

SELF-ADHERED SHEET MEMBRANE AIR & VAPOR BARRIER

SOPRASEAL STICK 1100T

This specification serves as a guideline and must be modified, as necessary, by the Designer of Record to suit the needs of the individual project. This specification is prepared in accordance with CSI format to be included under Division 7 – Thermal and Moisture Protection. Any improvements and changes to the content of this specification can be made only with the written authorization of the Designer of Record. ~~[delete this paragraph]~~

PART 1 – GENERAL

1.01 RELATED DOCUMENTS:

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and General Requirements, apply to the work specified in this section.

1.02 RELATED WORK

- A. Division [03 00 00] [Concrete]
- B. Division [04 00 00] [Masonry]
- C. Division [07 10 00] [Damproofing and Weatherproofing]
- D. Division [07 21 00] [Thermal Insulation]
- E. Others: [] []

1.03 REFERENCES

- A. American Society for Testing and Materials (ASTM)
- B. International Organization for Standardization (ISO) 9001:2000 Quality Standard

1.04 SYSTEM DESCRIPTION

- A. Furnish and install a non-permeable Air & Vapor Barrier weatherproofing assembly including a self-adhered sheet membrane and related accessory products. To ensure total system compatibility all products shall be purchased from a single-source manufacturer.

1.05 SUBMITTALS

- A. Submit three (3) copies of the most current technical data sheets. These documents must describe the physical properties of the specified materials and explanations about product installation, including installation techniques, restrictions, limitations and any other manufacturer recommendations.

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- B. Certification that all products are in compliance with specified ASTM requirements and meet the highest current ISO standards.
- C. Certification that all components of the weatherproofing assembly are being supplied and warranted by a single manufacturer.
- D. Provide a specimen warranty from the manufacturer that includes all components of the air and vapor barrier installation.

1.06 QUALITY ASSURANCE

- A. **Refer to Section 1.5 SUBMITTALS.** Include items A, B, C & D.
- B. The installer must demonstrate his or her qualifications to perform the work of this section by providing written evidence from the manufacturer providing the single-source warranty that the installer is an applicator in good standing and is authorized to install the specified air and vapor barrier system on the project.
 - 1. Documentation of the installer's qualifications must be written on the manufacturer's letterhead, include the name and address of the installer and the full name and physical address of the air and vapor barrier installation in the body of the letter, and must be signed by an authorized representative of the membrane manufacturer.
- C. **Refer to Section 1.4 SYSTEM DESCRIPTION.** All components of the weatherproofing assembly must be supplied by the membrane manufacturer offering the single-source warranty.
- D. The manufacturer offering the single-source warranty must have full-time technical support staff to provide the installer with technical assistance in the installation of the products included in the warranty.
- E. Pre-Construction Conference. All parties responsible for work of this section are required to attend a pre-conference meeting to review the details of the project as they pertain to the integrity of the weatherproofing assembly.
 - 1. The conference must be held prior to commencing work of this section at a time and location to be determined by the Architect.
 - 2. All parties responsible for the work of this section are required to attend, including the architect, owner, installer and manufacturer offering the single-source warranty.
 - 3. All parties are to review the installation procedures of this section and the coordination required with related work.
- F. Field-Constructed Mock-Ups: Prior to installation of the air & vapor barrier, apply air & vapor barrier membrane to verify details under shop drawing submittals and to demonstrate tie-ins with adjoining construction, and other termination conditions, as well as qualities of materials and execution.

1.07 MANUFACTURER'S REPRESENTATIVE

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- A. The air and vapor barrier materials manufacturer may delegate a representative to visit the work site at commencement of work. At all times, the contractor shall permit and facilitate access to the site by the manufacturer's representative cited above.

1.08 DELIVERY, STORAGE & HANDLING

- A. Deliver materials in original unopened containers of packaging clearly labeled with manufacturer's name, brand name, instruction for use and all identifying numbers.
- B. Protect and permanently store all materials in a dry, well-ventilated and weatherproof location. Only materials to be used the same day shall be removed from this location. Winter grade product is to be stored and installed at temperatures not less than 25° F or greater the 50° F. Summer grade product to be stored and installed at a 50° F minimum temperature; certain adhesives and accessories may require conditioning at temperatures greater than 50° F prior to use to ensure the proper rate of application and/or ease of use (see PDSs). Keep all materials away from open flame or welding sparks.
- C. Pails of materials shall be carefully stored and adequately protected in accordance with the manufacturer's recommendations.
- D. Store all materials upright, on pallets in a clean, dry area protected from water and direct sunlight at the temperatures described above.
- E. The specified weatherproofing membrane must be kept from freezing during storage and transport.

