

Sure-Weld™ (TPO) Adhered Roofing System FM Approvals

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

FM Ratings (3)						
Insulation Attachment to Structural Concrete with Flexible FAST or FAST 100 LV Adhesive						
Deck Type	Insulation (1)	Insulation Thickness	Uplift Rating	Maximum Slope		
				Sure-Weld or Spectro-Weld	Sure-Weld EXTRA	Sure-Weld HS
New Construction/ Tearoff: Structural Concrete	Carlisle Polyiso HP-H SecurShield (5)	1.5”-12”	1-705	Sure Weld Bonding Adhesive (SW) or Low VOC Bonding Adhesive (LV) 1/2” (66512-0-0)	(SW/LV) 1/4” (68669-0-0)	(SW/LV) 1”
			1-180	Aqua Base 120 (AQ 120) 3/4” (141213-0-0)	(AQ 120) 3/4” (141213-0-0)	(AQ 120) 3/4” (141213-0-0)
	Carlisle Dens-Deck Prime/ Polyiso Extruded Polystyrene (2) EPS (4)	1/4” Min./ (See RoofNAV)	1-465	(SW/LV) 1-1/2” (161393-0-0)	(SW/LV) 3/4” (161394-0-0)	(SW/LV) 3-1/2” (163213-0-0)
				(AQ 120) 1”	(AQ 120) 1”	(AQ 120) 3”
	OSB (Oriented Strand Board)/Polyiso	7/16”/See Above	1-645	(SW/LV) 1-1/2” (161384-0-0)	(SW/LV) 3/4”	(SW/LV) 1-1/2”
	Carlisle Securock/Polyiso	1/4” Min./See Above				
	Carlisle HP Recovery Board /EPS (4)	1/2”/FM Approved	1-645	(AQ 120) 1”	(AQ 120) 1”	(AQ 120) 1”
	Carlisle HP Recovery Board Carlisle HP Recovery Board over Polyiso (5)	1/2” Min. 1/2” Min./See above				
Carlisle Polyiso HP-H/ OSB Composite	1.9” – 4”	1-375				

(RoofNAV Number) for selected systems

Notes:

- (1) Carlisle 725 TR Vapor Retarder may be used beneath any of the insulations listed above and maintain the rating. Prior to installing Carlisle 725 TR Vapor retarder, apply CCW 702-LV or Cav-Grip Primer as outlined in Carlisle’s most current Specifications.
- (2) Extruded Polystyrene must be Owens Corning Foamular or Dow Styrofoam.
- (3) A maximum FM 1-195 for Sure-Weld Standard/EXTRA and maximum 1-240 for Sure-Weld HS uplift using Aqua Base 120.
- (4) EPS must be FM approved and manufactured from BASF, Huntsman or Nova Beads.
- (5) Limited to 1-480 uplift when using SecurShield

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

FM Class 1A-150 Ratings (1) Insulation Attachment to Tectum with FAST 100 LV Adhesive					
Deck Type (1)	Insulation	Insulation Thickness	Maximum Slope		
			Sure-Weld or Spectro-Weld	Sure-Weld EXTRA	Sure-Weld HS
New Construction/ Tearoff: Tectum (2” min. deck thickness)	Carlisle Polyiso HP-H SecurShield	1.5”-12”	Sure-Weld Bonding Adhesive or Low VOC Bonding Adhesive (SW/LV) 1/2” Aqua Base 120 (AQ 120) 3/4”	(SW/LV) 1/4” (AQ 120) 3/4”	(SW/LV) 1” (AQ 120) 3/4”
	Carlisle HP Recovery Board	1/2” Min.			
	Carlisle HP Recovery Boardover Polyiso	1/2” Min/ See above	(SW/LV) 1-1/2”	(SW/LV) 3/4”	(SW/LV) 1-1/2”
	Carlisle Securock over Polyiso	1/4” Min/ See Above	(AQ 120) 1”	(AQ 120) 1”	(AQ 120) 1”
	Carlisle Dens-Deck Prime over Polyiso	1/4” Min/ See Above	(SW/LV) 1-1/2” (AQ 120) 1”	(SW/LV) 3/4” (AQ 120) 1”	(SW/LV) 3-1/2” (AQ 120) 3”

Notes:

1. FM approved minimum 2” thick by 31” wide Tectum deck secured to minimum 1/4” thick steel supports spaced a maximum of 3’ on center with two Construction Fasteners, Inc. 2” diameter metal plates and #14 Dekfast Fasteners per panel per support. Screws are driven into 7/32” diameter pilot holes and are spaced 7-1/2” from panel edges. Additional deck fastening required at perimeters and corners per FM Loss Prevention Data Sheet 1-28.

