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IKO Spec Note: This master specification is written to include SPEC NOTES noted as "IKO Spec Note" in order to assist designers in their decision-making process. SPEC NOTES precede the text to which they apply. This section should serve as a guideline only and should be edited by a knowledgeable person to meet the requirements of each specific project.

Text indicated in bold and by square brackets is optional. Make appropriate decisions and delete the optional text as well as the brackets in the final copy of the specification. Delete or hide the SPEC NOTES in the final version of the document.

This specification section is written to follow the recommendations of the Construction Specifications Institute/Construction Specifications Canada (CSI/CSC) such as MasterFormat™, SectionFormat™, and PageFormat™. It is also written with metric and imperial units of measurement.

This Specification specifies non-permeable self-adhering sheet air barriers and related accessories. It is based on AquaBarrier AcrylicStick SA, AquaBarrier™ AVB AIR & VAPOUR BARRIER and IKO Enerfoil by IKO.

IKO Industries manufactures and sells building envelope materials. IKO does not practice architecture or engineering. Therefore, the design responsibility remains with the architect, engineer, or consultant. We hope the information given here will be of some assistance. It is based upon data considered to be true and accurate and is offered solely for the user's consideration, investigation and verification. Nothing contained herein is representative of a warranty or guarantee for which IKO Industries can be held legally responsible. IKO does not assume any responsibility for any misinterpretation or assumptions the reader may formulate.

PART 1 - GENERAL

1.1 GENERAL INSTRUCTIONS

1. Read and conform to: The general provisions of the **[Contract Type]**, including General and Supplementary Conditions; and the requirements of Division 01 Specifications and any additional documents referred to in this Section.

Spec Note: Select summary based on application method

1.2 SUMMARY

1. Provide labour, materials, products, equipment and services to complete the non-permeable self-adhering sheet air barriers specified herein. This includes, but is not limited to:

    1. Primed Self-adhering SBS non-permeable sheet air and vapour barrier membranes.
    2. Primerless Self-adhering non-permeable sheet air and vapour barrier membranes
    3. Polyisocyanurate 2in1 Weather Resistive Barrier System
    4. Auxiliary materials and accessories required for a complete air barrier assembly installation.

1.3 RELATED REQUIREMENTS

1. Specifications throughout all Divisions of the Project shall be read as a whole, and may be directly applicable to this Section. Related requirements provided below are for convenience purposes only.

IKO Spec Note: Limit section listings to only those sections containing specific information that would directly affect the work of this section. Do not include Division 01 sections in this listing.

1. Section **[03 30 00 - Cast-In-Place Concrete]**: provision of smooth concrete substrates without protrusions.
2. Section **[04 20 00 - Unit Masonry]**: provision of backup masonry joints that are flush and completely filled with mortar, complete with excess mortar on brick ties removed; and coordination of through-wall flashing.
3. Section **[06 16 00 Sheathing]**: provision of gypsum sheathing substrates.
4. Section **[07 21 00 Thermal Protection]**
5. Section **[07 50 00 Membrane Roofing]**: coordination and sequencing of membrane roofing and sealing of roof membrane to wall air barrier.

1.4 REFERENCES

1. Definitions:

    1. Air and Vapour barrier Material: A primary material that controls the movement of air and vapour into and out of a building.
    2. Air and Vapour barrier Accessory: the materials or products which are used to connect different air and Vapour barrier materials to form a continuous air and vapour barrier assembly.
    3. Air and Vapour barrier Assembly: a collection of air and vapour barrier materials (ie. self-adhered sheet air barriers, liquid applied membranes, medium density sprayed polyurethane foam, mechanically fastened commercial building wraps and boardstock air barriers) and air barrier accessories (ie. sealants, tapes and transition membranes) assembled together to form a continuous barrier to air infiltration into the environmental separator.

