

SPEC NOTE: This specification includes Henry Company Fluid Applied Air/Vapour Barrier Membranes (**Air-Bloc 06, Air-Bloc 21 and Air-Bloc 32MR**)

SPEC NOTE: This master specification section includes HENRY COMPANY SPEC NOTES for information purposes and to assist the editor in making appropriate decisions. HENRY COMPANY SPEC NOTES always immediately precede the text to which it is referring. The section serves as a guideline only and should be edited with deletions and additions to meet specific project requirements.

SPEC NOTE: This specification section follows the recommendations of the Construction Specifications Canada, Manual of Practice including MasterFormat, SectionFormat, and PageFormat. Optional text is indicated by square brackets []; delete the optional text including the brackets in the final copy of the specification. Delete all SPEC NOTES in the final copy of the specification.

SPEC NOTE: This specification includes materials and installation procedures for Henry Company Fluid Applied Air/Vapour Barrier Membranes, in accordance with the requirements of the NBC for the building envelope. Fluid applied air/vapour membranes are used in cavity wall construction to provide an air, vapour and watertight membrane. Blueskin SA is a self-adhering air/vapour barrier membrane used as a transition sheet to span the interface of dissimilar materials. This specification should be adapted to suit the requirements of individual projects.

PART 1:GENERAL

1.1 GENERAL REQUIREMENTS

- .1 The General Conditions, the Supplementary Conditions, the Instructions to Bidders and Division 1 General Requirements shall be read in conjunction with and govern this section.
- .2 The Specification shall be read as a whole by all parties concerned. Each Section may contain more or less than the complete work of any trade. The Contractor is solely responsible to make clear to the Subcontractors the extent of their work.

1.2 SUMMARY

- .1 This Section includes requirements for supply and installation of the following, as required for complete and proper installation:
 - .1 Adhesives/Primers
 - .2 Fluid Applied, Air/Vapour Barrier Membrane
 - .3 Sheathing Joint / Transition Membranes
 - .4 Sealant
 - .5 Thru-wall flashing
 - .6 Insulation Adhesive (Optional)

1.3 RELATED REQUIREMENTS

SPEC NOTE: Include in this paragraph only those sections and documents that directly affect the work of this section. Do not include Division 00 Documents or Division 01 Sections since it is assumed that all technical sections are related to all project Division 00 Documents and Division 01 Sections to some degree. Refer to other documents with caution since referencing them may cause them to be considered a legal part of the Contract. Edit the following paragraphs to suit specific project conditions.

- .1 Section 04 20 00 - Masonry
- .2 Section 05 40 00 - Cold-Formed Metal Framing
- .3 Section 05 50 00 - Metal Fabrications

- .4 Section 07 21 00 - Thermal Insulation
- .5 Section 07 62 00 - Sheet Metal Flashing and Trim
- .6 Section 07 92 00 - Joint Sealants
- .7 Section 08 11 00 - Metal Doors and Frames
- .8 Section 08 41 00 - Entrances and Storefronts
- .9 Section 08 44 00 - Curtain Wall and Glazed Assemblies
- .10 Section 08 50 00 - Windows
- .11 Section 09 21 16 - Gypsum Board Assemblies

1.4 REFERENCES

- .1 Specification American Society for Testing and Materials (ASTM):
 - .1 ASTM D412, Standard Test Method for Vulcanized Rubber and Thermoplastic Elastomers - Tension
 - .2 ASTM D471, Standard Test Method for Rubber Property - Effect of Liquids
 - .3 ASTM D1970, Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection
 - .4 ASTM D2243, Standard Test Method for Freeze-Thaw Resistance of Water-Borne Coatings
 - .5 ASTM D5590, Standard Test Method for Determining the Resistance of Paint Films and Related Coatings to Fungal Defacement by Accelerated Four-Week Agar Plate Assay
 - .6 ASTM E84, Standard Test Method for Surface Burning Characteristics of Building Materials
 - .7 ASTM E96, Standard Test Methods for Water Vapor Transmission of Materials
 - .8 ASTM E283, Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen
 - .9 ASTM E330, Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference
 - .10 ASTM E331, Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference
 - .11 ASTM E1354, Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products Using an Oxygen Consumption Calorimeter
 - .12 ASTM E2112, Standard Practice for Installation of Exterior Windows, Doors and Skylights
 - .13 ASTM E2178, Standard Test Method for Air Permeance of Building Materials
 - .14 ASTM E2357, Standard Test Method for Determining Air Leakage of Air Barrier Assemblies
- .2 Canadian General Standards Board (CGSB):
 - .1 CGSB 37-GP-56M, Membrane, Modified, Bituminous, Prefabricated, and Reinforced for Roofing
- .3 American Architectural Manufacturers Association (AAMA):
 - .1 AAMA 2400-02, Standard Practice for Installation of Windows with a Mounting Flange in Stud Frame Construction

