

Table II Underlayment/Insulation & Required Attachment Assemblies Up to 20 YR Warranty

Other Requirements are Listed in Additional Design Considerations following this Table

All Carlisle Products listed for higher wind speed coverage can also be used for Warranties with lesser speed coverage. (i.e. 72 MPH underlayment may be used for 55 MPH underlayment)

Peak Gust Wind Speed Warranty	Minimum Membrane Underlayment (Carlisle Supplied Only)	Insulation/Underlayment Attachment			Metal Edging
		# of Fasteners per 4' x 8' board size (1)	Adhesive Ribbon Spacing for 4' x 4' size board		
			Field	Perimeter	
55 MPH	1-1/2" (20-psi) Polyisocyanurate	10	12" (4)(5)	6" (4)	Carlisle Drip Edge, SecurEdge™ 200 or 300
	2" (20-psi) Polyisocyanurate	8	12" (4)(5)	6" (4)	
72 OR 80 MPH	1/4" Dens-Deck (2)	12	12" (4)(5)(6)	6" (4)(6)	Carlisle Drip Edge, SecurEdge 200 or 300 may be fastened with ring shank nails staggered 4" on center. Carlisle HP or HP-X™ Fasteners may also be used fastened 12" on center.
	1/4" Securock (2)				
	1/2" HP Recovery Board (2)	16	6" (4)(6)	6" (4)(6)	
	1/2" SecurShield HD (2)				
	1/2" SecurShield HD Plus (2)	8	6" (4)(6)	6" (4)(6)	
	1-1/2" (20-psi) Polyisocyanurate	10	6" (4)(6)	6" (4)(6)	
2" (20-psi) Polyisocyanurate	8	6" (4)(6)	6" (4)(6)		
90 MPH	1/2" Dens-Deck (2)	12	6" (8)	6" (6)(7)	Carlisle Drip Edge (3), SecurEdge 2000 or 3000.
	1/2" Securock (2)				
	1/2" SecurShield HD (2)	24	6" (8)	6" (6)(7)	
	1/2" SecurShield HD Plus (2)	12	6" (8)	6" (6)(7)	
	1-1/2" (20-psi) SecurShield Polyiso	16	6" (8)	6" (6)(7)	
	2" (20-psi) SecurShield Polyiso	8	6" (8)	6" (6)(7)	
	2" Securshield HD Composite	8	6" (4)(6)	6" (4)(6)	
1-1/2" Insulfoam HD Composite	16	6" (4)(6)	6" (4)(6)		
100 MPH	5/8" Dens Deck (2)	16	FS	FS	Carlisle Drip Edge (3), SecurEdge 2000 or 3000.
	5/8" Securock (2)				
	1/2" SecurShield HD Plus (2)	17	FS	FS	
	7/16" Oriented Strand Board (OSB) (2)				
	2" (25-psi) SecurShield Polyiso (1)				
2" Securshield HD Composite	16	FS	FS		
110 MPH	5/8" Dens Deck (1)(2)	16	FS	FS	SecurEdge 2000 or 3000
	5/8" Securock (1)(2)				
	1/2" SecurShield HD Plus (2)	17	FS	FS	
	7/16" Oriented Strand Board (OSB) (2)				
120 MPH	5/8" Dens Deck (2)	24	FS	FS	SecurEdge 2000 or 3000
	5/8" Securock (2)				
	1/2" SecurShield HD Plus (2)	17	FS	FS	
	7/16" Oriented Strand Board (OSB) (1)(2)				

FS = Full Spray or Ribbons @ 4" O.C.

(1) For Building heights between 51-100', enhance 12'-wide perimeter with 50% more fasteners and plates.

(2) Cover boards must be installed over a min. 1" thick approved Carlisle Insulation.

(3) Carlisle HP or HP-X Fasteners must be used to secure Carlisle Drip Edge or SecurEdge 200 Metal Fascia to perimeter wood nailers.

(4) Gravel Surface BUR - Field @ 6" O.C. / Perimeter @ 4" O.C

(5) Steel Decks - Field & Perimeter @ 6" O.C.

(6) Cementitious Wood Fiber - Field @ 6" O.C. / Perimeter @ 4" O.C.

(7) Smooth BUR - Field @ 6" O.C. / Perimeter @ 4" O.C

(8) Gravel Surface BUR - FS

Additional Design Considerations (Up to 20 YR Warranty)
(Required in conjunction with Table II)

- 1 - Building height shall not exceed 100 foot*
- 2 - Local Wind Zone per ASCE 7 shall not exceed 130 mph*
- 3 - Acceptable decking: 22-gauge or heavier steel, structural concrete, 1-1/2" wood plank, or 3/4" plywood.
- 4 - All "T-joints" must be overlaid with appropriate flashing material
- 5 - Membrane Attachment : 15 YR Warranty - Adhesive Bead Spacing 12" o.c. field, 6" o.c. perimeter up to 55 MPH; 6" o.c. field, 6" perimeter 72 MPH ; 4" o.c. or Full Spray field and perimeter 80 MPH
- 6 - Membrane Attachment : 20 YR Warranty - Adhesive Bead Spacing 6" o.c. field and perimeter up to 55 MPH; 6" o.c. field, 4" o.c perimeter 72 MPH ; 4" o.c. or Full Spray field and perimeter 80 MPH
- * For projects where building height exceeds 100' or wind speed exceeds 130 mph, please submit to Carlisle for review.