2. Reference Standards:

1. ASTM International

    1. ASTM D1970, Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection.
    2. ASTM D412, Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers – Tension.
    3. ASTM D4541, Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers.
    4. ASTM D4586, Standard Specification for Asphalt Roof Cement, Asbestos-Free
    5. ASTM D5147 Standard Test Methods for Sampling and Testing Modified Bituminous Sheet Material, ASTM International.
    6. ASTM E1186, Standard Practices for Air Leakage Site Detection in Building Envelopes and Air Barrier Systems.
    7. ASTM E2178, Standard Test Method for Air Permeance of Building Materials
    8. ASTM E783, Standard Test Method for Field Measurement of Air Leakage Through Installed Exterior Windows and Doors.
    9. ASTM E96, Standard Test Methods for Water Vapor Transmission of Materials.
    10. ASTM D1876, Standard Test Method for Peel Resistance of Adhesives
    11. ASTM D903 Standard Test Method for Peel or Stripping Strength of Adhesive Bonds
    12. ASTM E2357, Standard Test Method for Determining Air Leakage Rate of Air Barrier Assemblies

2. International Organization for Standardization

    1. ISO 9001, Quality management systems – Requirements

3. Underwriters Laboratories of Canada

    1. CAN/ULC S741, Standard for Air Barrier Materials
    2. CAN/ULC S742, Standard for Air Barrier Assemblies – specification
    3. CAN/ULC S102, Standard Method of Test for Surface Burning Characteristics of building Materials and Assemblies

1.5 ADMINISTRATIVE REQUIREMENTS

1. Site Meetings: Schedule, and conduct pre-installation meeting at Project Site, in order to coordinate work of this Section, with work of related Subcontractors.

    1. Ensure attendance of Subcontractor performing work of this Section and representatives of manufacturers and fabricators involved in, or affected by, installation and coordination with other materials and installations that have preceded or will follow. Advise Consultant and Owner in advance of scheduled meeting dates.
    2. Agenda: As a minimum, include the following:

        1. sequence of construction, coordination with substrate preparation, air barrier materials approved for use, compatibility of materials, coordination with installation of adjacent and covering materials, **[air leakage and bond testing]**, protection of installed materials and details of construction.
        2. Review progress of other construction activities and preparations for the particular activity under consideration.

    3. Record significant discussions, agreements, and disagreements, including required corrective measures and actions.

4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.

2. Sequencing:

1. Sequence work to permit installation of materials in conjunction with related materials and seals.
2. Do not install air barrier material before the roof assembly has been sufficiently installed to prevent a buildup of water in the interior of the building.

1.6 SUBMITTALS

1. Provide submittals in accordance with Section **[01 33 00 - Submittal Procedures]**.

2. Product Data:

1. Submit manufacturer's printed product literature, specifications and datasheet and include product characteristics, performance criteria, physical size, finish and limitations.
2. Submit WHMIS SDS Safety Data Sheets in accordance with requirements of Division 01.
3. Submit material manufacturer's Product Data, instructions for evaluating, preparing, and treating substrate, temperature and other limitations of installation conditions, technical data supplied by the manufacturer..

3. Shop Drawings: Submit Shop Drawings showing the following:

1. locations and extent of air barrier assemblies and details of all typical conditions,
2. intersections with other envelope assemblies and materials,
3. membrane counter-flashings,
4. complete details showing how gaps in construction will be bridged, treatment of inside and outside corners, and sealing of miscellaneous penetrations such as conduits, pipes, electric boxes and similar items.
5. Include details of interfaces with other materials that form part of air barrier.

4. Quality Assurance Submittals: submit following in accordance with Section **[01 45 00 - Quality Control]**.

1. Certificates: submit proof that materials comply with specified performance characteristics and physical properties.
2. Manufacturer's Instructions: submit manufacturer's installation instructions and special handling criteria, installation sequence, and cleaning procedures.

1.7 QUALITY ASSURANCE

1. Manufacturer Qualifications:

1. Provide products by a firm specializing in the manufacture of non-permeable self-adhering sheet air barrier who has successfully produced work similar in design and extent to that required for the project, in not less than three (3) projects of similar size and scope and whose work has resulted in construction with a record of successful in-service performance for a minimum period of ten (10) years.

2. Applicator Qualifications:

1. Company specializing in performing work of this section with minimum five (5) years documented experience with installation of air barrier/vapour retarder systems

3. Mock Up:

    1. Construct mock up in accordance with Section **[01 45 00 Quality Control]** representative of typical primary air barrier assemblies and glazing assemblies including backup wall and typical penetrations. Mock-up to be minimum 2.5 m long by 2.5 m high (8 ft long by 8ft high) and include materials and accessories identical to those that will be used in exterior wall assembly. Include window and frame and sill, insulation, **[typical corner condition,] [connection with roofing system] [insert other requirements here]**; illustrating materials interface and seals.
    2. Locate where directed by Consultant.
    3. Allow **[24]** hours for inspection of mock up by Consultant before proceeding with remainder of Work of this Section.

