



G U I D E - S P E C

Retrofitting Aged Single-Ply FleeceBACK™ Adhered Roofing System

January 2025

This **GUIDE-SPEC** describes Retrofitting Aged Single-Ply with a FleeceBACK Adhered Roofing System and is intended for use as a submittal with a bid package. For specific installation instructions, Specifiers and the Carlisle Authorized Roofing Applicator must comply with the applicable Sections of Carlisle's Technical Manual.

PART I GENERAL

1.01 DESCRIPTION

This **Aged Single-Ply Retrofitting Option** incorporates a FleeceBACK membrane Sure-Seal (black) or Sure-White non-reinforced EPDM, Sure-Weld (white, gray, tan or Special Color TPO) reinforced TPO or Sure-Flex PVC (white, gray or tan) laminated to non-woven polyester fleece-backing. The membrane is adhered to an acceptable, aged single-ply (Adhered or Mechanically Fastened) roof membrane with Flexible FAST Adhesive applied in extrusions or full spray.

Adjoining sheets of EPDM FleeceBACK membrane are spliced together using 3" or 6" wide factory-applied SecurTAPE™ in conjunction with Primer. Sheets of Sure-Weld and Sure-Flex FleeceBACK membrane are joined together with a minimum 1-1/2" wide hot air weld.

1.02 QUALITY ASSURANCE

- A. This roofing system must be installed by a Carlisle Authorized Roofing Applicator in compliance with drawings and specifications as approved by Carlisle SynTec.
- B. Upon request, an inspection shall be conducted by a Field Service Representative of Carlisle to ascertain that the membrane roofing system has been installed according to Carlisle's published specifications and details applicable at the time of bid. This inspection is to determine whether a warranty shall be issued. It is not intended as a final inspection for the benefit of the owner.
- C. Existing code ratings (FM and UL) will remain the same as the existing roofing system. Consult with local FM or UL representative for further information.

1.03 SUBMITTALS

- A. Shop drawings must be submitted to Carlisle by the Carlisle Authorized Roofing Applicator along with a completely executed Notice of Award (Page 1 of Carlisle's Request For Warranty form) for approval. Approved shop drawings are required for inspection of the roof and on projects where on-site technical assistance is requested.
- B. Project with unusual conditions or those with prior wind uplift occurrence may be submitted for prior review by Carlisle.

1.04 GENERAL DESIGN CONSIDERATIONS

- A. It is the responsibility of the building owner or his/her designated representative to verify structural load limitation. In addition, a core cut may be taken to verify the composition of the existing roofing system.
- B. Recovering of existing membranes should be of similar material (i.e. EPDM over EPDM). This will allow the two membranes to expand and contract at similar rates.
- C. To reduce the probability of condensation, black roof membranes should not be overlaid with a white roof membrane. White membranes, due to their lower surface temperature, falls frequently below the dew point and increasing the level of condensing moisture during wintertime. During summertime due to their lower surface temperature, the white membrane does not have the same drying cycle as the black membrane resulting in increased moisture gain.
- D. To avoid accelerated heat aging and premature deterioration of existing membranes, existing roof membranes must be covered with similar colored material. Covering existing white membranes with



darker membrane can lead to deterioration of the substrate to which the new membrane is adhered to.

1.05 WARRANTY

FleeceBACK Adhered Systems Recover Warranty Options

Existing Roof Manufacturer	Duration of New Warranty	New Membrane Min. Membrane Thickness	Additional Warranty Coverage		
			Accidental Puncture (6)	Hail	
				1" Dia.	2" Dia.
Carlisle SynTec	Up to 15 YR	100-mil Sure-Seal/Sure-White/Sure-Weld, 115-mil Sure-Flex OR 105-mil Sure-Flex KEE HP	N/A	√	√(1)(2)
	Up to 20 YR (3)(4)	115-mil Sure-Seal/Sure-White/Sure-Weld/Sure-Flex OR 105-mil Sure-Flex KEE HP	16 Hrs (5)	√	√(1)(2)
By Others	Up to 10 YR	100-mil Sure-Seal/Sure-White/Sure-Weld, 115-mil Sure-Flex OR 105-mil Sure-Flex KEE HP	N/A	√	N/A
	Up to 15 YR (3)	115-mil Sure-Seal/Sure-White/Sure-Weld/Sure-Flex OR 105-mil Sure-Flex KEE HP	16 Hrs (5)	√	N/A

