PART 1 GENERAL

The acceptance of the structural roof deck condition by SOPREMA refers solely to condition of roof deck surface. The responsibility for the structural integrity of the roof deck system and for the proper design relationship among other building components – combined with the existing or potential interior and exterior environmental considerations – and the structural roof deck system rests solely with the design professional whether they are an architect, roof consultant, engineer or building owner or authorized building owner representative. SOPREMA reserves the right to accept or reject existing deck conditions based on their suitability for specific SOPREMA assemblies and their corresponding methods of application.

1.01 SUMMARY

A. The Work generally involves providing a dual SBS membrane system without a torch, a kettle or the use of solvent based cold adhesives. The roof is applied by using self-adhesive techniques and has a finished surface of granules. Systems are typically placed over an approved insulation substrate on an approved deck type such as steel, concrete, lightweight concrete, poured or plank gypsum, wood plank, plywood, cementitious wood fiber or hybrid decking complete with flashings, scuppers, expansion joints, control joints, cant strips, edge strips, crickets, insulation, and performing such incidental or other work as may be required by these operations and called for by the drawings.

1.02 RELATED WORK SPECIFIED ELSEWHERE: (The following items may be covered in other sections of the specifications).

A. Section 6180: Roof Deck Surface Substrate
B. Section 06100: Rough Carpentry
C. Section 06114: Wood Blocking and Curbing
D. Section 07220: Insulation Board
E. Section 07600: Sheet Metal
F. Section 07724: Roof Hatches
G. Section 07810: Skylights
H. Section 15430: Plumbing Specialties

1.03 REFERENCES


1. ASTM C 165 - Compressive strength
2. ASTM C 203 - Flexural strength
3. ASTM C 208 - Specification for Insulating Board (Cellulosic Fiber), Structural and Decorative
4. ASTM C 209 - Physical properties
5. ASTM C 355 - Water vapor permeance
6. ASTM C 518 - Thermal resistance
7. ASTM C 726 - Specification for Mineral Fiber Roof Insulation Board
8. ASTM C 728 - Specification for Perlite Thermal Insulation Board
9. ASTM C 1177 - Water Absorption
10. ASTM D 41 - Specification for Asphalt Primer Used in Roofing, Damp proofing, and Waterproofing
11. ASTM D 226 - Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing
12. ASTM D 312 - Specification for Asphalt Used in Roofing
13. ASTM D 1621 - Compressive strength
14. ASTM D 1622 - Density
15. ASTM D 1970 - Specification for Sheet Materials, Self-Adhering Polymer Modified Bituminous, Used as Steep Roofing Underlayment for Ice Dam Protection
16. ASTM D 2126 - Dimensional Stability
17. ASTM D 2178 - Specification for Asphalt Glass Felt Used in Roofing and Waterproofing
18. ASTM D 2829 - Sampling and Analysis of Built-Up Roofs
19. ASTM D 2626 - Specification for Asphalt Saturated and Coated Organic Base Sheet Used in Roofing
20. ASTM D 3447 - Emulsified asphalt adhesive
21. ASTM D 4586 - Specification for Asphalt Roof Cement, Asbestos Free
22. ASTM D 4601 - Specification for Asphalt-Coated Glass Fiber Base Sheet Used in Roofing
24. ASTM E 84 - Flame spread
25. ASTM E 96 - Water vapor transmission
26. ASTM E 108 - Spread of flame

B. Factory Mutual (FM) Engineering Corporation - Roof Assembly Classifications.
E. FS HH-I-530 - Insulation Board, Thermal (Urethane).
F. FS HH-I-551 - Insulation Block and Boards, Thermal (Cellular Glass).
G. FS LLL-I-535 - Insulation Board, Thermal (Cellulosic Fiber).
I. Underwriters Laboratories (UL) - Fire Hazard Classifications.
J. Sheet Metal and Air-Conditioning Contractors National Association, Inc. (SMACNA).
K. CGSB 37GP56M Classification: Type 2, Class C, Grade 1.
L. UEAtc; M.o.a.t. No. 27; 1983-Assessment of Roof Waterproofing System

1.04 SYSTEM DESCRIPTION

A SOPRALENE STICK System – 33A75-33A76

Description:
Two SBS membranes – base ply and cap ply – self-adhered
and Sopra Board, Structural Concrete Decking
1.05 SUBMITTALS
   
   A. Manufacturer's product data sheets and installation instructions on all materials proposed for use.
   
   B. Specimen copy of the manufacturer's standard roofing warranty.
   
   C. U. L. and F. M. compliance data (Contact Soprema's Technical Department (1-800-356-3521) for additional information).
   
   D. Shop Drawings indicating setting plan for tapered insulation (when applicable).
   
   E. Submit two 12-inch square samples of membrane illustrating the color and thickness to be used.
   
   F. Submit a copy of the manufacturer's installation instructions.

1.06 QUALIFICATIONS
   
   A. Applicator's Qualifications:
      
      1. Approved by the manufacturer prior to the bidding period and throughout the installation and able to present a copy of his certification upon request by the Architect or Owner.
   
