" InsulBase Polyiso | 16 (2 sq. ft.) | - | - | 1-90 | 13221-0-0 | 13256-0-0 | 63400-0-0 |
| Min. 2" InsulBase Polyiso | 8 (4 sq. ft.) | - | - | 1-90 | 13222-0-0 | 13259-0-0 | 63401-0-0 |
| Min. 2" InsulBase Polyiso | 20 (1.6 sq. ft.) | - | - | 1-150 | 135476-0-0 (SWBA) | 135474-0-0 (SWBA) | 135477-0-0 (SWBA) |
| Min. 1-1/2" InsulBase Polyiso | 10 (3.2 sq. ft.) | Min. 1" InsulBase Polyiso | 12" ribbons or Rig Splatter of FAST | 1-90 | 459121-0-0 | 459122-0-0 | - |
| Min. 2" InsulBase Polyiso | 8 (4 sq. ft.) | Min. 2" InsulBase Polyiso | 12" ribbons or Rig Splatter of FAST | 1-90 | 188863-0-0 | 188878-0-0 | 188900-0-0 |
| Min. 2" InsulBase Polyiso | 16 (2 sq. ft.) | Min. 1/2" InsulBase Polyiso | 6" ribbons or Rig Splatter of FAST | 1-105 | 454517-0-0 | 454522-0-0 | - |
| Min. 2" InsulBase Polyiso | 20 (1.6 sq. ft.) | Min. 1" InsulBase Polyiso | 6" ribbons or Rig Splatter of FAST | 1-150 | 455832-0-0 | 455872-0-0 | - |
| Min. 2" InsulBase Polyiso | 32 (1 sq. ft.) | Min. 1" InsulBase Polyiso | 4" ribbons of FAST | 1-270 | 455869-0-0 | 455873-0-0 | - |
| Min. 1/2" DensDeck Prime or Securock | 16 (2 sq. ft.) | Min. 1-1/2" InsulBase Polyiso | 12" ribbons of FAST | 1-90 | - | - | - |
| Steel Deck (Min. 22 Gauge)/VapAir Seal 725TR with Cav-Grip III or 702 Primer | | | | | | | |
| Min. 1/2" DensDeck Prime or Securock | 8 (4 sq. ft.) | Min. 1-1/2" InsulBase Polyiso | 12" ribbons or Rig Splatter of FAST | 1-90 | 352057-0-0 | 551049-0-0 | - |
| Min. 1/2" DensDeck Prime or Securock | 20 (1.6 sq. ft.) | Min. 1-1/2" InsulBase Polyiso | FAST - Rig Splatter | 1-135 | - | - | - |
| Min. 1/2" DensDeck Prime or Securock | 32 (1 sq. ft.) | Min. 1-1/2" InsulBase Polyiso | FAST - Rig Splatter | 1-240 | 567379-0-0 | 567383-0-0 | - |
| Steel Deck (Min. 22 Gauge)/SureMB 90TG or 120TG Base Torch Applied | | | | | | | |
| Min. 1/2" DensDeck Prime or Securock | 8 (4 sq. ft.) | Min. 1-1/2" InsulBase Polyiso | 12" ribbons of FAST | 1-90 | 454497-0-0 | 454498-0-0 | - |
| Min. 1/2" DensDeck Prime or Securock | 20 (1.6 sq. ft.) | Min. 1-1/2" InsulBase Polyiso | 6" ribbons of FAST | 1-135 | - | - | - |
| Steel Deck (Min. 22 Gauge)/SureMB 70 SA with Cav-Grip III Primer | | | | | | | |
| Min. 1/2" DensDeck Prime or Securock | 8 (4 sq. ft.) | Min. 1-1/2" InsulBase Polyiso | 12" ribbons of FAST | 1-90 | - | - | - |
| Min. 1/2" DensDeck Prime or Securock | 20 (1.6 sq. ft.) | Min. 1-1/2" InsulBase Polyiso | 6" ribbons of FAST | 1-135 | - | - | - |
| Concrete Deck | | | | | | | |
| Min. 1/2" InsulBase Polyiso | 12" ribbons of FAST | - | - | 1-315 | 279654-0-0 | 279656-0-0 | 279705-0-0 |
| Min. 1-1/2" InsulBase Polyiso | 12" ribbons of FAST | - | - | 1-480 | 222698-0-0 | 222698-0-0 | 222698-0-0 |

FM Approvals
Design "A" Adhered Roofing Systems

InsulBase Polyiso Ratings - New Construction

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane
.045" or .060" Sure-Weld HS Reinforced Membrane
.080" Sure-Weld EXTRA Reinforced Membrane
.060" or .080" Spectro-Weld Reinforced Membrane

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA), Cav-Grip III (CGIII) or Low VOC Bonding Adhesive (LVOC)

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 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 III, 702-LV or 702 Primer | | | | | | | |
| Min. 1/2" InsulBase Polyiso | 6" ribbons of FAST | - | - | 1-315 | 462904-0-0 | 462910-0-0 | - |
| Min. 1-1/2" InsulBase Polyiso | 6" ribbons of FAST | - | - | 1-465 | 462905-0-0 | 462911-0-0 | - |
| Min. 1/2" InsulBase Polyiso | 12" ribbons of FAST | - | - | 1-255 | 445235-0-0 | - | - |
| Concrete Deck/SureMB 90TG or 120TG Base Torch Applied/Cut-Back Asphalt Primer | | | | | | | |
| Min. 1/2" InsulBase Polyiso | 12" ribbons of FAST | Min. 1-1/2" InsulBase Polyiso | 12" ribbons of FAST | 1-315 | 519988-0-0 | 519988-0-0 | - |
| Min. 1-1/2" InsulBase Polyiso | 6" ribbons of FAST | - | - | 1-465 | 462940-0-0 | 462944-0-0 | - |
| Min. 1/2" InsulBase Polyiso | Full-Coverage FAST | - | - | 1-195 | 392380-0-0 | 392380-0-0 | 392380-0-0 |
| Min. 1/2" InsulBase Polyiso | 12" ribbons of FAST | - | - | 1-90 | 392375-0-0 | 392375-0-0 | 392375-0-0 |
| Concrete Deck/SureMB 70 SA with Cav-Grip III Primer | | | | | | | |
| Min. 1/2" InsulBase Polyiso | 12" ribbons of FAST | - | - | 1-285 | 519878-0-0 | 519879-0-0 | - |
| Gypsum Deck Tear-Off | | | | | | | |
| Min. 1-1/2" InsulBase Polyiso | 16 (2 sq. ft.) | - | - | 1-90 | 93423-0-0 | 95309-0-0 | - |
| Min. 1-1/2" InsulBase Polyiso | 16 (2 sq. ft.) | Min. 1-1/2" InsulBase Polyiso | 12" ribbons of FAST | 1-90 | 542332-0-0 | | |
| Min. 1-1/2" InsulBase Polyiso | 12" ribbons of FAST | - | - | 1-90 | 459955-0-0 | 459958-0-0 | - |
| Gypsum Deck Tear-Off VapAir Seal 725TR with Cav-Grip III Primer, Carlisle 702 LV Primer or Carlisle 702 Primer | | | | | | | |
| Min. 1-1/2" InsulBase Polyiso | 12" ribbons or Rig Splatter of FAST | - | - | 1-90 | 459954-0-0 | 459956-0-0 | - |
| Cellular Lightweight Insulating Concrete/Steel Decking (Min. 22 Gauge) | | | | | | | |
| Min. 1-1/2" InsulBase Polyiso | 16 (2 sq. ft.) | - | - | 1-90 | - | - | - |
| Min. 2" InsulBase Polyiso | 8 (4 sq. ft.) | - | - | 1-90 | - | - | - |
| Min. 2" InsulBase Polyiso | 20 (1.6 sq. ft.) | - | - | 1-150 | - | - | - |

FM Approvals
Design "A" Adhered Roofing Systems

InsulBase Polyiso Ratings - Recover

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane
.045" or .060" Sure-Weld HS Reinforced Membrane
.080" Sure-Weld EXTRA Reinforced Membrane
.060" or .080" Spectro-Weld Reinforced Membrane

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA), Cav-Grip III (CGIII) or Low VOC Bonding Adhesive (LVOC)

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

| Base Insulation Layer | 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" InsulBase Polyiso | 20 (1.6 sq. ft) | - | - | 1-90 | 164685-0-0 | 164687-0-0 | 164695-0-0 |
| 1/2" InsulBase Polyiso | 6" ribbons of FAST | - | - | 1-90 | - | 430066-0-0 | - |
| 2" InsulBase Polyiso | Loose-Laid | 2" InsulBase Polyiso | 8 (4 sq. ft) | 1-90* | 326614-0-0 | 326615-0-0 | 326617-0-0 |
| 2" InsulBase Polyiso | Loose-Laid | 2" InsulBase Polyiso | 20 (1.6 sq. ft) | 1-150* | 326578-0-0 | 326611-0-0 | 326613-0-0 |
| Concrete Deck | | | | | | | |
| 1/2" InsulBase Polyiso | 12" ribbons of FAST | - | - | 1-90 | - | - | - |
| Gypsum Deck | | | | | | | |
| 1.5" InsulBase Polyiso | 16 (2 sq. ft) | - | - | 1-90 | 573645-0-0 | - | - |
| 1" InsulBase Polyiso | 12" ribbons of FAST | - | - | 1-90 | - | - | - |

