Click on the "pilcrow" ¶ in the MS Word Toolbar to toggle 3M GUIDE NOTES on and off. Delete this text before incorporating the section into a project Manual.

Part 1 General

1.1 SUMMARY OF WORK

.1 This Section specifies self adhered semi-translucent white air, moisture, and water impermeable membrane with acrylic adhesive and silicone coated release liner.

1.2 RELATED REQUIREMENTS

.1 Section [___].

1.3 REFERENCE STANDARDS

.1 American Architectural Manufacturers Association (AAMA).

.1 AAMA 711-[2013], Voluntary Specification for Self Adhering Flashing Used for Installation of Exterior Wall Fenestrations.

.2 ASTM International (ASTM).

.1 ASTM D882-[2012], Standard Practice for Tensile Properties of Thin Plastic Sheeting.

.2 ASTM D1970-[2017], Standard Test Method for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection.

.3 ASTM D3330-[2010], Standard Test Method for Peel Adhesion of Pressure-Sensitive Tape.

.4 ASTM D3652-[2012], Standard Test Method for Thickness of Pressure-Sensitive Tapes.

.5 ASTM D4541-[2017], Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers.

.6 ASTM E96/E96M-[2016], Standard Test Methods for Water Vapour Transmission of Materials.

.7 ASTM E2178-[2013], Standard Test Method for Air Permeance of Building Materials.

.3 Canada Green Building Council (CaGBC).

.1 LEED v4-[2014], LEED (Leadership in Energy and Environmental Design): Green Building Rating System.

.4 Underwriters' Laboratories of Canada (ULC).

.1 CAN/ULC S102-[2011], Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies.

.2 CAN/ULC S741-[2011], Standard for Air Barrier Materials — Specification.

.3 CAN/ULC S742-[2011], Standard for Air Barrier Assemblies — Specification.

1.4 ADMINISTRATIVE REQUIREMENTS

.1 Co-ordination: Co-ordinate work of this Section with work of other trades for proper time and sequence to avoid construction delays.

.2 Pre-installation Meeting: Convene pre-installation meeting after Award of Contract and [one week] before starting work of this Section to verify Project requirements, co-ordination with other building sub-trades, and to review manufacturer's written installation instructions.

.1 Comply with Section [01 31 19 — Project Meetings] and co-ordinate with other similar pre-installation meetings.

.2 Notify attendees two weeks prior to meeting and ensure meeting attendees include as minimum:

.1 Owner.

.2 Consultant.

.3 Weather barrier installer.

.4 Manufacturer's technical representative.

.3 Ensure meeting agenda includes review of methods and procedures related to weather barrier application including co-ordination with related work.

.4 Record meeting proceedings including corrective measures and other actions required to ensure successful completion of work and distribute to each attendee within one week of meeting.

1.5 ACTION SUBMITTALS

.1 Make submittals in accordance with Section [01 33 00 — Submittal Procedures].

.2 Product Data: Submit product data including manufacturer's literature for weather barrier indicating compliance with specified requirements and material characteristics.

.1 Submit list of materials and accessories to be incorporated into Work on weather barrier manufacturer's letterhead.

.2 Include product name.

.3 Include preparation instructions and recommendations, installation methods, and storage and handling requirements.

.4 Include contact information for manufacturer and their representative for this Project.

.3 Samples: Submit [100 x 100] mm minimum sample of weather barrier specified.

.4 Copy of warranties when applicable, for review by Consultant, stating obligations, remedies, limitations, and exclusions of warranty.

.5 Sustainable Design (LEED).

.1 Make LEED Submittals in accordance with Section [01 35 21 – LEED Requirements] [01 35 63 — Sustainability Certification project Requirements].

.1 IEQ Credit 4: Low VOC content sealants, adhesives, and primers

.2 IEQ Credit 4.1: Low VOC content adhesives, sealants, and sealant primers used inside weatherproofing system.

.3 MR Credits 5: Verify location where weather barrier materials are extracted, processed and manufactured.

1.6 INFORMATIONAL SUBMITTALS

.1 Make submittals in accordance with Section [01 33 00 — Submittal Procedures].

.2 Submit WHMIS AIS – Article Information Sheets for product.