   B. Manufacturer's Qualifications:
      
      1. Must have a minimum of 5 years experience manufacturing SBS modified bitumen roofing membrane and have a minimum of 25 similar projects down for 5 years.
      
      2. Provide a factory trained technician for roof top support (start-up, flashing installation supervision, lap seaming) and mandatory final inspection of the roofing system.
      
      3. Provide a warranty upon satisfactory installation of the roofing system.

1.07 REGULATORY REQUIREMENTS
   
   A. Conform to applicable codes for roof assembly fire hazard requirements.
   
   B. Factory Mutual Engineering & Research Corporation (FM):
      
      1. Roof assembly classification of Class 1 Construction, wind uplift requirements of 1-90 in accordance with FM Loss Prevention Data Sheets 1-28 & 1-29.
      
      2. Contact Soprema's Technical Department (1-800-356-3521) for additional information.

SPEC NOTE:
   If UL-Class A fire is specified, then add the following:

   C. Underwriters Laboratories, Inc. (UL):
      
      1. Class A Fire Hazard Classification.

1.08 PRE-INSTALLATION CONFERENCE
A. Convene prior to commencing work of this section at a time and location to be determined by the (Architect) (Contractor) (Owner) (Manufacturer) (Roofing Consultant) ( ).

1. All parties responsible for work of this section are required to attend including the Architect, Owner, Contractor and any other trades involved in the roofing work.

2. Review installation procedures and coordination required with related Work.

3. Inspect and make notes of job conditions prior to installation.

1.09 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.

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 degrees 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 selvage edges up, a minimum of 6-inches above grade. Store metal flashings and counter flashings in such a way as to prevent wrinkling, twisting, scratching and other damage.

1. When stored outdoors, insulation shall be stacked on pallets or dunnage at least 4 inches above ground level and covered with "non-sweating" tarpaulins.

D. Avoid stockpiling of materials on roofs without first obtaining acceptance from an Architect/Engineer.

1.10 QUALITY ASSURANCE

A. Submit certification by the manufacturer of the system materials used that these Specifications and the Drawing Details are acceptable to them for the deck and surfacing to which they are to be applied.

1. If details for any manufacturer's systems proposed in the Contract Documents are not acceptable to the manufacturer, submit corresponding details proposed for the particular application, together with the manufacturer's reasons for not accepting the conditions depicted in the Specifications or Drawings. No alternate details will be considered without evidence of valid objections on the part of the manufacturer to the Contract requirements.

2. No deviation is to be made from this Specification without prior written approval by the manufacturer; submit such approval to the Architect.

B. Inspection: Prior to, during installation and at completion of the installation, an inspection shall be made by a representative of the manufacturer in order to ascertain that the roofing system has been installed according to their published specifications, standards and details.

1. Warranty will be issued upon approval of the installation (See 1.12 of this section).

1.11 JOB CONDITIONS

A. Surfaces on which the roofing membrane system is to be applied shall be clean, smooth, dry, and free of blisters, buckles, fins, sharp edges, loose and foreign materials, oil and grease. Existing roof membrane at walls, curbs, pipe penetrations and drains need to be removed entirely.
1. Before beginning work, a representative of the manufacturer shall examine the roof surfaces in order to ensure that the substrate is acceptable.

2. Do not begin installation until all defective conditions have been corrected.

3. All surface voids greater than 1/4 inch wide shall be properly filled with an acceptable fill material.

1.12 WARRANTY

A. Upon completion of the work, furnish to the Owner via the Contractor the manufacturer's written and signed standard 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 year NDL from date of acceptance and that installation of the product is in accordance with manufacturer's requirements.

B. The Contractor is to cover damages to the building resulting from failure to prevent penetration of water during construction.

C. The Contractor is to guarantee all work against defects in materials and workmanship for a period of (2) two years following final acceptance of the Work.

1.13 LABORATORY TESTING

A. Upon request from the Owner or Architect the elastomeric membrane manufacturers shall supply, at their expense, the results of mechanical and chemical testing performed on the elastomeric asphalt materials supplied.

B. The tests shall be performed to certify compliance with the standards referenced under this section.

1.14 SITE PROTECTION

A. During roofing work, exposed surfaces of finished walls and ground shall be protected with tarps in order to prevent damage. Contractor shall assume full responsibility for any damage.