FM Approvals
Design "A" Adhered Roofing Systems

SecurShield and SecurShield HD Composite Ratings - New Construction

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane
.045" or .060" Sure-Weld HS Reinforced Membrane
.080" Sure-Weld EXTRA Reinforced Membrane
.060" or .080" Spectro-Weld Reinforced Membrane

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA), Cav-Grip III (CGIII) or Low VOC Bonding Adhesive (LVOC)

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 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) | 135476-0-0 (SWBA) | 135476-0-0 (SWBA) |
| Min. 2" SecurShield Only | 32 (1 sq. ft.) | - | - | 1-225 (35) | 399364-0-0 | 399364-0-0 | 399364-0-0 |
| Min. 1-1/2" InsulBase Polyiso | 10 (3.2 sq. ft.) | Min. 1-1/2" SecurShield or SecurShield HD Composite | 12" ribbons or Rig Splatter of FAST | 1-90 | 459121-0-0 | 459122-0-0 | - |
| Min. 2" InsulBase Polyiso or SecurShield | 8 (4 sq. ft.) | Min. 2" SecurShield or SecurShield HD Composite | 12" ribbons or Rig Splatter of FAST | 1-90 | 254630-0-0 | 254630-0-0 | 254630-0-0 |
| Min. 2" InsulBase Polyiso | 16 (2 sq. ft.) | Min. 1/2" SecurShield | 6" ribbons or Rig Splatter of FAST | 1-105 | 454517-0-0 | 454522-0-0 | - |
| Min. 2" InsulBase Polyiso | 20 (1.6 sq. ft.) | Min. 1" SecurShield | 6" ribbons or Rig Splatter of FAST | 1-150 | 455832-0-0 | 455833-0-0 | - |
| Min. 2" InsulBase Polyiso | 32 (1 sq. ft.) | Min. 1" SecurShield | 4" ribbons of FAST | 1-270 | 455869-0-0 | 455873-0-0 | - |
| 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 III or 702 Primer | | | | | | | |
| Min. 1/2" DensDeck Prime or Securock | 8 (4 sq. ft.) | Min. 1-1/2" SecurShield or SecurShield HD Composite | 12" ribbons or Rig Splatter of FAST | 1-90 | 352057-0-0 | 551049-0-0 | - |
| Min. 1/2" DensDeck Prime or Securock | 20 (1.6 sq. ft.) | Min. 1-1/2" SecurShield or SecurShield HD Composite | FAST - Rig Splatter | 1-135 | - | - | - |
| Min. 1/2" DensDeck Prime or Securock | 32 (1 sq. ft.) | Min. 1-1/2" SecurShield or SecurShield HD Composite | FAST - Rig Splatter | 1-240 | - | - | - |
| FM 4474 | | | | | | | |
| Min. 1/2" DensDeck Prime | 8 (4 sq. ft.) | Min. 1-1/2" SecurShield or SecurShield HD Composite | 12" ribbons of FAST | 1-90 | 454497-0-0 | 454498-0-0 | - |
| Min. 1/2" DensDeck Prime or Securock | 20 (1.6 sq. ft.) | Min. 1-1/2" SecurShield or SecurShield HD Composite | 6" ribbons of FAST | 1-135 | - | - | - |
| Steel Deck (Min. 22 Gauge)/SureMB 70 SA with Cav-Grip III Primer | | | | | | | |
| Min. 1/2" DensDeck Prime | 8 (4 sq. ft.) | Min. 1-1/2" SecurShield or SecurShield HD Composite | 12" ribbons of FAST | 1-90 | - | - | - |
| Min. 1/2" DensDeck Prime or Securock | 20 (1.6 sq. ft.) | Min. 1-1/2" SecurShield or SecurShield HD Composite | 6" ribbons of FAST | 1-135 | - | - | - |

FM Approvals
Design "A" Adhered Roofing Systems

SecurShield and SecurShield HD Composite Ratings - New Construction

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane
.045" or .060" Sure-Weld HS Reinforced Membrane
.080" Sure-Weld EXTRA Reinforced Membrane
.060" or .080" Spectro-Weld Reinforced Membrane

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA), Cav-Grip III (CGIII) or Low VOC Bonding Adhesive (LVOC)

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 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 | | | | | | | |
| Min. 1/2" InsulBase Polyiso | 12" ribbons or Rig Splatter of FAST | Min. 2" SecurShield or SecurShield HD Composite | 12" ribbons or Rig Splatter of FAST | 1-225 | 323655-0-0 | - | - |
| Concrete Deck/VapAir Seal 725TR with Cav-Grip III Primer, Carlisle 702 LV Primer or Carlisle 702 Primer | | | | | | | |
| Min. 1/2" SecurShield or SecurShield HD Composite | 12" ribbons of FAST | - | - | 1-315 | 445235-0-0 | 462910-0-0 | - |
| Min. 1-1/2" SecurShield | 6" ribbons of FAST | - | - | 1-465 | 462905-0-0 | 462911-0-0 | - |
| Min. 1/2" InsulBase or SecurShield | 12" ribbons of FAST | Min. 2" SecurShield HD Composite | 12" ribbons of FAST | 1-300 | 483491-0-0 | 483491-0-0 | - |
| Concrete Deck/SureMB 90TG or 120TG Base Torch Applied/Cut-Back Asphalt Primer | | | | | | | |
| Min. 1/2" InsulBase Polyiso | 12" ribbons of FAST | Min. 2" SecurShield or SecurShield HD Composite | 12" ribbons of FAST | 1-315 | - | 550891-0-0 | - |
| Min. 1/2" SecurShield | 6" ribbons of FAST | - | - | 1-315 | 462939-0-0 | 462943-0-0 | - |
| Min. 1-1/2" SecurShield | 6" ribbons of FAST | - | - | 1-465 | 462940-0-0 | 462944-0-0 | - |
| Concrete Deck/SureMB 70 SA with Cav-Grip III Primer | | | | | | | |
| Min. 1/2" InsulBase Polyiso | 12" ribbons of FAST | Min. 2" SecurShield or SecurShield HD Composite | 12" ribbons of FAST | 1-285 | 519860-0-0 | 519870-0-0 | - |
| 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 | 12" ribbons of FAST | - | - | 1-90 | - | - | - |
| Gypsum Deck Tear-Off/VapAir Seal 725TR with Cav-Grip III, 702-LV or 702 Primer | | | | | | | |
| Min. 1-1/2" SecurShield or SecurShield HD Composite | 12" ribbons or Rig Splatter of FAST | - | - | 1-90 | 459954-0-0 | - | - |
| 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 | - | - | - |

FM Approvals
Design "A" Adhered Roofing Systems

SecurShield Ratings - Recover

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane
.045" or .060" Sure-Weld HS Reinforced Membrane
.080" Sure-Weld EXTRA Reinforced Membrane
.060" or .080" Spectro-Weld Reinforced Membrane

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA), Cav-Grip III (CGIII) or Low VOC Bonding Adhesive (LVOC)

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

| Base Insulation Layer | 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 | 16 (2 sq. ft) | - | - | 1-90 | 400224-0-0 | 400225-0-0 | 400226-0-0 |
| 2" SecurShield | Loose-Laid | 2" SecurShield | 8 (4 sq. ft) | 1-90* | 326614-0-0 | 326615-0-0 | 326617-0-0 |
| 2" SecurShield | Loose-Laid | 2" SecurShield | 20 (1.6 sq. ft) | 1-150* | 326578-0-0 | 326611-0-0 | 326613-0-0 |
| 2" SecurShield | Loose-Laid | 2" SecurShield | 32 (1 sq. ft) | 1-270* | 326667-0-0 | 326670-0-0 | 326673-0-0 |
| Concrete Deck | | | | | | | |
| 1/2" SecurShield | 12" ribbons of FAST | - | - | 1-90 | - | - | - |
| Gypsum Deck | | | | | | | |
| 1" SecurShield | 20 (1.6 sq. ft) | - | - | 1-90 | - | - | - |
| 1" SecurShield | 12" ribbons of FAST | - | - | 1-90 | - | - | - |

FM Approvals
Design "A" Adhered Roofing Systems

Securock Ratings - New Construction

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane
.045" or .060" Sure-Weld HS Reinforced Membrane
.080" Sure-Weld EXTRA Reinforced Membrane
.060" or .080" Spectro-Weld Reinforced Membrane

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA), Cav-Grip III (CGIII) or Low VOC Bonding Adhesive (LVOC)

