Sure-Tough™ EPDM Roofing Systems

G U I D E - S P E C

Sure-Tough EPDM Mechanically-Fastened Roofing System

July 2026

This **GUIDE-SPEC** is a brief outline of Carlisle's Sure-Tough 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 Carlisle Technical Manual prior to design or bid. The "Products" Section included in the Carlisle technical manual and Carlisle's Product Data Sheets contain information on proper usage of Carlisle products as well as applicable cautions and warnings. Prior to the installation of this roofing system, this information must be thoroughly reviewed.

PART I GENERAL

1.01 DESCRIPTION

The Mechanically Fastened Roofing System incorporates 45-, 60- or 75-mil Sure-Tough EPDM membrane. An acceptable insulation is mechanically fastened to the roof deck and, depending on project criteria; the reinforced membrane is mechanically fastened with the appropriate Carlisle Fastener and 2" or 2-3/8" diameter Fastening Plates (Polymer Plates required over steel deck) or Fastening Bars at 6" minimum to 12" maximum along the center of the membrane splice.

Adjoining sheets of EPDM membrane are spliced together using Factory-Applied TAPE (FAT) and Primer OR SecurTAPE and Primer. Field membrane sheets are either 6-1/2', 8' or 10' wide depending upon wind load requirements, building height and type of roof deck. At the roof perimeter, a heavier fastening density is required utilizing 5' or 6.5' wide sheets or 9" wide Pressure-Sensitive RUSS (Reinforced Universal Securement Strip). The maximum roof slope for this roofing system is 18" in one horizontal foot.

This roofing system can also be specified over an existing standing seam, flat seam or corrugated metal roof with the membrane secured to the structural purlins. Refer to the appropriate specification for Metal Retrofit System.

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 EPDM 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 EPDM 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.

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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 Reference DR-01-21 "Construction Generated Moisture" included in the Carlisle Technical Manual.]

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 **Reinforced EPDM Membrane Systems Warranty Options**

Years	Sure-Tough Reinforced Membranes				
	55, 72 or 80 mph	90 mph	100 to 120 mph	Minimum Membrane Thickness	Additional Puncture Coverage (1)
	Mech. Fastened	Mech. Fastened	Mech. Fastened		
5,10 or 15 year	√	√	N/A	Sure-Tough 45-mil	N/A
20 year	√	√	N/A	Sure-Tough 60-mil	N/A
25 year	√	√	N/A	Sure-Tough 75-mil	N/A
30 year	√	√	N/A	Sure-Tough 75-mil	N/A

Notes: N/A = Not Acceptable √= Acceptable

(1) 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 job site in 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., uncured flashing, adhesives, sealants, primers, SecurTape, Pourable Sealer and Pressure-Sensitive Flashings).

C. When liquid adhesives and sealants are exposed to lower temperatures, restore to a minimum of 60° F before use. Do not store adhesive containers with opened lids due to loss of solvent, which will occur from flash off.

1.05 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 by Carlisle**, is not the responsibility of Carlisle and is expressly disclaimed by the Carlisle Warranty.

2.02 MEMBRANE

A. Sure-Tough Reinforced EPDM Membranes: Cured reinforced EPDM (Ethylene, Propylene, Diene Terpolymer) compounded elastomer and is available, only in black, 45-, 60-, or 75-mil thicknesses with polyester fabric which conforms to ASTM D4637, Type II (reinforced). All sheets are available with 3" or 6" Factory Applied SecurTAPE (FAT).

45- and 60-mil membranes are available in widths of 5' or 6-1/2', used as perimeter membrane sheets, and 6-1/2', 8' or 10', used as field membrane sheets. When greater puncture or wind uplift resistance is desired, 10' wide 75-mil Sure-Tough Reinforced, may be specified.

2.03 RELATED MATERIALS

A. 90-8-30A, Low-VOC Bonding Adhesive, Aqua Base Adhesive, Lap Sealant, Primer, SecurTAPE™, Pressure-Sensitive Cured EPDM Flashing, Pressure-Sensitive Flashing, uncured Elastoform Flashing®, Carlisle Fasteners and Fastening Plates or Bars and Pressure-Sensitive RUSS™ (with the corresponding fasteners) are required for use with this roofing system. Other Carlisle products, such as, insulation, insulation fasteners, edgings and Termination Bars are also required when a Total System Warranty is specified.

B. Other Products: Metal Fastening Bars, Carlisle Walkway Pads, Pressure-Sensitive Pipe Flashings, Pressure-Sensitive Inside/Outside Corners, LIQUISEAL Liquid Flashing and Pourable 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 to 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 Carlisle Technical Manual.

3.03 SUBSTRATE PREPARATION

A. On retrofit-recover projects, cut and remove wet insulation, as identified by the specifier, and fill all voids created by such removal with new insulation so that it is relatively flush.

B. For all projects, substrate must be even without noticeable high spots or depressions and free of accumulated water, ice or snow. Clear substrate of debris and foreign material. Fresh bitumen based roof cement must be removed or concealed.

3.04 INSTALLATION

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

A. **Insulation Attachment**

1. Carlisle Flexible 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 Placement and Attachment

1. A minimum of one 5' or 6-1/2' wide perimeter membrane sheet or 9" wide Pressure-Sensitive RUSS (positioned beneath the field sheets) shall be installed at the perimeter of each roof level and 6-1/2', 8' or 10' wide sheets shall be installed over the field of the roof.

2. Membrane shall be mechanically fastened with the appropriate Carlisle Fasteners and Polymer Seam Plates (required for steel decks) or Seam Fastening Plates spaced 6" minimum to 12" maximum on center, depending on project criteria, within the

membrane splice. Refer to the "Design Criteria" section for the required number of perimeter membrane sheets, width of field sheets and required fastener spacing.

3. As an option to the use of Fastening Plates, Sure-Seal Fastening Bars may be used for membrane securement in conjunction with HP-X Fasteners.

4. Overlap adjacent EPDM membrane sheets a minimum of 6 inches at fastener locations (along the length of the membrane sheet) and 3” at end roll sections (the width of the membrane).

5. Membrane Splicing with SecurTAPE (membrane is available with Factory-Applied Tape).

   a. Apply Sure-Seal Primer to the splice area. When tape is not Factory-Applied, position SecurTAPE onto bottom membrane sheet with the edge of the release film along a line marked 1/2" out from the top sheet. Press tape onto sheet using hand pressure, overlapping tape roll ends a minimum of 1". Remove the release film and press top sheet onto tape using hand pressure. Roll the splice with a 2" wide steel roller or Carlisle’s Stand-Up Seam Roller.

   b. Install a Pressure-Sensitive T-Joint Cover or a 6" wide section of Pressure-Sensitive Elastoform Flashing over all field splice intersections. The use of Lap Sealant with tape splices is optional except at tape overlaps and cut edges of reinforced membrane.

C. **Additional Membrane Securement**

EPDM 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 penetrations in accordance with Carlisle's details published with Carlisle's specifications.

Additional membrane securement may be provided by Pressure-Sensitive RUSS™, Polymer Seam Plates (required for steel decks) or Seam Fastening Plates.

D. **Membrane Flashing**

1. Refer to Carlisle Technical Manual for membrane flashing.

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Physical properties of Sure-Seal EPDM Membrane can be referenced in Part II, "Products" of the EPDM Specification.

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