FM Class 1A-465 Rating Utilizing Carlisle 725 TR Vapor Retarder/ 702 LV or Cav-Grip Primer Insulation Attachment to Structural Concrete with FAST 100 LV Adhesive Full Coverage					
Deck Type	Insulation	Maximum Slope			
		FR .045”, .060” or .090”	Sure-Tough	Sure-Tough FR	Sure-White .060”
New Construction/ Tearoff: Structural Concrete	Polyisocyanurate set in FAST Adhesive over Carlisle 725 TR Vapor Retarder	1/2”	1/2”	1/2”	1/2”
	1/2” HP Recovery Board over Polyisocyanurate set in FAST Adhesive over Carlisle 725 TR Vapor Retarder	1-1/2”	3/4”	3-1/2”	1-1/2”

Sure-Weld™ (TPO) Adhered Roofing System FM Approvals

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

FM Class 1A-90 Ratings				
Base Layer Insulation Mechanically Fastened; Top Layer of Insulation Attached with Flexible FAST or FAST 100 LV Adhesive Full Coverage or Extruded 12” o.c.(1)				
Deck Type	Insulation	Maximum Slope		
		Sure-Weld or Spectro-Weld	Sure-Weld EXTRA	Sure-Weld HS
New Construction or Tearoff: Steel (Min. 22 gauge) Wood (2) Tectum (3) Gypsum (4) (Tearoff Only)	Base layer of 1/2” thick Dens-Deck/Dens-Deck Prime (5) or FM approved Polyisocyanurate insulation mechanically fastened to the deck per standard FM Class 1-90 requirements (including enhancements at perimeters and corners). Top Layer of minimum 1/2” thick Carlisle HP Recovery Board, 1/4” thick Dens-Deck Prime, 1/4” thick Securock, minimum 7/16” thick OSB or FM Approved Polyiso (from this Guide) adhered over base layer with FAST Adhesive	1-1/2” with top layer of HP Recovery Board, OSB, Dens-Deck or Securock using Sure-Weld Bonding Adhesive or Low VOC Bonding Adhesive (SW/LV) 1” with top layer of HP Recovery Board, OSB, Dens-Deck or Securock using Aqua-Base 120 1/4” with top layer of Polyiso using (SW/LV) 3/4” with top layer of Polyiso using Aqua-Base 120	3/4” with top layer of HP Recovery Board, OSB, Dens-Deck or Securock using (SW/LV) 1” with top layer of HP Recovery Board, OSB, Dens-Deck or Securock using Aqua-Base 120 1/2” with top layer of Polyiso using (SW/LV) 3/4” with top layer of Polyiso using Aqua-Base 120	1-1/2” with top layer of HP Recovery Board, Securock, OSB or 3-1/2” with top layer of Dens-Deck using (SW/LV) 1” with top layer of HP Recovery Board, Securock, OSB or 3” with top layer of Dens-Deck using Aqua-Base 120 1-1/2” with top layer of Polyiso using (SW/LV) 3/4” with top layer of Polyiso using Aqua-Base 120

Notes:

- (1) FAST Adhesive shall be applied in accordance with Carlisle Specifications.
- (2) On FM approved wood decks, a gypsum board must be installed beneath the insulation listed.
- (3) FM approved Tectum decks must be minimum 2” thick. Insulation fasteners must penetrate the deck a minimum 1-1/2” for FM 1-60 ratings.
- (4) Existing gypsum decks must be FM approved. Insulation fasteners must penetrate the deck a minimum of 1-1/2”.
- (5) 1/2” Dens-Deck or Dens-Deck Prime must be fastened to the deck at 1 per 2 square feet (enhancements required at perimeter and corner areas).

