FLEECEBACK®

G U I D E - S P E C

FleeceBACK™ Adhered Roofing System using Bead Applied FAST Adhesive

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This **GUIDE-SPEC** is a brief outline of Carlisle's FleeceBACK Adhered Roofing System with Bead Applied FAST Adhesive 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

This FleeceBACK Adhered Roofing System incorporates Sure-Seal (black) or Sure-White non-reinforced EPDM, Sure-Weld (white, gray or tan) reinforced TPO or Sure-Flex PVC FleeceBACK membrane laminated to non-woven polyester fleece-backing. The membrane is fully adhered to an acceptable insulation or substrate with FAST Adhesive applied in beads.

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. For specific code approvals achieved with this system, refer to Carlisle's FleeceBACK Code Approval Guide, FM Approvals or UL Fire Resistance Directory for Roofing Materials and Systems.

1.03 SUBMITTALS

A. To ensure compliance with Carlisle's minimum 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 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 Spec Supplement G-01-11 "Construction Generated Moisture" included in the Carlisle Technical Manual or SPRI Advisory Bulletin included in the Design Reference DR-03-11 "Construction Generated Moisture".]

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.

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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 FleeceBACK Adhered Systems Warranty Options

Years	Minimum Membrane Thickness	Sure-Seal/Sure-White EPDM Sure-Weld TPO Sure-Flex PVC			Additional Hail Coverage			
		55 or 72 mph	80 mph	90 or 100 mph	1" Dia. Hail	2" Dia. Hail	3" Dia. Hail	4" Dia. Hail
5,10, or 15 year	Sure-Seal/Sure-White 100-mil or Sure-Weld 100-mil	√	√	√	√	√ (1)	N/A	N/A
	Sure-Flex 105-mil	√	√	√	√ (1)	N/A	N/A	N/A
20 year	Sure-Seal/Sure-White 115-mil or Sure-Weld 115-mil	√	√	√	√	√	√ (1)	N/A
	Sure-Flex 115-mil	√	√	√	√	√ (1)	N/A	N/A
25 year	Sure-Seal/Sure-White 145-mil or Sure-Weld 135-mil	√	√	√	√	√	√	√ (2)
	Sure-Flex 135-mil	√	√	√	N/A	N/A	N/A	N/A
30 year	Sure-Seal/Sure-White 145-mil or Sure-Weld 135-mil	√	√	√	√	√	√	√ (2)
	Sure-Flex 135-mil	√	√	√	N/A	N/A	N/A	N/A

Notes: N/A = Not Acceptable √= Acceptable

(1) Requires Flexible FAST in full coverage or beads spaced at 4" o.c.

(2) Require Flexible FAST in full coverage or beads spaced at 4" o.c. Contact Carlisle for underlayment requirements.

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., FAST Adhesive – Parts A & B, splicing cement, 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 90-mil Sure-Weld (white, gray or tan) 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 PVC FleeceBACK is available in 105, 115 and 135 mils.

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

2.03 RELATED MATERIALS

A. FAST Adhesive, Cleaners, Splicing Cement, 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 insulation and edgings are also required when a System Warranty is specified.

Other Products: Walkway Pads, Pre-Molded Pipe Flashings, Corners and Pourable/Molded Sealer 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.

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 FleeceBACK Specification for acceptable decks and the applicable Carlisle Fasteners.

3.03 SUBSTRATE REQUIREMENTS

A. The membrane may be adhered with FAST Adhesive directly over structural concrete, wood decks (new or tear-off). An existing smooth surfaced asphalt built-up roof (Type III or IV Asphalt), modified bitumen, or mineral surfaced cap sheet are also acceptable

substrates. Direct application over certain types of cellular or perlite lightweight insulating concrete substrate may also be specified (contact Carlisle for acceptable lightweight insulating concretes).

B. Acceptable Carlisle insulations include all types currently approved with Design "A" Adhered Roofing Systems.

C. The substrate must be dry, relatively smooth, free of protrusions, debris, sharp edges or foreign materials and must be free of accumulated water, ice and snow. Cracks or voids in the substrate greater than 1/4" (6 mm) must be filled with a suitable material.

D. On retrofit-recover projects, cut and remove wet insulation as identified by the specifier and fill all voids with new insulation, so that it is relatively flush, prior to installing an approved insulation.

3.04 INSTALLATION

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

A. **Insulation Attachment**

1. Carlisle FAST Adhesive may be specified for insulation securement in full spray or beads with spacing as outlined in the Carlisle Technical Manual.

2. Carlisle Fasteners may be used, when specified, to secure Carlisle Insulation at the specified density outlined in the Carlisle Technical Manual

B. **Membrane Adhesion**

1. FleeceBACK Membrane shall be adhered to an acceptable substrate with a two component, bead applied, low-rise adhesive supplied by Carlisle. Sure-Seal 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" and begins to “string” when touched with an HP Splice Wipe. Roll the membrane with a weighted (100 - 150 pounds) rubber coated steel roller to set the membrane into the adhesive.

2. Adjoining sheets of FleeceBACK Membrane are overlapped a minimum of 3” along length of membrane (at selvage edges) in preparation for splicing. At end laps (along width of sheet), membrane shall be butted together and overlaid with a minimum 6" wide Pressure-Sensitive Cured Cover Strip for EPDM or reinforced membrane for TPO or PVC.

3. Refer to Carlisle Technical Manual for alternate attachment methods.

4. **Membrane Splicing of FleeceBACK Systems**

   Refer to appropriate splicing procedures published in the Sure-Seal/Sure-White, Sure-Weld or Sure-Flex FleeceBACK Specifications.

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.

3. At angle changes along walls, curbs, skylights, etc., FleeceBACK membrane must be adhered in FAST Adhesive beads placed directly at the angle change and an additional bead spaced a maximum of 3” away from the first bead (at the angle change).

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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.