1.5 ADMINISTRATIVE REQUIREMENTS

- .1 Coordination: Coordinate the Work of this Section with the installation of exterior substrate; Sequence work so that installation of fluid applied air/vapour barrier membrane coincides with installation of substrate preparation without causing delay to the Work.
- .2 Pre-Construction Conference: Arrange a site meeting attended by the Contractor, the Subcontractor, the [engineer] [architect] [consultant], materials supplier(s), and other relevant personal before commencement of work for this Section; as indicated in Section [01 31 13 Project Meetings].
 - .1 Review methods and procedures related to installation, including manufacturer's written instructions;
 - .2 Examine substrate conditions for compliance with manufacturers installation requirements;
 - .3 Review temporary protection measures required during and after installation.

1.6 SUBMITTALS

- .1 Provide requested information in accordance with Section [01 33 00 Submittals Procedures].
- .2 Action Submittals: Provide the following submittals before starting any work of this Section:
 - .1 Product Data: Submit manufacturer's data sheets covering the care and recommended maintenance procedures for incorporation into maintenance manuals.
 - .2 Certifications:
 - .1 Submit documentation from an approved independent testing laboratory certifying that the air leakage rates of the fluid applied air/vapour barrier membrane, including primary membrane, adhesive, primer and sealants have been tested to meet ASTM E2357.
 - .2 Submit documentation from an approved independent testing laboratory, certifying that the effective air leakage and moisture vapour permeance rates of the fluid applied air/vapour barrier membrane, including primary membrane and transition sheets, exceed the requirements of the Massachusetts Energy Code and are in accordance with ASTM E2178. Test report submittals shall include test results on porous substrate and include sustained wind load and gust load air leakage results.
 - .3 Submit documentation from an approved independent testing laboratory certifying that the air leakage and vapour permeance rates of the fluid applied air/vapour barrier membrane, including primary membrane and transition sheets, exceed the requirements of the National Building Code.
 - .4 Submit copies of manufacturers' current ISO 9001 certification. Membrane, primers, sealants, adhesives and associated auxiliary materials shall be included.
 - .3 Submit references clearly indicating that the membrane manufacturer has successfully completed projects on an annual basis of similar scope and nature for a minimum of fifteen (15) years. Submit references for a minimum of ten (10) projects.
 - .4 Submit manufacturers' complete set of standard details for the fluid applied air/vapour barrier membrane showing a continuous plane of air tightness throughout the building envelope.
 - .5 Provide material checklist complete with application rates and minimum thickness of primary membranes.

1.7 QUALITY ASSURANCE

- .1 Qualifications: Provide proof of qualifications when requested by [engineer] [architect] [consultant]:
 - .1 Submit in writing, a document stating that the applicator of the fluid applied air/vapour barrier membrane specified in this section is recognized by the manufacturer as suitable for the execution of the Work.
 - .2 Perform Work in accordance with the manufacturer's written instructions of the fluid applied air/vapour barrier membrane and this specification.
 - .3 Maintain one copy of manufacturer's written instructions on site.
 - .4 At the beginning of the Work and at all times during the execution of the Work, allow access to Work site by the fluid applied air/vapour barrier membrane manufacturers' representative.
 - .5 Components used in this section shall be sourced from one manufacturer, including sheet membrane, fluid applied air/vapour barrier membrane, sealants, primers, mastics and adhesives.

SPEC NOTE: Mock-ups establish quality of the work for the materials indicated in this Section. Delete the following paragraph if the scope of work in this Section is minimal and a mock-up is not required.

