PART 1 - GENERAL

1.1 Related Sections

.1 Section 07 62 00: Metal Flashing and Trim.

1.2 References

.1 ASTM C 208, Standard Specification For Cellulosic Fiber Insulating Board.

.2 ASTM D 6162, Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fibre Reinforcements.

.3 CSA A123.4 Asphalt for Constructing Built-Up Roofing and Waterproofing Systems.

.4 CSA A231.1/A231.2 Precast Concrete Paving Slabs.

.5 CAN/ULC-S701-05 Thermal Insulation, Polystyrene, Boards and Pipe Covering.

.6 CAN/ULC-S701-03 Thermal Insulation, Polyurethane and Polyisocyanurate, Boards Faced.

1.3 Compatibility

.1 All waterproofing materials will be provided by the same manufacturer.

1.4 Storage and Handling

.1 Provide and maintain dry, off-ground weatherproof storage.

.2 Store rolls of felt in upright position.

.3 Remove only in quantities required for same day use.

.4 Place plywood runways over work to enable movement of material and other traffic.

.5 Store caulking at +5C minimum.

.6 Store insulation protected from daylight and weather and deleterious materials.

1.6 Environmental Requirements

.1 Do not install roofing when temperature remains below -18C for torch application, or -10C to manufacturers' recommendations for mop application.

.2 Install roofing on dry deck, free of snow and ice, use only dry materials and apply only during weather that will not introduce moisture into roofing system.

1.7 Protection

.1 Fire Extinguishers: maintain one cartridge operated type or stored pressure rechargeable type with hose and shut-off nozzle, ULC labeled for A, B and C class protection on roof per torch applicator, within 30' of torch applicator.

.2 Maintain fire watch for 1 hour after each days roofing operations cease.

1.8 Warranty

.1 Contractor hereby warrants that modified bituminous roofing and membrane flashings will stay in place and remain leak proof in accordance with CCDC 2, GC 12.3.

.2 Provide written document from membrane manufacturer issued in the owner's name, valid for a 10-year period, stating that it will repair any leaks in the roofing membrane to restore the roofing system to a dry and watertight condition, to the extent that manufacturing or installation defects caused such water infiltration. The warranty must cover the total cost of repair(s) including removal and replacement of the green roof components including soil (not including plant material), to effect the repair, during the entire warranty period. The warranty must be transferable, at no extra cost, to subsequent building owners. The warranty certificate must reflect these requirements.

1.9 Compatibility

.1 Compatibility between components of roofing system is essential. Provide written declaration to Consultant stating that materials and components, as assembled in system, meet this requirement.

1.10 Qualifications

.1 Submit documentation from roofing membrane manufacturer to Consultant indicating official recognition as an and approved roofing contractor by the roofing membrane manufacturer.

PART 2 - PRODUCTS

2.1 Primers

.1 Primer for self-adhered membrane application:
.1 Acceptable material: Elastocol Stick by Soprema.

.2 Asphalt primer for torch/ mop application:
.1 Acceptable material: Elastocol 500 by Soprema.

2.2 Vapour Retarder

.1 loose laid membrane consisting of:
.1 Styrene-Butadiene-Styrene (SBS) modified bitumen and a tri-laminated woven polyethylene facer.
.1 Acceptable material: SOPRASTOP by Soprema or equal.
.2 Lap adhesive: Soprastop Adhesive.

2.4 Insulation

.1 Faced polyisocyanurate foam board to CAN/ULC-S704, Type 2, Class 3.
.1 Maximum board size 1200 x 1200mm.
.2 Minimum RSI value: 5.30.
.3 Acceptable Products: SOPRA-ISO by Soprema, ENRGY 3 by Johns Manville, IKOTHERM III Roof Insulation by IKO, ACFoam-II by Atlas Rooing Corp.
.4 provide tapered insulation for crickets.

2.6 Fibreboard

.1 Fibreboard: to ASTM C208, high density, Type II Grade 2, 12.7mm thickness.

2.7 Membrane

.1 Base sheet: to CGSB 37.56M, Styrene-Butadiene-Styrene (SBS) elastomeric polymer, prefabricated sheet.
.1 Acceptable material: Elastophene 180 sanded by Soprema or equal.