1.09 PROJECT CONDITIONS

- A. Application of the membrane shall not commence nor proceed during inclement weather. All surfaces to receive the membrane shall be clean, dry, free of water, dew, frost, snow and ice.
- B. Application of membrane shall not commence nor proceed when the ambient temperature is below 25°F for winter grade product and 50° F for summer grade product.
- C. It is imperative that provision be made for adequate protection of the installed membrane to prevent damage that might arise from work performed by the other trades.
- D. Concrete Deck/Wall Preparation; refer to Section 3.01 Surface Preparation.

1.10 WARRANTY

- A. Upon completion of the work, the contractor shall supply the owner with a single-source warranty issued by the manufacturer of the weatherproofing assembly.
- B. The product manufacturer shall issue a written and signed document in the name of the owner, certifying the product will meet all the physical characteristics published by the manufacturer, for a period of [5] years, starting from the date of completion of installation of membranes. No letter amending the manufacturer's standard warranty will be accepted and the warranty certificate must reflect these requirements.

**** CONTACT SOPREMA FOR EXACT WARRANTY TERMS AND CONDITIONS****

PART 2 – PRODUCTS

2.01 GENERAL

- A. Weatherproofing membrane components and accessories shall be obtained as a single-source from the membrane manufacturer to ensure total system compatibility and integrity.

Acceptable Manufacturer: **SOPREMA Inc.**
310 Quadral Dr.
Wadsworth, OH 44281
Phone: 800-356-3521
Fax: 330-334-4289
Web Site: www.soprema.us

2.02 MATERIALS

A. AIR & VAPOR BARRIER MEMBRANE

1. Shall be a self-adhered Air & Vapor Barrier sheet membrane composed of a selected blend of bitumen and SBS thermoplastic polymer adhesive on the bottom surface and a tri-laminate woven polyethylene facer on the top surface; minimum thickness 40 mils (1.0 mm).
2. Specified Product: **SOPRASEAL STICK 1100T by SOPREMA**
3. Physical Properties:
 - a. Thickness: 40 mil (1.0 mm)
 - b. Tensile Strength (lb/in) ASTM D-5147 / 64
 - c. Elongation (%) ASTM D-5147 / 40%
 - d. Static Puncture (lbf) ASTM D-5602 / 90
 - e. Lap Adhesion (lb/in) ASTM D-1876 / 11.4
 - f. Water Absorption (%) ASTM D-5147 / 0.1 maximum
 - g. Peel Resistance (lbf/ft) ASTM D-903 / 16
 - h. Water Vapor Permeance (perm) ASTM E-96 (Pro. B) / 0.016 perm
 - i. Air permeability (L/se·m²) ASTM E-283 (75 Pa) / <0.0003
 - j. Resistance to gust wind load ASTM E-330 no signs of delamination nor variation in the air permeability.
 - k. Resistance to sustained wind load ASTM E-330 no signs of delamination nor variation in the air permeability.

2.03 AUXILIARY MATERIALS

B. PRIMER

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1. Shall be a blend of natural resins and solvent/synthetic rubber, applied by brush, roller or spray over properly prepared substrates as determined by the membrane manufacturer.

Specified Product: **ELASTOCOL 600c by SOPREMA**

2. Shall be a polymer, emulsion based primer, applied by brush, roller or spray over properly prepared substrates as determined by the membrane manufacturer. For use when temperatures are above 41°F (5°C). Keep from freezing.

Specified product: **ELASTOCOL STICK H20 by SOPREMA**

C. JOINT AND CRACK TREATMENT COATING

1. For cracks in the substrate less than 1/4" (6mm) width: Shall be a water-based single component rubberized liquid coating used as insulation adhesive and crack filler. For applications at temperatures above 40°F only.

a. Specified Product: **SOPRASEAL LM 200 T by SOPREMA**

2. For cracks and/or joints in the substrate greater than 1/4" (6mm) width: Shall be filled with Sopraseal LM 200 T as described above and stripped in with a 40 mil, SBS modified bitumen self-adhering sheet membrane with polyethylene woven complex. *Must be used with approved primer*.

a. Specified Product: **SOPRASEAL STICK 1100T by SOPREMA**

D. WEATHERPROOFING MASTIC

1. For sealing terminating edges of membrane and detailing penetrations or projections through the weatherproofing membrane.

