PART 1 GENERAL

1.1 SECTION INCLUDES

.1 Materials and installation methods providing primary air/vapour barrier materials and assemblies.

.2 Air/vapour barrier materials to provide continuous seal between components of building envelope and building penetrations.

1.2 RELATED SECTIONS

.1 Section 01 45 00 - Quality Control.

.2 Section 01 61 00 - Common Product Requirements.

.3 Section 07 92 10 - Joint Sealants.

1.3 REFERENCES

.1 Codes and standards referenced in the section refer to the latest edition thereof.

.2 Canadian General Standards Board (CGSB)

.1 CAN/CGSB-19.13M, Sealing Compound, One Component, Elastomeric Chemical Curing.

.2 CAN/CGSB-19.18M, Sealing Compound, One Component, Silicone Base Solvent Curing.

.3 CAN/CGSB-19.24M, Multi-Component, Chemical Curing Sealing Compound.

.4 CGSB 19-GP-14M, Sealing Compound, One Component, Butyl-Polyisobutylene Polymer Base, Solvent Curing.

.3 National Building Code of Canada (NBCC)

.1 NBCC, Part 5 - Environmental Separation

.4 Sealant and Waterproofer's Institute - Sealant and Caulking Guide Specification.

1.4 SUBMITTALS

.1 Submit manufacturer's product data sheets.

.2 Submit manufacturer's installation instructions.

1.5 QUALITY ASSURANCE

.1 Perform Work in accordance with Sealant and Waterproofer's Institute - Sealant and Caulking Guide

.2 Specification requirements for materials and installation.

.3 Perform Work in accordance with National Air Barrier Association - Professional Contractor Quality Assurance Program and requirements for materials and installation.

.4 Manufacturer's Representative:

.1 Inspect substrate prior to commencement of work, twice during application of membrane and at commissioning to ascertain that air/vapour barrier system is installed according to membrane manufacturer's most current published specifications and details.

.2 Provide technical assistance to applicator and assist where required in correct installation of membrane.

.3 Provide certificate of quality compliance upon satisfactory completion of installation.

.5 Maintain one copy of documents on site.

1.6 QUALIFICATIONS

.1 Applicator: Company specializing in performing work of this section with minimum 5 years documented experience with installation of air/vapour barrier systems. Complete installation must be approved by the material manufacturer.

.2 Applicator: Company who is currently licensed by certifying organization must maintain their license throughout the duration of the project.

1.7 MOCK-UP

.1 Construct mock-up in accordance with Section 01 45 00 - Quality Control.

.2 Construct typical panel, 10 m^2 minimum, incorporating wall openings, insulation, building corner condition, illustrating materials interface and seals.

.3 Locate where directed.

.4 Mock-up may remain as part of the Work.

.5 Allow 48 h for inspection of mock-up by Departmental Representative before proceeding with air/vapour barrier Work.

1.8 PRE- INSTALLATION MEETINGS

.1 Convene one week prior to commencing work of this section.

1.9 DELIVERY, STORAGE AND HANDLING

.1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements.

.2 Deliver, store and handle materials in accordance with manufacturer's written instructions. Deliver membrane materials in factory wrapped packaging indicating name of manufacturer and product.

.3 Avoid spillage. Immediately notify Departmental Representative if spillage occurs and start clean up procedures.

.4 Clean spills and leave area as it was prior to spill.

.5 Store roll materials on end in original packaging.

.6 Store primers at temperatures of 5°C and above to facilitate handling. Keep solvent away from open flame and excessive heat.

1.10 PROJECT ENVIRONMENTAL REQUIREMENTS

.1 Do not install solvent curing sealants or vapour release adhesive materials in enclosed spaces without ventilation.

.2 Maintain temperature and humidity recommended by materials manufactures before, during and after installation.

1.11 WARRANTY

.1 Provide a written warranty for work of this section from Manufacturer for failure due to defective materials and from contractor for failure due to defective installation workmanship for ten (10) years respectively.

.2 Include coverage of installed sealant and sheet materials which fail to achieve air tight and

watertight seal, exhibit loss of adhesion or cohesion or do not cure.