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 .045” or .060” Sure-Weld HS Reinforced Membrane (White, Gray or Tan)
 .072” or .080” Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan)
 .060” or .080” Spectro-Weld Reinforced Membrane (White)

FM Class 1A-300 Rating Insulation Attachment with Hot Asphalt (1)(2)					
Deck Type	Insulation	Insulation Thickness	Maximum Slope		
			Sure-Weld or Spectro-Weld	Sure-Weld EXTRA	Sure-Weld HS
New Construction/ Tearoff: Structural Concrete	Carlisle Polyiso HP-H	1.5”-12”	Sure-Weld Bonding Adhesive/Low VOC Bonding Adhesive (SW/LV) 1/2”	(SW/LV) 1/4”	(SW/LV) 2”
			Aqua Base 120 3/4”	Aqua Base 120 3/4”	Aqua Base 120 3/4”
	Carlisle HP Recovery Board	1/2” Min.	(SW/LV) 1-1/2”	(SW/LV) 3/4”	(SW/LV) 1-1/2”
	Carlisle HP Recovery Board / Polyiso	1/2” Min/ See above	Aqua Base 120 1”	Aqua Base 120 1”	Aqua Base 120 1”
Carlisle Securock / Polyiso	1/2” Min./See Above				
	Carlisle Dens-Deck Prime / Polyiso	1/2” Min/See Above	(SW/LV) 1-1/2”	(SW/LV) 3/4”	(SW/LV) 3-1/2”
			Aqua Base 120 1”	Aqua Base 120 1”	Aqua Base 120 3”

Notes:

- (1) Hot asphalt must be Type III or IV applied at a temperature within 25° F of EVT at the rate of 20-25 pounds per square.
- (2) A maximum FM 1-195 for Sure-Weld Standard/EXTRA and a maximum 1-240 for Sure-Weld HS uplift using Aqua Base 120.

Sure-Weld™ (TPO) Adhered Roofing System

FM Approvals

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

FM Class 1A-90 Ratings				
Insulation Attachment with Hot Asphalt (1)				
Deck Type (2)	Insulation	Maximum Slope		
		Sure-Weld or Spectro-Weld	Sure-Weld EXTRA	Sure-Weld HS
New Construction/ Tearoff: Steel (Min. 22 gauge) Wood (3) Tectum (4) Gypsum (5) (Tearoff Only)	Base layer of FM approved Polyisocyanurate insulation (minimum thickness listed above) mechanically fastened to the deck per standard FM Class 1-90 requirements (including enhancements at perimeters and corners). Top Layer of minimum 1/2” thick Carlisle HP Recovery Board, Dens-Deck Prime or FM Approved Polyisocyanurate (listed above) secured over base layer with hot asphalt	1-1/2” with top layer of HP Recovery Board or 1/2” of Dens-Deck Prime using Sure-Weld Bonding Adhesive/Low VOC Bonding Adhesive (SW/LV)	3/4” with top layer of HP Recovery Board or 1/2” Dens-Deck Prime using (SW/LV)	1-1/2” with top layer of HP Recovery Board or 3-1/2” Dens-Deck Prime using (SW/LV)
		1” with top layer of HP Recovery Board or 1/2” Dens-Deck Prime using Aqua-Base 120	1” with top layer of HP Recovery Board or 1” Dens-Deck Prime using Aqua-Base 120	1” with top layer of HP Recovery Board or 3” with Dens-Deck Prime using Aqua-Base 120
		1/4” with top layer of Polyiso using (SW/LV)	1/2” with top layer of Polyiso using (SW/LV)	1-1/2” with top layer of Polyiso using (SW/LV)
		3/4” with top layer of Polyiso using Aqua-Base 120	3/4” with top layer of Polyiso using Aqua-Base 120	3/4” with top layer of Polyiso using Aqua-Base 120

Notes:

- (1) Hot asphalt must be Type III or IV applied at a temperature within 25° F of EVT at the rate of 20-25 pounds per square.
- (2) Specific information concerning structural deck requirements (brand names, span capacity, securement criteria, etc.) must be referenced in the current FM Approval Guide and FM Loss Prevention Data Sheet 1-29.
- (3) On FM approved wood decks, a gypsum board must be installed beneath the insulations listed.
- (4) FM approved Tectum decks must be minimum 2" thick. Fasteners must penetrate the deck a minimum 2".
- (5) Existing gypsum decks must be FM approved. Insulation fasteners must penetrate the deck a minimum of 1-1/2".

Sure-Weld™ (TPO) Adhered Roofing System FM Approvals

FM Ratings (3) Insulation Attachment to Structural Concrete with One Step Insulation Adhesive (1)(2)						
Deck Type	Insulation	Insulation Thickness	Uplift Rating	Maximum Slope		
				Sure-Weld or Spectro-Weld	Sure-Weld EXTRA	Sure-Weld HS
New Construction/ Tearoff: Structural Concrete	Carlisle Polyiso HP-H	1.5"-12"	1-465	Sure-Weld Bonding Adhesive/Low VOC Bonding Adhesive (SW/LV) 1/2" Aqua Base 120 3/4"	(SW/LV) 1/4" Aqua Base 120 3/4"	(SW/LV) 1" Aqua Base 120 3/4"
	Carlisle Dens-Deck Prime / Polyiso Carlisle Securock/Polyiso	Min. 1/4"/ See above Min. 1/4"/ See Above		(SW/LV) 1-1/2" Aqua Base 120	(SW/LV) 3/4" Aqua Base 120	(SW/LV) 1-1/2" Aqua Base 120
	Carlisle HP Recovery Board Carlisle HP Recovery Board over Polyiso	1/2" Min. 1/2" Min./See above	1-255	1"	1"	1" (4)