.3 Test Reports: Submit evaluation service reports, if available, or other independent testing agency reports showing compliance with specified performance characteristics and physical properties.

.4 Certifications: When requested by Consultant showing compliance with specified standards.

.5 Field Reports: Submit manufacturer's field reports within three days of each manufacturer representative's site visit and inspection.

.6 Weather Barrier Installer Qualifications: Submit letter verifying installer's experience with work similar to work of this Section.

1.7 CLOSEOUT SUBMITTALS

.1 Make submittals in accordance with Section [01 77 00 — Closeout Procedures] [01 78 00 — Closeout Submittals].

.2 Operation and Maintenance Data: Supply maintenance data for weather barrier materials for incorporation into manual specified in Section [01 77 00 — Closeout Procedures] [01 78 00 — Closeout Submittals] [01 78 23 — Operation and Maintenance Manuals].

.3 Sustainable Design Closeout Documentation (LEED).

.1 Provide calculations on end-of-project recycling rates, salvage rates, and landfill rates for work of this Section demonstrating percentage of construction wastes which were recycled.

.2 Submit verification from recycling facility showing receipt of materials.

.4 Record Documentation: In accordance with Section 01 78 00 — Closeout Submittals.

.1 List materials used in weather barrier work.

.2 Warranty: Submit warranty documents specified.

1.8 QUALITY ASSURANCE

.1 Installer's Qualifications: Company or individual acceptable to manufacturer for installation of specified weather barrier, with two years minimum verifiable experience in installing specified products, and having completed two minimum installations of work similar to work of this Section or a firm registered with 3M Canada's Certified Installer program.

.2 Mock-ups: Construct full size 3 m x 3m mock-up showing weather barrier using proposed procedures, materials and quality of work where [indicated] [directed by Consultant] [and in accordance with Section [01 43 00 — Quality Assurance]].

.1 Include examples of joints, inside corners and outside corners.

.2 Include one window [and one door] frame corner minimum in mock-up.

.3 Purpose: To judge quality of work and material installation.

.4 Allow Consultant [48] hours minimum prior to inspection of mock-up.

.5 Do not proceed with work prior to receipt of written acceptance of mock-up by Consultant.

.6 When accepted, mock-up will demonstrate minimum standard of quality required for work of this Section.

.7 Maintain mock-up during construction in an undisturbed condition as standard for judging completed Work.

.8 Approved mock-up will [not] remain part of finished work.

.9 Remove mock-up only after receipt of written approval to remove mock-up from Consultant.

1.9 DELIVERY, STORAGE AND HANDLING

.1 Delivery and Acceptance Requirements:

.1 Deliver material in accordance with Section [01 61 00 — Common Product Requirements].

.2 Deliver materials and accessories in weather barrier manufacture’s original packaging with identification labels intact and in sizes to suit project.

.3 Ensure weather barrier materials are not exposed to moisture during delivery.

.4 Replace wet or damaged weather barrier materials.

.2 Storage and Handling Requirements: Store materials off ground in dry location and protected from exposure to harmful weather conditions.

.1 Store in original packaging until installed.

.2 Store rolls at ambient temperature conditions while on site.

.3 Handle materials at project site to prevent damage in accordance with manufacturer's written recommendations.

.3 Damaged Materials: Immediately remove and replace damaged and otherwise unsuitable materials with new.

.1 Do not incorporate damaged or otherwise unsuitable material into Project.

.4 Packaging Waste Management:

.1 Separate and recycle waste packaging materials in accordance with Section [01 74 19 — Construction Waste Management and Disposal].

.2 Remove waste packaging materials from site and dispose of packaging materials at appropriate recycling facilities.

.3 Collect and separate for disposal paper and plastic material in appropriate on-site storage containers for recycling [in accordance with Waste Management Plan].

1.10 FIELD CONDITIONS

.1 Apply weather barrier only when outside weather and substrate temperatures are above minus 18ºC or below plus 66ºC.

.2 Service Temperature Range: Minus 40 ºC to plus 116 ºC.

1.11 WARRANTY

.1 Project Warranty: Refer to Contract Conditions for project warranty provisions.

.2 Manufacturer's warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official indicating obligations, remedies, limitations, and exclusions of warranty. Manufacturer's warranty is in addition to and not intended to limit other rights Owner may have under Contract Conditions.

