FleeceBACK® Roofing Systems

G U I D E - S P E C

Sure-Seal® EPDM FleeceBACK™ Mechanically Fastened Roofing System

January 2025

This **GUIDE-SPEC** is a brief outline of Carlisle's Sure-Seal FleeceBACK Mechanically Fastened Roofing System requirements and is intended for use as a submittal with a bid package. Specifiers and the Carlisle Authorized Roofing Applicator must comply with the applicable Sections of Carlisle's Technical Manual, prior to design or bid.

PART I GENERAL

1.01 DESCRIPTION

The Sure-Seal FleeceBACK Mechanically-Fastened Roofing System incorporates 10' wide, 45, 60 or 90-mil thick Sure-Seal (black) non-reinforced EPDM membrane laminated to a 55-mil thick non-woven polyester fleece-backing resulting in a total finished sheet thickness of 100, 115 or 145-mils. Without an underlayment, the membrane can be installed directly over a smooth surfaced BUR, mineral surfaced cap sheet, modified bitumen, or an acceptable single-ply membrane and mechanically fastened to an acceptable steel or wood deck

Securement of membrane will be with Carlisle HP Fasteners and Polymer Plates spaced a maximum of 12" on center in the field of the roof area. As an alternate to the Polymer, Carlisle Metal Fastener Bar or Polymer Bar may be substituted. Membrane securement to other types of decks will require approval from Carlisle based upon pullout values achieved.

A selvage edge (fleece-backing is discontinued) is provided on one edge along the length of the membrane with 6" wide Factory Applied Tape for splicing the membrane together.

1.02 QUALITY ASSURANCE

A. This roofing system must be installed by a Carlisle Authorized Roofing Applicator in compliance with shop drawings 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. For specific code approvals achieved with this system, refer to Carlisle's FleeceBACK Code Approval Guide, DORA (Directory of Roof Assemblies), FM Approvals or UL Fire Resistance Directory for Roofing Materials and Systems.

1.03 SUBMITTALS

A. To ensure compliance with Carlisle's warranty requirements, the following projects should be forwarded to Carlisle for review prior to installation, preferably prior to bid.

1. Air pressurized buildings, canopies, and buildings with large openings, cold storage buildings or freezer facilities, adhered roofing system projects over 100' in height or projects where the FleeceBACK membrane is expected to come in direct contact with petroleum-based products, waste products (i.e., grease, oil, animal fats, etc.) and other chemicals.

B. 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.

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 weight of existing components when the roofing system is to be specified on an existing facility.

B. On new construction projects, especially in cold climate regions, moisture generated due to the construction process could adversely impact various components within the roofing assembly if not addressed. [Refer to Design References DR-01 "Construction Generated Moisture" included in the Carlisle Technical Manual.]

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C. On structural concrete decks, when a vapor retarder is not used, gaps in the deck along the perimeter and around penetrations must be sealed along with vertical joints between tilt-up panels, if present, to prevent infiltration of hot humid air and possible moisture contamination resulting from condensation. This is specifically important when adhesive is used to attach the roof insulation.

CAUTION: If left unaddressed, collected moisture could weaken insulation boards and facers resulting in a blow-off or increase the probability of mold growth.

D. Vapor Retarders

1. Carlisle does not require a vapor retarder for the protection of the membrane; however, it should be considered by the specifier for the protection of the roofing assembly (i.e. primarily insulation, underlayment and adhesives). The following criteria should be considered by the specifier:

   a. Use of a vapor retarder to protect insulation and reduce moisture accumulation within an insulated roofing assembly, should be investigated by the specifier.

   b. In the generally temperate climate of the United States, during the winter months, water vapor flows upward from a heated, more humid interior toward a colder, drier exterior. Vapor retarders are more commonly required in northern climates than in southern regions, where downward vapor pressure may be expected and the roofing membrane itself becomes the vapor retarder.

1.05 WARRANTY

Table I **Sure-Seal EPDM FleeceBACK Mechanically Fastened Systems Warranty Options**

Years	Minimum Membrane Thickness	Peak Gust Wind Speed Warranty
		55 or 72 mph
5,10, or 15 year	Sure-Seal 100-mil	√

Notes: N/A = Not Acceptable √= Acceptable

General: Refer to Attachment II of the FleeceBACK Specification for the number of perimeter sheets and fastening density. Contact Carlisle for extended wind speed coverage or a 20-year System Warranty.

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., adhesive, sealants and cleaners).

C. Sure-Seal FleeceBACK Membrane should be stored in its original plastic wrap or 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 securement.

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

Sure-Seal FleeceBACK non-reinforced EPDM laminated to a 55-mil non-woven polyester fleece-backing resulting in a total finished sheet thickness of 100, 115 or 145-mil. A selvage edge with 3” or 6” wide Factory-Applied SecurTAPE is provided along the length of the membrane for splicing. The 100-mil membranes are available in width of 10' and length of 100’. The 115-mil membranes are available in

width of 10' and length of 100’ or width of 5’ and length of 40’. The 145-mil membrane is available in width of 10’ and lengths of 50’ or 100’.