Table III Underlayment/Insulation & Required Attachment Assemblies 25 YR or 30 YR Warranty

Other Requirements are Listed in Additional Design Considerations following this Table

All Carlisle Products listed for higher wind speed coverage can also be used for Warranties for a lower speed coverage. (i.e. 72 MPH underlayment may be used for 55 MPH underlayment)

Peak Gust Wind Speed Warranty	Minimum Membrane Underlayment	Insulation Attachment		Metal Edging	
		# of Fasteners per 4' x 8' board size (1)	Adhesive Ribbon Spacing for 4' x 4' size board		
			Field		Perimeter
55 MPH	1-1/2" to 2-1/2" (25 psi) Polyisocyanurate	16	6" (3)(5)	6" (5)	Carlisle Drip Edge, SecurEdge 200 or 300 may be fastened with ring shank nails staggered 4" on center. Carlisle HP or HP-X Fasteners may also be used fastened 12" on center.
	1/2" HP Recovery Board (1)				
	1/4" Dens-Deck Prime (2)				
	1/4" Securock (2)				
72 or 80 MPH	1-1/2" to 2-1/2" (25-psi) SecurShield Polyiso	16	6" (3)(5)(6)	6" (5)(6)	Carlisle Drip Edge (4), SecurEdge 200 or 300(4)(5) or SecurEdge 2000 or 3000.
	1/2" Dens-Deck Prime (2)				
	1/2" Securock (2)				
90 or 100 MPH	1/2" SecurShield HD (2)	Note (7)	FS	FS	SecurEdge 2000 or 3000
	5/8" Dens-Deck Prime (2)	16			
	5/8" Securock (2)				
	7/16" Oriented Strand Board (OSB) (2)				

FS = Full Spray or Ribbons @ 4" O.C.

- (1) For Building heights between 51-100', enhance 12'-wide perimeter with 50% more fasteners and plates.
- (2) Nail coverage offered with substrate.
- (3) Structural Concrete - Field @ 12" O.C. / Perimeter @ 6" O.C.
- (4) 80-mph over structural concrete - Field & Perimeter @ 6" O.C.
- (5) Cementitious Wood Fiber & Wood - FS
- (6) 80-mph over Gypsum Decks - FS
- (7) For acceptable fastener density - contact Carlisle.

**Additional Design Considerations (25 YR or 30 YR Warranty)
(Required in conjunction with Table III)**

- 1 - Minimum membrane thickness of 145-mil FleeceBACK EPDM, 135-mil FleeceBACK TPO or PVC
 - 2 - Building height shall not exceed 100 foot *
 - 3 - 1/4" per horizontal foot slope is preferred; however 1/8" slope with sufficient number of drains and crickets / saddles may be accepted.
 - 4 - Local Wind Zone per ASCE 7 shall not exceed 100 mph*
 - 5 - Acceptable decking: 22-gauge or heavier steel, structural concrete, 1-1/2" wood plank, or 3/4" plywood. Other decks should be submitted for Carlisle review.
 - 6 - All "T-joints" must be overlaid with appropriate flashing material.
 - 7 - Two layers of insulation with staggered joints, bottom layer must be a minimum 1-1/2" (20-psi) Polyisocyanurate.
 - 8 - New construction or complete tear-off of existing roofing material.
 - 9 - Membrane Attachment : 25/30 YR Warranty - Adhesive Bead Spacing 4" o.c. or Full Spray field and perimeter up to 100 MPH
- * For projects where building height exceeds 100' or wind speed exceeds 100 mph, please submit to Carlisle for review.

Table IV Bead Spacing for FleeceBACK Membrane Adhesion

Peak Gust Wind Speed Warranty	Warranty Length in Years					
	5 to 15 years		20 years		25 years	
	Field	Perimeter*	Field	Perimeter*	Field	Perimeter*
55 MPH	12"	6"	6"	6"	4"	4"
72 MPH	6"	6"	6"	4"	4"	4"
80 to 120 MPH	4"	4"	4"	4"	4"	4"

*Refer to Table V

Table V Minimum Perimeter Width

Width of Perimeter	Building Height
4 feet	25 feet
8 feet	26 to 50 feet
12 feet	51 to 75 feet
18 feet	76 to 100 feet
Contact Carlisle	Greater than 100 feet