

**1. GENERAL**

**1.1. RELATED REQUIREMENTS**

- .1 Section 07 21 13 – Board Insulation
- .2 Section 07 26 00 – Vapour Retarders
- .3 Section 07 62 00 – Sheet Metal Flashings & Trim
- .4 Section 07 84 00 – Firestopping
- .5 Section 09 22 16 – Non-Structural Metal Framing

**1.2. REFERENCES**

- .1 Canada Green Building Council (CaGBC)
  - .1 LEED Canada NC 2009, LEED: Green Building Rating System Reference Package for New Construction and Major Renovations (including Addendum).
- .2 Canadian General Standards Board (CGSB)
  - .1 CAN/CGSB-37.2-[M88], Emulsified Asphalt, Mineral-Colloid Type, Unfilled, for Dampproofing and Waterproofing and for Roof Coatings.
  - .2 CAN/CGSB 37.3-[M89], Application of Emulsified Asphalts for Dampproofing or Waterproofing.
  - .3 CAN/CGSB 37.5-[M89], Cutback Asphalt Plastic Cement.
  - .4 CGSB 37-GP-6Ma-[83], Asphalt, Cutback, Unfilled, for Dampproofing.
  - .5 CGSB 37-GP-9Ma-[83], Primer, Asphalt, Unfilled, for Asphalt Roofing, Dampproofing and Waterproofing.
  - .6 CGSB 37-GP-11M-[76(R1984)], Application of Cutback Asphalt Plastic Cement.
  - .7 CGSB 37-GP-12Ma-[84], Application of Unfilled Cutback Asphalt for Dampproofing.
  - .8 CGSB 37-GP-15M-[76(R1984)], Application of Asphalt Primer for Asphalt Roofing, Dampproofing and Waterproofing.
  - .9 CAN/CGSB 37.16-[M89], Filled, Cutback, Asphalt for Dampproofing and Waterproofing.
  - .10 CAN/CGSB 37.28-[M89], Reinforced Mineral Colloid Type, Emulsified Asphalt for Roof Coatings and for Waterproofing.
  - .11 CGSB 37-GP-36M-[76], Application of Filled Cutback Asphalts for Dampproofing and Waterproofing.
  - .12 CGSB 37-GP-37M-[77], Application of Hot Asphalt for Dampproofing or Waterproofing.
- .3 Canadian Standards Association (CSA International)
  - .1 CSA A123.4-[98], Bitumen for Use in Construction of Built-Up Roof Coverings and Dampproofing and Waterproofing Systems.
- .4 Health Canada
  - .1 Workplace Hazardous Materials Information System (WHMIS)
    - .1 Material Safety Data Sheets (MSDS).
- .5 National Research Council Canada (NRC)/Institute for Research in Construction (IRC)
  - .1 Canadian Construction Materials Centre (CCMC)

**1.3. PRODUCT DATA**

- .1 Submit product data in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit product data sheets for bituminous dampproofing products. Including:
  - .1 Product characteristics.
  - .2 Performance criteria.
  - .3 Application methods.

- .4 Limitations.
- .3 Manufacturer's Instructions: Provide to indicate special handling criteria, installation sequence, cleaning procedures.
- .4 Co-ordinate submittal requirements and provide submittals required by Section 01 35 20 – LEED Sustainable Requirements.

**1.4. DELIVERY, STORAGE AND HANDLING**

- .1 Deliver materials to the job site in undamaged and original packaging indicating the name of the manufacturer and product. Provide and maintain dry, off-ground weatherproof storage.
- .2 Cold applied elastomeric membrane should be stored in closed containers outdoors.
- .3 Store membrane at temperature of 5 degrees C (40 degrees F) and above to facilitate handling
- .4 Membrane contain petroleum solvents and are flammable. Do not use near open flame
- .5 Store role materials horizontally in original packaging.
- .6 Store adhesives and primers at temperatures of 5 degrees C and above to facilitate handling
- .7 Packaging Waste Management: remove for reuse and return by manufacturer of pallets, crates, padding and packaging materials as specified in Section 01 35 20 LEED Sustainable Requirements and 01 74 19 Waste Management and Disposal.