1.8 MOCK-UPS

- .1 Mock-ups: Construct mock-ups to verify selections made under submittals and to set quality standards for materials and execution in accordance with Section [01 45 00 Quality Control] for mock-ups and as follows:
 - .1 Where directed by [engineer] [architect] [consultant], construct typical exterior wall section, 2m x 2m, incorporating [], substrate materials, and adjacent materials including flashing, door frame, window frame, attachment of insulation and []; showing fluid applied air/vapour barrier membrane application details.
- .2 Notify [engineer] [architect] [consultant] a minimum seven (7) days prior to mock-up construction.
- .3 Review and acceptance of mock-ups does not constitute approval of deviations from the Contract Documents contained in mock-ups unless [engineer] [architect] [consultant] specifically notes such deviations in writing.
- .4 Once reviewed by [engineer] [architect] [consultant], acceptable mock-up can form a permanent part of the Work, and will form the basis for acceptance for the remainder of the project.
- .5 Remove and replace materials found not acceptable at no additional cost to Owner.

1.9 DELIVERY, STORAGE AND HANDLING

- .1 Delivery: At the time of delivery, visually inspect all materials for damage. Note any damaged to materials on the receiving ticket and immediately report to the shipping company and the material manufacturer.
 - .1 Remove damaged materials from the site immediately.
- .2 Storage:
 - .1 Store materials as recommended by manufacturer and conforming to applicable safety regulatory agencies. Refer to all applicable data including but not limited to MSDS sheets, Product Data sheets, product labels, and specific instructions for personal protection.
 - .2 Store materials off the ground and cover with a weather proof flame resistant sheeting or tarpaulin.
 - .3 Store role materials on end in original packaging.

- .4 Store adhesives and primers at temperatures of 5 deg C (41 deg F) and above to facilitate handling.
 - .5 Keep solvent away from open flame or excessive heat.
 - .6 Protect rolls from direct sunlight until ready for use.
- .3 Handling: Material shall be handled in accordance with sound material handling practices and in accordance with manufacturer's written instructions.

1.10 COORDINATION

- .1 Ensure continuity of the air seal throughout the scope of this section.
- .2 Ambient Conditions:
 - .1 Install materials outlined in this Section after completion of work by other Sections is complete; to provide adequate dry, clean, level, and plumb surfaces for installation and adhesion.
 - .2 Apply when ambient air and substrate temperatures are above temperature range indicated by fluid applied air/vapour barrier membrane manufacturer, during time of install, and for a minimum of forty-eight (48) hours after installation, unless otherwise indicated.
 - .3 Ensure surfaces are dry prior to and a minimum of sixteen (16) hours after time of install.

1.11 ALTERNATES

- .1 Submit requests for alternates in accordance with Section [project specific].
- .2 Alternate submission format to include:
 - .1 Evidence that alternate materials meet or exceed performance characteristics of product requirements and documentation from an approved independent testing laboratory certifying that the performance of the system including auxiliary components exceed the requirements of the local building code.
 - .2 References clearly indicating that the manufacturer has successfully completed projects of similar scope and nature on an annual basis for a minimum of ten (10) years.
 - .3 Manufacturer's guide specification.
 - .4 Manufacturer's complete set of technical data sheets for assembly.
 - .5 Manufacturer's complete set of details for assembly.
 - .6 Product certification that the assembly components are supplied and warranted by single source manufacturer.
 - .7 Sample warranty as specified.
- .3 Submit requests for alternates to this specification a minimum of ten (10) working days prior to bid date. Include a list of twenty-five (25) projects executed over the past five (5) years.
- .4 Acceptable alternates will be confirmed by addendum. Substitute materials not approved in writing prior to tender closing shall not be permitted for use on this project.

1.12 WARRANTY

- .1 Provide manufacturer's one (1) year warranty from date of purchase to maintain the physical properties, air and water tightness and adhesion, providing the fluid applied air/vapour barrier membrane is correctly installed on an approved substrate according to the installation procedures of the manufacturer.
- .2 Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty

document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under Contract Documents.