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 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" InsulBase Polyiso | Loose laid | Min. 1/4" Securock Gyp Fiber or Ultralight Coated Glass Mat | 12 (2.66 sq. ft.) | 1-75 | 269962-0-0 (LVOC) | 269964-0-0 (LVOC) | 269966-0-0 (LVOC) |
| Min. 1-1/2" InsulBase Polyiso | Loose laid | Min. 1/4" Securock Gyp Fiber | 10 (3.2 sq. ft.) SecurFAST Plate | 1-90 | - | - | - |
| Min. 1-1/2" InsulBase Polyiso | Loose laid | Min. 3/8" Securock Gyp Fiber | 8 (4 sq. ft.) SecurFAST Plate | 1-90 | - | - | - |
| Min. 1-1/2" InsulBase Polyiso | Loose laid | Min. 1/2" Securock Gyp Fiber or Ultralight Coated Glass Mat | 10 (3.2 sq. ft.) | 1-90 | 269985-0-0 | 269986-0-0 (LVOC) | 269988-0-0 (LVOC) |
| None | None | Min. 1/2" Securock Gyp Fiber | 10 (3.2 sq. ft.) | 1-90 | 409328-0-0 | 409329-0-0 | 409330-0-0 |
| Min. 1-1/2" InsulBase Polyiso | Loose laid | Min. 1/2" Securock Gyp Fiber or Ultralight Coated Glass Mat | 8 (4 sq. ft.) SecurFAST Plate | 1-90 | 443300-0-0 | 443314-0-0 | 443303-0-0 |
| Min. 1-1/2" InsulBase Polyiso | Loose laid | Min. 1/2" Securock Gyp Fiber | 6 (5.33 sq. ft.) SecurFAST Plate | 1-75 | 443360-0-0 | 443361-0-0 | 443350-0-0 |
| Min. 1-1/2" InsulBase Polyiso | Loose laid | Min. 5/8" Securock Gyp Fiber | 8 (4 sq. ft.) | 1-90 | 269989-0-0 (LVOC) | 269990-0-0 (LVOC) | 269992-0-0 (LVOC) |
| None | None | Min. 5/8" Securock Gyp Fiber | 8 (4 sq. ft.) | 1-90 | 409353-0-0 | 409354-0-0 | 409355-0-0 |
| Min. 1-1/2" InsulBase Polyiso | Loose laid | Min. 5/8" Securock Gyp Fiber | 6 (5.33 sq. ft.) | 1-90 | 443331-0-0 | 443332-0-0 | 443334-0-0 |
| Min. 1" InsulBase Polyiso | Loose laid | Min. 1/2" Securock Gyp Fiber | 20 (1.6 sq. ft.) | 1-150 | 269993-0-0 | 269994-0-0 | 269996-0-0 (LVOC) |
| None | None | Min. 1/2" Securock Gyp Fiber | 20 (1.6 sq. ft.) | 1-150 | 409371-0-0 | 409372-0-0 | 409373-0-0 |
| Min. 1-1/2" InsulBase Polyiso | Loose laid | Min. 1/2" Securock Gyp Fiber or Ultralight Coated Glass Mat | 32 (1 sq. ft.) | 1-255 | 239271-0-0 (LVOC) | 239272-0-0 (LVOC) | 269952-0-0 (LVOC) |
| None | None | Min. 1/2" Securock Gyp Fiber | 32 (1 sq. ft.) | 1-255 | 409388-0-0 | 409389-0-0 | 409390-0-0 |
| Min. 1-1/2" InsulBase Polyiso | 10 (3.2 sq. ft.) | Min. 1/4" Securock Gyp Fiber or Ultralight Coated Glass Mat | 12" ribbons or Rig Splatter of FAST | 1-90 | 301750-0-0 | 301750-0-0 | 301753-0-0 (LVOC) |
| Min. 1-1/2" InsulBase Polyiso | 10 (3.2 sq. ft.) | Min. 1/4" Securock Gyp Fiber or Ultralight Coated Glass Mat over Min. 1- 1/2" InsulBase Polyiso | 12" ribbons or Rig Splatter of FAST | 1-90 | 437158-0-0 | 437158-0-0 | |
| Min. 2" InsulBase Polyiso | 8 (4 sq. ft.) | Min. 1/4" Securock Gyp Fiber or Ultralight Coated Glass Mat | 12" ribbons or Rig Splatter of FAST | 1-90 | 488181-0-0 | 488180-0-0 | - |
| Min. 2" InsulBase Polyiso | 8 (4 sq. ft.) | Min. 1/4" Securock Gyp Fiber or Ultralight Coated Glass Mat over Min. 1- 1/2" InsulBase Polyiso | 12" ribbons or Rig Splatter of FAST | 1-90 | 542331-0-0 | 542331-0-0 | |
| Min. 2" InsulBase Polyiso | 16 (2 sq. ft.) | Min. 1/2" Securock Gyp Fiber or Ultralight Coated Glass Mat | 12" ribbons or Rig Splatter of FAST | 1-120 | 455769-0-0 (SWBA) | 455773-0-0 | |
| Min. 2" InsulBase Polyiso | 16 (2 sq. ft.) | Min. 1/2" Securock Gyp Fiber or Ultralight Coated Glass Mat over Min. 1" InsulBase Polyiso | 12" ribbons or Rig Splatter of FAST | 1-120 | 495506-0-0 | 495506-0-0 | |
| Min. 2" InsulBase Polyiso | 20 (1.6 sq. ft.) | Min. 1/2" Securock Gyp Fiber or Ultralight Coated Glass Mat | 6" ribbons or Rig Splatter of FAST | 1-135 | 455772-0-0 | 455772-0-0 | |
| Min. 2" InsulBase Polyiso | 20 (1.6 sq. ft.) | Min. 1/2" Securock Gyp Fiber or Ultralight Coated Glass Mat over Min. 1" InsulBase Polyiso | 6" ribbons or Rig Splatter of FAST | 1-135 | 500704-0-0 | 500704-0-0 | |
| Min. 2" InsulBase Polyiso | 32 (1 sq. ft.) | Min. 1/2" Securock | 4" ribbons or Rig Splatter of FAST | 1-225 | 455811-0-0 | 455811-0-0 | |
| Min. 2" InsulBase Polyiso | 32 (1 sq. ft.) | Min. 1/2" Securock over Min. 1" InsulBase Polyiso | 4" ribbons or Rig Splatter of FAST | 1-225 | 500705-0-0 | 500705-0-0 | |
| 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 | - | - | - |

FM Approvals
Design "A" Adhered Roofing Systems

Securock Ratings - New Construction

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane
.045" or .060" Sure-Weld HS Reinforced Membrane
.080" Sure-Weld EXTRA Reinforced Membrane
.060" or .080" Spectro-Weld Reinforced Membrane

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA), Cav-Grip III (CGIII) or Low VOC Bonding Adhesive (LVOC)

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 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)/VapAir Seal 725TR with Cav-Grip III or 702 Primer | | | | | | | |
| Min. 1/2" DensDeck Prime or Securock | 8 (4 sq. ft.) | Min. 1/4" Securock Gyp Fiber or Ultralight Coated Glass Mat over Min. 1- 1/2" InsulBase Polyiso | 12" ribbons or Rig Splatter of FAST | 1-90 | 327597-0-0 | 396795-0-0 | 437319-0-0 |
| Min. 1/2" DensDeck Prime or Securock | 20 (1.6 sq. ft.) | Min. 1/2" Securock over Min. 1-1/2" InsulBase Polyiso | FAST - Rig Splatter | 1-135 | - | - | - |
| Min. 1/2" DensDeck Prime or Securock | 32 (1 sq. ft.) | Min. 1/2" Securock over Min. 1-1/2" InsulBase Polyiso | FAST - Rig Splatter | 1-225 | - | - | - |
| Steel Deck (Min. 22 Gauge)/SureMB 901G or 1201G Base Torch Applied | | | | | | | |
| 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 | - | - | - |
| Min. 1/2" DensDeck Prime or Securock | 20 (1.6 sq. ft.) | Min. 1/2" Securock over Min. 1/2" InsulBase Polyiso | 6" ribbons of FAST | 1-135 | - | - | - |
| Steel Deck (Min. 22 Gauge)/SureMB 70 SA with Cav-Grip III Primer | | | | | | | |
| 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 | 522132-0-0 | - | - |
| Min. 1/2" DensDeck Prime or Securock | 20 (1.6 sq. ft.) | Min. 1/2" Securock over Min. 1/2" InsulBase Polyiso | 6" ribbons of FAST | 1-135 | - | - | - |
| Concrete Deck | | | | | | | |
| Min. 1/2" InsulBase Polyiso | 12" ribbons of FAST | Min. 1/4" Securock Gyp Fiber or Ultralight Coated Glass Mat | 12" ribbons of FAST | 1-315 | 307662-0-0 (SWBA) | 307751-0-0 (SWBA) | 307702-0-0 (SWBA) |
| Min. 1/2" InsulBase Polyiso | Hot Asphalt | Min. 1/4" Securock Gyp Fiber or Ultralight Coated Glass Mat | Hot Asphalt | 1-495 | 282246-0-0 | - | - |
| Min. 1/2" InsulBase Polyiso | Loose laid | Min. 1/2" Securock Gyp Fiber or Ultralight Coated Glass Mat | 10 (3.2 sq. ft.) | 1-90 | 393508-0-0 | - | - |
| Min. 1-1/2" InsulBase Polyiso | Loose laid | Min. 1/2" Securock Gyp Fiber or Ultralight Coated Glass Mat | 32 (1 sq. ft.) | 1-255 | 398846-0-0 | 398848-0-0 | 398849-0-0 |
| Concrete Deck/VapAir Seal 725TR with Cav-Grip III, 702-LV or 702 Primer | | | | | | | |
| Min. 1/2" InsulBase Polyiso | 12" ribbons or Rig Splatter of FAST | Min. 1/4" Securock Gyp Fiber or Ultralight Coated Glass Mat | 12" ribbons or Rig Splatter of FAST | 1-255 | 333171-0-0 | 364616-0-0 (LVOC) | 364627-0-0 (LVOC) |
| Min. 1" Insulfoam EPS | 12" ribbons of FAST | Min. 1/4" Securock Gyp Fiber or Ultralight Coated Glass Mat | 12" ribbons of FAST | 1-315 | 501707-0-0 | 501756-0-0 | - |
| Min. 1-1/2" InsulBase Polyiso | 6" ribbons of FAST | Min. 1/4" Securock | 6" ribbons of FAST | 1-465 | - | - | - |