PART 2 PRODUCTS

2.01 GENERAL

A. Base Bid: Soprema system 33A75-33A76
1. Soprema, Inc.
   310 Quadral Drive
   Wadsworth, OH 44281

B. Applicators seeking approvals for substitute materials shall submit their request in writing to the Architect seven (7) days prior to bid opening.

2.02 MEMBRANES

The following roof membrane specification is designed for recovering the wood deck and existing roof and will require all substrate preparation to be performed in accordance with all requirements set forth in Soprema’s (1) Roofing Binder Section 2 – General Requirements August 2007 issue. (2) Soprema’s Roofer’s Guide 05/2008 Issue. Any questions regarding site conditions not covered by
these publications shall be directed to Soprema, Inc. National Technical Department and are considered job specific.

Owner’s representative and the contractor are to make a joint inspection of the roof deck prior to installation to insure that the deck is ready for the installation of the roof assembly.

A. Recover Board: **SOPRABOARD**

1. **Description:** Mechanically attach one layer of **1/8" Sopraboard** as the recover board over the existing wood deck and secure with appropriate fastening patterns (16, 24 & 28 Fasteners per 4 x 8 ft. board in the field, perimeters and corners of the roof respectively) provided in Soprema’s Roofer’s Guide 05/2008 Issue. Pre-testing for moisture scan and fastener pull test on existing field is required by owner and/or contractor. Fastener length to be determined by contractor, penetrating underside of deck by ¾” and 3” steel plates to secure Sopraboard through existing membrane to plywood deck.

2. **Components:** A multi-ply, semi-rigid asphaltic roofing substrate board composed of a mineral fortified asphaltic core formed between two asphaltic saturated fiberglass liners. Weight per board .594 lbs per sf.

3. **Physical Properties:**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Board Thickness inch (mm)</td>
<td>1/8&quot; (3.2)</td>
</tr>
<tr>
<td>Compressive strength @ 15% ASTM D 545 psi</td>
<td>630</td>
</tr>
<tr>
<td>Tensile strength ASTM D 412 psi</td>
<td>1050</td>
</tr>
<tr>
<td>Water absorption, 2h % max. ASTM C 209</td>
<td>&lt;1.0 0</td>
</tr>
<tr>
<td>Moisture content ASTM D 644</td>
<td>.2%</td>
</tr>
<tr>
<td>Flexibility (2” mandrel) ASTM D 644</td>
<td>pass @ 40 F</td>
</tr>
<tr>
<td>Peel strength</td>
<td>2.5 - 20.0 lb/in</td>
</tr>
</tbody>
</table>

4. **Packaging:** 4’ X 8’ (1.2 X 2.5 m) 1/8” (3.2 mm) 29 lbs / sheet (13 kg) 100 D08415

A. Field Membrane Ply Sheet: **SOPRALENE STICK**

1. **Description:** Waterproofing membrane shall have a non-woven polyester reinforcement and thermofusible elastomeric asphalt. Bottom side shall have special self-adhesive bitumen covered by a release film. This membrane is to be applied by **self-adhering**. NOTE: In cooler weather heat fusing is an alternative installation method – contact SopremaTechnical Department for details.

2. **Components:** Reinforcement shall be 3.68 lbs/sq. non-woven polyester. Elastomeric asphalt shall be a mix of selected bitumen and SBS thermoplastic polymer.

3. **SBS Bitumen Physical Properties:**
   a. Average Elongation: 1500%
   b. Average Softening: 265 F
C. Average Low Temperature Flexibility: -22 F

D. Average Penetration (40( in 1/10th units @ 5 seconds))

E. Average homogeneity ≥ level 6 (Soprema method utilizing fluorescence microscopy at 250 X magnification)

4. Membrane Weight and Measurement:
   a. Approximate Weight Per Square Foot: .58 lbs.
   b. Approximate Thickness: 108 mils

5... Physical Properties:
   a. Tensile strength:
      at 77 degrees: MD=93 XD=63
      at 0 degrees: MD=127 XD=98
      after heat conditioning: MD=98 XD=70

   b. Ultimate Elongation:
      at 77 degrees: MD=56 XD=61
      at 0 degrees: MD=34 XD=29
      after heat conditioning: MD=48 XD=54

   c. Strain energy Product:
      77 degrees: MD=40 XD=29
      at 0 degrees: MD=34 XD=28
      after heat conditioning: MD=29 XD=17

   d. Tensile Tear Strength:
      at 77 degrees: MD=120 XD=87

   e. Dynamic Pull-Over Values:
      265 lbs. for Soprafix 2” Barbed Plate

   f. Static Puncture:
      500 Newtons

   g. Dynamic Puncture:
      6 Joules

B. Field Membrane Cap Ply: Colphene FR GR

1. Description: Waterproofing membrane shall have a non-woven glass reinforcement and self-adhesive elastomeric asphalt. The top side shall consist of ceramic granules and the bottom shall have a special peel off film surface. This membrane is to be applied by self-adhesive technique. NOTE: the side lap may be sealed via heat fusing as an alternative installation method-contact Soprema Technical Department for details.