PART 2:PRODUCTS

2.1 MATERIALS MANUFACTURER

- .1 Components and auxiliary materials must be obtained as a single-source from the assembly manufacturer to ensure total system compatibility and integrity.
- .2 Materials and accessories specified herein are manufactured by:

Henry Company
15 Wallsend Drive,
Scarborough, Ontario, Canada, M1E 3X6
(800) 387 9598
www.henry.com

2.2 MATERIALS

- .1 Fluid Applied Air/Vapour Barrier Membrane:

SPEC NOTE: Select the following option for a one-component, trowel or spray applied air/vapour barrier, with cold temperature application limit, and excellent elongation and recovery.

- .1 One component elastomeric bitumen, trowel or spray applied to a wet film thickness of 2.2 mm (90 mils) and having the following characteristics:
 - .1 Solids By Weight: 62%
 - .2 Air permeability: 0.002 L/s·m² @ 75 Pa., tested to ASTM E2178.
 - .3 Application Temperature: -12 deg C (10.4 deg F) minimum.
 - .4 Tested to ASTM E2357 for Air Leakage of Air Barrier Assemblies.
 - .5 Water Vapour Permeance: 2.8 ng/Pa·m²·s., (0.05 perms) (ASTM E96).
 - .6 Tensile Strength (ASTM D412): 480 kPa (70 psi)
 - .7 Elongation (ASTM D412): 1200%.
 - .8 Recovery (CAN/CGSB 37.58): 75%
 - .9 Nail Sealability (ASTM D1970): Pass.
 - .10 Colour: Black.
 - .11 Basis of Design Product: Air-Bloc 06 by Henry Company.

SPEC NOTE: Select the following option for a trowel applied, solvent-type air/vapour barrier and insulation adhesive, with a cold temperature application limit.

- .2 Synthetic, rubber based adhesive, trowel applied to a wet film thickness of 3.2 mm (120 mils) and having the following characteristics:
 - .1 Solids By Weight: 72%
 - .2 Air permeability: 0.013 L/s·m² @ 100 Pa., tested to ASTM E2178.
 - .3 Application Temperature: -12 deg C (10.4 deg F) minimum.
 - .4 Tested to ASTM E2357 for Air Leakage of Air Barrier Assemblies.
 - .5 Water Vapour Permeance: 1.7 ng/Pa·m²·s., (0.03 perms) (ASTM E96).
 - .6 Elongation (ASTM D412): 250%.
 - .7 Nail Sealability (ASTM D1970): Pass.
 - .8 Colour: Cream.

- .9 Basis of Design Product: Air-Bloc 21 by Henry Company.

SPEC NOTE: Select the following option for a spray applied, solvent-type air/vapour barrier and insulation adhesive, with a cold temperature application limit.

- .3 Synthetic, rubber based adhesive, spray applied to a wet film thickness of 3.2 mm (120 mils) and having the following characteristics:
- .1 Solids By Weight: 62%
 - .2 Air permeability: 0.0012 L/s·m² @ 75 Pa., tested to ASTM E2178.
 - .3 Application Temperature: -12 deg C (10.4 deg F) minimum.
 - .4 Tested to ASTM E2357 for Air Leakage of Air Barrier Assemblies.
 - .5 Water Vapour Permeance: 3.2 ng/Pa·m²·s., (0.05 perms) (ASTM E96).
 - .6 Elongation (ASTM D412): 1100%.
 - .7 Nail Sealability (ASTM D1970): Pass.
 - .8 Colour: Cream.
 - .9 Basis of Design Product: Air-Bloc 21S by Henry Company.

SPEC NOTE: Select the following option for a low VOC, one-component elastomeric air/vapour barrier; water based formulation, resistant to mold, mildew and fungal growth, which can be applied to damp concrete.

- .4 One component elastomeric bitumen, trowel or spray applied to a wet film thickness of 3mm (120 mils) and having the following characteristics:
- .1 Solids By Weight: 55%
 - .2 Air permeability: 0.0006 L/s·m² @ 75 Pa., tested to ASTM E2178
 - .3 Application Temperature: 4 deg C (40 deg F) minimum
 - .4 Tested to ASTM E2357 for Air Leakage of Air Barrier Assemblies
 - .5 Water Vapour Permeance: 5.0 ng/Pa·m²·s., (0.08 perms) (ASTM E96)
 - .6 Tensile Strength (ASTM D412): 820 kPa (119 psi)
 - .7 Elongation (ASTM D412): 800%
 - .8 Recovery (CAN/CGSB 37.58): 90%
 - .9 Nail Sealability (ASTM D1970): Pass
 - .10 Resistance to Mold, Mildew & Fungal Growth (ASTM D5590): 0; No Growth
 - .11 Colour: Beige
 - .12 Basis of Design Product: Air-Bloc 32MR by Henry Company.