4. Source Limitations: Obtain primary air barrier materials and air barrier accessories from single manufacturer.

1.8 DELIVERY, STORAGE AND HANDLING

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

2. Deliver, store and handle materials in accordance with manufacturer's written instructions.

3. Avoid spillage: immediately notify Consultant if spillage occurs and start clean up procedures.

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

5. Remove and replace liquid materials that cannot be applied within their stated shelf life.

6. Protect stored materials from direct sunlight.

1.9 AMBIENT CONDITIONS

Spec Note: Can select 180 day exposure time when using IKO AcrylicStick SA or IKO Aquabarrier AVB all other products select 30 days

1. Environmental Limitations:

    1. Install self-adhered sheet air barrier within range of ambient and substrate temperatures, and moisture content recommended by material manufacturer.
    2. Protect substrates from environmental conditions that affect air barrier performance.
    3. Do not apply air barrier to a damp or wet substrate or during snow, rain, fog, or mist.
    4. Do not leave membrane exposed to sunlight/UV for more than **[30] [180]** days.
    5. Comply with manufacturer environmental limitations including temperature and humidity recommendations at all times.

2. Install solvent curing sealants and vapour release adhesive materials in open spaces with ventilation.

3. Ventilate enclosed spaces in accordance with Section **[01 50 00 - Temporary Facilities and Controls]**.

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

IKO Spec Note: Edit paragraph below to reflect project warranty requirements. IKO's standard warranty is 5 years. This can be supplemented upon request.

1.10 WARRANTY

1. Supply to Owner, manufacturer's standard five-year limited written warranty that products provided in the Work are free of manufacturing defects and deficiencies in accordance with manufacturer's standard terms and conditions.

PART 2 - Products

2.1 MANUFACTURERS

1. Materials specified in this Section are based on Products by IKO Industries Ltd.; 1600-42nd Ave. S.E. Calgary, Alberta T2G 5B5; Tel: 403-265-6022; 1-800-661-1034; Fax: 403-266-2644; web: https://www.iko.com/ as listed in this Specification.

2. Substitution Limitations: **[No further substitutions are acceptable.] [Conforming to requirements of Section 01 25 00 - Substitution Procedures]**

2.2 DESIGN AND PERFORMANCE REQUIREMENTS

1. Provide a continuous air barrier in the form of an assembly that has an air leakage not to exceed 0.05 L/(s·m2) under a pressure differential of 75 Pa (0.04 cfm/ft2 @ 1.57 psf) when tested in accordance with CAN/ULC S742 Class A1 barriers.

2. Ensure assembly can accommodate movements of building materials by providing expansion and control joints as required. Provide appropriate accessory materials to accommodate expansion / control joints, changes in substrate and perimeter conditions at such locations.

3. Ensure air/vapour barrier assembly is capable of withstanding combined design wind, fan and stack pressures (positive and negative) on building envelope without damage or displacement, and transfer required loads to structure.

4. Join air/vapour barrier assembly in airtight and flexible manner to the air barrier materials of adjacent assemblies, allowing for relative movement of assemblies due to thermal and moisture variations, creep, and anticipated seismic movement as applicable.

5. Connections to Adjacent Materials: Provide air barrier accessory materials to prevent air leakage at the following locations:

IKO Spec Note: Edit list below as appropriate to reflect specific project conditions.

1. Foundation and walls, including penetrations, ties and anchors.

2. Walls, windows, curtain walls, storefronts, louvers and doors.
3. Different assemblies and fixed openings within those assemblies.
4. Wall and roof connections.
5. Floors over unconditioned space.
6. Walls, floor and roof across construction, control and expansion joints.
7. Walls, floors and roof to utility, pipe and duct penetrations.
8. Seismic and expansion joints.
9. All other potential air leakage pathways in the building envelope.

6. Do not allow air/vapour barrier materials to come in contact with chemically incompatible materials

Spec Note: Select materials from below based on application method and project requirements.