FM Approvals
Design "A" Adhered Roofing Systems

Securock Ratings - New Construction

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane
.045" or .060" Sure-Weld HS Reinforced Membrane
.080" Sure-Weld EXTRA Reinforced Membrane
.060" or .080" Spectro-Weld Reinforced Membrane

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA), Cav-Grip III (CGIII) or Low VOC Bonding Adhesive (LVOC)

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 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" InsulBase Polyiso or Min 1-1/2" SecurShield | 12" ribbons of FAST | Min. 1/4" Securock Gyp Fiber or Ultralight Coated Glass Mat | 12" ribbons of FAST | 1-255 | 394468-0-0 | 394544-0-0 | 394544-0-0 |
| Min. 1/2" InsulBase Polyiso | 6" ribbons of FAST | Min. 1/4" Securock | 6" ribbons of FAST | 1-315 | - | - | - |
| Min. 1-1/2" InsulBase Polyiso | 6" ribbons of FAST | | 6" ribbons of FAST | 1-465 | - | - | - |
| Concrete Deck/SureMB 70 SA with Cav-Grip III Primer | | | | | | | |
| Min. 1/2" InsulBase Polyiso or Min 1-1/2" SecurShield | 12" ribbons of FAST | Min. 1/4" Securock | 12" ribbons of FAST | 1-285 | 519845-0-0 | 519845-0-0 | - |
| Gypsum Deck Tear-Off | | | | | | | |
| Min. 1-1/2" InsulBase Polyiso | 12" ribbons of FAST | Min. 1/4" Securock | 12" ribbons of FAST | 1-90 | - | - | - |
| Min. 1-1/2" InsulBase Polyiso | 8 (2 sq. ft) | Min. 1/4" Securock | 12" ribbons of FAST | 1-90 | 466958-0-0 | 466958-0-0 | - |
| Gypsum Deck Tear-Off/VapAir Seal 725TR with Cav-Grip III, 702-LV or 702 Primer | | | | | | | |
| Min. 1-1/2" InsulBase Polyiso | 12" ribbons or Rig Splatter of FAST | Min. 1/4" Securock | 12" ribbons or Rig Splatter of FAST | 1-90 | 466959-0-0 | 466963-0-0 | - |
| 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" InsulBase Polyiso | 4" ribbons of FAST | Min. 1/4" Securock Gyp Fiber or Ultralight Coated Glass Mat | 12" ribbons or Rig Splatter of FAST | 1-135 | 507749-0-50916 | 507749-0-50916 | - |
| Cellular Lightweight Insulating Concrete/Structural Concrete Decking | | | | | | | |
| Min. 1" InsulBase Polyiso | 4" ribbons of FAST | Min. 1/4" Securock Gyp Fiber or Ultralight Coated Glass Mat | 12" ribbons or Rig Splatter of FAST | 1-135 | - | - | 310049-0-50916 |

FM Approvals
Design "A" Adhered Roofing Systems

Securock Ratings - Recover

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane
 .045" or .060" Sure-Weld HS Reinforced Membrane
 .080" Sure-Weld EXTRA Reinforced Membrane
 .060" or .080" Spectro-Weld Reinforced Membrane

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA), Cav-Grip III (CGIII) or Low VOC Bonding Adhesive (LVOC)

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

| Base Insulation Layer | 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" InsulBase Polyiso | 10 (3.2 sq. ft) | Min. 1/4" Securock Gyp Fiber or Ultralight Coated Glass Mat | 12" ribbons of FAST | 1-90 | 301766-0-0 (LVOC) | 288835-0-0 (LVOC) | 288837-0-0 (LVOC) |

FM Approvals
Design "A" Adhered Roofing Systems

DensDeck Prime Ratings - New Construction

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane
.045" or .060" Sure-Weld HS Reinforced Membrane
.080" Sure-Weld EXTRA Reinforced Membrane
.060" or .080" Spectro-Weld Reinforced Membrane

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA), Cav-Grip III (CGIII) or Low VOC Bonding Adhesive (LVOC)

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 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 |
|---|--|---|---|---------------|----------------------------------|----------------------|-----------------|
| | | | | | Roof/NAV Number | | |
| Steel Deck (Min. 22 Gauge) | | | | | | | |
| Min. 1-1/2" InsulBase Polyiso 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" InsulBase Polyiso or SecurShield | Loose laid | Min. 1/2" DensDeck Prime | 10 (3.2 sq. ft) | 1-60 | 92073-0-0 | 95221-0-0 | 92074-0-0 |
| None | None | Min. 1/2" DensDeck Prime | 10 (3.2 sq. ft) | 1-90 | 409328-0-0 | 409329-0-0 | 409330-0-0 |
| Min. 1-1/2" InsulBase Polyiso or SecurShield | Loose laid | 5/8" DensDeck Prime | 8 (4 sq. ft) | 1-90 | 92098-0-0 | 95274-0-0 | 92099-0-0 |
| None | None | 5/8" DensDeck Prime | 8 (4 sq. ft) | 1-90 | 409353-0-0 | 409354-0-0 | 409355-0-0 |
| Min. 1-1/2" InsulBase Polyiso | Loose laid | Min. 1/2" DensDeck Prime | 8 (4 sq.ft) | 1-90 | 388249-0-0 | 388251-0-0 | - |
| Min. 1-1/2" InsulBase Polyiso | Loose laid | Min. 1/4" DensDeck Prime | 18 (1.8 sq. ft) | 1-105 | 382309-0-0 | 382310-0-0 | - |
| Min. 1-1/2" InsulBase Polyiso | Loose laid | Min. 1/2" DensDeck Prime | 18 (1.8 sq. ft) | 1-135 | 383699-0-0 | 383700-0-0 | - |
| Min. 1-1/2" InsulBase Polyiso | Loose laid | Min. 1/2" DensDeck Prime | 20 (1.6 sq. ft) | 1-150 | 383709-0-0 | 383710-0-0 | - |
| None | None | Min. 1/2" DensDeck Prime | 20 (1.6 sq. ft) | 1-150 | 409371-0-0 | 409372-0-0 | 409373-0-0 |
| Min. 1-1/2" InsulBase Polyiso | Loose laid | Min. 1/2" DensDeck Prime | 32 (1 sq. ft) | 1-165 | 387927-0-0 | 384594-0-0 | - |
| Min. 1-1/2" InsulBase Polyiso | Loose laid | Min. 1/2" DensDeck Prime | 32 (1 sq. ft) | 1-180 (34) | 384593-0-0 | 384595-0-0 | - |
| Min. 1-1/2" InsulBase Polyiso | Loose laid | Min. 1/2" DensDeck Prime | 32 (1 sq. ft) | 1-255 (35) | 387928-0-0 | 387931-0-0 | - |
| Min. 1-1/2" InsulBase Polyiso | 10 (3.2 sq. ft.) | Min. 1/4" DensDeck Prime | 12" ribbons or Rig Splatter of FAST | 1-90 | 437158-0-0 | 437158-0-0 | - |
| Min. 1-1/2" InsulBase Polyiso | 10 (3.2 sq. ft.) | Min. 1/4" DensDeck Prime over Min. 1-1/2" InsulBase Polyiso | 12" ribbons or Rig Splatter of FAST | 1-90 | 437158-0-0 | 437158-0-0 | - |
| Min. 2" InsulBase Polyiso | 8 (4 sq. ft) | Min. 1/4" DensDeck Prime | 12" ribbons or Rig Splatter of FAST | 1-90 | 467869-0-0 | 467869-0-0 | 467869-0-0 |
| Min. 2" InsulBase Polyiso | 8 (4 sq. ft) | Min. 1/4" DensDeck Prime over Min. 1-1/2" InsulBase Polyiso | 12" ribbons or Rig Splatter of FAST | 1-90 | 542331-0-0 | 542331-0-0 | - |
| Min. 1-1/2" InsulBase Polyiso | 16 (2 sq. ft.) | Min. 1/2" DensDeck Prime | 12" ribbons or Rig Splatter of FAST | 1-120 | 455769-0-0 | 455772-0-0 | - |
| Min. 1-1/2" InsulBase Polyiso | 16 (2 sq. ft.) | Min. 1/2" DensDeck Prime over Min. 1" InsulBase Polyiso | 12" ribbons or Rig Splatter of FAST | 1-120 | 495506-0-0 | 495506-0-0 | - |
| Min. 2" InsulBase Polyiso | 20 (1.6 sq. ft.) | Min. 1/2" DensDeck Prime | 6" ribbons or Rig Splatter of FAST | 1-135 | 455722-0-0 | 455723-0-0 (SWBA) | - |
| Min. 2" InsulBase Polyiso | 20 (1.6 sq. ft.) | Min. 1/2" DensDeck Prime over Min. 1" InsulBase Polyiso | 6" ribbons or Rig Splatter of FAST | 1-135 | 500704-0-0 | 500704-0-0 | - |
| Min. 2" InsulBase Polyiso | 32 (1 sq. ft.) | Min. 1/2" DensDeck Prime | 4" ribbons or Rig Splatter of FAST | 1-225 | 455811-0-0 | 455811-0-0 | - |
| Min. 2" InsulBase Polyiso | 32 (1 sq. ft.) | Min. 1/2" DensDeck Prime over Min. 1" InsulBase Polyiso | 4" ribbons or Rig Splatter of FAST | 1-225 | 500705-0-0 | 500705-0-0 | - |
| 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 | 303447-0-0 | 303448-0-0 | 303451-0-0 |