2.03 RELATED MATERIALS

A. Sure-Seal Flashing, Pressure Sensitive Cured Cover Strips, Pressure Sensitive Elastoform Flashing, SecurTAPE, Lap Sealant, Weather Membrane Cleaner, Termination Bars, Insulation Fasteners and Water Cut-Off Mastic. Other Carlisle products such as insulation and metal edgings are also required when a Total System Warranty is specified.

B. **Other Products:** Pressure Sensitive Walkway Pads, Pre-Molded Pipe Flashings, Curb Wraps, Inside and Outside Corners, LIQUISEAL Liquid Flashing, Sealant Pockets, etc.

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. The building owner shall provide a proper substrate. The structure shall be sufficient to withstand normal construction loads and live loads.

B. Defects in the roof deck must be reported and documented to the specifier, general contractor and building owner for assessment. The Carlisle Authorized Roofing Applicator shall not proceed unless the defects are corrected.

C. When mechanically attaching the insulation with Carlisle Fasteners and Insulation Plates, refer to Sure-Seal FleeceBACK Application – Attachment I for acceptable decks and the applicable Carlisle Fasteners.

3.03 SUBSTRATE REQUIREMENTS

A. The membrane may be installed over an existing smooth surfaced asphalt built-up roof (Type III or IV Asphalt), modified bitumen or mineral surfaced cap sheet and mechanically fastened to the roof deck with Carlisle Fasteners/ Plates or Bars for up to a 20 year warranty.

B. The substrate must be dry, relatively smooth, and free of protrusions, debris, sharp edges or foreign materials, accumulated water, ice and snow. Cracks or voids in the substrate greater than 1/4" must be filled with a suitable material.

C. Cut and remove wet insulation as identified by the specifier and fill all voids with new insulation, so that it is flush with the existing roofing assembly.

3.04 INSTALLATION

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

A. **Membrane Installation**

1. Sure-Seal FleeceBACK Membrane shall be positioned over the existing roof surface and mechanically fastened to the roof deck with Carlisle Fasteners and Plates or Bars spaced a maximum of 12” on center in the field of the roof area. Placement of the securement will be along the edge without a salvage edge.

2. **Perimeter Securement Requirements**

   The membrane shall be secured around the building perimeter using additional rows of Carlisle Fasteners and Plates or Bars positioned along the centerline of the 10’ wide sheets as follows:
   Sure-Seal Pressure-Sensitive Cured Cover Strips (in conjunction with HP-250 or Low-VOC EPDM Primer) shall be used to overlay the fasteners and plates.

   Adjoining sheets of Sure-Seal FleeceBACK Membrane are overlapped approximately 6” along the length of the membrane (at the selvage edge) where fastening plates will be located.

3. **End Laps**

   At end laps (along the width of the sheet), membranes shall be butted together which will be overlaid with 6"wide Sure-Seal Pressure Sensitive Cured Cover Strip or Pressure-Sensitive Overlayment Strip.

B. Additional Membrane Securement

The membrane must be secured at the perimeter of each roof level, roof section, expansion joint, curb, skylight, interior wall, penthouse, etc., at any angle change which exceeds 2" in one horizontal foot and at all other penetrations in accordance with Carlisle's Details published in the Carlisle Technical Manual.

C. Membrane Flashing

1. Flash all walls and curbs with FleeceBACK or cured Sure-Seal membrane. Uncured Sure-Seal EPDM membrane shall be limited to inside and outside corners, field fabricated pipe seals, scuppers and Sealant Pockets where the use of premolded accessories are not practical.

2. When using the Sure-Seal Pressure Sensitive Cured Cover Strip or Pressure-Sensitive Overlayment Strip to overlay metal edging flanges or fasteners/plates, Carlisle Weather Membrane Cleaner is used to clean surfaces as needed. Apply Carlisle HP-250 or Low-VOC EPDM Primer prior to applying Pressure-Sensitive Cover Strip or Pressure-Sensitive Overlayment Strip.

D. Metal Work

1. Terminate the flashing in accordance with the appropriate Carlisle Details above anticipated slush line.

   Note: Fleece backing must be removed from the back of the membrane prior to completing compression seal terminations so Water Cut-Off Mastic is applied directly to the membrane surface. Apply heat to the fleece material until the bottom of the membrane is exposed.

2. Carlisle recommends a Sure-Seal SecurEdge Metal Edging/Coping, or Drip Edge for membrane termination. Installation instruction sheets are available from Carlisle.

3. Metal work by others, when specified, must be fastened to prevent the metal from pulling free or buckling, and sealed to prevent moisture from entering the roofing system or building. **Unless supplied by Carlisle, the performance and integrity of metal work by others is not included in this specification and is excluded from the Carlisle warranty.**

4. **On retrofit projects**, existing counterflashing, edging, expansion joint covers, copings, etc., shall not be reused unless investigated by the specifier to determine its compliance to Carlisle's current details.

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Physical properties of Sure-Seal 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 conditions to complete a bid package submittal.