2.3 AIR/VAPOUR BARRIER MATERIALS

Following product is a Primerless Air and Vapour Barrier

When ambient and substrate temperatures are below -20 deg C (-4 deg F) do not install IKO AcrylicStick SA

1. Primerless Acrylic High Density Polyethylene Sheet: self adhering, non-permeable, Self Adhered membrane designed to act as an air barrier and vapour retarder

    1. Physical and Performance Characteristics:

        1. Thickness: 0.25mm (10 mils)
        2. Air Permeability: Max. 0.02l/s m^2 at 75 Pa as per CAN/ULC S741
        3. Air Leakage Classification: A1 when tested in accordance with CAN/ULC S742.
        4. Tensile Strength (MD/XD): Minimum 51 MPa/50 MPa when tested in accordance with ASTM D412
        5. Ultimate Elongation at Max Load (MD/XD): >8% / >12% tested in accordance with ASTM D412
        6. Nail Sealability: Pass when tested in accordance with ASTM D1970.
        7. Flexibility at cold temperatures (- 30 deg C): Pass when tested in accordance with ASTM D1970
        8. Ambient Application Temperature: -20 deg C to 50 deg c

    2. Acceptable Products:

        1. AcrylicStick SA, IKO

Following product requires primer application

2. Self-Adhering Modified Bituminous Sheet: self-adhering, cold-applied SBS-modified composite sheet membrane laminated to high density polyethylene film designed to act as an air barrier and vapour retarder.

    1. Physical and Performance Characteristics:

        1. Nominal total thickness: 1 mm (40 mils).

2. Air Permeability: Maximum 0.02 L/s x sq. m of surface area at 75-Pa (0.004 cfm/sq. ft. of surface area at 1.57-lbf/sq. ft.) pressure difference when tested in accordance with ASTM E2178.
3. Air Leakage Classification: A1 when tested in accordance with CAN/ULC S742.
4. Tensile Strength (MD/XD): Minimum 10.31 MPa/6.89 MPa (1500 psi/1000 psi) when tested in accordance with ASTM D412.
5. Ultimate Elongation (MD/XD): >8 / >12 percent when tested in accordance with ASTM D412.
6. Ultimate Elongation of bitumen (MD/XD): >40 / >15 percent when tested in accordance with ASTM D5147.
7. Flexibility at cold temperatures (- 30 deg C): Pass when tested in accordance with ASTM D5147.
8. Tear Resistance (MD/XD): Minimum 260 N/240 N (59/54 lbf) when tested in accordance with ASTM D5147.
9. Nail Sealability: Pass when tested in accordance with ASTM D1970.
10. Water Vapour Transmission Rate: Not more than 4 ng/Pa x s x sq. m (0.1 perms) when tested in accordance with ASTM E96/E 96M (Method B)
11. Ambient Application Temperature: Minimum 5 deg C

2. Acceptable Products:

IKO Spec Note: The following product is recommended for use when substrate and ambient temperatures are between 10 deg C and 50 deg C (50 deg F and 122 deg F). Due to the modified bitumen coating on the backside of IKO AquaBarrier AVB, it is readily compatible with, and may be applied to, most common substrates such as new construction of gypsum, OSB, block, concrete, and plywood walls. The product is designed for numerous applications such as masonry cavity walls, metal cladding systems, siding applications, renovations and retrofits, and parapets.

1. Standard-Temperature Product: “AquaBarrier™ AVB AIR & VAPOUR BARRIER” as manufactured by IKO Industries Ltd.

IKO Spec Note: The following product is recommended for use when substrate and ambient temperatures are between -10 deg C and 10 deg C (14 deg F and 50 deg F). Due to the modified bitumen coating on the backside of IKO AquaBarrier AVB, it is readily compatible with, and may be applied to, most common substrates such as new construction of gypsum, OSB, block, concrete, and plywood walls. The product is designed for numerous applications such as masonry cavity walls, metal cladding systems, siding applications, renovations and retrofits, and parapets.

2. Low Temperature Product: “AquaBarrier™ AVB AIR & VAPOUR BARRIER – Low Temperature” as manufactured by IKO Industries Ltd.