2. Components: Reinforcement shall be 1.4 lbs/sq. non-woven fiberglass. Elastomeric asphalt shall be a mix of selected bitumen and SBS thermoplastic polymer.

4. SBS Bitumen Physical Properties:
1. **Average Elongation:** 1500%

2. **Average Softening:** 265 °F

3. **Average Low Temperature Flexibility:** -22 °F

4. **Average Penetration** (40 (in 1/10th units @ 5 seconds))

5. **Average homogeneity ≥ level 6 (Soprema method utilizing fluorescence microscopy at 250 X magnification)**

4. **Membrane Weight and Measurement:**

   a. **Approximate Weight Per Square Foot:** 1.03 lbs.

   b. **Approximate Thickness:** 160 mils

5. **Physical Properties:**

   a. **Tensile strength:**
      - at 77 degrees: MD=50 XD=41
      - at 0 degrees: MD=100 XD=91

   b. **Ultimate Elongation:**
      - at 77 degrees: MD=4 XD=3.7
      - at 0 degrees: MD=4.4 XD=4.5

   c. **Strain energy Product:**
      - 77 degrees: MD=1.2 XD=0.9
      - at 0 degrees: MD=2.7 XD=2.5

   d. **Tensile Tear Strength:**
      - at 77 degrees: MD=82 XD=73

   e. **Static Puncture:**
      - 500 Newtons

   f. **Dynamic Puncture:**
      - 6 Joules

C. **First Membrane Base Ply Flashing: SOPRALENE STICK**

1. **Description:**
   First membrane flashing ply must have a non-woven polyester reinforcement and thermofusible elastomeric asphalt. Bottom surface shall have special co-extruded peel off film. Top surface shall be protected by special sand. This membrane is to be applied by self-adhesive technique.

2. **Components:**
   Reinforcement shall be 3.68 lbs/sq. non-woven polyester. Elastomeric asphalt shall be a mix of selected bitumen and SBS thermoplastic polymer.

5. **SBS Bitumen Physical Properties:**
a. Average Elongation: 1500%
b. Average Softening: 265°F
c. Average Low Temperature Flexibility: -22°F
d. Average Penetration (40 in 1/10th units @ 5 seconds)
e. Average homogeneity ≥ level 6 (Soprema method utilizing fluorescence microscopy at 250 X magnification)

4. Membrane Weight and Measurement:
   a. Approximate Weight Per Square Foot: .77 lbs.
   b. Approximate Thickness: 120 mils

5. Physical Properties:
   a. Tensile strength:
      at 77 degrees:  at 0 degrees:  after heat conditioning:
      MD=93  XD=63  MD=127  XD=98  MD=98  XD=70
   b. Ultimate Elongation:
      at 77 degrees:  at 0 degrees:  after heat conditioning:
      MD=56  XD=61  MD=34  XD=29  MD=48  XD=54
   c. Strain energy Product:
      77 degrees:  at 0 degrees:  after heat conditioning:
      MD=40  XD=29  MD=34  XD=28  MD=29  XD=17
   d. Tensile Tear Strength:
      at 77 degrees:
      MD=120  XD=87
   e. Static Puncture
      500 Newtons
   f. Dynamic Puncture:
      6 Joules

D. Cap Ply Flashing: Colphene HR FR GR

1. Description:
   Flashing membrane shall have a heavy dual reinforcement glass fiber-glass scrim and thermofusible elastomeric asphalt. The top side shall be self-protected with colored granules. The underside shall be protected by special sand. This membrane is to be applied by self-adhesive technique.
   a. Color to be white.
2. Components: Membrane shall meet ASTM D 6163 Type II Grade G. Elastomeric asphalt shall be a mix of selected bitumen and SBS thermoplastic polymer.

