

- A. Projects meeting the conditions below can be eligible for a maximum 15 year System Warranty with wind



Mechanically Fastened Roofing System
Sure-Seal®/Sure-White™/Sure Weld®/Sure-Flex™
"Attachment II"

Mechanically Fastened Membrane Option

January 2017

General Considerations

- A. As an option to fully adhering the FleeceBACK Membrane with FAST Adhesive, the membrane may be loose laid and mechanically fastened over an approved substrate to an acceptable deck (minimum 22 ga. steel deck or wood decks as described in Table I (below) using Carlisle Fasteners and Plates.

1. For EPDM Membrane use HP Fasteners with HP Polymer Plates.
2. For TPO Membranes use HP-X Fasteners and Pirahna Plates.

- B. **Any Carlisle approved insulation or cover board** included in the Thermoplastic or EPDM Specifications, approved for Mechanically Fastened Assemblies, may be used as part of the roofing assembly.

- C. The approved insulation/cover board shall be mechanically fastened to the roof deck at the minimum rate of **1 fastener and plate per every 8 square feet** (4 fasteners in a 4 x 8 board) for warranties up to 15 year. Projects with 20 year or greater warranties require the use of 6 fasteners and plates in a 4' x 8' board (1 per 5.333 square feet).

CAUTION: Carlisle Polyisocyanurate Insulation with a thickness less than 1.5" installed over an existing roofing membrane without a tear-off must be mechanically fastened to the roof deck with a minimum of **1 fastener and plate for every 4 square feet** or less of insulation. Refer to appropriate EPDM/Thermoplastic Mechanically Fastened Specification for Specific Cautions, Warnings and other membrane/insulation fastening options.

- D. Use of Dens Deck and Dens Deck Prime should be limited to assemblies with slopes greater than 2" per foot to ensure compliance with external fire codes, care shall be exercised to ensure polymer plates are fully seated. Dens Deck or Dens Deck Prime are not approved in re-roofing applications for use directly over existing roofing membranes. Not for use directly over lightweight insulating concrete substrates in either new construction or re-roofing applications/tear-off.

Submittals

- A. In addition to the Submittal requirements outlined in Paragraph 1.04 of the main specification, for mechanically fastened systems shop drawings must include:

1. Sheet width and number of perimeter sheets
2. Carlisle Fastener type, length and maximum spacing (for membrane securement).

- B. **Along with project submittals** (shop drawing and Request for Warranty), the roofing contractor must include **pullout test** results when the results are below the requirements identified in the Table included in Design Reference DR-06-11 "Withdrawal Resistance Criteria".

Warranty

Warranty

- A. Projects meeting the conditions below can be eligible for a maximum 15 year System Warranty with wind speed coverage up to 72 mph peak gusts. Projects requiring extended wind speed coverage or a 20-year System warranty must be submitted to Carlisle for review prior to installation.

Table I FleeceBACK Membrane Fastening Criteria for Mechanically Fastened Roofing Systems 22 GA. Steel Deck Only							
Peak Gust Wind Speed Warranty	Membrane Type	Max. Building Height	Min. Number of Perimeter Sheets		Field Membrane Width	Perimeter Sheet Width	Fastening Density* (Field & Perimeter Sheets)
			Local Wind Zone (MPH)				
			Up to 100 MPH	110-119 MPH			
55 MPH	TPO	Up to 50'	1	2	12'	6'	12" O.C.
	EPDM	Up to 40'	1	2	10'	5'	
	PVC KEE		1	2	10'	5'	
72 MPH	TPO	Up to 50'	2	2	12'	6'	12" O.C.
	EPDM	Up to 40'	2	2	10'	5'	
	PVC KEE		2	2	10'	5'	

* TPO or PVC Using HP-X Fasteners and Piranha™ Plates. EPDM using HP Fasteners and Seam Fastening Plates.

Table II FleeceBACK Membrane Fastening Criteria for Mechanically Fastened Roofing Systems Wood Decks								
Peak Gust Wind Speed Warranty	Deck Type	Projected Pull-Out Values	Membrane Type	Min. Number of Perimeter Sheets		Field Membrane Width	Perimeter Sheet Width	Fastening Density (Field & Perimeter Sheets)
				Local Wind Speed				
				Up to 100 MPH	100 MPH to 119 MPH (Max.)			
55 MPH	7/16" OSB* or 15/32" 3-Ply Plywood or 5/8" OSB	210 lbs* (OSB) or 240 lbs (3-Ply) or 310lbs (OSB)	TPO	2	3	12'	6'	12" O.C. *
			EPDM	2	3	10'	5'	
			PVC KEE	2	3	10'	5'	
	15/32" 5-Ply Plywood	530 lbs	TPO	1	2	12'	6'	12" O.C.
			EPDM	1	2	10'	5'	
			PVC KEE	1	2	10'	5'	
72 MPH	15/32" 5-Ply Plywood	530 lbs	TPO	2	3	12'	6'	12" O.C.
			EPDM	2	3	10'	5'	
			PVC KEE	2	3	10'	5'	

*Fastening Density for Field and Perimeter Sheets is 9" o.c. when fastening to 7/16" OSB with minimum pullout of 210lbs.