IKO Spec Note: The following product is recommended as a 2 in 1 Polyisocyanurate and Vapour non Permeable Membrane when used in conjunction of IKO AcrylicStick SA Tapes. Maximum thickness of sheet is 4.0” however multiple layers can be used

3. Foil Faced Polyisocyanurate Sheathing: closed cell, foam core, non-permeable, insulation designed to act as an air barrier and vapour retarder when used in conjunction with manufactures approved tapes:

1. Physical and Performance Characteristics:

1. Thickness: **[0.5in] [1.0in] [1.5in] [2.0in] [2.5in] [3.0in] [3.5in] [4.0in]**

2. Number of Layers: [……]
3. Minimum LTTR: 5.9 per in as per CAN/ULC S770
4. Air Permeability: Max. 0.02l/s m^2 at 75 Pa as per CAN/ULC S741
5. Air Leakage Classification: A1 when tested in accordance with CAN/ULC S742.
6. Compressive Strength: 110kPa (16psi) as per ASTM D1621
7. Water Vapour Transmission Rate: Not more than 3.3 ng/Pa sm^2 tested in accordance with ASTM E96/E 96M (Method A).
    1. Acceptable Products:
        1. IKO Enerfoil Sheathing

4. Air Barrier Accessories:

1. Provide manufacturer-recommended accessory materials to produce a complete air barrier assembly and compatible with primary air barrier membrane.

IKO Spec Note: The following product is a solvent-based primer recommended for use when substrate and ambient temperatures are between -10 deg C and 40 deg C (14 deg F and 104 deg F)

2. Solvent-Based Primer: solvent-based, surface conditioner for surface preparation of substrates including wood, glass mat/gypsum sheathing, masonry, concrete and metal.

    1. Acceptable Products: “S.A.M. Adhesive” as manufactured by IKO Industries Ltd.

IKO Spec Note: The following product is a Low-VOC, solvent-based primer recommended for use when substrate and ambient temperatures are between -12 deg C and 40 deg C (10 deg F and 104 deg F)

3. Low-VOC Solvent-Based Primer: Low-VOC, solvent-based, surface conditioner for surface preparation of substrates including wood, glass mat/gypsum sheathing, masonry, concrete and metal.

    1. Acceptable Products: “S.A.M. Adhesive LVC” as manufactured by IKO Industries Ltd.

IKO Spec Note: The following product is a water-based primer recommended for use when substrate and ambient temperatures are between 5 deg C and 40 deg C (10 deg F and 104 deg F)

4. Water-Based Primer: solvent-free, water-based asphalt emulsion for surface preparation of substrates including wood, glass mat/gypsum sheathing, masonry, concrete and metal.

    1. Acceptable Products: “IKO Water-Based Adhesive” as manufactured by IKO Industries Ltd.

5. Tapes and Flashing Membranes:

IKO Spec Note: The following product is a cold-applied, self-adhering sheet membrane designed for use as a through-wall flashing system.

1. Counter-flashing for Through-Wall Flashings: vapour impermeable, self-adhering SBS strip laminated to high density polyethylene film, nominal total thickness of 1.2 mm (46 mils).
    1. Acceptable Products: “AquaBarrier™ TWF” as manufactured by IKO Industries Ltd.

IKO Spec Note: The following product is a cold-applied, self-adhering sheet membrane designed for use to cover insulation joints, wall/door junctions, and critical flashing areas where protection from air, water and moisture is required.

2. Transition/Reinforcing Tape: vapour impermeable, self-adhering, reinforced SBS strip laminated to high density polyethylene film, nominal total thickness of 1.0 mm (40 mils).
    1. Width: As required for application, but not less than 75 mm (3 inches)
    2. Acceptable Products: “AquaBarrier AVB Tape” as manufactured by IKO Industries Ltd.

IKO Spec Note: The following product is a cold-applied, Primerless, self-adhering sheet membrane designed for use to cover insulation joints, wall/door junctions, and critical flashing areas where protection from air, water and moisture is required.

1. Transition/Reinforcing Tape: vapour impermeable, Primerless, self-adhering, Acrylic bonding laminated to high density polyethylene film, nominal total thickness of 0.25mm (10mils).
    1. Width: As required for application, but not less than 75 mm (3 inches)
    2. Acceptable Products: “AcrylicStick SATape” as manufactured by IKO Industries Ltd.