3. SBS Bitumen Physical Properties:
   a. Average Elongation: 1500%
   b. Average Softening: 265 F
   c. Average Low Temperature Flexibility: -22 F
   d. Average Penetration (40 in 1/10th units @ 5 seconds)
   e. Average homogeneity ≥ level 6 (Soprema method utilizing fluorescence microscopy at 250 X magnification)

4. Membrane Weight and Measurement:
   a. Approximate Weight Per Square Foot: 1.03 lbs.
   b. Approximate Thickness: 160 mils

5. Physical Properties:
   a. Tensile strength:
      at 77 degrees: at 0 degrees: after heat conditioning:
      MD=93  XD=63  MD=127  XD=98  MD=98  XD=70
   b. Ultimate Elongation:
      at 77 degrees: at 0 degrees: after heat conditioning:
      MD=56  XD=61  MD=34  XD=29  MD=48  XD=54
   c. Strain energy Product:
      77 degrees: at 0 degrees: after heat conditioning:
      MD=40  XD=29  MD=34  XD=28  MD=29  XD=17
   d. Tensile Tear Strength:
      at 77 degrees:
      MD=120  XD=87
   e. Static Puncture
      500 Newtons
   f. Dynamic Puncture:
      6 Joules

2.03 FASTENERS

A. Wood: Simplex annular ring shank nails, FM and Miami-Dade Approved, long enough to penetrate the wood by at least 3/4-inch on flashings and parapet walls.
B. Masonry: Nail-in expansion type device with zinc body, plated steel nail, mushroom head and long enough to embed into the masonry a minimum of 1-inch.

C. Sopraboard: Mechanical fastening for securement of Sopraboard through decking over existing field roof membrane should be approved by the manufacturer for the system specified.

1. The same brand fastener and 3" steel plates to be used throughout the work.

2. Number of fasteners and layout will be as recommended by the manufacturer and as per FM Approval Guide for (I-90) wind uplift. In no case shall the number of fasteners be less than 1 per every 2 square feet.

3. Length of fastener shall be determined by the sum of the thickness of the decking, fill. Fasteners shall be of appropriate length to achieve a minimum of ¾ inch penetration.

4. The minimum corrosion resistance standard for the fasteners is 10% or less red rust when subjected to 30 Kesternich cycles conforming to FM 4470.

2.04 WOOD BLOCKING

1. Blocking shall be not less than Construction Grade, Red Wood or pressurized treated lumber.

SPEC NOTE:
For conduit supports Copper Ground Cable and miscellaneous light weight items, a sheet of Soprawalk or Colphene HR FR GR between wood blocking and membrane is acceptable.

2.05 PRIMER.

A. Asphalt Primer: ELASTOCOL Stick H20

1. Primer shall be applied on all approved surfaces where the self-adhesive membrane is bonded.

2. Description: Green bituminous bonding primer.


2.06 LIQUID MEMBRANE FLASHING SYSTEM

A. ALSAN FLASHING

1. Ready to use one component, polyurethane / bitumen based resin.

.........B. CHARACTERISTICS
Physical State: Thixotropic Paste
Color: Brown
Specific Gravity at 77°F: 81.16 lbs/sq. ft.
Viscosity: (1500+2000) CP
Flash Point: 62.6 F
Drying Time: 2 to 12 hours

C. PACKAGING
1. 1-gallon or 5-gallon pails.

D. STORAGE
1. 6 months in original unopened can. Store upside down.

2.07 MISCELLANEOUS

B. Sopralene stick for Gusset Material.

PART 3 EXECUTION

3.01 SURFACE INSPECTION AND PREPARATION

A. Before commencing work, all surfaces shall be smooth, clean, dry and free of blisters, buckles any debris that would adversely effect the installation of the membrane. A pull test and moisture scan must be completed. Owner's representative, together with the roofing contractor, shall inspect and approve the deck condition (slopes and nailing supports if applicable) as well as verticals on parapet walls, roof drains, stack vents, vent outlets and others, building joints, etc. If applicable, a non-compliance notice shall be submitted to the contractor so that adjustments can be made. Commencement of work shall imply acceptance of surfaces and conditions.

1. See 1.11 of this section.

SPEC NOTE:
If deck is pre-existing and is to be reroofed or retrofitted, prior approval must be made by the manufacturer.

B. Verify that the work of other trades has been properly completed.

C. Do not install materials in conditions of inclement weather.

3.02 SURFACE PREPARATION
   1. Replace damaged or defective areas prior to commencement of work under this section.
   2. All Securock areas are to be clean and dust free before applying membrane.
   3. Follow Soprema General Requirements.

3.03 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.

3.04 EQUIPMENT
A. Maintain all equipment and tools in good working order.

3.05 FIELD RECOVERY BOARD INSTALLATION
A. **Wood – Metal – LWIC** Mechanically attach one layer of 1/4 inch 4 foot by 8 foot Securock as the recover board over the existing deck – LWIC/Metal / BUR and secure with SOPREMA #14 or #12 fasteners and insulation stress plates at the rate of five (5) fasteners and plates per 4 x 8 foot board with joints staggered a minimum of six (6") inches. For appropriate fastening patterns (16, 24 & 28 Fasteners per 4 x 8 ft. board in the field, perimeters and corners of the roof respectively) see Soprema's Roofer's Guide 05/2008 Issue.