**1.5. ENVIRONMENT**

- .1 No installation work shall be performed during rainy or inclement weather and on frost or wet covered surfaces.
- .2 Safety: Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of asphalt, sealing compounds, primers and caulking materials.

**1.6. PERFORMANCE REQUIREMENTS**

- .1 All waterproofing materials will be provided by the same manufacturer. Compatibility between components of envelope system is essential.

**1.7. QUALITY ASSURANCE**

- .1 Submit in writing a document stating that the applicator of the primary air/vapour barrier membranes specified in this section is recognized by the manufacturer as suitable for the execution of the Work.
- .2 Ensure all products are compatible with one another where tying into each other.
- .3 Perform Work in accordance with the manufacturer's written instructions of the air/vapour membrane and this specification.
- .4 Maintain one copy of manufacturer's written instructions on site.
- .5 At the beginning of the Work and at all times during the execution of the Work, allow access to Work site by the air/vapour barrier membrane manufacturer's representative.
- .6 Components used in this section shall be sourced from one manufacturer, including sheet membrane, air/vapour barrier sealants, primers, mastics and adhesives.
- .7 Mockup:
  - .1 Provide mockup of air/vapour barrier materials under this section.
  - .2 Where directed by Contract Administrator, construct typical exterior wall section 2m x 2m incorporating substrate, window frame, attachment of insulation and showing air/vapour barrier membrane application details.
  - .3 Allow 48hr for inspection of mockup by Contract Administrator before proceeding with Work. Mockup may remain as part of the Work.

## **2. PRODUCTS**

### **2.1. MEMBRANES**

- .1 Primary sheet air/vapour barrier shall be torch applied SBS modified bitumen, reinforced thermofusible membrane.**
  - .1 Acceptable material:**
    - .1 Henry-Bakor Blueskin TG**
    - .2 IKO AquaBarrier TG**
  - .2 Self-adhered air/vapour barrier transition membrane shall be SBS modified bitumen, self-adhering sheet membrane complete with a cross-laminated polyethylene film.**
    - .1 Acceptable materials:**
      - .1 Henry-Bakor Blueskin SA LT**
      - .2 IKO AquaBarrier AVB**
    - .3 Through-wall flashing membrane and dampproof course (Self-Adhering) shall be SBS modified bitumen, self-adhering sheet membrane complete with a cross-laminated polyethylene film.**
      - .1 Acceptable materials:**
        - .1 Henry-Bakor Blueskin TWF**
        - .2 IKO AquaBarrier TWF**

### **2.2. PRIMERS**

- .1 As per manufacturers documentation and specifications applicable to project installation.**

### **2.3. MASTICS AND TERMINATION SEALANT**

- .1 Mastic Adhesive: asphalt type, compatible with sheet barrier and substrate, thick mastic of uniform consistency.**
- .2 Adhesive: compatible with sheet barrier and substrate, permanently non-curing.**

## **3. EXECUTION**

### **3.1. EXAMINATION**

- .1 Verify that surfaces and conditions are ready to accept the Work of this section. Notify Contract Administrator in writing of any discrepancies. Commencement of the work or any parts thereof shall mean acceptance of the prepared substrate.**

### **3.2. PREPARATION**

- .1 All surfaces must be sound, dry, clean and free of oil, grease, dirt, excess mortar, frost or other contaminants. Fill spalled areas in substrate to provide an even plane. Strike masonry joints flush.**
- .2 New concrete should be cured for a minimum of 14 days and must be dry before air/vapour barrier membranes are applied.**
- .3 Use appropriate membrane primer as recommended by manufacturer based on air and surface temperature at time of application**

### **3.3. PRIMER**

- .1 Apply primer to poured concrete, metal and glass-faced wallboard substrates at rate recommended by manufacturer.**

- .2 Allow primer to dry prior to application of membrane.