Notes: N/A= Not Acceptable √= Acceptable

- (1) Not Available with Sure-Flex or Sure-Flex KEE HP
- (2) Requires use of Flexible FAST Adhesive in Full Spray or Beads At 4" O.C.
- (3) Field Assessment by Carlisle local Representative or SRWA (Sustainable Roofing and Waterproofing Alliance) Consultant required, Contact Carlisle.
- (4) In lieu of standard wind speed this assembly can qualify for 72 mph.
- (5) Use of 145-mil Sure-Seal/Sure-White or 135-mil Sure-Weld/Sure-Flex can qualify for 32 hrs.
- (6) Carlisle's Accidental Puncture Warranty covers labor hours and material used during the repair. Maximum labor and material hours are dependent upon system design. Refer to the Warranty Availability Quick Reference Guide for coverage.

1.06 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Deliver materials to the job site in the original, unopened containers labeled with the manufacturer's name, brand name and installation instructions.
- B. Job site storage temperatures in excess of 90°F may affect shelf life of curable materials (i.e., Flexible FAST Adhesive – Parts A & B, adhesives, sealants, cleaners, primers, SecurTAPE, Pourable Sealer, Pressure-Sensitive Flashing and uncured flashing).
- C. When liquid adhesives and sealants are exposed to lower temperatures, restore to a minimum of 60°F before use. Do not store containers with opened lids due to loss of solvent which will occur from flash off.
- D. FleeceBACK Membrane should be stored in its original plastic wrap and be covered to protect from moisture. Any moisture absorbed by the fleece-backing must be removed by using a wet-vac system, prior to membrane adhesion.

1.07 JOB CONDITIONS

- A. Refer to Carlisle Technical Manual for applicable project specific Job Conditions.

PART II PRODUCTS

2.01 GENERAL

The components of this roofing system are to be products of Carlisle or accepted by Carlisle as compatible. The installation, performance or integrity of products by others, **when selected by the specifier and accepted as compatible by Carlisle**, is not the responsibility of Carlisle and is expressly disclaimed by the Carlisle Warranty.

2.02 MEMBRANE

FleeceBACK 100, 115, 135 and 145 Membrane incorporates 45-, 60-, or 90-mil thick, Sure-Seal (black) or Sure-White non-reinforced EPDM or 45-, 60- or 80-mil Sure-Weld (white, gray, tan or Special Color TPO) reinforced TPO membrane laminated to a 55-mil thick non-woven polyester fleece-backing resulting in a total finished sheet thickness of 100, 115, 135 or 145 mils. Sure-Flex KEE HP FRS FleeceBACK is available in 105, 115 and 135 mils. Sure-Flex PVC FRS FleeceBACK is available in 115 and 135 mils.

For available membrane widths and lengths refer to applicable FleeceBACK Specification or Product Data Sheets.

2.03 RELATED MATERIALS

- A. Flexible FAST Adhesive, Cleaners, Adhesives, Sealants, Primers, SecurTAPE, Flashing, Pressure-Sensitive Flashing, Elastoform Flashing, Termination Bars, Carlisle Insulation, Insulation Fasteners and Water Cut-Off Mastic are required for use with this roofing system. Other Carlisle products, such as metal edgings and copings are also required when a System Warranty is specified.

Other Products: Walkway Pads, Pre-Molded Pipe Flashings, LIQUISEAL Liquid Flashing, Corners and Pourable/Molded Sealant Pockets.

PART III EXECUTION

3.01 GENERAL

- A. When feasible, begin the application at the highest point of the highest roof level and work to the lowest point to prevent moisture infiltration and minimize construction traffic on completed sections. This will include completion of all flashings and terminations.

3.02 ROOF DECK CRITERIA

- A. A proper substrate shall be provided by the building owner. The structure shall be sufficient to withstand normal construction loads and live loads.

3.03 SUBSTRATE PREPARATION

- A. The FleeceBACK membrane may be adhered with Flexible FAST Adhesive directly over existing aged single-ply roofing membranes. These membranes include EPDM, Hypalon, TPO and PIB.

Note: PVC membranes are not an approved existing membrane.

- B. The substrate must be dry, relatively even, free of protrusions, debris, sharp edges or foreign materials and must be free of accumulated water, ice and snow.
- C. To ensure adequate adhesion to PIB (Polyisobutylene) or TPO Membranes less than 5 years old, use a floor sander with 100 grit screens to sand the existing surface.
- D. Wash existing membranes using as power washer at a maximum of 2200 psi with a fan-spray tip/nozzle.