B. **Structural Concrete** Attach one layer of 1/8 inch 4 foot by 8 foot Sopraboard as the recover board over the existing BUR and secure with High Velocity Adhesive III at the coverage rate of between four hundred and six hundred (400 - 600) square feet (37 - 56 m) per carton. Apply HVIII ribbons strips 12, 6 and 4 inch on center in field, perimeters and corners respectively. The R-Values for one-eighth (1/8") inch thick (3.2 mm) are 0.11. Sopraboard meets ASTM D 3273 (resistance to mold) requirements.

C. Fastener length to be determined by contractor, penetrating underside of deck by ¾" and 3" steel plates to secure recovery board through existing membrane to plywood / metal- LWIC deck.

3.06... FIELD BASE MEMBRANE PLY INSTALLATION-Self-adhered
A. Unroll dry base ply membrane on Sopra board for alignment. Each membrane shall have four (4) inch side laps and six (6) inch end laps.
   1. The base ply-Sopralene Stick must be rolled out and allowed to relax a minimum of 20 minutes before being setting into place.
   2. Begin at low point of roof.
3. Place membrane so edge lap will be centered on drain.

4. Align membrane ply sheet to run perpendicular to the slope-to-drain of the deck.

B. Unroll field base membrane ply starting from the edge of the center of the drain line-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 base membrane ply prior to application of the overlaying ply to insure a good seal between the membrane’s.

C. Stagger base ply side and head lap from side and head lap of field cap membrane ply seams a minimum of twelve (12) inches.

D. Field base membrane ply shall have side laps of three (3) inches and end laps of six (6) inches.

E. Align the Sopralene Stick membrane by completely unrolling and setting the roll exactly where it will be installed. NOTE: the alignment is of critical importance as the base membrane may be extremely difficult or impossible to remove once it has been placed down incorrectly!

F. Once aligned, the installation technique is to create two sub rolls by rewinding from both ends once the roll has been aligned. Select one sub roll and gently score the kraft release paper/plastic film on the high side of this roll with a sharp paper cutting utility knife. Then unwind this sub roll onto the Sopraboard by grasping the edge of the peel off paper and slowly and evenly peeling back this release paper while simultaneously and slowly kicking out the Sopralene Flam Stick or Sopralene Stick membrane.

G. Once installed the membrane must be pressure rolled out with the approved Stick roller or similar approved device. The Sopralene Stick must be press rolled over the entire surface paying specific attention to the side and head lap seams. All voids, buckles, wrinkles or area’s displaying a lack of adhesion once properly rolled must be repaired before warranty inspection. See Soprema Technical Manual for specific repair procedure.

H. The final step in to chalk [and strike the chalk line] the side lap with Soprema’s SBS mastic and finish it with Soprema’s SBS mastic striking tool. This will eliminate side lap voids and bridge the gap for the installation of the field cap membrane ply.

3.07. FIRST MEMBRANE BASE PLY FLASHING INSTALLATION

A. Prior to application, the vertical substrate base flashing membrane surface must receive primer. The vertical substrate must receive a coat of Elastocoll Stick H2O primer at the rate of 100-150 sq. ft. /gallon. This primer coating must be tacky before application of the first membrane ply flashing.

NOTE: Commence with this work only if ambient temperature is at or above 60°F for Elastocoll Stick H2O NOTE: In the field area the Sopralene Stick substrate must be prepared with Elastocoll Stick H2O primer and must be primed to a black appearance to be acceptable.

1. For gusset application refer to 3.05 of this section.
B. Lay first membrane flashing ply in strips from 3 feet to 6 feet in width 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 [side lap is a divided lap of bitumen and film] and shall be staggered a minimum of four (4) inches with the laps of the base ply.

   1. Press the membrane into place from top to bottom carefully pulling the silicone release paper, with uniform peel force, from the underside top end and pull the membrane down while simultaneously pressing the membrane in. Pressure needs to be applied to the total surface area to ensure complete bonding to the primed flashing substrate. Secure the top leading edge 8” o.c. max using Soprafix 2” membrane stress plates.

   2. First, the side lap is self adhered by peeling the release paper off and firmly sealing. An approved silicon roller is used to firmly press the lap to insure permanent seal.

C. The minimum temperature for applying self-adhered membranes is 45° F and rising. In cold weather applications, between 45° F and 60° F, the membrane must be maintained at 60° F or higher for proper adhesion.

D. Application shall provide a smooth surface, free of air pockets, wrinkles, fishmouths or tears. Age with a sprinkling of loose granules, color to match membrane.

3.08 FIELD CAP MEMBRANE PLY INSTALLATION

A. Unroll field cap membrane ply starting from the center drain line- 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 cap membrane ply prior to application of the overlaying ply to insure a good seal between the membranes.