.2 Auxiliary Materials:

- .1 Self-Adhering Sheathing Joint / Transition Membrane: Non-vapour permeable, self-adhered water resistive air and vapour barrier membrane consisting of an SBS rubberized asphalt compound, which is integrally laminated to a blue engineered thermoplastic film, having the following properties:
- .1 Colour: Blue
 - .2 Water Vapour Permeance (ASTM E96, Method A): 49 ng/Pa·m²·s., (0.86 perms)
 - .3 Air Leakage of Air Barrier Assemblies (ASTM E2357): Pass
 - .4 Air leakage (ASTM E2178): <0.0005 L/s/m² @ 75Pa
 - .5 Water Tightness (CAN/CGSB-37.58-M86): Pass
 - .6 Nail Sealability (ASTM D1970): Pass
 - .7 Tensile Strength:
 - .1 Membrane (ASTM D412-modified): 500 psi minimum
 - .2 Film (ASTM D828): 5000 psi minimum
 - .8 Elongation (ASTM D412-modified): 200% minimum
 - .9 Basis of Design Product: Blueskin SA by Henry Company.

- .2 Liquid-Applied Air Barrier Flashings: Moisture-curing one component elastomeric liquid applied flashing membrane using a highly advanced STPe (Silyl-Terminated Polyether) polymer, having the following properties:
 - .1 Colour: Blue
 - .2 Air leakage (ASTM E2178): <0.004 L/s/m² @ 75Pa
 - .3 Water Vapour Permeance (ASTM E96, Method B): 21.8 perms @25 mils
 - .4 Air Leakage of Air Barrier Assemblies (ASTM E2357): Pass
 - .5 Water Resistance (AC212/ASTM D2247): Pass
 - .6 Nail Sealability (AMMA 711): Pass
 - .7 Surface Burning Characteristics (ASTM E84):
 - .1 Class A
 - .2 Flame Spread/Smoke Development (ASTM E84): 20/5
 - .8 Tensile Strength (ASTM D412-modified): 132 psi
 - .9 Elongation (D412): 264%
 - .10 Basis of Design Product: Air-Bloc LF by Henry Company.
- .3 Joint Treatment Mesh: Open weave glass fabric yarn saturated with synthetic resins.
 - .1 Basis of Design Product: 990-06 Yellow Jacket by Henry Company.
- .4 Through-wall Flashing and Dampproof Course Membrane: Self-adhered membrane consisting of an SBS rubberized asphalt compound, complete with a cross-laminated polyethylene film, and having the following physical properties:
 - .1 Colour: Yellow.
 - .2 High Temperature Stability - Flow Resistance: Pass @ 110 deg C, tested to ASTM D5147.
 - .3 Thickness: 1.0 mm (40 mils).
 - .4 Air leakage: 0.005 L/s.m² @ 75 Pa to ASTM E283,
 - .5 Water vapour permeance: 1.6 ng/Pa.m².s (0.03 perms) to ASTM E96, Method B.
 - .6 Low temperature flexibility: -30°C to CGSB 37-GP-56M.
 - .7 Basis of Design Product: Blueskin TWF by Henry Company.
- .3 Adhesives and Primers
 - .1 Adhesive for Self-Adhering Membranes (at temperatures above -12 deg C): Synthetic rubber based adhesive type, quick setting, having the following physical properties:
 - .1 Colour: Blue.
 - .2 Weight: 0.8 kg/l.
 - .3 Solids by weight: 35%.
 - .4 Drying time (initial set): 30 minutes.
 - .5 Application Temperature: between -12 deg C and 40 deg C.
 - .6 Basis of Design Product: Blueskin Adhesive by Henry Company
 - .2 Primer for Self-Adhering Membranes (at temperatures above -4 deg C): Polymer emulsion based adhesive type, quick setting, low VOC content, having the following physical properties:
 - .1 Colour: Aqua.
 - .2 Weight: 1.0 kg/l.
 - .3 Solids (by weight): 58% (approx.)
 - .4 Water based, no solvent odours.
 - .5 Drying time (initial set): 30 minutes at 50% RH and 20 deg C.
 - .6 Application Temperature: between -4 deg C and 40 deg C.
 - .7 Basis of Design Product: Aquatac Primer by Henry Company.