PART 2 PRODUCTS

2.1 SHEET MATERIALS

.1 Sheet Seal: Self-Adhesive bitumen laminated to high-density polyethylene film, nominal total thickness of 1.0 mm.

.1 Membrane Physical Properties

.1	Application	min 5°C
.2	Service Temperature	-40°C to 70°
.3	Elongation	min 200%
.4	Tensile strength	min 2.4 Mpa
.5	Puncture Resistance	min 178 N
.6	Water vapour transmission	2.8mg/Pa.s.m² (0.05 perms)
.7	Moisture Absorption	0.1%
.8	Air Leakage at 75 Pa	0.02L/Sm²
.9	Air Leakage of the 3000 Pa test	No change

2.2 SEALANTS

.1 Sealants in accordance with Section 07 92 10 - Joint Sealants.

.2 Primer: recommended by sealant manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION

.1 Verify that surfaces and conditions are ready to accept the Work of this section.

.2 Ensure all surfaces are clean, dry, sound, smooth, continuous and comply with air barrier manufacturer's requirements.

.3 Report any unsatisfactory conditions to the Departmental Representative in writing.

.4 Do not start work until deficiencies have been corrected.

3.2 PREPARATION

.1 Remove loose or foreign matter which might impair adhesion of materials.

.2 Ensure all substrates are clean of oil or excess dust; all masonry joints struck flush, and open joints filled; and all concrete surfaces free of large voids, spalled areas or sharp protrusions.

.3 Ensure all substrates are free of surface moisture prior to application of membrane and primer.

.4 Ensure metal closures are free of sharp edges and burrs.

.5 Prime substrate surfaces to receive adhesive and sealants in accordance with manufacturer's instructions.

3.3 INSTALLATION (SHEET MEMBRANE)

.1 Install materials in accordance with manufacturer's instructions.

.2 Over the properly prepared substrate surface apply primer with a roller and allow drying to a tacky surface. Prime only area to be covered in a working day. Re-prime area not covered with membrane within 24 hours.

.3 After primer has dried, using a hand roller firmly press the entire membrane onto the primed surface, in strict accordance with membrane manufacturer's written instructions.

.4 Ensure complete coverage of and adhesion of all substrates to receive membrane, including wall penetrations. Co-operate with other trades to ensure continuity of membrane.

.5 Overlap membrane 50mm and carefully smooth out with a roller to ensure full continuous bond throughout overlaps without fissures or fishmouthing.

.6 It is important that a complete air seal be achieved. Be responsible for the completeness of membrane wherever it is not specifically detailed. Consult with Departmental Representative if there is any doubt as to the integrity of membrane, whether detailed or not.

.7 In order to ensure a complete seal, seal membrane to all penetrations in an approved manner.

.8 Apply a trowelled bead of mastic to all terminations of the membrane at the end of a day's work.

.9 Do not enclose membrane until it has been inspected and approved by Departmental Representative. Inform Departmental Representative 48 hours prior to required inspection.

3.4 PROTECTION OF WORK

.1 Protect finished Work in accordance with Section 01 61 00 - Common Product Requirements.

.2 Do not permit adjacent work to damage work of this section.

.3 Ensure finished Work is protected from climatic conditions.

3.5 INSPECTION

.1 Carefully inspect for continuity of air barrier prior to placement of insulation.

.2 Repair all deficient membrane areas.

.3 Misaligned or inadequately lapped seams, punctures or other damage must be repaired with a patch of air barrier membrane extending 50mm in all directions from edge of damaged areas.

.4 Cover membrane immediately after Departmental Representative's inspection to protect from damage by other trades.

3.6 TESTING .1 Air leakage testing as directed by Departmental Representative and paid for by contractor will be performed by professional testing agency for the locations selected at random for penetrations, laps, corners, etc.

2 Testing will be witnessed by Departmental Representative and test reports will be signed by tester, site representative and contractor.

.3 Inform Departmental Representative 48 hours prior to required testing.

END OF SECTION