B. Stagger base ply side and head lap from side and head lap of field cap membrane ply seams a minimum of twelve (12) inches.

C. Field cap membrane ply shall have side laps of three (3) inches and end laps of six (6) inches.

D. Align the Colphene granulated membrane by completely unrolling and setting the roll exactly where it will be installed. NOTE: the alignment is of critical importance as the cap membrane may be extremely difficult or impossible to remove once it has been placed down incorrectly!

E. The Colphene must be installed parallel to the run of the base membrane ply with a minimum 12” offset of the end and side laps of the base membrane and a 12” offset to adjacent cap membrane plies. The proper technique is to create two sub rolls by rewinding from both ends once the roll has been aligned. Select one sub roll and gently score the kraft release paper/plastic film on the high side of this roll with a sharp paper cutting utility knife. Then unwind this sub roll by grasping the edge of the peel off paper and slowly and evenly peeling back this release paper while simultaneously and slowly kicking out the Colphene membrane.

F. Once installed the Colphene must be pressure rolled out with the approved Colphene Roller or similar approved device. The Colphene must be press rolled over the entire surface paying specific attention to the side and head lap seams. All voids, buckles, wrinkles or area’s displaying a lack of adhesion once properly rolled must be repaired before warranty inspection. See Soprema Technical Manual for specific repair procedure.
3.09 ALSAN FLASHING MEMBRANE APPLICATION

A. Penetrations, base wall flashings, (inside – outside corners), drains, etc.
   1. While wet, imbed the Alsan Polyfleece into the base coat. It must be rolled into the coating while the coating is still wet and before it skims over. All Polyfleece reinforcement must turn up a minimum of 4” and turn down on the horizontal a minimum of 4”.
   2. Center and position the Polyfleece up the vertical and out onto the horizontal surface without wrinkles or folds and embed into the wet base coat. Overlap side lap seams a minimum of 2” inches.
   3. Broadcast granules or allow flashing off before painting or coating.

SPEC NOTE: Apply the fleece into the base coat while wet. Do not allow a skim to form over the base coat.

3.10 CAP MEMBRANE (BASE WALL) FLASHING PLY INSTALLATION  Note: Vertical Dimension must be 24” or less.

A. Once the field cap membrane ply is applied and does not show any defects, prime with Elastocol Stick H2O and install the cap membrane flashing ply.

B. Lay cap membrane flashing ply 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 Cap ply laps in order to avoid excessive thickness.

C. Using a chalk line, lay-out a straight line on the Cap 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. Fasten off base wall flashings 8" O.C.

3.11 WATER CUT-OFF

A. At the end of the day's work, and when precipitation is eminent, a water cut-off shall be constructed at all open edges. Construct the cut-off with the same membrane and asphalt as that used for the roofing system. Cut-off must be able to withstand extended periods of wet weather. The water cut-off shall be completely removed prior to resuming the installation of the roofing system.

3.12 .. CLEANING

A. Clean-up and remove daily from the site all wrappings, empty containers, paper, loose particles and other debris resulting from these operations.

B. Remove asphalt markings from finished surfaces.

C. Repair or replace defaced or disfigured finishes caused by work of this section.

3.13 .. PROTECTION

A. Provide traffic ways, erect barriers, fences, guards, rails, enclosures, chutes and the like to protect personnel, roofs, structures, vehicles and utilities.
B. Plywood for traffic ways required for material movement over existing roofs shall be not less than 5/8-inch thick.

C. In addition to the plywood listed above, an underlayment of minimum 1/2-inch recover board is required on new roofing.
   1. Special permission must be obtained from the Manufacturer before any traffic will be permitted over new roofing.

3.14... FIELD CONTROL

A. Field inspection will be performed as outlined under 2.02 of this section.

2. (Optional - Provide a metal storm collar on all boxes).

3.15... ROOF DRAINS

A. Provide a smooth transition from drain bowl to deck surface.
   1. Leading edge of Sopraboard back from drain a minimum of 18-inches to provide for positive drainage.
   2. Prime all metal surfaces.
   3. Using a trowel, set a 6-inch wide layer of mastic around the drain bowl edge as water cut-off.

B. Install base ply membrane with lap centered on bowl, ensuring a tight seal at drain.
   1. Install a fully primed, 30-inch square sheet of 4-lb lead flashing set in mastic.
   2. Heat weld into place a reinforcing target sheet of base ply material three feet square centered on drain, 4" to the outside of the leading edge of the lead flashing sheet.
   3. Extend membranes 1-inch beyond the inside edge of the drain bowl and temporarily secure with clamping ring.