### **3.4. AIR VAPOUR BARRIER MEMBRANE**

- .1 Apply air vapour barrier membrane complete and continuous to prepared and primed substrate in an overlapping shingle fashion and in accordance with manufacturer's recommendations and written instructions. Stagger vertical joints.
- .2 Position air vapour barrier membrane for alignment and apply heat to the underside of the membrane by propane torch at the point of contact with the substrate.
- .3 Apply sufficient heat to make bitumen tacky and firmly press membrane onto substrate to ensure complete contact and bond for the full extent of the membrane.
- .4 Overlap sides and ends a minimum of 50 mm and use a heated trowel to fully seal laps.
- .5 Tie-in to window frames, doorframes and at the interface of dissimilar materials as indicated in drawings.
- .6 Ensure all projections including wall ties, are properly sealed by using a heated trowel to butter compound at the interface.
- .7 Air/vapour barrier membrane to be complete and continuous from the wall to the roofing membrane system and waterproofing membrane system, around windows, aluminum screens, hollow metal door frames and spandrel panels.
- .8 Mechanically fasten membrane through securement bars to all window, door, louvers and curtain wall sections as recommended by membrane manufacturer where proper adhesion and bonding cannot be maintained.
- .9 Membrane applied to the underside of substrate surfaces shall receive special attention on application to ensure maximum surface area adhesion is obtained.

### **3.5. THROUGH-WALL FLASHING & DAMPPROOF COURSE**

- .1 Where through-wall flashing & dampproof course are indicated on drawings install primary air/vapour barrier membrane in accordance with manufacturer's written instructions.
- .2 Apply through-wall flashing and dampproof coursing membrane in accordance with CSA A371-94 Masonry Construction for Buildings; along the base of masonry veneer walls, over windows, doors and other wall openings required to be protected.
- .3 Applications shall form a continuous flashing membrane and shall extend up a minimum of 200 mm up the back-up wall.
- .4 At the end of each days work seal the 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.
- .5 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 Contract Administrator.
- .6 Apply dampproof coursing membrane over slabs on grade, prepare and prime surfaces, align and position membrane between slab and masonry block work.
- .7 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.
- .8 Press firmly into place. Ensure minimum 50 mm overlap at all end and side laps. Promptly roll all laps and membrane to affect the seal.
- .9 Ensure all preparatory work is complete prior to applying self-adhering through-wall flashing membrane.
- .10 Ensure through-wall flashing membrane extends fully to the exterior face of the exterior masonry veneer. Trim off excess as directed by the Contract Administrator.

### **3.6. SELF-ADHERED TRANSITION MEMBRANE**

- .1 Align and position self-adhered transition membrane, remove protective film and press firmly into place. Ensure minimum 50 mm overlap at all end and side laps.
- .2 Tie-in to window frames, aluminum screens, hollow metal doorframes, spandrel panels, roofing system and at the interface of dissimilar materials as indicated in drawings
- .3 Promptly roll all laps and membrane with a counter top roller to effect seal.
- .4 Ensure all preparatory work is complete prior to applying primary air vapour barrier membrane.

**3.7. INSPECTION**

- .1 Notify Contract Administrator when sections of work are complete so as to allow for review prior to installing insulation.

**3.8. INSTALLATION OF INSULATION**

- .1 Upon the completion of the air/vapour barrier membrane system apply the liquid air seal mastic and insulation adhesive in a serpentine pattern.
- .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.

**3.9. PROTECTION OF FINISHED WORK**

- .1 Membranes are not designed for permanent exposure. Product designed to withstand job site exposure for up to six weeks, however good practice calls for covering as soon as possible.

**3.10. FIELD QUALITY CONTROL**

- .1 Comply with the requirements of Section (01 45 00 – Quality Control)
- .2 All work to be inspected by a qualified testing agency upon completion of work.

**3.11. CLEANING**

- .1 Clean in accordance with Section 01 74 11 - Cleaning.
- .2 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 35 20 – LEED Sustainable Requirements and Section 01 74 19 – Waste Management and Disposal.

**END OF SECTION.**