2. Specified Product: **SOPRAMASTIC by SOPREMA**

E. MEMBRANE DETAILING

1. Optional Air Barrier detailing around windows, doors and other wall openings.

2. Specified Product: **SOPRASEAL WEATHERFLASH**

E. INSULATION ATTACHMENT SYSTEM (if required)

1. For attachment of rigid or semi-rigid insulation boards over the specified Air & Vapor Barrier.

2. Specified Product: **SOPRASEAL LM 200 T by SOPREMA**

PART 3 – EXECUTION

3.01 SURFACE PREPARTION

- A. Prior to commencement of work, the weatherproofing contractor must receive a written order to proceed from the owner's representative accepting surface conditions.
- B. Before commencing work, all surfaces must be smooth, dry, clean and free of ice and debris as per manufacturer's recommendations.
- C. Do not install materials in inclement weather or temperatures exceeding the product specifications.
- D. Verify the compatibility of all membrane components with the substrate and all adjacent work.
- E. Apply specified primer to the approved substrate prior to installing the specified self-adhering sheet Air/Vapor Barrier membrane. Apply thin, continuous coating at coverage rate indicated on PDS. Allow primer to dry until it does not transfer when touched, but still has tack. If necessary, re-apply primer to surfaces that have become dusty or lost tack.
- F. Any cracks or joints over 1/8 inch (3 mm) wide should be reported. Upon approval from the qualified authority, the crack or joint should be filled in with T (trowel) grade air/vapor barrier coating. For cracks over 1/4" (6 mm), a 6 inch (150 mm) wide strip of detail membrane should be installed, centered over the crack.
- G. **Refer to Section 2.3 AUXILIARY MATERIALS** for Joint & Crack Treatment.

3.02 MEMBRANE INSTALLATION AT OPENINGS (Windows, doors, etc.)

- A. Apply specified primer to the approved substrate. Apply thin, continuous coating at coverage rate indicated on product technical data sheet. Allow primer to dry until it does not transfer when touched, but still has tack. If necessary, re-apply primer to surfaces that have become dusty or lost tack. Apply transition membrane over surface the same day of application of primer.
- B. The transition membrane must be carefully installed around openings in the wall (windows, doors, etc.) in such a manner as to prevent any air leakage at these areas (refer to detail drawings).
- C. Lap adjoining strips of membrane 2 inches minimum and sequence installation to provide shingled overlaps. Upon installation, an approved, hand-held roller shall be applied with hand pressure over the entire surface of the membrane to ensure solid, consistent adhesion to the substrate. Membrane shall be rolled in using a side to side motion, perpendicular to the terminating edge.
- D. End-laps and any non-shingled membrane laps shall be sealed with the specified weatherproofing mastic.
- E. If Sopraseal Weatherflash is to be used see PDS for correct installation procedures and product limitations.

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3.03 AIR & VAPOR BARRIER MEMBRANE INSTALLATION

- A. Apply specified self-adhering sheet air/vapor barrier membrane to prepared and primed substrate per manufacturer's recommendations and installation guidelines
- B. Membrane installation shall commence at the base (bottom) of the wall and proceed upward, as recommended by the membrane manufacturer. Properly position membrane rolls, remove release film and press firmly.
- C. Lap adjoining strips of membrane 3" and sequence installation to provide shingled overlaps. Upon installation, an approved, hand-held roller shall be applied with hand pressure over the entire surface of the membrane to ensure solid, consistent adhesion to the substrate. Membrane shall be rolled in using a side to side motion, perpendicular to the terminating edge. Apply a bead of specified weatherproofing mastic along the top edge of membrane at the conclusion of each work day.
- D. Weatherproofing contractor shall thoroughly inspect membrane installation at the end of each work day and make repairs, if necessary, in strict accordance with membrane manufacturers recommendations.

3.04 INSTALLATION OF INSULATION (if required)

- A. Apply adhesive with spots 75mm (3 in) in diameter, every 900mm (36 in). Bottom panel should be supported or mechanically fixed. On the top row of insulation, apply a continuous bead of adhesive 25mm (1 in) wide to the top leading edge of the panels to be adhered. This bead will protect the adhesive spots during initial cure by limiting the flow of moisture behind the board in the event of rain or snow.

3.05 JOB COMPLETION

- A. The weatherproofing contractor and an authorized representative of the membrane manufacturer shall inspect the weatherproofing assembly and notify the contractor of any defects. All defects shall be corrected by the weatherproofing contractor per manufacturer's requirements.
- B. Clean up all debris and equipment.

-END OF SECTION-