FM Approvals
Design "A" Adhered Roofing Systems

DensDeck Prime Ratings - New Construction

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane
.045" or .060" Sure-Weld HS Reinforced Membrane
.080" Sure-Weld EXTRA Reinforced Membrane
.060" or .080" Spectro-Weld Reinforced Membrane

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA), Cav-Grip III (CGIII) or Low VOC Bonding Adhesive (LVOC)

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 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 |
|---|--|---|---|--------|----------------------------------|--------------------|-----------------|
| | | | | | Roof/NAV Number | | |
| Steel Deck (Min. 22 Gauge)/VapAir Seal 725TR with Cav-Grip III or 702 Primer | | | | | | | |
| Min. 1/2" DensDeck Prime | 8 (4 sq. ft.) | 1/4" DensDeck Prime over Min. 1/2" InsulBase Polyiso | 12" ribbons or Rig Splatter of FAST | 1-90 | 327597-0-0 | 396795-0-0 | 437319-0-0 |
| Min. 1/2" DensDeck Prime | 20 (1.6 sq. ft.) | 1/2" DensDeck Prime over Min. 1/2" InsulBase Polyiso | FAST - Rig Splatter | 1-135 | 582700-0-0 | - | - |
| Min. 1/2" DensDeck Prime | 32 (1 sq. ft.) | 1/2" DensDeck Prime over Min. 1/2" InsulBase Polyiso | FAST - Rig Splatter | 1-225 | - | - | - |
| Steel Deck (Min. 22 Gauge)/SureMB 90TG or 120TG Base Torch Applied | | | | | | | |
| Min. 1/2" DensDeck Prime | 8 (4 sq. ft.) | 1/4" DensDeck Prime over Min. 1/2" InsulBase Polyiso | 12" ribbons of FAST | 1-90 | - | - | - |
| Min. 1/2" DensDeck Prime | 20 (1.6 sq. ft.) | 1/2" DensDeck Prime over Min. 1/2" InsulBase Polyiso | 6" ribbons of FAST | 1-135 | - | - | - |
| Steel Deck (Min. 22 Gauge)/SureMB 70 SA with Cav-Grip III Primer | | | | | | | |
| Min. 1/2" DensDeck Prime | 8 (4 sq. ft.) | 1/4" DensDeck Prime over Min. 1/2" InsulBase Polyiso | 12" ribbons of FAST | 1-90 | 522132-0-0 | - | - |
| Min. 1/2" DensDeck Prime | 20 (1.6 sq. ft.) | 1/2" DensDeck Prime over Min. 1/2" InsulBase Polyiso | 6" ribbons of FAST | 1-135 | - | - | - |
| Concrete Deck | | | | | | | |
| Min. 1-1/2" InsulBase Polyiso | Full-Coverage FAST | Min. 1/4" DensDeck Prime | 12" ribbons or Rig Splatter of FAST | 1-195 | 298143-0-0 | 298143-0-0 | 298143-0-0 |
| Concrete Deck/VapAir Seal 725TR with Cav-Grip III, 702-LV or 702 Primer | | | | | | | |
| Min. 1/2" InsulBase Polyiso | 12" ribbons of FAST | Min. 1/4" DensDeck Prime | 12" ribbons of FAST | 1-315 | 333171-0-0 | 364616-0-0 | - |
| Min. 1" Insulfoam EPS | 12" ribbons of FAST | Min. 1/4" DensDeck Prime | 12" ribbons of FAST | 1-315 | 501707-0-0 | 501756-0-0 | - |
| Min. 1-1/2" InsulBase Polyiso | 6" ribbons of FAST | Min. 1/4" DensDeck Prime | 6" ribbons of FAST | 1-465 | 512628-0-0 | 512629-0-0 | - |

FM Approvals
Design "A" Adhered Roofing Systems

DensDeck Prime Ratings - New Construction

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane
.045" or .060" Sure-Weld HS Reinforced Membrane
.080" Sure-Weld EXTRA Reinforced Membrane
.060" or .080" Spectro-Weld Reinforced Membrane

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA), Cav-Grip III (CGIII) or Low VOC Bonding Adhesive (LVOC)

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 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 |
|---|--|--------------------------|---|--------|----------------------------------|--------------------|-----------------|
| | | | | | Roof/NAV Number | | |
| Concrete Deck/SureMB 90TG or 120TG Base Torch Applied/Cut-Back Asphalt Primer | | | | | | | |
| Min. 1/2" InsulBase Polyiso | 12" ribbons of FAST | Min. 1/4" DensDeck Prime | 12" ribbons of FAST | 1-315 | - | 434646-0-0 | - |
| Min. 1/2" InsulBase Polyiso | 6" ribbons of FAST | Min. 1/4" DensDeck Prime | 6" ribbons of FAST | 1-315 | - | - | - |
| Min. 1-1/2" InsulBase Polyiso | 6" ribbons of FAST | Min. 1/4" DensDeck Prime | 6" ribbons of FAST | 1-465 | - | - | - |
| Concrete Deck/SureMB 70 SA with Cav-Grip III Primer | | | | | | | |
| Min. 1/2" InsulBase Polyiso | 12" ribbons of FAST | Min. 1/4" DensDeck Prime | 12" ribbons of FAST | 1-285 | - | 519845-0-0 | - |
| Gypsum Deck Tear-Off | | | | | | | |
| Min. 1-1/2" InsulBase Polyiso | 12" ribbons of FAST | | 12" ribbons of FAST | 1-90 | 173520-0-0 | 173525-0-0 | 173520-0-0 |
| Min. 1-1/2" InsulBase Polyiso | 16 (2 sq. ft) | Min. 1/4" DensDeck Prime | 12" ribbons of FAST | 1-90 | - | 466958-0-0 | - |
| Gypsum Deck Tear-Off/VapAir Seal 725TR with Cav-Grip III, 702-LV or 702 Primer | | | | | | | |
| Min. 1-1/2" InsulBase Polyiso | 12" ribbons or Rig Splatter of FAST | Min. 1/4" DensDeck Prime | 12" ribbons or Rig Splatter of FAST | 1-90 | 466959-0-0 | 466963-0-0 | - |
| 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" InsulBase or SecurShield | 4" ribbons of Dual Tank | Min. 1/4" DensDeck Prime | 12" ribbons of Dual Tank | 1-135 | 507749-0-50918 | 507749-0- 50918 | |

FM Approvals
Design "A" Adhered Roofing Systems

DensDeck Prime Ratings - Recover

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane
 .045" or .060" Sure-Weld HS Reinforced Membrane
 .080" Sure-Weld EXTRA Reinforced Membrane
 .060" or .080" Spectro-Weld Reinforced Membrane

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA), Cav-Grip III (CGIII) or Low VOC Bonding Adhesive (LVOC)

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

| Base Insulation Layer | 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" InsulBase Polyiso | 20 (1.6 sq. ft) | Min. 1/4" DensDeck Prime | Hot Asphalt | 1-90 | 265212-0-0 | 265212-0-0 | 265212-0-0 |
| - | - | Min. 1/2" DensDeck Prime | 10 (3.2 sq. ft) | 1-90 | 430067-0-0 | 430068-0-0 | - |
| Min. 1" InsulBase Polyiso or Min 1" SecurShield | Loose Laid | Min. 1/4" DensDeck Prime | 16 (2 sq. ft.) | 1-90 | 391004-0-0 | 391442-0-0 | 391443-0-0 |

FM Approvals

DEXcell FA Glass Mat Ratings - New Construction

.045" or .060" Sure-Weld Standard Reinforced Membrane

.045" or .060" Sure-Weld HS Reinforced Membrane

Membrane Type:

.080" Sure-Weld EXTRA Reinforced Membrane

.060" or .080" Spectro-Weld Reinforced Membrane

Membrane Adhesive:

Sure-Weld Bonding Adhesive (SWBA), Cav-Grip III (CGIII) or Low VOC Bonding Adhesive (LVOC)