IKO Spec Note: The following product is a sealing product designed for sealing terminations, sealing around penetrations and sealing membrane’s edges.

6. Detailing Mastic: manufacturer's standard modified-asphalt sealant, formulated with synthetic rubbers and glass fibers conforming to ASTM D4586 and Federal SS.C-153C, Type 1 specifications.

    1. Acceptable Products: “AquaBarrier Mastic” as manufactured by IKO Industries Ltd.

7. Detailing Mastic: manufacturer's standard, VOC-free, solvent-free liquid-applied, modified-silicone membrane coating.

    1. Acceptable Products: “MS Detail” as manufactured by IKO Industries Ltd.

PART 3 - EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

1. Compliance: comply with manufacturer's latest written recommendations or specifications, including product technical bulletins, handling, storage, installation instructions, and datasheets.

3.2 EXAMINATION

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

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

3. Report unsatisfactory conditions to Consultant in writing.

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

5. Beginning of Work implies acceptance of conditions.

3.3 PREPARATION

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

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

3. Ensure substrates are free of surface moisture prior to application of self-adhering membrane and primer.

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

5. Prime substrate surfaces to receive self-adhering membrane in accordance with manufacturer's instructions. Apply primer at rate recommended by manufacturer prior to transition membrane installation.

6. Do not exceed manufacturer's instructions as to the amount of primer applied for each coat. Allow primer to dry completely before membrane installation. Apply as many coats as necessary for proper adhesion.

7. Provide sufficient time for pre-cut sections of membrane to lay flat and relax prior to installation.

IKO Spec Note: Select installation method based on product selected, primered application, primerless application, IKO 2in1 Polyisocyanurate System

Remove all references to primered application when using AcrylicStick SA

Ensure Selection of Substrate

3.4 INSTALLATION

1. Install air/vapour barrier membrane sheets and accessory materials according to manufacturer's written instructions to provide continuity throughout the building envelope.

2. Orient membrane in accordance with manufacturer’s instructions and as appropriate for substrate conditions.

3. Install in manageable lengths, not exceeding 2.5 m (6-1/2 feet).

4. Begin membrane installation at base of wall; press into place and roll membrane with roller immediately after placement to ensure proper adhesion.

5. Apply membrane sheets such that they shed water naturally without interception by a sheet edge, unless edge is sealed with termination mastic as specified in this Section. Install successive courses of membrane and provide minimum following overlaps:

1. End laps: minimum 150 mm (6 inches)
2. Side laps: aligned at 75 mm (3 inches)
3. Roll all membrane seams with roller.

IKO Spec Note: Following clauses apply to masonry substrates only

6. Apply trowel coat of modified bitumen mastic around all brick ties.

7. Seal around all penetrations with termination mastic, membrane counter-flashing or other procedure in accordance with material manufacturer's instructions.

IKO Spec Note: Edit list below as appropriate to reflect specific project conditions.

8. Continuously connect, seal and tie primary air barrier material into vertical and horizontal planes of the following materials:

    1. roof air/vapour barrier,
    2. concrete below-grade structures,
    3. windows and exterior doors,
    4. curtain wall,
    5. storefront,
    6. louvers,
    7. exterior doors, and
    8. other intersection conditions.

9. Install transition membranes where required by design or construction sequence.

10. Seal top edge of the membrane to the substrate with modified bitumen mastic at the end of each workday.

11. At changes in substrate planes, provide transition material (as recommended by manufacturer) under membrane to eliminate sharp corners and to make a smooth transition from one plane to another.

12. Provide mechanically fastened galvanized sheet steel or other non-corrosive metal sheets to span gaps in substrate plane and to make a smooth transition from one plane to the other as detailed or identified in Contract Documents. Ensure membrane is continuously supported by substrate.

13. At deflection and control joints, provide backup for membrane to accommodate anticipated movement.

14. At expansion and seismic joints provide transition to such joint assemblies.

15. Apply a bead or trowel coat of mastic along membrane seams at reverse lapped seams, rough cuts, and where recommended by the manufacturer.

16. Inspect installation prior to enclosing assembly, and repair punctures, damaged areas and inadequately lapped seams with a patch of membrane lapped as recommended by manufacturer. Ensure repair patch is installed to extend at least 150 mm (6 inches) beyond damaged areas on all sides.

