

**Delta County Courthouse
FleeceBack EPDM Recover Specification
October 2022**

PART 1 GENERAL

1.01 DESCRIPTION

A. The Delta County Courthouse project is located at 310 Ludington St in Escanaba MI. Jay Boyd, Project Manager/Coordinator, is the Owner's Representative and may be contacted regarding any questions at (616) 570-4687.

B. The project consists of installing Carlisle's Sure-Seal (black) FleeceBACK Adhered Roofing System in conjunction with Flexible FAST Adhesive as outlined below:

Section 1 - Apply the FleeceBACK Adhered Roofing System directly to the existing EPDM roof.

Supplemental fastening will be required. Picture frame the entire roof area 10' in from the perimeter edge using appropriate fasteners and plates 12" o.c.

Section 2 – Apply the FleeceBACK Adhered Roofing System in conjunction with polyisocyanurate insulation after tear off of the existing roof to expose the deck for verification of suitable substrate as specified in this specification. This roof section will also require that the wall be wrapped per the attached image.

C. Replace the 6 (six) existing skylights.

D. Remove the existing chimney down to roof level and cap with new metal.

1.02 EXTENT OF WORK

A. Provide all labor, material, tools, equipment, and supervision necessary to complete the installation of a Sure-Seal FleeceBACK Adhered Roofing System including flashings and insulation as specified herein and as indicated on the drawings in accordance with the manufacturer's most current specifications and details.

B. The roofing contractor shall be fully knowledgeable of all requirements of the contract documents and shall make themselves aware of all job site conditions that will affect their work.

C. The roofing contractor shall confirm all given information and advise the building owner, prior to bid, of any conflicts that will affect their cost proposal.

D. Any contractor who intends to submit a bid using a roofing system other than the approved manufacturer must submit for pre-qualification in writing fourteen (14) days prior to the bid date. Any contractor who fails to submit all information as requested will be subject to rejection. Bids stating "as per plans and specs" will be unacceptable.

1.03 SUBMITTALS

A. Prior to starting work, the roofing contractor must submit the following:

1. Shop drawings showing layout, details of construction and identification of materials.

2. A sample of the manufacturer's Membrane System Warranty.

3. Submit a letter of certification from the manufacturer which certifies the roofing contractor is authorized to install the manufacturer's roofing system and lists foremen who have received training from the manufacturer along with the dates training was received.

4. Certification of the manufacturer's warranty reserve.
- B. Upon completion of the installed work, submit copies of the manufacturer's final inspection to the specifier prior to the issuance of the manufacturer's warranty.

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Deliver materials to the job site in the manufacturer's original, unopened containers or wrappings with the manufacturer's name, brand name and installation instructions intact and legible. Deliver in sufficient quantity to permit work to continue without interruption.
- B. Comply with the manufacturer's written instructions for proper material storage.
1. Store FleeceBACK membrane in a dry area. Moisture absorbed by the fleece backing must be removed using a wet-vac system prior to membrane adhesive.
 2. Store other materials between 60°F and 80°F in dry areas protected from water and direct sunlight. If exposed to lower temperature, restore to 60°F minimum temperature before using.
 3. Store materials containing solvents in dry, well ventilated spaces with proper fire and safety precautions. Keep lids on tight. Use before expiration of their shelf life.
- C. Insulation must be on pallets, off the ground and tightly covered with waterproof materials.
- D. Any materials which are found to be damaged shall be removed and replaced at the applicator's expense.

1.05 WORK SEQUENCE

- A. Schedule and execute work to prevent leaks and excessive traffic on completed roof sections. Care should be exercised to provide protection for the interior of the building and to ensure water does not flow beneath or wick into any completed sections of the membrane system.
- B. Do not disrupt activities in occupied spaces.