- .3 Adhesive with Low VOC Content for Self-Adhering Membranes (at temperatures above -12 deg C): Synthetic rubber based adhesive, quick setting, having the following physical properties:
- .1 Colour: Blue.
 - .2 Weight: 0.919 kg/l.
 - .3 Maximum VOC: <240 g/L.
 - .4 Solids by weight: 40%.
 - .5 Drying time (initial set): 30 minutes.
 - .6 Application Temperature: between -12 deg C and 40 deg C.
 - .7 Basis of Design Product: Blueskin LVC Adhesive by Henry Company.

SPEC NOTE: THERMAL SHORT CIRCUITING - Select To reduce heat loss and restrict air convection between the fluid applied air/vapour barrier membrane and insulating materials, secure the insulation in place with an insulation adhesive applied in a serpentine pattern and butter the joints of panels. Co-ordinate with the Cavity Wall Insulation Section. Choose 2.2.4.1 & 3.3.7 for the insulation adhesive and methods of installation.

- .4 Mastics & Termination Sealants
- .1 Liquid air seal, insulation adhesive, through-wall flashing and dampproof coursing mastic: Synthetic rubber base compound having the following characteristics:
 - .1 Colour: Cream.
 - .2 Compatible with air/vapour barrier membrane, substrate and insulation materials.
 - .3 Long term flexibility: Pass CGSB 71-GP-24M.
 - .4 Chemical resistance: Alkalis, mild acid and salt solutions.
 - .5 Application Temperature: between -12 deg C and 40 deg C.
 - .6 Basis of Design Products: Air-Bloc 21 or 230-21 Insulation Adhesive by Henry Company.
 - .2 Termination Sealant: Polymer modified sealing compound having the following characteristics:
 - .1 Colour: Black.
 - .2 Compatible with sheet waterproofing membrane and substrate.
 - .3 Solids by volume: 70%.
 - .4 Vapour permeance: 2.9 ng/Pa.m².s, ASTM E96.
 - .5 Complies with CGSB 37.29.
 - .6 Remains flexible with ageing.
 - .7 Adheres to wet surfaces.
 - .8 Chemical resistance: Alkalis, calcium chloride, mild acid and salt solutions.
 - .9 Basis of Design Product: POLYBITUME 570-05 Polymer Modified Sealing Compound by Henry Company.
 - .3 Building Envelope Sealant: Moisture cure, medium modulus polymer modified sealing compound having the following physical properties:
 - .1 Compatible with sheet air barrier, roofing and waterproofing membranes and substrate.
 - .2 Complies with Fed. Spec. TT-S-00230C, Type II, Class A.
 - .3 Complies with ASTM C920, Type S, Grade NS, Class 35.
 - .4 Elongation: 450 – 550%.
 - .5 Remains flexible with aging.
 - .6 Seals construction joints up to 25 mm (1") wide.
 - .7 Application Temperature: between 0 deg C and 40 deg C.
 - .8 Basis of Design Product: HE925 BES Sealant by Henry Company.
 - .4 Sheathing Joint Sealants: As recommended by manufacturer.

PART 3:EXECUTION

3.1 EXAMINATION

- .1 Verification of Conditions:
 - .1 Examine substrates to receive work and surrounding adjacent surfaces for conditions affecting installation.
 - .2 Sheathing panels must be securely fastened and installed flush to ensure a continuous substrate in accordance with manufacturer published literature.
 - .3 Fastener penetrations must be set flush with sheathing and fastened into solid backing.
 - .4 Mortar joints in concrete block and form tie holes/voids in poured concrete shall be filled flush, smooth and allowed to be cured for a minimum of twenty-four (24) hours.

SPEC NOTE: Select option one of 14 days if Air-Bloc 06, Air-Bloc 21 or Air-Bloc 21S was selected above. Select option two of 16 hours if Air-Bloc 32MR was selected above.