Note: For TPO Membranes less than 2 years old or EPDM Membrane, use X-Tenda Coat Membrane Cleaner. Dilute the product per instruction label. Spray the surface and let stand for 15 minutes, prior to power washing.

- E. Cut and remove all existing flashing materials.
- F. Examine existing membrane. Cut and remove any crushed or damaged insulation.
- G. For Adhered Systems, remove and replace any protruding fasteners, ensure existing insulation is fastened at Carlisle established insulation densities. Areas where deck membrane is loose should be re-secured with fasteners or re-adhered with bonding adhesive. When mechanically securing the membrane, picture frame the area with fastener 1 every 4 square feet. When adhering the membrane, re-adhere to a compatible substrate by cutting loose area in an 'X' or 'U' pattern.
- H. For existing Mechanically Fastened Systems with open seams or protruding fasteners, where open seams are found, install fasteners and plate on either side of the seam through both layers of the seam. For protruding fasteners, remove existing fastener and replace with new Carlisle fastener and plate at Carlisle established insulation or seam densities.
- I. A field assessment by Carlisle Representative or SRWA (Sustainable Roofing and Waterproofing Alliance) Consultant may

necessitate additional enhancements beyond those listed herein.

3.04 INSTALLATION

Refer to the applicable Safety Data Sheets and Product Data Sheets for cautions and warnings.

Caution: Ensure adequate attachment of the existing roofing system (membrane and insulation) in order to not jeopardize the wind uplift performance of the newly installed membrane. Delaminated areas of existing adhered membranes must be re-secured and seams of an existing mechanically Fastened system must be adequately secured (no open seams or protruding fasteners).

- A. When damaged insulation is present, replace with Carlisle Insulation of equal thickness. Insulation may be mechanically fastened or adhered with Flexible FAST Adhesive, refer to Carlisle's Technical Manual for fastening density and/or bead spacing.
- B. When loose areas are found in the membrane, re-secure as outlined above.
- C. Ensure surface is prepped, cleaned, and ready for adhesive application.
- D. **Membrane Adhesion**
 - 1. FleeceBACK Membrane shall be adhered to an aged existing single-ply roof membrane or approved insulation with a two component, extrusion or spray applied, low-rise adhesive supplied by Carlisle. Flexible FAST Adhesive is applied to the substrate only and the membrane is rolled into the wet adhesive, once it has foamed up approximately 1/8" to 3/4" and begins to "string" when touched with an HP Splice Wipe. Roll the membrane with a 30" wide, 150 pound segmented steel roller to set the membrane into the adhesive.
 - 2. Apply beads at 6" O.C. for field and perimeter when standard wind speed warranty is specified. When 2" diameter hail coverage is required, Flexible FAST must be applied in 4" O.C. beads or Full Spray application.
- E. **Membrane Splicing of FleeceBACK Systems**
 - 1. Refer to appropriate splicing procedures published in the Sure-Seal/Sure-White, Sure-Weld or Sure-Flex FleeceBACK Specifications.
- F. **Additional Membrane Securement**
 - 1. When FleeceBACK membrane is installed directly over an existing single-ply roof, the existing single-ply roof must be secured with HP or HP-X Fasteners and 2" diameter Seam Plates at 12" O.C. **at all deck to wall junctions, angle changes greater than 2:12 and around curbs/skylights, regardless of warranty duration or warranty wind speed.** Fasten directly through FleeceBACK membrane and existing single-ply roof to the deck OR fasten through the existing single-ply roof to the deck, prior to application of FleeceBACK. Additional fastening of the existing roof may be utilized to enhance the wind uplift resistance of the existing roof, Contact Carlisle for further information.
- D. **Flashing**
 - 1. Flashing of standard penetrations and edge conditions shall conform to the details in Carlisle's EPDM, TPO or PVC FleeceBACK or Adhered Roofing System specifications as applicable.
 - 2. Details not depicted in these publications shall be submitted to Carlisle for review prior to installation.

Copyright 2025 Carlisle Construction Materials Incorporated

Carlisle, Sure-Seal, Sure-White, Sure-Weld, Sure-Flex, Elastoform, Flexible FAST, FleeceBACK, LIQUISEAL and SecurTAPE are Trademarks of Carlisle Construction Materials Incorporated

Carlisle SynTec
P.O. Box 7000, Carlisle, PA 17013-0925
800-479-6832
<http://www.carlisle-syntec.com>

Physical properties of FleeceBACK Membrane can be referenced in Part II, "Products" of the FleeceBACK Specification. Attach copies of the applicable Carlisle Details that pertain to the individual project to complete a bid package submittal.