1.06 USE OF THE PREMISES

- A. Before beginning work, the roofing contractor must secure approval from the building owner's representative for the following:
1. Areas permitted for personnel parking.
 2. Access to the site.
 3. Areas permitted for storage of materials and debris.
 4. Areas permitted for the location of cranes, hoists and chutes for loading and unloading materials to and from the roof.
- B. Interior stairs or elevators may not be used for removing debris or delivering materials, except as authorized by the building superintendent.

1.07 EXISTING CONDITIONS

If discrepancies are discovered between the existing conditions and those noted on the drawings, immediately notify the owner's representative by phone and solicit the manufacturer's approval prior to commencing with the work.

Necessary steps shall be taken to make the building watertight until the discrepancies are resolved.

1.08 PRECONSTRUCTION CONFERENCE

- A. A pre-bid meeting will be held at the job site on **October 21, 2022 at 10:00 am.**
- B. Bids must be forwarded to the following email address no later than Tuesday **November 8, 2022 at 11:00 am:**

Emily DeSalvo
edesalvo@deltacountymi.gov

- D. Any conditions which are not shown on the shop drawings should be indicated on a copy of the shop drawing and included with bid submittal if necessary to clarify any conditions not shown.

1.09 TEMPORARY FACILITIES AND CONTROLS

- A. Temporary Utilities:
 - 1. Water, power for construction purposes and lighting are not available at the site and will not be made available to the roofing contractor.
 - 2. Provide all hoses, valves and connections for water from a source designated by the owner when made available.
 - 3. When available, electrical power should be extended as required from the source. Provide all trailers, connections and fused disconnects.

- B. Temporary, Sanitary Facilities

Sanitary facilities will not be available at the job site. The roofing contractor shall be responsible for the provision and maintenance of portable toilets or their equal.

- C. Building Site:

- 1. The roofing contractor shall use reasonable care and responsibility to protect the building and site against damages. The contractor shall be responsible for the correction of any damage incurred as a result of the performance of the contract.
- 2. The roofing contractor shall remove all debris from the job site in a timely and legally acceptable manner so as to not detract from the aesthetics or the functions of the building.

- D. Security:

Obey the owner's requirements for personnel identification, inspection and other security measures.

1.10 JOB SITE PROTECTION

- A. The roofing contractor shall adequately protect building, paved areas, service drives, lawn, shrubs, trees, etc. from damage while performing the required work. Provide canvas, boards and sheet metal (properly secured) as necessary for protection and remove protection material at completion. The contractor shall repair or be responsible for costs to repair all property damaged during the roofing application.
- B. During the roofing contractor's performance of the work, the building owner will continue to occupy the existing building. The contractor shall take precautions to prevent the spread of dust and debris, particularly where such material may sift into the building. The roofing contractor shall provide labor and materials to construct, maintain and remove necessary, temporary enclosures to prevent dust or debris in the construction

area(s) from entering the remainder of the building.

- C. Do not overload any portion of the building, by either use of or placement of equipment, storage of debris, or storage of materials.
- D. Protect against fire and flame spread. Maintain proper and adequate fire extinguishers.
- E. Take precautions to prevent drains from clogging during the roofing application. Remove debris at the completion of each day's work and clean drains, if required. At completion, test drains to ensure the system is free running and drains are watertight. Remove strainers and plug drains in areas where work is in progress. Install flags or other telltales on plugs. Remove plugs each night and screen drain.
- F. Store moisture susceptible materials above ground and protect with waterproof coverings.
- G. Remove all traces of piled bulk material and return the job site to its original condition upon completion of the work.

1.11 SAFETY

The roofing contractor shall be responsible for all means and methods as they relate to safety and shall comply with all applicable local, state and federal requirements that are safety related. **Safety shall be the responsibility of the roofing contractor.** All related personnel shall be instructed daily to be mindful of the full time requirement to maintain a safe environment for the facility's occupants including staff, visitors, customers and the occurrence of the general public on or near the site.