.3 Warranty period: [10] years commencing on Date of Substantial Performance of Work.

Part 2 Products

2.1 MANUFACTURER

.1 Manufacturer: 3M Canada Company.

.2 Address and Contact Information: 1840 Oxford St E. London, ON N5V 3R6, Phone: 1-888-364-3577, URL: www.3M.ca/buildingenvelope.

2.2 DESCRIPTION

.1 Self adhered semi-translucent white air, moisture and water impermeable membrane with acrylic adhesive and silicone coated release liner.

2.3 PERFORMANCE CRITERIA

.1 Comply with CAN/ULC S741.

.2 Surface Burning Characteristics to CAN/ULC S102.

.1 Flame spread rating: 0.

.2 Smoke developed: 5.

.3 Air Permeance to ASTM E2178: < 0.0021 L/s.m^2 at 75 Pa.

.4 Air Leakage Rate Classification to CAN/ULC S742: A1.

.5 Nail Sealability to ASTM D1970 with 127 mm water head after three days: Dry/Pass.

.6 Tensile Strength (coated membrane) to ASTM D882: 14.8 MPa. (2150 psi)

.7 Elongation at break to ASTM D882: 700%.

.8 Lap Adhesion to ASTM D1876: 0.44 N/mm.

.9 Pull Adhesion to ASTM D4541: 1.18 MPa.

.10 Water Vapour Transmission Rate to ASTM E96:

.1 Desiccant method: 5.6 ng/Pa.s.m^2.

.2 Water method: 4.9 ng/Pa s m^2.

.11 Service Temperature: Minus 40ºC minimum to plus 116ºC maximum.

.12 UV Resistance: 12 months.

2.4 MATERIALS

.1 Weather Barrier Membrane: Multilayer elastomeric film with acrylic adhesive coated air barrier membrane with release liner to CAN/ULC S741 and ASTM E2178:

.1 Thickness:

.1 Total thickness: 0.25 mm to ASTM D3652.

.2 Backing thickness: 1.13 mm to ASTM D3652.

.2 Adhesive: Acrylic pressure sensitive.

.3 Colour: White semi-translucent.

.4 Liner: Polycoated Kraft.

.5 Width of roll: [457] [914] mm.

.6 Width of roll for flashings and penetration wrapping: [60] [152] [228] [304] mm.

.2 Acceptable Material: 3M™ Air and Vapour Barrier 3015NP.

2.5 ACCESSORIES

.1 Sealant: Polyurethane sealant

.1 Acceptable material: [3M™, [Polyurethane Construction Sealant 525] [Polyurethane Sealant 540]] [____].

.2 Substrate Primer: [Aerosol] [Cylinder spray] adhesive.

.1 Acceptable material: 3M™, [Hi-Strength 90 Spray Adhesive] [Hi-Strength 94 ET Spray Adhesive] [Scotch-Weld™ Holdfast 70] [Fastbond™ Contact Adhesive].

.3 Substrate Crack Filler: Closed cell foam backer rod.

.4 Through Wall Flashing: 0.4 mm thick black impermeable membrane with high-tack pressure sensitive acrylic adhesive.

.1 Acceptable material: 3M™ Self-Adhered Through Wall Flashing Membrane 3015TWF.

.5 Flashing Tape: Self-adhering waterproof tape 100 mm wide [to AAMA 711].

.1 Acceptable material: 3M™ [Air and Vapour Barrier 3015] [All Weather Flashing Tape 8067].[Self-Adhered Through Wall Flashing Membrane 3015TWF] [Ultra Conformable Flashing Tape 3015UC]

2.6 SOURCE QUALITY CONTROL

.1 Ensure weather barrier components and accessories are supplied or approved in writing by single manufacturer.

2.7 PRODUCT SUBSTITUTIONS

.1 Substitutions: [In accordance with Section 01 23 13 - Product Substitution Procedures] [No substitutions permitted].

Part 3 Execution

3.1 INSTALLERS

.1 Use only installers with [2] years minimum verifiable experience with work similar to work of this Section or firms registered with 3M Canada's Certified Installer program.

3.2 EXAMINATION

.1 Verification of Conditions: Verify that conditions of substrate or work previously installed under other Sections or Contracts are acceptable for weather barrier installation in accordance with manufacturer's written recommendations.

