

City of Kalamazoo

Stockbridge Facility Building

Reroof Project-Roof Section 2

PART 1 GENERAL

1.01 DESCRIPTION

- A. The reroof project is located at 415 East Stockbridge Ave. Kalamazoo, MI 49048. Marcus Kiste, Project Manager/Coordinator, is the Owner's Representative and may be contacted regarding any questions or for a pre-bid job site inspection, by phone at (616) 252-9276. The facility Manager is Quentin Pike and can be contacted at 269-716-3796
- B. The project consists of installing Carlisle's Sure-Seal (black) Adhered Roofing System as outlined below:

Roof 2 – Mechanically attach polyisocyanurate insulation. Apply the new Fully Adhered EPDM roof membrane.

1.02 EXTENT OF WORK

- A. Provide all labor, material, tools, equipment, and supervision necessary to complete the installation of a Sure-Seal 60 mil EPDM membrane Fully 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. Sample of the manufacturer's Total Systems Warranty covering all components of the roofing system.
 - 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 report 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 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.
 - 2. 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 and underlayment products must be on pallets, off the ground and tightly covered with waterproof materials. Manufacturer's wrap does not provide sufficient waterproofing. Insulation and underlayment products that become wet or saturated are to be discarded.
- 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 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 PRE-CONSTRUCTION

- A. Prior to bid submittal, the roofing contractor should schedule a job site inspection to observe actual conditions and verify all dimensions on the roof. The job site inspection may occur on the day of the pre-bid meeting or prior to such a meeting. Should access to the roof be necessary before or after the

pre-bid meeting, the contractor must contact the owner's representative, Marcus Kiste, Project Manager/Coordinator, may be contacted regarding any questions or for a pre-bid job site inspection, by phone at (616) 252-9276. The facility Manager is Quentin Pike and he can be contacted at 269-716-3796. to coordinate an appropriate time.

- B. 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 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 construction 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, either by 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 materials 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.
- D. All field seams and flashing details are to be completed according to manufacturer's specifications and details by the end of each work day.

1.13 QUALITY ASSURANCE

- A. The Sure-Seal 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. The manufacturer must have a minimum of 30 years experience in the manufacturing of vulcanized, white or black, thermoset sheeting.
- D. Unless otherwise noted in this specification, the roofing contractor must strictly comply with the manufacturer's current specifications and details.
- E. 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) EPDM roofing application or several similar systems of equal or greater size within one year.

The applicator shall, upon request, be able to document three (3) installations completed more than two years prior to issuance of the contract documents, utilizing components of the proposed manufacturer, that are comparable to those required for the work and similar in scope and complexity. Provide complete contact information, warranty history for previous installations and demonstrate in-service performance.

- F. 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 experienced superintendent on the job at all times roofing work is in progress.

- G. 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 a written certification on the manufacturer's letterhead and presented for the specifier's consideration.
- H. 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 identify any needed corrective repairs that will be required for warranty issuance. Notify the building owner seventy-two (72) hours prior to the manufacturer's final inspection.
- I. Inspector shall be employed and trained by the manufacturer and have received product-specific training from the manufacturer of the products.
- J. The Sure-Seal EPDM Membrane exceeds 41,580 kJ/m² under Xenon-Arc UV Light testing used for testing "Resistance to Outdoor (Ultraviolet) Weathering." (ASTM D 4637 Specification requires a 7560 kJ/m² minimum total radiant exposure at 70 W/m² irradiance at 176°F black panel temperature to pass.)The membrane shows no visible signs of cracking or crazing.
- K. The Sure-Tough EPDM Membrane exceeds 35,320 kJ/m² under Xenon-Arc UV Light testing used for testing "Resistance to Outdoor (Ultraviolet) Weathering." (ASTM D 4637 Specification requires a 7560 kJ/m² minimum total radiant exposure at 70 W/m² irradiance at 176°F black panel temperature to pass.)The membrane shows no visible signs of cracking or crazing.
- L. Sure-Seal, Sure-White, or Sure-Tough EPDM Membranes achieves a zero (no growth) rating in the ASTM G21 test for fungi growth.

1.14 JOB CONDITIONS, CAUTIONS AND WARNINGS

Refer to Carlisle's EPDM 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. 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.
- C. 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.
- D. 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.
- E. 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.
- F. 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.
- G. 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.
- H. New roofing shall be complete and weathertight at the end of the work day.
- I. Contaminants such as grease, fats and oils shall not be permitted to come in direct contact with the roofing membrane. An overlay of Epichlorohydrin membrane must be adhered around units which have the

potential to emit solvents, grease or oil.