C. Install Cap ply as outlined below:
   1. Extend membrane 1-inch beyond the inside edge of the drain bowl.
   2. Position membrane so as to avoid the occurrence of any seams at drains.
   3. Seal off drain by running a hot trowel along the edge and firmly pressing against the rim.

D. Install clamping ring and drain covers supplied with drain.

E. Test all drains for proper flow and water tightness. Correct defects.

3.16... WALKWAYS (Optional)

A. At areas outlined by owner or on the drawings, install an additional 36-inch wide by 4-foot long sheet of HR Cap ply or Soprawalk as walkway.
B. Layout sheets dry, adjusting spacing to be uniform, cut and trim pieces as required to fit conditions, direction changes and closing.

1. No piece shall be less than 24-inches.
2. Provide a 2-inch gap between sheets for drainage.

C. Align the sheets to be straight and true, using a straight edge or snap lines as required.

D. Follow specifications for Cap ply installation.

1. Flashing must extend a minimum of 4-inches onto the base ply and continue up the vertical surface onto the top edge of the expansion joint support and be secured using roofing nails at 4 inch on center.
2. Fill the expansion joint with compressible insulation supported by a layer of polyethylene film nailed off along top edge.

3.17. INSIDE – OUTSIDE CORNER FLASHING

A. Inside Corner:

1. Pre-cut all flashing pieces and prime all surfaces prior to installation.
2. Fabricate gusset 4-inch wide by 8-inch long with a 2-inch triangular tip.
   a. Install gusset into corner using heat weld method and firmly pressing with a hot trowel.
   b. Set gusset with triangular tip on base ply and wrapping the corner a minimum of 2-inches on each side.
3. Pre-cut base flashing membranes to provide a 4-inch tie-in to roof surface and 3-inch return at corner.
4. Pre-cut Cap flashing membranes to provide a 6-inch tie-in to roof surface and 3-inch return at corner.
5. Heat weld first Cap flashing sheet into corner over second base ply pressing overlap and tie-in firmly into position with a damp sponge.
   a. Set all granules into membrane using a hot trowel where flashing overlap occurs.
6. Heat weld second Cap flashing sheet into position with edge tight into corner.
   a. Cut off base tie-in selvage at 45-degree from vertical.
   b. Press flashing firmly into position with a damp sponge.
   c. Seal all edges with hot trowel and sprinkle granules to cover seeping SBS

3.18. CURBS
A. Inspect and verify that all curbs are properly secured to deck, are level, a minimum 8-inches above finished roof, primed and ready to receive flashings.

B. Base ply membrane is to run horizontally tight up against the vertical curb or cant as required.
   1. When base ply membrane is to act as temporary seal for an extended length of time, carry membrane up vertical surface a minimum of 1-inch.

C. Gusset to be fabricated 4-inch wide by 8-inch long with a 2-inch triangular tip.
   1. Install gusset onto corner using a heat weld method and firmly pressing with a hot trowel.
   2. Set gusset with triangular tip on base ply and wrapping the corner a minimum 2-inches on each side.

D. Install base ply flashing according to outline below:
   1. Pre-cut flashing to the total sum of curb height, thickness plus 1-inch for inside curb securement and 4-inch tie-in along base with width to match that of curb plus 3-inch overlap on each end.
   2. Secure along inside of curb with roofing nails.
   3. Cut back corner base selvage at 45-degree angle from vertical.

E. Install Cap ply membrane and flashing as specified under 3.0 and as outlined below:
   1. Pre-cut flashing to the total sum of curb height plus 6-inches for base tie-in with width to match that of curb plus 3-inch overlap at each end.
   2. Set granules with heated trowel on all surfaces to receive flashing.
   3. Cut flashing flush with the top of curb and seal edges with heated trowel.
   4. Cut back corner base selvage at 45-degree angle from vertical.
   5. Firmly press flashing into position.

F. Provide metal counter flashing.

3.19... ROOF EDGE

A. Install base ply membrane as outlined below:

B. Carry membrane over roof edge a minimum of 3-inches and temporarily fasten using galvanized roofing nails.

C. Install Elastic Cement under low rise metal edge flange.
   1. Prime all flange surfaces prior to membrane or strip in flashing installation.
   2. Flange on edge to be 4-inch minimum.
   3. Nail flange to decking at 4-inch center, staggered, 1-inch from outside edge.
D. Cover edge with a reinforcing strip of base membrane pressure roll into place. Membrane is to carry beyond the metal flange onto base ply a minimum of 4-inches.

1. Hold the reinforcing strip back from outside edge of metal by 3/4-inch.
2. Seal all edges / end laps with a hot trowel.

F. Install Cap ply of membrane with the edge tight against the low rise metal edge and sealed with a hot trowel.

<END>