IKO Spec Note: Use following installation method for project utilizing IKO Polyiso Insulation 2in1 system remove if not using

Ensure selection of Substrate

3.5 INSTALLATION

1. Install polyisocyanurate sheets and accessory materials according to manufacturer's written instructions to provide continuity throughout the building envelope.

2. Do not install on exterior below grade application where insulation subject to water infiltration

3. Do not install in direct contact with hot surfaces such as chimneys, furnaces and water heater flutes, etc.

4. Install exterior veneer/cladding within 30 days of installation of insulation

IKO Spec Note: Following clause applies to wood frame construction

5. Corner bracing must be ensured and wood framing must be reinforced with either cross bracing or structural sheathing

6. Fasten to wood studs with washered nails or screws and plates ensuring a minimum of ¾” of an inch (19mm) penetration into substrate

7. All insulation panel edges to be fully butted together with any gap greater than ¼”(6mm) filled with similar insulation materials

8. Fasten each 4’x8’ insulation panel with a minimum 12 fasteners evenly spaced

9. Any overdriven fasteners must be repaired using IKO Aquabarrier Mastic

10. Apply IKO AcrylicStick SA Tapes to all insulation panel joints as per manufactures written instructions

IKO Spec Note: Following clause applies to steel frame construction

1. Fasten insulation panel to steel studs using mechanical fasteners and washers

2. All insulation panel edges to be fully butted together with any gap greater than ¼”(6mm) filled with similar insulation materials

3. Fasten each 4’x8’ insulation panel with a minimum 12 fasteners evenly spaced

4. Any overdriven fasteners must be repaired using IKO Aquabarrier Mastic

5. Apply IKO AcrylicStick SA Tapes to all insulation panel joints as per manufactures written instructions

IKO Spec Note: Following clause applies to masonry construction

1. Apply insulation to block wall construction using construction grade adhesive compatible with the air/vapour barrier surface

2. All insulation panel edges to be fully butted together with any gap greater than ¼”(6mm) filled with similar insulation materials

3. Apply IKO AcrylicStick SA Tapes to all insulation panel joints as per manufactures written instructions

IKO Spec Note: Edit list below as appropriate to reflect specific project conditions.

4. Continuously connect, seal and tie primary air barrier material into vertical and horizontal planes of the following materials:

    1. roof air barrier,
    2. concrete below-grade structures,
    3. windows and exterior doors,
    4. curtain wall,
    5. storefront,
    6. louvers,
    7. exterior doors, and
    8. other intersection conditions.

5. Install transition membranes where required by design or construction sequence.

6. Seal top edge of the membrane to the substrate with modified bitumen mastic at the end of each workday.

7. At changes in substrate planes, provide transition material (as recommended by manufacturer) under membrane to eliminate sharp corners and to make a smooth transition from one plane to another.

8. Provide mechanically fastened galvanized sheet steel or other non-corrosive metal sheets to span gaps in substrate plane and to make a smooth transition from one plane to the other as detailed or identified in Contract Documents. Ensure membrane is continuously supported by substrate.

9. At deflection and control joints, provide backup for membrane to accommodate anticipated movement.

10. At expansion and seismic joints provide transition to such joint assemblies.

11. Apply a bead or trowel coat of mastic along membrane seams at reverse lapped seams, rough cuts, and where recommended by the manufacturer.

12. Inspect installation prior to enclosing assembly, and repair punctures, damaged areas and inadequately lapped seams with a patch of membrane lapped as recommended by manufacturer. Ensure repair patch is installed to extend at least 150 mm (6 inches) beyond damaged areas on all sides.

3.6 FIELD QUALITY CONTROL

IKO Spec Note: Keep paragraphs below if an independent inspection and testing company will be hired to monitor the installation and progress of the Work of this Section.

1. Owner will engage a qualified testing agency to provide inspection and testing as outlined below.

2. Notify Consultant at least **[seven (7)]** days in advance of the dates and times when mockups will be tested.

3.7 CLEANING

1. Proceed in accordance with Section **[01 74 00 - Cleaning]**.

2. On completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.

3.8 PROTECTION OF WORK

1. Protect finished work in accordance with Section **[01 61 00 - Product Requirements]**.

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

3. Ensure finished work is protected from climatic conditions.

END OF SECTION