1.15 WARRANTY

- A. Provide manufacturer's 20 year Total System Warranty covering both labor and **all materials** with no dollar limitation. The maximum wind speed coverage shall be peak gusts of 55 mph measured at 10 meters above ground level. Certification is required with bid submittal indicating the manufacturer has reviewed and agreed to such wind coverage.
- B. Pro-rated System Warranties shall not be accepted.

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 insulation, fasteners, fastening plates and edgings) must be **manufactured and supplied** by the roofing system manufacturer and covered by the warranty.

Manufacturer of roof membrane shall also manufacture all polymeric components for the roofing system, including, but limited to, membrane, adhesives, primers, flashings, caulks and tapes.

2.02 MEMBRANE

Furnish Sure-seal 60 mil EPDM (Ethylene, Propylene, Diene Terpolymer) in the largest sheet possible with 3" Factory-Applied Tape (FAT). (Splice tape shall be a butyl/EPDM based polymer with a minimum thickness of 25-mil.) The membrane shall conform to the minimum physical properties of ASTM D4637. When a 10 foot wide membrane is to be used, the membrane shall be manufactured in a single panel with no factory splices to reduce splice intersections.

2.03 INSULATION/UNDERLAYMENT

- A. When applicable, insulation shall be installed in multiple layers. The first and second layer of insulation shall be mechanically fastened or adhered to the substrate in accordance with the manufacturer's published specifications.
- B. Insulation shall be 1 (one) layer of 2" polyisocyanurate insulation as supplied by Carlisle SynTec. Minimum R-value required is R-30.
 - 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

To be used for mechanical attachment of insulation and to provide additional membrane securement:

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. **Pre-Assembled ASAP Fasteners:** A pre-assembled 3" diameter Plastic Plate and # 12 threaded fastener with a #3 drive used for insulation attachment into steel or wood decks. Installed using OMG Fastening Tools.
4. **InsulFast Fasteners:** A threaded #12 fastener with #3 phillips drive used for insulation attachment into steel or wood decks.
5. **Seam Fastening Plate:** a 2" diameter metal fastening plate used in conjunction with RUSS or EPDM membrane for additional membrane securement.
6. **Polymer Seam Plate:** a 2" diameter plastic fastening plate incorporating barbs on the underside of the plate. This plate is required for membrane and RUSS attachment installed in conjunction with steel roof decks. May also be used for insulation attachment.
7. **Insulation Fastening Plates:** a nominal 3 inch diameter plastic or metal plate used for insulation attachment.
8. **Sure-Seal Pressure-Sensitive RUSS™** (Reinforced Universal Securement Strip): a 6" wide, nominal 45-mil thick clean, cured black reinforced EPDM membrane with 3" wide SecurTAPE laminated along one edge. The 6" wide Pressure-Sensitive RUSS is used horizontally or vertically at the base of walls, curbs, etc., in conjunction with 2" diameter securement plates or bars below the EPDM deck membrane for additional membrane securement.

2.05 ADHESIVES, CLEANERS AND SEALANTS

All products shall be furnished by Carlisle and specifically formulated for the intended purpose.

- A. **90-8-30A Bonding Adhesive:** A high-strength, yellow colored, synthetic rubber adhesive used for bonding Sure-Seal/Sure-White EPDM membranes to various surfaces. Available in 5 gallon pails.
- B. **EPDM x-23 Low-VOC Bonding Adhesive:** A Low-VOC (volatile organic compound) bonding adhesive (less than 250 grams/liter) used for bonding Sure-Seal/Sure-White EPDM membranes to various surfaces. Adhesive is available in 5 gallon pails.
- C. **Low VOC Bonding Adhesive:** A low VOC (volatile organic compound) bonding adhesive (less than 250 grams/liter) used for bonding Sure-Seal/Sure-White EPDM membranes to various surfaces. This product meets the <250 gpl VOC (volatile organic compound) content requirements of the OTC Model Rule for Single Ply Roofing Adhesives. Available in 5 gallon pails.
- D. **Low VOC Bonding Adhesive 1168:** A low VOC (volatile organic compound) bonding adhesive that has < 250 gpl and is designed to comply with the regulations of the South Coast Air Quality Management District's Rule 1168. See Carlisle's Product Data Sheet for a listing of the counties involved. The high strength, solvent-based contact adhesive allows bonding of EPDM membrane to various porous and non-porous substrates. Apply at a rate of 60 ft² per gallon finished surface. Available in 5-gallon cans.
- E. **Aqua Base 120 Bonding Adhesive:** (for use in areas where volatile organic compound, VOC, regulations are in effect): A two (2) sided application, water based contact adhesive for bonding Sure-Seal/Sure-White EPDM membrane to various surfaces. Complies with the South Coast Air Quality Management District Rule 1168.
- F. **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.
- G. **Sure-Seal/Sure-White Pressure-Sensitive SecurTAPE™ (Factory Applied):** A 3" wide by 100' long splice tape used for splicing adjoining sections of EPDM membrane. Complies with the South Coast Air Quality Management District Rule 1168.