- .5 New concrete should be cured for a minimum of [fourteen (14) days][sixteen (16) hours] after forms are removed.
 - .6 Cap and protect exposed back-up walls against wet weather conditions prior to application of fluid applied air/vapour barrier membrane.
 - .7 Notify [engineer] [architect] [consultant] in writing of any discrepancies. Commencement of the work or any parts thereof shall mean acceptance of the prepared substrate.
 - .8 Do not proceed with application of fluid applied air/vapour barrier membrane when rain is expected within sixteen (16) hours.
- .2 Notify Contractor in writing of any conditions that are not acceptable.
 - .3 The installing contractor shall examine and determine that surfaces and conditions are ready to accept the Work of this section in accordance with published literature. Commencement of Work or any parts thereof shall mean installers acceptance of the substrate.

3.2 PREPARATION

- .1 All surfaces must be sound, dry, clean and free of oil, grease, dirt, excess mortar or other contaminants.
- .2 Protect adjacent surfaces not included in scope of Work to prevent spillage and overspray.

SPEC NOTE: Retain the following paragraph if Air-Bloc 06 was selected above, as solvents in Air-Bloc 06 will attack polystyrene insulation if not cured a minimum of 96 hours.

- .3 Prior to installation of polystyrene insulation, ensure fluid applied air/vapour barrier membrane has cured a minimum of ninety-six (96) hours, as recommended by membrane manufacturer.

SPEC NOTE: Retain the following paragraph if Air-Bloc 32MR was selected above.

- .4 Hot weather or direct-sun applications over porous substrates, such as concrete, promote rapid surface drying and can form blisters in the fluid applied air/vapour barrier membrane during curing. To aid in blister prevention prepare substrate in accordance with one of the following optional procedures:
 - .1 Apply a thin prime coat of fluid applied air/vapour barrier membrane to substrate and allow membrane to fully cure prior to installation of fluid applied air/vapour barrier

membrane. Install overall fluid applied air/vapour barrier membrane to manufacturer minimum recommended mil thickness.

- .2 Apply fluid applied air/vapour barrier membrane in two coat application to achieve manufacturer minimum recommended mil thickness. Allow fluid applied air/vapour barrier membrane to fully cure prior to subsequent application.

3.3 INSTALLATION

- .1 Apply sealant at sharp corners, changes in substrate plane, penetrations, and edges to form a smooth transition from one plane to another.
- .2 Non-Moving Substrate Joint and Crack Treatment:
 - .1 Gaps up to 6mm (1/4") wide:
 - .1 Sealant Method: Apply building envelope sealant into the joint and strike smooth. Allow to dry prior to application of fluid applied air/vapour barrier membrane.
 - .2 Fluid-Applied Method: Apply a trowel application of fluid applied air/vapour barrier membrane, extending 75mm (3") onto face of substrate. Reinforce with 50mm (2") wide strip of joint treatment mesh, centered over joint, prior to application of fluid applied air/vapour barrier membrane.
 - .3 Self-adhered Sheet Method: Apply adhesive and allow to dry. Apply self-adhering sheathing joint / termination membrane and roll in place.
 - .2 Gaps between 6mm (1/4") and 13mm (1/2") wide:
 - .1 Sealant Method: Apply building envelope sealant into the joint and strike smooth. Allow to dry prior to application of fluid applied air/vapour barrier membrane.
 - .2 Self-adhered Sheet Method: Apply adhesive and allow to dry. Apply self-adhering sheathing joint / termination membrane and roll in place.
- .3 Adhesive or Primer for Transition and Through-wall Flashing Membrane (Self-Adhering):
 - .1 Apply adhesive or primer for self-adhering membranes at rate recommended by manufacturer.
 - .2 Apply adhesive or primer to all areas to receive transition sheet and / or through-wall flashing membrane, as indicated on drawings by roller or spray and allow minimum thirty (30) minute open time. Surfaces not covered by self-adhering transition membrane or self-adhering through-wall flashing membrane during the same working day must be re-applied.
- .4 Sheathing Joint / Transition Membrane (Self-Adhering):
 - .1 Align and position self-adhering sheathing joint / transition membrane, remove protective film and press firmly into place. Ensure minimum 50mm (2") overlap at all end and side laps.
 - .2 When sealing gaps and cracks, extend a minimum of 75mm (3") on each side of substrate gap and cracks. Seal exposed leading edges of self-adhered membrane with sealant.
 - .3 Tie-in to window frames, aluminium screens, hollow metal doorframes, spandrel panels, roofing system and at the interface of dissimilar materials as indicated in drawings.
 - .4 Promptly roll all laps and membrane with a rubber roller.
 - .5 Ensure all preparatory work is complete prior to applying fluid applied air/vapour barrier membrane.
- .5 Through-wall Flashing Membrane & Dampproof Course (Self-Adhering):
 - .1 Apply through-wall flashing and dampproof coursing membrane in accordance with CSA

