FleeceBACK® AFX Roofing Systems

# G U I D E - S P E C

# AFX SURE-WELD® Hot Mopped Roofing System

July 2026

This **GUIDE-SPEC** is a brief outline of AFX Sure-Weld Hot Mopped Roofing System requirements and is intended for use as a submittal with a bid package. Specifiers and Carlisle Authorized Roofing Applicators must comply with the specification and details contained in Carlisle's Technical Manual.

## PART I GENERAL

### 1.01 DESCRIPTION

**The AFX Sure-Weld Hot Mopped Roofing System** incorporates the use of hot mopped (Type III or IV Asphalt, Modified SBS or SEBS Asphalt) AFX Membrane to recover various existing roof systems. The membrane assembly can also be used for new construction or when existing roofing material is to be removed. The AFX membrane combines Sure-Weld TPO membrane with 10 ounce per square yard, non-woven polyester polypropylene blended fleece-backing.

Adjoining Sure-Weld sheets are seamed together with a hot air weld. Sheet end laps are butted and overlaid with Sure-Weld reinforced membrane and hot air welded.

### 1.02 QUALITY ASSURANCE

A. The specified 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 AFX 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 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 50' 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 fates, etc.) and other chemicals.
2. Projects where 20 or 25-year System Warranties or wind speed coverage greater than 72 mph are specified.

### 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. Interior moisture generated due to the construction process or from the operation of the building could adversely impact various components within the roofing assembly if not addressed. Refer to Carlisle Technical Manual for industry recommendations.

### 1.05 WARRANTY

Membrane System Warranty is available for roofing systems on commercial buildings within the United States and applies only to products manufactured or marketed by Carlisle SynTec. The membrane system is defined as membrane, flashings, adhesives, sealants and other Carlisle brand products utilized in the installation.

**Table I Membrane System Warranty Options – 5 Year to 30 Year**

General: When AFX membrane is adhered directly to an acceptable existing roofing material or to a concrete deck, the application will be limited to Maximum 15 Year Warranty with Peak Gust Wind Speed of 72 MPH. When greater warranty coverage is specified, Carlisle must be contacted to determine any added enhancements.

| Years | Membrane Attachment (3) | | | Minimum Membrane Thickness | Additional Coverage (1) | | |
|---|---|---|---|---|---|---|---|
| | 55 or 72 mph | 80 mph | 90 mph | | Accidental Puncture (4) | 1" Dia. Hail | 2" Dia. Hail |
| 5, 10, or 15 year | Type III / IV or Cold Applied | SEBS | SEBS & Modified Base Sheet | AFX TPO 120-mil | NA (2) | Type III / IV or Cold Applied | NA (2) |
| 20 year | Type III / IV or Cold Applied | SEBS | SEBS & Modified Base Sheet | AFX TPO 135-mil | Up to 16 man-hours per year | Type III / IV or Cold Applied | SEBS or Cold Applied |
| 25 or 30 year | Type III / IV & Modified Base Sheet | SEBS & Modified Base Sheet | NA (2) | AFX TPO 155-mil | Up to 32 man-hours per year | SEBS | SEBS |

(1) Hail coverage option is available and requires underlayment of HP Recovery Board, or Securock
(2) NA = Not Available
(3) Projects specifying an Underlayment/Insulation refer to Carlisle Technical Manual.
(4) 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.

**Table II Underlayment/Insulation & Required Attachment**

| Warranty Wind Speed | Minimum Membrane Underlayment | Insulation/Underlayment Attachment | |
|---|---|---|---|
| | | Asphalt Fully Mopped 4' x 4' size bd | # of Fasteners for 4' x 8' size bd (1) |
| 55mph or 72mph | 1/2" HP Recovery Bd | Type III or IV | 16 |
| | 1/2" Securock | Type III or IV | 12 |
| | 1/2" SecurShield HD | Type III or IV | 16 |

Notes:
(1) For steel, concrete, and wood plank decks.

**Table IV Direct Application to Existing Roofing Materials - Up to 15 YR**

| Warranty Wind Speed | Existing Roofing Material (1) | Membrane Adhesion with Asphalt |
|---|---|---|
| 55mph or 72mph | Smooth Surface BUR / Mineral Surface Cap Sheet | Direct with Type III or IV Asphalt |
| | Modified Bitumen | Direct with Type III or IV Asphalt |

Notes:
(1) Refer to paragraph 3.02 for existing material preparation.

Additional Design Considerations

1. Refer to Table I for minimum membrane thickness.
2. All wet roofing materials must be totally removed and fill all voids with appropriate material relatively flush with the existing surface.
3. Insulation/cover board is required for reroofing of Gravel Surface BUR, Coal Tar Pitch, or existing single-ply membrane. Refer to Table II.
4. For 20 year warranty or additional wind coverage, please contact Carlisle for design considerations.

## 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., Sealant, cleaners, primers, Pourable Sealer, and Pressure-Sensitive Flashing).

D. 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 mopping.

## 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. Other components (asphalt and pressure relief vents) which are not supplied by Carlisle, when required for the installation of this roofing system, may be included as part of the Carlisle Warranty.

### 2.02 MEMBRANE

The membrane incorporates 45-mil, 60-mil, or 80-mil thick Sure-Weld reinforced TPO laminated to 10 ounce per square yard, non-woven polyester polypropylene blended fleece resulting in a total finished sheet thickness of 120-mil, 135-mil, or 155-mil is available 6' or 12' wide and length 75'.