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 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" InsulBase Polyiso or SecurShield | Loose laid | 1/4" DEXcell FA | 12 (2.67 sq. ft.) | 1-75 | 269962-0-0 | 269966-0-0 | 269968-0-0 |
| Min. 1-1/2" InsulBase Polyiso or SecurShield | Loose laid | 1/2" DEXcell FA | 10 (3.2 sq. ft.) | 1-90 | 269985-0-0 | 364909-0-0 | 269988-0-0 (LVOC) |
| None | None | 1/2" DEXcell FA | 10 (3.2 sq. ft.) | 1-90 | 409328-0-0 | 409329-0-0 | 409330-0-0 |
| Min. 1-1/2" InsulBase Polyiso or SecurShield | 10 (3.2 sq. ft.) | 1/4" DEXcell FA | 12" ribbons of FAST or Rig Splatter | 1-90 | 301735-0-0 | 301750-0-0 | 301753-0-0 |
| Min. 1-1/2" InsulBase Polyiso or SecurShield | 10 (3.2 sq. ft.) | 1/4" DEXcell FA over 1-1/2" InsulBase Polyiso | 12" ribbons of FAST or Rig Splatter | 1-90 | 437158-0-0 | 437158-0-0 | 467774-0-0 |
| Min. 2" InsulBase Polyiso | 8 (4 sq. ft.) | 1/4" DEXcell FA | 12" ribbons of FAST or Rig Splatter | 1-90 | 488180-0-0 | 488180-0-0 | - |
| Min. 2" InsulBase Polyiso | 8 (4 sq. ft.) | 1/4" DEXcell FA over 1-1/2" InsulBase Polyiso | 12" ribbons of FAST or Rig Splatter | 1-90 | 542331-0-0 | 542331-0-0 | - |
| Min. 1/2" DensDeck Prime | 16 (2 sq. ft.) | 1/4" DEXcell FA over InsulBase Polyiso | 12" ribbons of FAST | 1-90 | 294787-0-0 | 473741-0-0 | - |
| Steel Deck (Min. 22 Gauge)/VapAir Seal 725TR with Cav-Grip III or 702 Primer | | | | | | | |
| Min. 1/2" DensDeck Prime or Securrock | 8 (4 sq. ft.) | 1/4" DEXcell FA over 1-1/2" InsulBase Polyiso | 12" ribbons of FAST | 1-90 | 327597-0-0 | 396795-0-0 | 437319-0-0 |
| Min. 1/2" DensDeck Prime or Securrock | 8 (4 sq. ft.) | 1/4" DEXcell over Insulfoam Roofing EPS | 6" ribbons of FAST | 1-90 | - | 439215-0-0 | - |
| Steel Deck (Min. 22 Gauge)/SureMB 90TG or 120TG Base Torch Applied | | | | | | | |
| Min. 1/2" DensDeck Prime | 8 (4 sq. ft.) | 1/4" DEXcell over InsulBase Polyiso | 12" ribbons of FAST | 1-90 | 470106-0-0 | 470108-0-0 | - |
| Steel Deck (Min. 22 Gauge)/SureMB 70 SA with Cav-Grip III Primer | | | | | | | |
| Min. 1/2" DensDeck Prime or Securrock | 8 (4 sq. ft.) | 1/4" DEXcell over InsulBase Polyiso | 12" ribbons of FAST | 1-90 | - | - | - |
| FM 4474 | | | | | | | |
| Min. 1/2" InsulBase Polyiso | 12" ribbons of FAST or Rig Splatter | 1/4" DEXcell FA | 12" ribbons of FAST or Rig Splatter | 1-315 | 307751-0-0 | 307751-0-0 | 307702-0-0 |
| Concrete Deck/VapAir Seal 725TR with Cav-Grip III, 702-LV or 702 Primer | | | | | | | |
| Min. 1/2" InsulBase Polyiso | 12" ribbons of FAST or Rig Splatter | 1/4" DEXcell FA | 12" ribbons of FAST or Rig Splatter | 1-315 | 333171-0-0 | - | 364627-0-0 (1-255) |
| Concrete Deck/SureMB 90TG or 120TG Base Torch Applied/Cut-Back Asphalt Primer | | | | | | | |
| Min. 1/2" InsulBase Polyiso | 12" ribbons of FAST | 1/4" DEXcell FA | 12" ribbons of FAST | 1-315 | - | 434646-0-0 | - |
| Concrete Deck/SureMB 70 SA with Cav-Grip III Primer | | | | | | | |
| Min. 1/2" InsulBase Polyiso or Min. 1-1/2" SecurShield | 12" ribbons of FAST | 1/4" DEXcell FA | 12" ribbons of FAST | 1-285 | - | - | - |
| Gypsum Deck Tear-Off | | | | | | | |
| Min. 1-1/2" InsulBase Polyiso | 12" ribbons of FAST | 1/4" DEXcell FA | 12" ribbons of FAST | 1-90 | - | - | - |
| Gypsum Deck Tear-Off/VapAir Seal 725TR with Cav-Grip III, 702-LV or 702 Primer | | | | | | | |
| Min. 1-1/2" InsulBase Polyiso | 12" ribbons of FAST | 1/4" DEXcell FA | 12" ribbons of FAST | 1-90 | - | - | - |
| (Celcore) Cellular Lightweight Insulating Concrete/Steel Decking (Min. 22 Gauge) | | | | | | | |
| FM Approved | Loose laid | 1/4" DEXcell FA | 12 (2.67 sq. ft.) | 1-75 | - | - | - |
| FM Approved | Loose laid | 1/4" DEXcell FA | 16 (2 sq. ft.) | 1-90 | - | - | - |

FM Approvals

DEXcell FA Glass Mat Ratings - Recover

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane
 .045" or .060" Sure-Weld HS Reinforced Membrane
 .080" Sure-Weld EXTRA Reinforced Membrane
 .060" or .080" Spectro-Weld Reinforced Membrane

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA), Cav-Grip III (CGIII) or Low VOC Bonding Adhesive (LVOC)

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

| Base Insulation Layer | 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" DEXcell FA | 10 (3.2 sq. ft) | 1-90 | 430067-0-0 | 430068-0-0 | - |
| Min. 1" InsulBase Polyiso or Min 1" SecurShield | Loose Laid | Min. 1/4" DEXcell FA | 16 (2 sq. ft.) | 1-90 | 391004-0-0 | 391442-0-0 | 391443-0-0 |

FM Approvals
Design "A" Adhered Roofing Systems

StormBase Ratings - New Construction

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane
.045" or .060" Sure-Weld HS Reinforced Membrane
.080" Sure-Weld EXTRA Reinforced Membrane
.060" or .080" Spectro-Weld Reinforced Membrane

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA), Cav-Grip III (CGIII) or Low VOC Bonding Adhesive (LVOC)

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

| Base Insulation Layer | 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" InsulBase Polyiso | Sure-seal Insulation and Sure-Seal HP 10 (3.2 sq. ft) | Min. 2" StormBase | 12" ribbons of FAST | 1-90 | - | 427172-0-0 VSH | - |
| Min. 2" InsulBase Polyiso | Sure-seal Insulation and Sure-Seal HP 8 (4 sq. ft) | Min. 2" StormBase | 12" ribbons of FAST | 1-90 | - | 427201-0-0 VSH | - |
| Min. 1-1/2" Polyiso | Loose laid | Min. 2" StormBase | Full-Coverage FAST | 1-90 | - | 419427-0-0 VSH | - |
| Min. 1/2" DensDeck Prime or 5/8" Securock | Sure-seal Insulation and Sure-Seal HP 16 (2 sq. ft) | Min. 2" StormBase | 12" ribbons of FAST | 1-90 | - | 427202-0-0 VSH | - |
| Min. 3" Insulfoam VIII over 1/2" Dens Deck | 16 (2 sq. ft) | Min. 1-1/2" Insulam OSB | 6" ribbons of FAST | 1-150 | - | 434590-0-0 VSH | - |
| Steel Deck (Min. 22 Gauge)/VapAir Seal 725TR with Cav-Grip III or 702 Primer | | | | | | | |
| Min. 1/2" DensDeck Prime or Securock | 8 (4 sq. ft) | Min. 2" StormBase | 12" ribbons of FAST | 1-90 | - | 434469-0-0 VSH | - |
| Steel Deck (Min. 22 Gauge)/SureMB 90TG or 120TG Base Torch Applied | | | | | | | |
| Min. 1/2" DensDeck Prime or Securock | 8 (4 sq. ft) | Min. 2" StormBase | 12" ribbons of FAST | 1-90 | - | - | - |
| Steel Deck (Min. 22 Gauge)/SureMB 70 SA with Cav-Grip III Primer | | | | | | | |
| Min. 1/2" DensDeck Prime or Securock | 8 (4 sq. ft) | Min. 2" StormBase | 12" ribbons of FAST | 1-90 | - | - | - |
| Concrete Deck | | | | | | | |
| Min. 1/2" InsulBase Polyiso or SecurShield | 12" ribbons of FAST | Min. 2" StormBase | 12" ribbons of FAST | 1-315 | - | 427190-0-0 VSH | - |
| Min. 2" ChannelDry EPS under Insulfoam VIII | 16 (2 sq. ft) | Min. 2" Insulam OSB | 6" ribbons of FAST | 1-90 | 427784-0-0 | 427784-0-0 | 427786-0-0 |
| - | - | Min. 2" StormBase | 12" ribbons of FAST | 1-165 | - | 434470-0-0 VSH | - |
| Concrete Deck/VapAir Seal 725TR with Cav-Grip III, 702-LV or 702 Primer | | | | | | | |
| Min. 1/2" InsulBase Polyiso or SecurShield | 12" ribbons of FAST | Min. 2" StormBase | 12" ribbons of FAST | 1-255 | - | 427203-0-0 | - |
| Concrete Deck/SureMB 90TG or 120TG Base Torch Applied with Cut-Back Asphalt Primer | | | | | | | |
| Min. 1/2" InsulBase Polyiso or SecurShield | 12" ribbons of FAST | Min. 2" StormBase | 12" ribbons of FAST | 1-255 | - | - | - |
| Concrete Deck/SureMB 70 SA with Cav-Grip III Primer | | | | | | | |
| Min. 1/2" InsulBase Polyiso or SecurShield | 12" ribbons of FAST | Min. 2" StormBase | 12" ribbons of FAST | 1-255 | - | - | - |
| Gypsum Deck Tear-Off | | | | | | | |
| Min. 1-1/2" InsulBase Polyiso | 12" ribbons of FAST | Min. 2" StormBase | 12" ribbons of FAST | 1-90 | - | - | - |
| Gypsum Deck Tear-Off/VapAir Seal 725TR with Cav-Grip III, 702-LV or 702 Primer | | | | | | | |
| Min. 1-1/2" InsulBase Polyiso | 12" ribbons of FAST | Min. 2" StormBase | 12" ribbons of FAST | 1-90 | - | - | - |
| Cellular Lightweight Insulating Concrete/Steel Decking (Min. 22 Gauge) | | | | | | | |
| FM Approved | Loose laid | Min. 2" StormBase | 17 (1.8 sq. ft) | 1-150 | - | - | - |