.1 Visually inspect work in presence of Consultant.

.2 Ensure surfaces are free of dust, snow, ice, frost, grease, oil, unbounded paint, corrosion or other deleterious materials that would adversely affect adhesion of weather barrier to substrate.

.3 Ensure surface are free from damaged or unsupported areas and free from sharp protrusions or voids.

.4 Ensure exterior gypsum sheathing is clean and dry with moisture content less than 19 %.

.5 Ensure plywood substrate is clean and dry with moisture content less than 16 %.

.6 Ensure new concrete has cured 7 days minimum before application of weather barrier.

.7 Ensure metal surfaces are clean and dry.

.8 Ensure block or brick substrates are clean and dry with mortar joints struck flush.

.9 Inform Consultant of unacceptable conditions immediately upon discovery.

.10 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Consultant.

.2 Connection to Other Barrier Systems: Ensure surface is clean and smooth and free of air pockets or voids as required to achieve adhesive bond.

.1 Test adhesion by installing 150 x 150 mm test match of weather barrier over other barrier system in accordance with weather barrier manufacturer's written recommendations.

.1 Removal of test patch should not be possible without permanent damage to either test patch or other barrier system.

.2 If test fails, contact weather barrier manufacturer immediately for further recommendations.

.3 Start of weather barrier installation indicates installer's acceptance of substrate installation conditions.

3.3 PREPARATION

.1 Fill cracks and gaps greater than 6 mm between substrate and penetrations using sealant in accordance with weather barrier manufacturer's written recommendations.

.2 For exterior gypsum or plywood sheathing:

.1 Fill joints and cracks greater than 6 mm but less than 12 mm using sealant in accordance with weather barrier manufacturer's written recommendations.

.2 Fill joints and cracks greater than 12 mm using closed cell foam backer rod and sealant in accordance with weather barrier manufacturer's written recommendations.

.3 Connection to Other Barrier Systems: Ensure surface is clean and smooth and free of weather pockets or voids as required to achieve adhesive bond.

.1 Test adhesion by installing 150 x 150 mm test match of weather barrier over other barrier system in accordance with weather barrier manufacturer's written recommendations.

.2 Removal of test patch should not be possible without permanent damage to either test patch or other barrier system.

.3 If test fails, contact weather barrier manufacturer immediately for further recommendations.

.4 Prime surfaces of difficult to stick to substrates using [aerosol] [cylinder spray] adhesive in accordance with weather barrier manufacturer's written recommendations before applying membrane.

3.4 FIELD QUALITY CONTROL

.1 Manufacturer's Services:

.1 Co-ordinate manufacturer's services with Section [01 45 00 — Quality Control].

.1 Have manufacturer review work involved in handling, installation, protection, and cleaning of weather barrier, and submit written reports in acceptable format to verify compliance of Work with Contract conditions.

.2 Manufacturer's Field Services: Provide manufacturer's field services consisting of product use recommendations and periodic site visits for product installation review in accordance with manufacturer's instructions.

.1 Report any inconsistencies from manufacturer's recommendations immediately to Consultant.

.3 Schedule site visits to review work at stages listed:

.1 After delivery of weather barrier materials, and when preparatory work on which Work of this Section depends is complete, but before installation begins.

.2 Twice during progress of work at 25% and 60% complete.

.3 Upon completion of Work, after cleaning is carried out.

.4 Obtain reports within three days of each review and submit immediately to Consultant.

3.5 CLEANING

.1 Progress Cleaning: Perform cleanup as work progresses [in accordance with Section 01 74 00 — Cleaning and Waste Management].

.1 Leave work area clean at end of each day.

.2 Final Cleaning: Upon completion, remove surplus materials, rubbish, tools, and equipment [in accordance with Section 01 74 00 – Cleaning and Waste Management].

.3 Waste Management: Co-ordinate recycling of waste materials with Section [01 74 19 — Construction Waste Management and Disposal].

.1 Collect recyclable waste and dispose of or recycle field generated construction waste created during construction or final cleaning related to work of this Section.

.2 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

3.6 PROTECTION

.1 Protect installed weather barrier from damage during construction.

.2 Repair damage to adjacent materials caused by weather barrier installation.

END OF SECTION