1.12 WORKMANSHIP

- A. Applicators installing new roof, flashing and related work shall be factory trained and approved by the manufacturer they are representing.
- B. All work shall be of highest quality and in strict accordance with the manufacturer's published specifications and to the building owner's satisfaction.
- C. There shall be a supervisor on the job site at all times while work is in progress.

1.13 QUALITY ASSURANCE

- A. The Sure-Seal Membrane Roofing System must achieve a UL Class A.
- B. The membrane must be manufactured by the material supplier. Manufacturer's supplying membrane made by others are not acceptable.
- C. Unless otherwise noted in this specification, the roofing contractor must strictly comply with the manufacturer's current specifications and details.
- D. The roofing system must be installed by an applicator authorized and trained by the manufacturer in compliance with shop drawings as approved by the manufacturer. The roofing applicator shall be thoroughly experienced and upon request be able to provide evidence of having at least five (5) years successful experience installing single-ply EPDM roofing systems and having installed at least one (1) roofing application or several similar systems of equal or greater size within one year.
- E. Provide adequate number of experienced workmen regularly engaged in this type of work who are skilled in the application techniques of the materials specified. Provide at least one thoroughly trained and an experienced superintendent on the job at all times roofing work is in progress.
- F. There shall be no deviations made from this specification or the approved shop drawings without the prior written approval of the specifier. Any deviation from the manufacturer's installation procedures must be supported by written certification on manufacturer's letterhead and presented for the specifier's consideration.

- G. Upon completion of the installation, the applicator shall arrange for an inspection to be made by a non-sales technical representative of the membrane manufacturer in order to determine whether or not corrective work will be required before the warranty will be issued. Notify the building owner seventy-two (72) hours prior to the manufacturer's final inspection.

1.14 JOB CONDITIONS, CAUTIONS AND WARNINGS

Refer to Carlisle's FleeceBACK Adhered Roofing System specification for General Job Site Considerations.

- A. Safety Data Sheets (SDS) must be on location at all times during the transportation, storage and application of materials.
- B. **Do not apply Flexible FAST Adhesive** when surface and/or ambient temperatures are **below 25°F**.
- C. The contractor must exercise caution during when spraying adhesive to avoid overspray.

Use a non-atomizing spray tip such as the Graco Spatter Tip and reduce spray pressure to 500 – 800 psi to increase adhesive droplet size and reduce airborne mist. Maintain handheld wind screens on-site for use as necessary. Extruding Flexible FAST Adhesive is also recommended for the elimination of overspray concerns.
- D. When positioning membrane sheets, exercise care to locate all field splices away from low spots and out of drain sumps. All field splices should be shingled to prevent bucking of water.
- E. When loading materials onto the roof, the Carlisle Authorized Roofing Applicator must comply with the requirements of the building owner to prevent overloading and possible disturbance to the building structure.
- F. Proceed with roofing work only when weather conditions are in compliance with the manufacturer's recommended limitations, and when conditions will permit the work to proceed in accordance with the manufacturer's requirements and recommendations.
- G. Proceed with work so new roofing materials are not subject to construction traffic. When necessary, new roof sections shall be protected and inspected upon completion for possible damage.
- H. Provide protection, such as 3/4 inch thick plywood, for all roof areas exposed to traffic during construction. Plywood must be smooth and free of fasteners and splinters.
- I. The surface on which the insulation or roofing membrane is to be applied shall be clean, smooth, dry, and free of projections or contaminants that would prevent proper application of or be incompatible with the new installation, such as fins, sharp edges, foreign materials, oil and grease.
- J. New roofing shall be complete and weather tight at the end of the work day. Care must be taken to avoid wicking water through the fleece by properly sealing exposed edges of the membrane
- J. Contaminants such as grease, fats and oils shall not be allowed to come in direct contact with the roofing membrane.

1.15 WARRANTY

- A. Provide manufacturer's 20 year Total System Warranty covering both labor and material. The maximum wind speed coverage shall be peak gusts of 72 mph measured at 10 meters above ground level.