FM Approvals
Design "A" Adhered Roofing Systems

HP Recovery Board Ratings - New Construction

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane
 .045" or .060" Sure-Weld HS Reinforced Membrane
 .080" Sure-Weld EXTRA Reinforced Membrane
 .060" or .080" Spectro-Weld Reinforced Membrane

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA), Cav-Grip III (CGIII) or Low VOC Bonding Adhesive (LVOC)

| 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" InsulBase Polyiso | Loose laid | Min. 1/2" HP Recovery Board | 16 (2 sq. ft) | 1-90 | 212437-0-0 | - | - |
| Concrete Deck | | | | | | | |
| Min. 1-1/2" InsulBase Polyiso | Hot Asphalt | Min. 1/2" HP Recovery Board | Hot Asphalt | 1-300 | 224117-0-0 | 224118-0-0 | 224117-0-0 |
| 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 | - | - | - |

FM Approvals
Design "A" Adhered Roofing Systems

HP Recovery Board Ratings - Recover

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane
 .045" or .060" Sure-Weld HS Reinforced Membrane
 .080" Sure-Weld EXTRA Reinforced Membrane
 .060" or .080" Spectro-Weld Reinforced Membrane

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA), Cav-Grip III (CGIII) or Low VOC Bonding Adhesive (LVOC)

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

| Base Insulation Layer | 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" InsulBase Polyiso | 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" InsulBase Polyiso | 20 (1.6 sq. ft) | 1/2" HP Recovery Board | Hot Asphalt | 1-90 | 265217-0-0 | 265218-0-0 | 265217-0-0 |

FM Approvals
Design "A" Adhered Roofing Systems

EcoStorm VSH Ratings - New Construction

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane
.045" or .060" Sure-Weld HS Reinforced Membrane
.080" Sure-Weld EXTRA Reinforced Membrane
.060" or .080" Spectro-Weld Reinforced Membrane

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA), Cav-Grip III (CGIII) or Low VOC Bonding Adhesive (LVOC)

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

| Base Insulation Layer (Max. thickness 3/4") | 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" InsulBase Polyiso or SecurShield | Loose laid | 1/2" EcoStorm VSH | 8 (4 sq. ft.) | 1-90 | 465630-0-0 | - | 467658-0-0 |
| Min. 1-1/2" InsulBase Polyiso or SecurShield | Loose laid | 1/2" EcoStorm VSH | 18 (1.8 sq. ft.) | 1-120 | - | - | - |
| Min. 1-1/2" InsulBase Polyiso or SecurShield | Loose laid | 1/2" EcoStorm VSH | 24 (1.33 sq. ft.) | 1-150 | - | - | - |
| Min. 1-1/2" InsulBase Polyiso or SecurShield | Loose laid | 1/2" EcoStorm VSH | 24 (1.33 sq. ft.) | 1-225 (35) | 463866-0-0 | - | - |
| Min. 1-1/2" InsulBase Polyiso or SecurShield | 10 (3.2 sq. ft.) | 1/2" EcoStorm VSH | 64 ribbons of FAST | 1-90 | 554491-0-0 VSH | 461118-0-0 VSH | 467770-0-0 |
| Min. 1-1/2" InsulBase Polyiso or SecurShield | 10 (3.2 sq. ft.) | 1/2" EcoStorm VSH over 1-1/2" InsulBase Polyiso | 4" ribbons of FAST | 1-90 | 554492-0-0 VSH | 461122-0-0 VSH | 467774-0-0 |
| Min. 2" InsulBase Polyiso | 8 (4 sq. ft.) | 1/2" EcoStorm VSH | 4" ribbons of FAST | 1-90 | 554486-0-0 VSH | 461123-0-0 VSH | 467771-0-0 |
| Min. 1-1/2" InsulBase Polyiso | 18 (1.8 sq. ft.) | 1/2" EcoStorm VSH | 4" ribbons of FAST | 1-105 | 554482-0-0 VSH | 461115-0-0 VSH | - |
| Min. 1-1/2" InsulBase Polyiso | 24 (1.33 sq. ft.) | 1/2" EcoStorm VSH | 4" ribbons of FAST | 1-150 | 554484-0-0 VSH | 461117-0-0 VSH | - |
| Min. 2" InsulBase Polyiso | 16 (2 sq. ft.) | 1/2" EcoStorm VSH | 12" ribbons of FAST | 1-120 | - | - | - |
| Min. 2" InsulBase Polyiso | 20 (1.6 sq. ft.) | 1/2" EcoStorm VSH | 6" ribbons of FAST | 1-135 | - | - | - |
| Min. 2" InsulBase Polyiso | 32 (1 sq. ft.) | 1/2" EcoStorm VSH | 4" ribbons of FAST | 1-225 | - | - | - |
| Min. 2" InsulBase Polyiso | 24 (1.33 sq. ft.) | 1/2" EcoStorm VSH | 4" ribbons of FAST | 1-180 | - | 461214-0-0 VSH | - |
| Min. 1/2" DensDeck Prime or Securock | 16 (2 sq. ft.) | 1/2" EcoStorm VSH over InsulBase Polyiso | 6" ribbons of FAST | 1-90 | - | - | - |
| Steel Deck (Min. 22 Gauge) VapAir Seal 725TR with Cav-Grip III or 702 Primer | | | | | | | |
| Min. 1/2" DensDeck Prime or Securock | 8 (4 sq. ft.) | 1/2" EcoStorm VSH over 1-1/2" InsulBase Polyiso | 6" ribbons of FAST | 1-90 | 466775-0-0 | 461154-0-0 VSH | 467801-0-0 |
| Min. 1/2" DensDeck Prime or Securock | 8 (4 sq. ft.) | 1/2" EcoStorm VSH over 1/2" InsulBase Polyiso | 4" ribbons of FAST | 1-90 | 554517-0-0 VSH | - | - |
| Min. 1/2" DensDeck Prime or Securock | 16 (2 sq. ft.) | 1/2" EcoStorm VSH over Insulfoam Roofing EPS | 6" ribbons of FAST | 1-90 | 465656-0-0 | 461121-0-0 VSH | - |
| Min. 1/2" DensDeck Prime or Securock | 20 (1.6 sq. ft.) | 1/2" EcoStorm VSH over InsulBase Polyiso | 6" ribbons of FAST | 1-135 | - | - | - |
| Steel Deck (Min. 22 Gauge) SureMB 90TG or 120TG Base Torch Applied | | | | | | | |
| Min. 1/2" DensDeck Prime or Securock | 8 (4 sq. ft.) | 1/2" EcoStorm VSH over InsulBase Polyiso | 6" ribbons of FAST | 1-90 | - | - | - |
| Min. 1/2" DensDeck Prime or Securock | 20 (1.6 sq. ft.) | 1/2" EcoStorm VSH over InsulBase Polyiso | 6" ribbons of FAST | 1-135 | - | - | - |
| Steel Deck (Min. 22 Gauge) SureMB 70 SA with Cav-Grip III Primer | | | | | | | |
| Min. 1/2" DensDeck Prime or Securock | 8 (4 sq. ft.) | 1/2" EcoStorm VSH over InsulBase Polyiso | 6" ribbons of FAST | 1-90 | - | - | - |
| Min. 1/2" DensDeck Prime or Securock | 20 (1.6 sq. ft.) | 1/2" EcoStorm VSH over InsulBase Polyiso | 6" ribbons of FAST | 1-135 | - | - | - |

