

SECTION 07536

SBS MODIFIED BITUMEN ROOFING

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. Remove existing roofing down to deck and dispose of properly.
- B. Install Vapor Barrier/Temp. roof to primed deck.
- C. Mechanically fasten Poly-Iso. to deck and install coverboard in insulation adhesive.
- D. Install two ply, self adhered base and torch top ply system.
- E. Install metal terminations as detailed and specified.
- F. Supply owner with 20 yr. NDL warranty.
- G. Install new metal cover over the duct work on East side roof.
- H. Install two rows of Concrete pavers on East side roof.

1.02 DELIVERY, HANDLING AND STORAGE

- A. Deliver all materials and store in their unopened original packaging, bearing the manufacturer's name, related standards and any other specification or reference accepted as standard.
 - 1. When stored outdoors, insulation is to be stacked on pallets or dunnage at least four (4) inches above ground level and covered with "non-sweating" tarpaulins.
- B. Protect and permanently store all materials in a dry, well vented and weatherproof location. Only materials to be used the same day shall be removed from this location. During winter, store materials in a heated location with a 50° F. minimum temperature, removed only as needed for immediate use. Keep materials away from open flame or welding sparks.
- C. Carefully store on end materials delivered in rolls with selva edges up, a minimum of 6-inches above grade. Store metal flashings and counterflashings in such a way as to prevent wrinkling, twisting, scratching and other damage.
- D. Avoid stockpiling of materials on roofs without first obtaining acceptance from an Architect/Engineer.
- E. Adhesive storage must be between the range of above 40° and below 80° F. Area of storage shall be suitable for flammable storage.
- F. All materials determined to be damaged shall be removed from job site and replaced.

1.03 QUALITY ASSURANCE

- A. System shall meet UL class A

1.04 WARRANTY

- A. Upon completion of the work, furnish to the Owner via the Contractor the manufacturer's written and signed complete system warranty, certifying the performance of his products and the consistency of the properties of such products affecting their performance for a period of 20 years from date of acceptance and that installation of the product is in accordance with manufacturer's requirements. Manufacturers warranty shall cover membrane and flashings, insulations, fasteners and insulation adhesives up to a 73 mph wind speed.
- B. A 2 yr. contractor warranty shall be supplied by installer.

PART 2 PRODUCTS

2.01 GENERAL

- A. Basis of design Soprema Roofing and Waterproofing, Inc.
 - 1. Approved Equal:
 - Tremco Rfg.
 - Garland
- B. Applicators seeking approvals for substitute materials shall submit their request in writing to the Owner seven (7) days prior to bid opening.

2.02 MEMBRANE

- A. Membrane Base Ply field & Flashing: **SOPRALENE FLAM STICK**
 - 1. Description: Waterproofing membrane shall have a non woven Polyester reinforcement and thermofusible elastomeric asphalt. This membrane shall be designed to be self adhering with a removable backer.
 - a. This membrane shall meet ASTM D 6164 Type I, Grade S
 - 2. Components: Reinforcement shall be 180 gr. non-woven Polyester. Elastomeric asphalt shall be a mix of selected bitumen and SBS thermoplastic polymer.
 - 3. Approximate thickness – 110 mils min.
- B. Top Ply field & Flashing: **SOPRALENE FLAM 180 GRANULES FR.**
 - 1. Description: Membrane shall have a non-woven polyester reinforcement and thermofusible elastomeric asphalt. The top side shall be self-protected with colored granules. The underside shall be protected by a thermofusible film. This membrane is to be applied by **torching only**.
 - a. Color to be White.
 - b. This membrane shall meet ASTM D 6164 Type I, Grade G

2. Components: Reinforcement shall be 180 gr. non-woven polyester. Elastomeric asphalt shall be a mix of selected bitumen and SBS thermoplastic polymer.
 3. Approximate thickness - 140 mils (3.5 mm)
- B. Vapor Barrier/Temp. Roof : **Sopra Vap R**
1. Description: Waterproofing membrane shall be a self adhered membrane with a poly film surface.
 2. Approximate thickness – 35 mils min.

2.03 WOOD BLOCKING

- A. All nailers and blocking material to be free of wane, shake, decay or checks, and pressure treated with water-borne preservatives for above ground use, AWPB LP-2.
1. Blocking shall be not less than Construction Grade, Southern Pine.

2.04 INSULATION

- A. Insulation shall be a rigid (Polyiso.) board with facing material acceptable to the membrane manufacturer for the system specified.
1. Two layers of 2.6"
 2. Crickets shall be ½" slope with 1/2" start thickness.
 3. Drain sumps to be a min 8'x8'.
 4. Polyisocyanurate meeting ASTM C1289-05a, Type II, Class 1, Grade 2
- B. Coverboard shall be 3/8" Securock.
- a. A Gypsum Fiber reinforced roof board with a min 95% recycled content. Meeting ASTM 1278 (This coverboard requires priming)
- C. Insulation Adhesive.
- a. A bead applied two component polyurethane low rise foam adhesive.

2.05 PRIMER

- A. Asphalt Primer: **Elastocol 350 (Water Based primer for Torch Products)**
- B. Asphalt Primer: **ELASTOCOL stick Zero (Low VOC primer for Self Adhered)**

2.06 METAL TERMINATIONS

- A. All metal Edgings shall be ES-1 certified.
- B. Edge metal shall be 6" Teminedge by WP Hickman

2.07 COUNTERFLASHINGS

- A. All metal counterflashings shall be fabricated from .040 mill finish Al., or 16 oz copper as noted.

2.08 RETROFIT DRAINS

- A. Shall be Aluminator by Marathon Drains. They shall have a cast strainer and a clamping ring.

2.09 CONCRETE PAVERS

- A. Pavers shall be 2"x2"x2' hydraulically compressed with a diamond pattern surface.