Pro-rated System Warranties shall not be accepted.
- B. Evidence of the manufacturer's warranty reserve shall be included as part of the project submittals for the specifier's approval.

PART 2 PRODUCTS

2.01 GENERAL

- A. All components of the specified roofing system shall be products of Carlisle SynTec or accepted by Carlisle SynTec as compatible.
- B. Unless otherwise approved by the specifier and accepted by the membrane manufacturer, all products (including adhesives, insulation, fasteners, fastening plates and edgings) must be **manufactured and supplied** by the roofing system manufacturer and covered by the warranty.

2.02 MEMBRANE

- A. Furnish Sure-Seal (black) FleeceBACK 115-mil membrane. The membrane shall conform to the minimum physical properties of ASTM D4637-96, Type III (Fabric-backed membrane). Membrane sheets are 10' wide and 50' or 100' long and incorporate factory-applied splice tape (FAT) along the length of the membrane. Smaller 5' x 40' rolls are also available in 115-mil thicknesses.
- B. Dynamic Puncture Resistance (ASTM D5635-04a) of 20 joules.
- C. Static Puncture Resistance (ASTM D120) of 17 lbf .

2.03 INSULATION/UNDERLAYMENT

- A. When applicable, insulation shall be installed in multiple layers and mechanically fastened or secured with Carlisle Flexible FAST Adhesive to the substrate in accordance with manufacturer's published specifications.
- B. Insulation shall be two (2) layers of 2.6" Polyisocyanurate as supplied by Carlisle SynTec.
 - 1. **Carlisle Insulbase Polyisocyanurate** – A foam core insulation board covered on both sides with a medium weight fiber-reinforced felt facer meeting ASTM C 1289-06, Type II, Class 1, Grade 2 (20 psi) or Grade 3 (25 psi). The product is available in 4' x 8' standard size with a thickness from 1 to 4 inches. 4' x 4' tapered panels are also available.

2.04 FASTENING COMPONENTS

A. Fasteners, Plates and Bars

- 1. **HP- Fasteners:** a threaded, #14 fastener with a #3 phillips drive used with steel and wood roof decks.
- 2. **HP-X Fasteners:** A heavy duty #15 threaded fastener with a #3 phillips drive used for insulation securement into steel, wood plank or minimum 15/32 inch thick plywood when increased pullout resistance is desired.
- 3. **InsulFast Fasteners:** A threaded #12 fastener with #3 phillips drive used for insulation attachment into steel or wood decks.
- 4. **Insulation Fastening Plates:** a nominal 3-inch diameter plastic or metal plate used for insulation attachment.

2.05 ADHESIVES, CLEANERS AND SEALANTS

- 1. **Flexible FAST Adhesive:** An elongating impact resistant two component insulating urethane adhesive used to attach insulation and FleeceBACK membrane. Packaging formats include 50 and 15 gallon drums as well as Dual Cartridges and 5 gallon Bag in a Box formats.