FM Class 1A-90 Ratings Insulation Attachment to Poured Gypsum with One Step Insulation Adhesive (1)(2)					
Deck Type	Insulation	Insulation Thickness	Maximum Slope		
			Sure-Weld or Spectro-Weld	Sure-Weld EXTRA	Sure-Weld HS*
Retrofit (Tearoff): Gypsum (5)	Carlisle HP Recovery Board	1/2" Min.	(SW/LV)	(SW/LV)	(SW/LV)
	Carlisle HP Recovery Board over Polyiso	1/2" Min./See above	1-1/2"	3/4"	1-1/2"
	Carlisle Dens-Deck Prime over Polyiso	1/4" Min./See above	Aqua Base 120	Aqua Base 120	Aqua Base 120
	Carlisle Securock over Polyiso	1/4" Min./See above	1"	1"	1" (4)

Notes:

- 1) One Step Insulation Adhesive is applied in continuous 1/2" – 3/4" wide beads spaced a maximum of 12" on center to the substrate in the field of the roof. Insulation is placed over adhesive and walked into place.
- 2) Additional beads of One Step Insulation Adhesive are required at perimeters and corners. Bead spacing shall not exceed 6" on center at perimeter areas. Contact Carlisle for specific requirements.
- 3) A maximum FM 1-195 for Sure-Weld Standard/EXTRA and a maximum 1-240 for Sure-Weld HS uplift using Aqua Base 120.
- 4) A maximum slope of 3" is available when using Dens-Deck Prime
- 5) Existing gypsum decks must be FM approved.

Sure-Weld™ (TPO) Adhered Roofing System FM Approvals

FM Ratings (5) Insulation Attachment to Structural Concrete with OlyBond 500 BA Insulation Adhesive (1)(2)							
Deck Type	Insulation	Insulation Thickness	Uplift Rating	Maximum Slope			
				Sure-Weld or Spectro-Weld	Sure-Weld EXTRA	Sure-Weld HS	
New Construction/ Tearoff: Structural Concrete	Carlisle Polyiso HP-H	1.5"-12"	1-240	Sure-Weld Bonding Adhesive/Low VOC Bonding Adhesive (SW/LV) 1/2" Aqua Base 120 3/4"	(SW/LV) 1/4" (94858-0-0) Aqua Base 120 3/4"	(SW/LV) 1" Aqua Base 120 3/4"	
	Carlisle HP Recovery Board	1/2"		1-300	(SW/LV) 1-1/2" Aqua Base 120 1"	(SW/LV) 3/4" Aqua Base 120 1"	(SW/LV) 1-1/2" Aqua Base 120 1"
	Min 1/2" Carlisle HP Recovery Board over: Polyisocyanurate Extruded Polystyrene (3) EPS (4)	See above FM Approved FM Approved					
	Carlisle Securock over: Polyisocyanurate Extruded Polystyrene (3) EPS (4)	Min. 1/4"/ See above FM Approved FM Approved					
	Carlisle Dens-Deck Prime over Polyiso/EPS (4)	Min. 1/4"/ See above					
	Carlisle Dens-Deck Prime over Polyiso	Min. 1/4"/ See above	1-465	(SW/LV) 1-1/2" (167234-0-0) Aqua Base 120 1"	(SW/LV) 3/4" Aqua Base 120 1"	(SW/LV) 3-1/2" Aqua Base 120 3"	
	Carlisle Dens-Deck Prime /Extruded Polystyrene (3)	Min. 1/4"/FM Approved					

(RoofNAV number) for selected systems

Notes:

- 1) OlyBond 500 BA Insulation Adhesive is applied in continuous 3/4" wide beads spaced a maximum of 12" on center to the substrate in the field of the roof. Insulation is placed into adhesive after it is allowed to rise and string prior to walking and rolling the board into place. Reference Carlisle's Technical Data Bulleting (TDB) for installation requirements.
- 2) Additional beads of OlyBond 500 BA Insulation Adhesive are required at perimeters and corners as identified in this guide. Bead spacing shall not exceed 6" on center at perimeter areas and 4" on center at corners.
- 3) Extruded Polystyrene must be Owens Corning Foamular 250 (minimum 1" thick).
- 4) EPS must be FM approved and manufactured from Western Insulfoam or Western EPS (Min. 2" thick).
- 5) A maximum FM 1-195 for Sure-Weld Standard/EXTRA and a maximum 1-240 for Sure-Weld HS uplift using Aqua Base 120.