2.10 DUCT WORK PROTECTION

- A. Duct work to get a small roof built over it to protect from snow slide. This shall be made from 24 ga. Steel.

PART 3 EXECUTION

3.01 SURFACE INSPECTION AND PREPARATION

- A. Before commencing work, all surfaces shall be smooth, clean, dry and free of any debris that would adversely effect the installation of the membrane.
- B. Repair gypsum deck as needed and recommended by membrane manufacturer. Use deck patch and follow manufacturers recommendations.

3.02 INSTALLATION

- A. Install roofing membrane on clean and dry surfaces, in accordance with the manufacturer's requirements and recommendations.
- B. Perform roofing work on a continuous basis as surface and weather conditions allow.
- C. Protect adjoining surfaces against any damage that could result from roofing installation.
- D. Install only as much roofing as can be completed in one day. If weather conditions do not permit such completion, exposed areas shall be temporarily weatherproofed to prevent any water or snow infiltration from damaging other materials already installed, in particular, the thermal insulation.
- E. Retrofit drains shall be installed at all drains.
- F. Concrete pavers shall be installed on top of slip sheet, two rows on Eastside only.

3.03 ASPHALT PRIMER APPLICATION

- A. Prime all dissimilar surfaces to which asphalt or membrane will come in contact. Apply at the rate of 150 - 200 sq. ft. / gallon. Coat all metal flashings and fascia with primer which will come in contact with membrane.

3.04 VAPOR BARRIER/TEMP. ROOF INSTALLATION

- A. Install membrane to the primed deck with 3" side laps and 6' end laps. Application should be smooth and wrinkle free.

3.05 INSULATION AND COVERBOARD INSTALLATION

- A. Mechanically fasten Poly-Iso. to deck at a rate of 1 per 2 sqft.
- B. Install coverboard in cold adhesive. Adhesive must be covered by the manufacturers warranty. Install insulation adhesive at a rate of 6" O.C. following manufacturers recommendations and specifications.

3.06 BASE PLY INSTALLATION

- A. Unroll dry base ply membrane on insulation for alignment. Each strip shall have three (3) inch side laps and six (6) inch end laps.
 - 1. Begin at low point of roof.
 - 2. Place membrane so edge lap will be centered on drain.
- B. Leave membrane in place and pull release backer at a 45 degree angle.
 - 4. Broom the membrane to push out any trapped air. A small roller shall be used on any laps and Tee joints.
- D. Application shall provide a smooth surface, free of air pockets, wrinkles, fishmouths or tears.

3.07 BASE PLY FLASHING INSTALLATION

- A. Prior to application, the vertical surface receiving the base ply flashing shall receive a coat of 600 primer at the rate of 125sq. ft./gallon. This primer coating must be dry before application of the base sheet flashing.
- B. Lay base ply flashing in strips three (3) feet wide to the vertical surfaces, extending onto the flat surface of the roof a minimum of four (4) inches. Side laps shall be three (3) inches and shall be staggered a minimum of four (4) inches with the laps of the base ply.
- C. Install base ply flashing directly on its support from bottom to top followed be sure to roll all laps thoroughly.
- D. After installation of base ply flashing, check all lap seams on the flashing.
 - 1. THOROUGHLY SEAL ALL VOIDS IN THE CORNERS AND SEAMS.

3.08 TOP PLY INSTALLATION

- A. Once the base ply has been completed and does not show any defects, install the top ply.

- B. Unroll top ply starting from the low point of the roof. Care must be taken to insure good alignment of the first roll (parallel with the edge of the roof). A 45 degree cut shall be made on the selvage edge of underlying membrane prior to application to insure a good seal between the membrane.
- C. Torch weld top ply in accordance with recommendations of Soprema, onto the base ply membrane.
 - 1. During this application, simultaneously melt both surfaces forming an asphalt bead that pushes out in front of the top sheet.
- D. Do not to burn the membrane and their respective reinforcements.
- E. Stagger base ply and top ply seams a minimum of twelve (12) inches.
- F. Top ply shall have side laps of three (3) inches and end laps of six (6) inches.
- G. Ensure the two membranes are perfectly welded, without air pockets, wrinkles, fishmouths or tears.

3.09 TOP PLY FLASHING INSTALLATION

- A. Lay top ply flashing in strips three (3) feet wide.
 - 1. Side laps shall be three (3) inches and shall be staggered a minimum of four (4) inches from top ply laps.
- B. Torch weld top ply flashing in accordance with recommendations of Soprema, directly on its base ply, proceeding from bottom to top followed by the torching of the roof tie-in.
- C. Using a chalk line, lay-out a straight line on the top ply surface, parallel to the roof edge, six (6) inches inside the roof from the base of the cant strip or right angle to be flashed.
- D. Using a torch and heated flat trowel, embed the surface granules into the heated and soft bitumen from the chalk line to the edge of the top ply, and to the top of the cant or right angle.
- E. Extend top ply flashing down the vertical surface and onto the flat roof at a distance of six (6) inches, to the extent of the area of embedded granules. For ease of application, cut roll into required lengths and use width of roll three (3) feet down length of roof, maintaining specified three (3) inch side laps.
 - 1. Firmly press flashing into position using a damp sponge.
- F. Thoroughly seal all voids in the corners and seams.
- G. Application shall provide a smooth surface, free of air pockets, wrinkles, fishmouths or tears.
- H. During installation, avoid asphalt seepage greater than 1/4 inch at seams.
 - 1. Cover asphalt seepage with a sprinkling of loose granules, color to match membrane.

3.10 METAL EDGES AND COUNTERFLASHING

- A. Install all metal in accordance to SMACNA recommendations and ES-1 requirements.

END OF SECTION