1. Adhesive to provide 150% elongation in conjunction with fleece backed membrane – ASTM D412
2. MDI content of Part A material less than 25%
2. **Carlisle Weathered Membrane Cleaner:** A clear, solvent-based cleaner used to loosen and remove dirt and other contaminants from the surface of exposed EPDM membrane (for repairs, etc.) prior to applying EPDM Primer. Weathered Membrane Cleaner can also be used when applying Splicing Cement. Available in 1 and 5-gallon pails.
3. **Sure-Seal SecurTAPE™:** A 3" or 6" wide (used for Mechanically Fastened Roofing Systems and 20-year Warranty Systems) by 100' long splice tape used for splicing adjoining sections of EPDM membrane. Complies with the South Coast Air Quality Management District Rule 1168.
4. **Sure-Seal HP-250 Primer:** A solvent-based primer used to prepare the surface of EPDM membrane for application of Splice Tape or Pressure-Sensitive products. This Primer can also be used in conjunction with EP-95 Splicing Cement in lieu of Splice Cleaner. Available in 1 gallon pails.
5. **Lap Sealant:** A black, heavy-bodied material used to seal the exposed edges of a membrane splice. A pre-formed Lap Sealant tool is included in each carton of Lap Sealant. Available in tubes.
 - a. Sure-Seal Lap Sealant: Black sealant for use with Sure-Seal (black) Roofing Systems.
6. **Water Cut-Off Mastic:** A one-component, low viscosity, self wetting, Butyl blend mastic used as a sealing agent between the EPDM membrane or Elastoform Flashing and applicable substrates. Available in tubes.
7. **Pourable Sealer:** A black, two-component, solvent-free, polyurethane based product used for tie-ins and as a sealant around hard-to-flash membrane penetrating objects such as clusters of pipes and for a daily seal when the completion of flashings and terminations cannot be completed by the end of each work day.
8. **One-Part Pourable Sealer:** Available in black or white, a one-component, moisture curing, elastomeric polyether sealant used for attaching lightning rod bases and ground cable clips to the membrane surface and as a sealant around hard-to-flash penetrations such as clusters of pipes.
9. **Universal Single-Ply Sealant** A one-part polyether, non-sagging sealant designed for sealing expansion joints, control joints and counterflashings. Available in white only.

2.06 METAL EDGING AND MEMBRANE TERMINATIONS

- A. **General:** All metal edging s shall be tested and meet ANSI/SPRI ES-1 standards and comply with International Building Code.
 1. **SecurEdge 200:** a coping or fascia, snap-on edge system consisting of a 24 gauge galvanized metal water dam and 24 gauge steel, Kynar 500 finish. Metal fascia color shall be as designated by the Owner's Representative.
- B. **Termination Bar:** a 1" wide and .098" thick extruded aluminum bar pre-punched 6" on center; incorporates a sealant ledge to support Lap Sealant and provide increased stability for membrane terminations.

2.07 WALKWAYS

Protective surfacing for roof traffic shall be Sure-Seal P.S. Walkway Pads (30" x 30" molded black rubber with factory applied tape) adhered to the FleeceBACK membrane after priming with HP-250 or Low VOC EPDM Primer or concrete pavers loose laid over an approved slip sheet (pavers not recommended for slopes greater than 2" in 12").

PART 3 EXECUTION

3.01 GENERAL

- A. Comply with the manufacturer's published instructions for the installation of the membrane roofing system including proper substrate preparation, job site considerations and weather restrictions.
- B. Position sheets to accommodate contours of the roof deck and shingle splices to avoid bucking water.

3.02 INSULATION PLACEMENT

- A. Install insulation or membrane underlayment over the substrate with boards butted together. Fill joints or gaps greater than 1/4 inch with Flexible FAST Adhesive. Stagger joints both horizontally and vertically if multiple layers are provided.
- B. Secure insulation to the substrate with Flexible FAST Adhesive or mechanical fasteners in accordance with the manufacturer's specifications.

3.03 MEMBRANE PLACEMENT AND BONDING

- A. Position and unroll successive sheets and align to provide for a minimum 3 inch wide splice. At end laps (along the width of the sheet), membrane shall be butted together and overlaid with 6" wide Sure-Seal Pressure Sensitive Cured Cover Strip or Pressure Sensitive Overlayment Strip.
- B. FleeceBACK Membrane shall be fully adhered to an acceptable substrate with Carlisle Flexible FAST Adhesive. The adhesive is spray applied or extruded to the substrate only and the membrane is rolled into the wet adhesive once it has foamed up and reached string/gel time (approximately 2 minutes). Roll the membrane with a 30" wide, 150 lb weighted segmented steel roller to set the membrane into the adhesive.

Note: Exercise care to prevent overspray onto the membrane. If Flexible FAST Adhesive should contaminate the splice area, immediately (while the adhesive is still in liquid form) clean with Weathered Membrane Cleaner or allow Flexible FAST Adhesive to cure and remove with a paint-type scraper.
- C. Install adjoining membrane sheets in the same manner, overlapping edges approximately 4 inches. Do not apply bonding adhesive to the splice area.