Sure-Weld™ (TPO) Adhered Roofing System FM Approvals

FM Class 1A-90 Ratings Base Layer Insulation Mechanically Fastened; Top Layer of Insulation Attached with OlyBond 500 BA Insulation Adhesive (1)				
Deck Type	Insulation	Maximum Slope		
		Sure-Weld or Spectro-Weld	Sure-Weld EXTRA	Sure-Weld HS
New Construction or Tearoff: Steel (Min. 22 gauge) Wood (2) Tectum (3) Gypsum (4) (Tearoff Only)	Base layer of 1/2" thick Dens-Deck Prime or Securock (5) or FM approved Polyiso insulation mechanically fastened to the deck per standard FM Class 1-90 requirements (including enhancements at perimeters and corners).	Sure-Weld Bonding Adhesive/Low VOC Bonding Adhesive (SW/LV) 1-1/2" with top layer of HP Recovery Board, Dens-Deck Prime or Securock	(SW/LV) 3/4" with top layer of HP Recovery Board, Dens-Deck Prime or Securock	(SW/LV) 1-1/2" with top layer of HP Recovery Board, Securock or 3.5" Dens-Deck Prime
		Aqua Base 120 1" with top layer of HP Recovery Board, Dens-Deck Prime or Securock	Aqua Base 120 1" with top layer of HP Recovery Board, Dens-Deck Prime or Securock	Aqua Base 120 1" with top layer of HP Recovery Board, Securock or 3" with Dens-Deck Prime
	Top Layer of minimum 1/2" thick Carlisle HP Recovery Board, 1/4" thick Dens-Deck Prime, 1/4" thick Securock or FM Approved Polyiso (See Page 19) secured over base layer with OlyBond 500 BA Adhesive	(SW/LV) 1/2" with top layer of Polyiso	(SW/LV) 1/4" with top layer of Polyiso	(SW/LV) 1" with top layer of Polyiso
		Aqua Base 120 3/4" with top layer of Polyiso	Aqua Base 120 3/4" with top layer of Polyiso	Aqua Base 120 3/4" with top layer of Polyiso

Notes:

- (1) OlyBond 500 BA Adhesive shall be applied in accordance with Carlisle Specifications.
- (2) On FM approved wood decks, a gypsum board must be installed beneath the insulations listed.
- (3) FM approved Tectum decks must be minimum 2" thick. Fasteners must penetrate the deck a minimum 2".
- (4) Existing gypsum decks must .FM approved. Insulation fasteners must penetrate the deck a minimum of 1-1/2".
- (5) 1/2" thick Dens-Deck, Dens-Deck Prime or Securock must be fastened to the deck at 1 per 2 square feet.

Sure-Weld™ (TPO) Adhered Roofing System FM Approvals

FM Class 1A-90 Rating Insulation Attachment to Tectum/Gypsum with OlyBond 500 BA Insulation Adhesive (1)					
Deck Type (2)	Insulation	Insulation Thickness	Maximum Slope		
			Sure-Weld or Spectro-Weld	Sure-Weld EXTRA	Sure-Weld HS
New Construction/ Tearoff: Tectum (2" min. deck thickness) Tearoff: Gypsum (4)	Carlisle Polyiso HP-H	1.5"-12"	Sure-Weld Bonding Adhesive/Low VOC Bonding Adhesive (SW/LV) 1/2" Aqua Base 120 3/4"	(SW/LV) 1/4" Aqua Base 120 3/4"	(SW/LV) 1" Aqua Base 120 3/4"
	Carlisle HP Recovery Board Min. 1/2" Carlisle HP Recovery Board , Min. 1/4" Carlisle Dens-Deck Prime or Min. 1/4" Carlisle Securock Over: Polyisocyanurate Extruded Polystyrene(3) Expanded Polystyrene(5)	1/2" Min. See Above FM Approved FM Approved	(SW/LV) 1-1/2" Aqua Base 120 1"	(SW/LV) 3/4" Aqua Base 120 1"	(SW/LV) 1-1/2" with HP Recovery Board, Securock or 3-1/2" with Dens-Deck Prime Aqua Base 120 1-1/2" with HP Rec. Board, Securock or 3" with Dens-Deck Prime