- A371 Masonry Construction for Buildings; along the base of masonry veneer walls, over window, door and other wall openings required to be protected.
- .2 Applications shall form a continuous flashing membrane and shall extend a minimum of 200mm (8") up the back-up wall.
 - .3 At the end of each work day seal top edge of the membrane where it meets the substrate using liquid air seal mastic. Trowel-apply a feathered edge to seal termination and shed water.
 - .4 Ensure through-wall flashing membrane extends fully to the exterior face of the exterior masonry veneer. At locations where flashing terminates or intersects wall openings including door frames, "end dam" flashing to protect openings and redirect water out. Trim off excess as directed by the consultant.
 - .5 Apply dampproof coursing membrane over slabs on grade, prepare and prime surfaces, align and position membrane between slab and masonry block work.
 - .6 Align and position the leading edge of self-adhering through-wall flashing membrane with the front horizontal edge of the foundation walls, self angles and other substrates to be protected, partially remove protective film and roll membrane over surface and up vertically.
 - .7 Press firmly into place. Ensure minimum 50mm (2") overlap at all end and side laps. Promptly roll all laps and membrane to affect the seal.
 - .8 Ensure all preparatory work is complete prior to applying self-adhering through-wall flashing membrane.
 - .9 Ensure through-wall flashing membrane extends fully to the exterior face of the exterior masonry veneer. Trim off excess as directed by the [engineer] [architect] [consultant].
- .6 Fluid Applied Air/Vapour Barrier Membrane
- .1 When flashing and transition membranes are installed and complete, apply fluid applied air/vapour barrier membrane complete and continuous over the entire wall surface as indicated, at a wet film thickness indicated by the membrane manufacturer.
 - .2 Apply in continuous, monolithic application without sags, runs or voids, transitioning onto flashing membrane a minimum of 25mm (1"), to create uniform drainage plane and air/vapour barrier.
 - .3 Apply fluid applied air/vapour barrier membrane around all projections ensuring a complete and continuous coating.

SPEC NOTE: Delete the following paragraph if Air-Bloc 21 was selected above and is intended to also function as an insulation adhesive.

- .4 Allow fluid applied air/vapour barrier membrane to fully cure prior to placement of insulation.

SPEC NOTE: Retain the following paragraph if Air-Bloc 21 was selected above and is intended to also function as an insulation adhesive.

- .7 Insulation Adhesive (Optional)
- .1 Co-ordinate with Section [07 21 00 Thermal Insulation] for insulating materials.
 - .2 Immediately embed insulation into the adhesive and press firmly into place to ensure full contact. Apply additional adhesive if allowed to skin over.
 - .3 Fully butter all joints of insulation panels with adhesive during installation, except at expansion joints.

3.4 FIELD QUALITY CONTROL

- .1 Final Observation and Verification:
 - .1 Final inspection of fluid applied air/vapour barrier membrane shall be carried out by the

- .2 Owner's representative, and the contractor.
- .2 Contact Manufacturer for warranty issuance requirements.

- .2 Fluid applied air/vapour barrier membrane is not designed for permanent UV exposure. Refer to manufacturer published literature for product limitations.

3.5 CLEANING AND PROTECTION

- .1 Progress Cleaning: Leave work area clean at the end of each work day, ensuring safe movement of passing pedestrians.

- .2 Waste Management: Co-ordinate recycling of waste materials and packaging at appropriate facility, diverting waste from landfill. Certified installer shall be responsible for ensuring waste management efforts are practiced.

END OF SECTION 07 27 29.