### 2.03 RELATED CARLISLE MATERIALS

A. Carlisle Base Sheets, Fasteners/Plates, CCW-550 Primer, Primer, Pressure Sensitive Cover Strips, Non-Reinforced Flashing, Cut-Edge Sealant, Weathered Membrane Cleaner, Termination Bars, Water Cut-Off Mastic, and other Carlisle products such as cover boards, insulations, and edgings are also required when a System Warranty is specified.

B. Other Carlisle Products – Heat Weldable Walkway Pads, Pre-Molded Pipe Flashings, Split Pipe Seals, Curb Wrap Corners, LIQUISEAL Liquid Flashing and Sealant Pockets.

### 2.04 RELATED MATERIALS

A. **Hot Asphalt -** Type III or IV, SBS or SEBS Hot Asphalt shall conform to the physical properties listed in the Carlisle Technical Manual.

B. **One-Way Relief Vents -** Vents are required when the membrane is adhered over lightweight insulating concrete and installed at the rate listed in the Carlisle Technical Manual.

## PART III EXECUTION

### 3.01 GENERAL

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. Refer to Carlisle Technical Manual for acceptable decks and the applicable Carlisle Fasteners (when mechanical attachment of insulation or base sheets is specified.

### 3.03 SUBSTRATE REQUIREMENTS

| Construction Type | Acceptable Roof Deck/Substrate | Asphalt Applied |
|---|---|---|
| Retrofit/No Tearoff | Existing Smooth Surface BUR or Mineral Surface Cap Sheet | Direct Application (3) |
| | Gravel Surfaced BUR (2) | Cover Board / Insulation (1) |
| | Coal Tar Pitch | Cover Board / Insulation (1) |
| | Modified Bitumen | Direct Application (3) |
| | Existing Single-Ply | Cover Board / Insulation (1) |

(1) Refer to the Warranty Table II of this specification, for the minimum underlayment requirements.
(2) When installing this roofing system over existing gravel surfaced built-up roof, loose gravel must be removed. Any uneven areas of the substrate must be leveled to prevent insulation from bridging.
(3) Prepare existing Smooth Surface BUR (Type III or IV), Mineral Surface Cap Sheet, and Modified Bitumen with CCW-550 Cut Back Asphalt Primer prior to

adhering AFX membrane with asphalt.

A. **General**

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" must be filled with suitable material.

B. **Structural concrete deck**

The membrane can be mopped directly to structural concrete, in addition to paragraph 3.03.A, concrete must be smooth with a steel trowel finish and then primed with CCW-550 Cut Back Asphalt primer prior to membrane mopping.

C. **Lightweight insulating concrete**

Projects with new or existing lightweight insulating concrete substrates will require the use of a Carlisle Base Sheet and One-Way Relief Vent, refer to Carlisle Technical Manual for fastening patterns for base sheets and layout of vents.

## 3.04 INSTALLATION

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

A. **Base Sheet Attachment**

1. When base sheets are to be mopped to a structural concrete deck, the deck must be primed with CCW-550 Cut Back Asphalt Primer (ASTM D 41) prior to mopping base sheets.

2. Prior to installing either the AFX membrane or insulation in asphalt, Carlisle Base Sheets shall be fastened into the gypsum, lightweight insulated concrete or fibrous cement with Carlisle Dual Prong fasteners.

3. When no insulation is specified and AFX Membrane is to be directly mopped to a Carlisle Modified Base Sheet, a base sheet must be fastened with Carlisle HP or HP-X Fasteners with 3” diameter insulation plates.

B. **Insulation Attachment**

1. When specified, the cover board or insulation may be adhered with asphalt to a Carlisle Base Sheet or a concrete deck primed (CCW-550 Cut Back Asphalt) with Type III or IV Asphalt, or SEBS as outlined in the Carlisle Technical Manual.

2. When roof insulation is specified to be mechanically securement is specified, use appropriate Carlisle fasteners for deck type and ensure minimum deck penetration.

C. **AFX Membrane Installation**

1. AFX Membrane shall be fully adhered to an acceptable substrate with hand mopping Type III or IV, SBS or SEBS asphalt. Apply asphalt to the substrate the full width of the membrane extending a maximum of 3 to 6 feet while rolling the membrane into the asphalt immediately.

2. After membrane mopping, immediately after adhesion, brush down the sheet with a stiff bristled broom using light to medium pressure. Do not use weighted rollers or heavy pressure when brooming the membrane to avoid asphalt saturation of the fleece.

3. When overlapping adjoining AFX Membranes, extend fleece backing approximately 1/2 inch above previously installed membrane. This will avoid direct contact between membrane in the seam area and hot asphalt adhesive.

4. Refer to Carlisle Technical Manual for alternate attachment methods, asphalt temperature, cover rates, and steps to avoid saturation of fleece backing with asphalt

D. **AFX Membrane Splicing – Hot Air Welding**

Refer to the Carlisle Technical Manual for specific heat welding procedures.

E. **Flashing Considerations**

For Flashing considerations refer to Carlisle Technical Manual requirements.

**Attach copies of the applicable Carlisle Details that pertain to the individual project to complete a bid package submittal.**

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