3.04 MEMBRANE SPLICING

A. General

The FleeceBACK membrane has selvage edges (the fleece-backing is discontinued) and factory-applied splice tape along the length of the sheet for membrane splicing. Selvage edges are not provided along the width of the membrane; adjoining membrane sheets are butted together and overlaid with 6" wide Pressure-Sensitive Cured Cover Strip or Pressure-Sensitive Overlayment Strip. As an option, sheets can be rotated 90 degrees to form a cap sheet to eliminate flashing overlay.

B. Membrane Splicing with Factory-Applied Splice Tape

1. Position membrane sheet to allow for required splice overlap. Mark the bottom sheets with an indelible marker approximately 1/4" to 1/2" from the top sheet edge. The pre-marked line on the membrane edge can also be used as a guide for positioning splice tape.
2. When the membrane is contaminated with dirt, fold the top sheet back and clean the dry splice area (minimum 3" wide) of both membrane sheets by scrubbing with clean natural fiber rags saturated with Sure-Seal Weathered Membrane Cleaner. When using Sure-Seal (black) PRE-KLEENED membrane, cleaning the splice area is not required unless contaminated with field dirt or other residue.

3. Apply EPDM Primer to splice area and permit to flash off.
4. When adhering Factory Applied Tape (FAT), pull the poly backing from FAT beneath the top sheet and allow the top sheet to fall freely onto the exposed primed surface. Press top sheet on to the bottom sheet using firm even hand pressure across the splice towards the splice edge
5. For end laps, apply 3" or 6" SecurTAPE to the primed membrane surface in accordance with the manufacturer's specifications. Remove the poly backing and roll the top sheet onto the mating surface.
6. Tape splices must be a minimum of 2-1/2" wide using 3" wide SecurTAPE extending 1/8" minimum to 1/2" maximum beyond the splice edge. Field splices at roof drains must be located outside the drain sump.

Note: For projects where a 90-mil membrane OR 20-year or longer System Warranty is specified, splice enhancements are required. Refer to Carlisle Sure-Seal/Sure-White Roofing System Specification.

7. Immediately roll the splice using positive pressure when using a 2" wide steel roller. Roll across the splice edge, not parallel to it. When FAT is used, Carlisle's Stand-Up Seam Roller can be used to roll parallel to the splice edge.
8. **At all field splice intersections**, apply Lap Sealant along the edge of the membrane splice to cover the exposed SecurTAPE 2" in each direction from the splice intersection. Install Carlisle's Pressure-Sensitive "T" Joint Covers or a 6" wide section (with rounded corners) of Sure-Seal Pressure-Sensitive Flashing over the field splice intersection.

3.05 FLASHING

- A. Wall and curb flashing shall be cured membrane. Continue the deck membrane as wall flashing where practicable.
- B. Follow manufacturer's typical flashing procedures for all wall, curb, and penetration flashing including metal edging/coping and roof drain applications.

3.06 WALKWAYS

- A. Install walkways at all traffic concentration points (such as roof hatches, access doors, rooftop ladders, etc.).
- B. Adhere walkways to the membrane in accordance with the manufacturer's specifications.

3.07 DAILY SEAL

- A. On phased roofing, when the completion of flashings and terminations is not achieved by the end of the work day, a daily seal must be performed to temporarily close the membrane to prevent water infiltration.
- B. Use Flexible FAST Adhesive or other similar material in accordance with the manufacturer's requirements.

3.08 CLEAN UP

- A. Perform daily clean up to collect all wrappings, empty containers, paper, and other debris from the project site. Upon completion, all debris must be disposed of in a legally acceptable manner.
- B. Prior to the manufacturer's inspection for warranty, the applicator must perform a pre-inspection to review all work and to verify all flashing has been completed as well as the application of all caulking.

END OF SPECIFICATION