- H. **HP-250 EPDM Primer:** A solvent-based primer used to prepare the surface of EPDM membrane for application of Splice Tape or Pressure-Sensitive products. Available in 1 or 3 gallon pails and as CAV-PRIME Pressurized Cylinders.
- I. **Low-VOC EPDM Primer -** A low VOC (volatile organic compound) primer (less than 250 grams/liter) for use with SecurTape or Pressure-Sensitive products. Available in 1 or 3 gallon pails and as CAV-PRIME Pressurized Cylinders.
- J. **Lap Sealant:** A heavy-bodied material used to seal the exposed edges of a membrane splice. Available in tubes.
 - 1. Sure-Seal Lap Sealant is a black sealant for use with Sure-Seal (black) Roofing Systems.
 - 2. Sure-White Lap Sealant is a white sealant for use with Sure-White (white-on-black) Roofing Systems.
- K. **Water Cut-Off Mastic:** A one-component, low viscosity, self wetting, Butyl blend mastic used to achieve a compression seal between the EPDM membrane or Elastoform Flashing and applicable substrates. Available in tubes.
- L. **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.
- M. **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.
- N. **Universal Single-Ply Sealant** A one-part polyether, non-sagging sealant designed for sealing expansion joints, control joints and counterflashings. Available in white only.
- O. **CAV-GRIP III Low-VOC Aerosol Contact Adhesive/Primer:** a low-VOC, methylene chloride-free adhesive that can be used for a variety of applications including: enhancing the bond between Carlisle's VapAir Seal 725TR and various substrates, priming unexposed asphalt prior to applying Flexible FAST Adhesive, adhering Sure-Seal EPDM, horizontally, for the field of the roof and for adhering Sure-Seal FleeceBACK and Sure-Seal EPDM membrane to vertical walls. Coverage rate is approximately 2,000-2,500 sq. ft. per #40 cylinder and 4,000-5,000 sq. ft. per #85 cylinder as a primer, in a single-sided application and 750 sq. ft. per #40 cylinder and 1,500 sq. ft. per #85 cylinder as an adhesive for vertical walls, in a double-sided application.

2.06 METAL EDGING AND MEMBRANE TERMINATIONS

- A. **General:** All metal edgings shall be tested and meet ANSI/SPRI ES-1 standards and comply with International Building Code. All metal work is to be supplied and warranted by the manufacturer.
 - 1. **SecurEdge 400:** a coping or fascia, snap-on edge system consisting of a 22 gauge galvanized metal water dam and 24 gauge steel, Kynar 500 finish. Metal fascia color shall be as designated by the Owner's Representative. ANSI/SPRI ES-1 Certified.
- 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 (black) Pressure-Sensitive Walkway Pads (with Factory-Applied Tape on the underside of the walkway) adhered to the membrane surface in conjunction with Sure-Seal Primer.

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, jobsite 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 tightly together with no joints or gaps greater than 1/4 inch. Stagger joints both horizontally and vertically if multiple layers are provided.
- B. Secure insulation to the substrate with the required Carlisle Flexible FAST Adhesive in accordance with the manufacturer's specifications.

3.03 MEMBRANE PLACEMENT AND BONDING

- A. Unroll and position membrane without stretching. Allow the membrane to relax for approximately 1/2 hour before bonding. Fold the sheet back onto itself so half the underside of the membrane is exposed.
- B. Apply the Bonding Adhesive in accordance with the manufacturer's published instructions and coverage rates, to both the underside of the membrane and the substrate. Allow the adhesive to dry until it is tacky but will not string or stick to a dry finger touch.
 - 1. Roll the coated membrane into the coated substrate while avoiding wrinkles. Brush down the bonded half of the membrane sheet with a soft bristle push broom to achieve maximum contact.
 - 2. Fold back the unbonded half of the membrane sheet and repeat the bonding procedure.
- 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. 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.
- B. 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.
- C. Apply EPDM Primer or Low VOC EPDM Primer to splice area and permit to flash off. Primer must be applied to both the top membrane layer and the bottom membrane layer.
- D. 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
- E. 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.
- F. Tape splices must be a minimum of 2-1/2" wide using 3" wide (Butyl/EPDM) SecurTAPE that is a

minimum 25-mil thick. SecurTAPE must extend 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.

- G. 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.
- H. **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 Elastoform Flashing over the field splice intersection.

3.05 FLASHING

- A. Wall and curb flashing shall be cured EPDM membrane. Continue the deck membrane as wall flashing where practicable. Use Pressure-Sensitive Curb Wrap when possible to flash curb units.
- 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.) and all locations as identified on the specifier's drawing.
- B. Adhere walkways pads or rubber pavers to the EPDM 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.

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