| Concrete Deck | | | | | | | |
|--|---------------------|-------------------|---------------------|-------|----------------|----------------|---|
| Min. 1-1/2" InsulBase Polyiso or SecurShield | Loose laid | 1/2" EcoStorm VSH | 8 (4 sq. ft) | 1-90 | 479667-0-0 | 479668-0-0 | - |
| Min. 1/2" InsulBase Polyiso | 12" ribbons of FAST | 1/2" EcoStorm VSH | 12" ribbons of FAST | 1-225 | 465627-0-0 | 461120-0-0 VSH | - |
| Min. 2" ChannelDry EPS with Min. 1" Insulfoam EPS in adhesive | 12" ribbons of FAST | 1/2" EcoStorm VSH | 12" ribbons of FAST | 1-285 | - | 490971-0-0 VSH | - |
| Min. 2" Insulfoam Roofing EPS | 12" ribbons of FAST | 1/2" EcoStorm VSH | 12" ribbons of FAST | 1-285 | 466520-0-0 | 461129-0-0 VSH | - |
| Concrete Deck/VapAir Seal 725TR with Cav-Grip III, 702-1V or 702 Primer | | | | | | | |
| Min. 1/2" InsulBase Polyiso or Min. 1-1/2" SecurShield | 12" ribbons of FAST | 1/2" EcoStorm VSH | 12" ribbons of FAST | 1-240 | 466522-0-0 | 461135-0-0 VSH | - |
| Min. 2" Insulfoam EPS | 12" ribbons of FAST | 1/2" EcoStorm VSH | 12" ribbons of FAST | 1-225 | - | 461131-0-0 VSH | - |
| Min. 1/2" InsulBase Polyiso | 6" ribbons of FAST | 1/2" EcoStorm VSH | 6" ribbons of FAST | 1-315 | - | - | - |
| Min. 1-1/2" InsulBase Polyiso | 6" ribbons of FAST | 1/2" EcoStorm VSH | 6" ribbons of FAST | 1-465 | - | - | - |
| Concrete Deck/SureMB 90TG or 120TG Base Torch Applied/Cut-Back Asphalt Primer | | | | | | | |
| Min. 1/2" InsulBase Polyiso or Min. 1-1/2" SecurShield | 12" ribbons of FAST | 1/2" EcoStorm VSH | 12" ribbons of FAST | 1-240 | 554512-0-0 VSH | 461141-0-0 VSH | - |
| Min. 1/2" InsulBase Polyiso | 6" ribbons of FAST | 1/2" EcoStorm VSH | 6" ribbons of FAST | 1-315 | - | - | - |
| Min. 1-1/2" InsulBase Polyiso | 6" ribbons of FAST | 1/2" EcoStorm VSH | 6" ribbons of FAST | 1-465 | - | - | - |
| Concrete Deck/SureMB 70 SA with Cav-Grip III Primer | | | | | | | |
| Min. 1/2" InsulBase Polyiso or Min. 1-1/2" SecurShield | 12" ribbons of FAST | 1/2" EcoStorm VSH | 12" ribbons of FAST | 1-285 | - | - | - |
| Gypsum Deck Tear-Off | | | | | | | |
| Min. 1-1/2" InsulBase Polyiso | 12" ribbons of FAST | 1/2" EcoStorm VSH | 12" ribbons of FAST | 1-90 | - | 486677-0-0 VSH | - |
| Gypsum Deck Tear-Off/VapAir Seal 725TR with Cav-Grip III, 702-1V or 702 Primer | | | | | | | |
| Min. 1-1/2" InsulBase Polyiso | 12" ribbons of FAST | 1/2" EcoStorm VSH | 12" ribbons of FAST | 1-90 | - | 486041-0-0 VSH | - |
| (Celcore) Cellular Lightweight Insulating Concrete/Steel Decking (Min. 22 Gauge) | | | | | | | |
| FM Approved | Loose laid | 1/2" EcoStorm VSH | 12 (2.67 sq. ft) | 1-75 | - | - | - |
| FM Approved | Loose laid | 1/2" EcoStorm VSH | 16 (2 sq. ft) | 1-90 | - | - | - |
| - | - | 1/2" EcoStorm VSH | 12 (2.67 sq. ft) | 1-75 | - | - | - |
| - | - | 1/2" EcoStorm VSH | 16 (2 sq. ft) | 1-90 | - | - | - |

FM Approvals
Design "A" Adhered Roofing Systems
EcoStorm VSH Ratings - Recover

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane
.045" or .060" Sure-Weld HS Reinforced Membrane
.080" Sure-Weld EXTRA Reinforced Membrane
.060" or .080" Spectro-Weld Reinforced Membrane

Membrane Adhesive: Sure-Weld Bonding Adhesive (SWBA), Cav-Grip III (CGIII) or Low VOC Bonding Adhesive (LVOC)

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

| Base Insulation Layer | 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" EcoStorm VSH | 18 (1.8 sq. ft) | 1-120 | - | - | - |
| - | - | 1/2" EcoStorm VSH | 18 (1.8 sq. ft) | 1-120 | - | - | - |
| - | - | 1/2" EcoStorm VSH | 24 (1.33 sq. ft) | 1-225 | - | - | - |
| - | - | 1/2" EcoStorm VSH | 24 (1.33 sq. ft) | 1-225 | - | - | - |
| - | - | 1/2" EcoStorm VSH | 8 (4 sq. ft) | 1-90 | - | - | - |
| - | - | 1/2" EcoStorm VSH | 6" ribbons of FAST | 1-90 | - | - | - |
| - | - | 1/2" EcoStorm VSH | 4" ribbons of FAST | 1-150 | - | - | - |
| Concrete Deck | | | | | | | |
| Min. 1/2" InsulBase Polyiso | 6" ribbons of FAST | 1/2" EcoStorm VSH | 6" ribbons of FAST | 1-150 | - | 489958-0-0 VSH | - |
| - | - | 1/2" EcoStorm VSH | 6" ribbons of FAST | 1-150 | - | - | - |

FM Approvals
Design "A" Adhered Roofing Systems

Lightweight Insulating Concrete - New Construction

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane
.045" or .060" Sure-Weld HS Reinforced Membrane
.080" Sure-Weld EXTRA Reinforced Membrane
.060" or .080" Spectro-Weld Reinforced Membrane

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 | - | - |

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, 2029

| Deck Type | Acceptance # |
|-------------------------|--------------|
| Lightweight Concrete | 24-0502.05 |
| Wood | 24-0502.02 |
| Steel | 24-0502.06 |
| Structural Concrete | 24-0502.04 |
| Cementitious Wood Fiber | 24-0502.03 |
| Gypsum | 24-0502.01 |
| Recover | 24-0502.07 |

(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.

FM 4474

(800) 4SYNTEC (800-479-6832)

Sure-Weld, SpectroWeld, Sure-Weld EXTRA and Sure-Weld HS are Trademarks of Carlisle Corporation
DensDeck Prime is a Trademark of Georgia-Pacific

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

2025 Copyright Carlisle SynTec Systems, a division of Carlisle Construction Materials LLC

SURE-WELD® TPO

Reference Notes

1. Any roof covering system listed for use over a combustible roof deck can be installed over a non-combustible roof deck and achieve the same classification.
2. All insulation joints must be staggered a minimum of 6 inches from the deck joints or from the insulation joints directly below.
3. All insulation joints must be staggered a minimum of 12 inches from the deck joints or from the insulation joints directly below.
4. DELETED
5. DELETED
6. DELETED
7. DELETED
8. DELETED
9. DELETED
10. For roof deck construction (new, tear-off or retrofit), approved insulations and maximum roof slopes, [click here](#).
11. Refer to Carlisle specifications for minimum requirements regarding sheet widths and fastener spacing.
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 Concrete Spikes or HD 14-10 Fasteners are used with Piranha Plates.
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](#))
14. Ratings achieved using steel decking attached to structural purlins spaced 5' o.c.
15. Please reference for ANSI-SPRI WD-1/ASCE 7-10 for non-FM insured projects, [click here](#).
16. For roof deck construction (new, tear-off or retrofit), approved insulations and maximum roof slopes, [click here](#).
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 Concrete Spikes or HD 14-10 Fasteners are used with Piranha Plates.
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](#).
19. Insulation shall be fastened in accordance with Carlisle Specifications.
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.
21. Existing roof must be FM Class 1 rated.
22. Sure-Seal HP fastener/Sure-Seal Insulation plate.
23. InsulFAST fastener/Sure-Seal Insulation plate.
24. InsulFAST fastener/SecurFAST Insulation Fastening plate.
25. DELETED
26. DELETED
27. DELETED
28. DELETED
29. DELETED
30. DELETED
31. DELETED
32. DELETED
33. DELETED
34. 80 ksi with one fastener per attachment point.
35. 80 ksi with two fasteners per attachment point.