Notes:

- (1) OlyBond 500 BA Insulation Adhesive is applied in continuous 1/2" wide beads spaced a maximum of 12" on center to the substrate in the field of the roof. Insulation is placed into adhesive after it is allowed to rise and string prior to walking and rolling the board into place. Reference Carlisle's Technical Data Bulletin (TDB) for installation requirements.
- (2) FM approved minimum 2" thick by 31" wide Tectum deck secured to minimum 1/4" thick steel supports spaced a maximum of 3' on center with two Construction Fasteners, Inc. 2" diameter metal plates and #14 Dekfast Fasteners per panel per support. Screws are driven into 7/32" diameter pilot holes and are spaced 7-1/2" from panel edges. Additional deck fastening required at perimeters and corners per FM Loss Prevention Data Sheet 1-28.
- (3) Extruded Polystyrene must be Owens Corning Foamular (Min. 2" thick).
- (4) Existing gypsum deck must be FM approved.
- (5) EPS must be FM approved and manufactured from Western Insulfoam or Western EPS (Min. 2" thick).

Sure-Weld™ (TPO) Adhered Roofing System FM Approvals

FM Uplift Ratings “Extruded” Flexible FAST or FAST 100 LV Adhesive for Insulation Attachment			
Deck Type	Insulation Type	Thickness	FM Rating (1)(2)
Structural Concrete (new or tear-off)	Min. 1/4" Dens-Deck/Dens-Deck Prime, Securock or Min. 7/16" OSB over: Dow, Owens Corning or Pactive Extruded Polystyrene FM approved EPS	FM approved	1-495
	Carlisle Polyiso HP-H Min. 1/4" Dens-Deck/Dens-Deck Prime or Min. 7/16" OSB over: Polyiso insulation listed above	FM approved	1-315
	Carlisle Polyiso HP-H Min. 1/4" Dens-Deck/Dens-Deck Prime or Min. 7/16" OSB over: Polyiso insulation listed above	FM approved	1-315
Minimum 22 gauge, FM approved Steel (new or tear-off)	1/2" Carlisle HP Recovery Board over: Polyiso insulation listed above Dow, Owens Corning or Pactive Extruded Polystyrene FM approved EPS	For Polyiso, Min. 1.5" (all individual layers); Max. 12" (all layers combined)	1-480
	1/2" Carlisle HP Recovery Board over: Polyiso insulation listed above Dow, Owens Corning or Pactive Extruded Polystyrene FM approved EPS	See above FM approved	1-315
	1/2" Carlisle HP Recovery Board over: Polyiso insulation listed above Dow, Owens Corning or Pactive Extruded Polystyrene FM approved EPS	See above FM approved	1-315
Minimum 22 gauge, FM approved Steel (new or tear-off)	Base layer of 1/2" Dens-Deck Prime or 1/2" Securock mechanically fastened to the deck at the minimum rate of 1 per 2 square feet in the field of the roof (added fasteners at perimeter/corner areas per FM)	For Polyiso, Min. 1.5" (all individual layers); Max. 12" (all layers combined)	1-105
	Optional: Carlisle 725 TR Vapor Barrier (with Cav-Grip Primer) adhered to Dens-Deck Prime		
	Top layer of minimum 1.5" Carlisle Polyiso set in FAST Adhesive		

Notes:

1. FAST Adhesive extruded spacing shall not exceed 12" on center in the field of the roof.
2. For concrete decks, where a FM rating of 1-150 or less is specified, FM does not require additional extrusions of adhesive at perimeters and corners. However, Carlisle requires extrusion spacing 6" on center along roof perimeters based on building height. Refer to the applicable Technical Data Bulletin or contact Carlisle for specific requirements.

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

Expire August 31, 2013

Deck Type	Acceptance #
Lightweight Concrete	08-0414.09
Wood	09-1027.08
Steel	09-1027.07
Structural Concrete	10-0322.03
Cementitious Wood Fiber	10-0322.01
Gypsum	10-0322.02
Recover	10-0428.05

Other Approvals

(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.

Carlisle SynTec, a division of Carlisle Construction Materials Incorporated, P. O. Box 7000, Carlisle, PA 17013
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Dens-Deck is a Trademark of Georgia-Pacific
Styrofoam is a Trademark of Dow Chemical Company

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