.2 Cap sheet: to CGSB 37.56M, Styrene-Butadiene-Styrene (SBS) elastomeric polymer, prefabricated sheet, polyester reinforcement.
.1 Surfaces:
.1 Top: Granules
.2 Bottom: Polyethylene
.2 Acceptable material: Sopralene Flam 250 GR by Soprema or equal.
.3 Colour: light grey

.3 Base Flashing: to CGSB 37.56M, Styrene-Butadiene-Styrene (SBS) elastomeric polymer, prefabricated sheet, glass reinforcement, thickness 3mm.
.1 Acceptable material: Elastophene 180 sanded or Sopraflash Flam Stick by Soprema or equal.

.4 Cap sheet Flashing: to CGSB 37.56M, Styrene-Butadiene-Styrene (SBS) elastomeric polymer, prefabricated sheet, polyester reinforcement.
.1 Acceptable material: Sopralene Flam 250 GR by Soprema or equal.
.3 Colour: light grey

2.8 Bitumen

.1 SEBS bitumen: Soprasphalte M by Soprema or equal.

2.9 Sealers

.1 Plastic cement: asphalt, to CAN/CGSB-37.5.

.2 Sealing compound: to CAN/CGSB-37.29, rubber asphalt type.

.3 Sealants: Sopramastic 200 or equal.

PART 3 - EXECUTION

3.1 General

.1 Do roofing work in accordance with applicable, standard in Canadian Roofing Contractors Association (CRCA) Roofing Specifications Manual except where specified otherwise.

3.2 Protection

.1 Cover walls and adjacent work where materials hoisted or used.

.2 Use warning signs and barriers. Maintain in good order until completion of work.

.3 Clean off drips and smears of bituminous material immediately.

.4 Dispose of rain water off roof and away from face of building until roof drains or hoppers installed and connected.

.5 Protect roof from traffic and damage. Comply with precautions deemed necessary by Consultant.

.6 At end of each day's work or when stoppage occurs due to inclement weather, provide protection for completed work and materials out of storage.

3.3 Examination Roof Decks

.1 Examine roof decks and immediately inform of Consultant in writing of defects.

.2 Prior to commencement of work ensure:

.1 Decks are firm, straight, smooth, dry, free of snow, ice or frost, and swept clean of dust and debris.

.2 Curbs have been built.

.3 Roof drains have been installed at proper elevations relative to finished roof surface.

.4 Plywood and lumber nailer plates have been installed to deck, walls and parapets as indicated.

3.4 Vapour Retarder

.1 Support end laps across flutes of steel deck using 150 x 1060 galvanized sheet metal.

.2 Lap sheets 75mm for side and 150mm for end laps and seal. Stagger laps a minimum of 300mm.

.3 Install vapour retarder membrane over parapet and around each element piercing the roof to ensure continuous seal.

.4 Ensure roof vapour retarder meets and overlaps the air/vapour barrier on adjoining walls to ensure total continuity.

3.7 Insulation application:

.1 Install insulation in 2 layers with mechanical fasteners to meet FM I-60.

.2 Mop crickets in place to to provide positive slop to drains.

3.8 Insulation Overlay

.1 Mop fibreboard to insulation with hot asphalt at rate of 1 to 1.5kg/m.

3.10 Roof Membrane Application

.1 Base sheet application:
.1 Starting at low point of roof, perpendicular to slope, unroll base sheet, align and reroll from both ends.
.2 Unroll and embed base sheet in uniform coating of asphalt applied at rate of 1.2 kg/m, EVT at point of contact, minimum 230C.
.3 Lap sheets 75mm for side and 150mm for end laps. Stagger end joints by at least 300mm.
.4 Application to be free of blisters, wrinkles and fishmouths.

.2 Reinforcement Gussets:
.1 Install gussets at every angle, on inside and outside corners.

.3 Base sheet flashing:
.1 Ensure primer is dry prior to base sheet flashing application.
.2 Complete installation of flashing base sheet flashing prior to installing membrane cap sheet.
.3 Apply base sheet flashing onto substrate in 1 metre wide strips.
.4 Adhere base sheet flashing to membrane base sheet and lap minimum 150mm. Stagger end joints by at least 300mm. Provide 100 mm side lap and seal.
.5 Properly secure flashings to their support, without sags, blisters, fishmouths or wrinkles.

.6 Do work in accordance with manufacturer's recommendations.

.4 Cap sheet application:

.1 Starting at low point on roof, perpendicular to slope, unroll cap sheet, align and reroll from both ends.

.2 Unroll and torch cap sheet onto base sheet taking care not to burn membrane or its reinforcement.

.3 Lap sheets 100 mm minimum for side laps and 150mm minimum for end laps. Offset joints in cap sheet 300 mm from those in base sheet.

.4 Application to be free of blisters, fishmouths and wrinkles.

.5 Do membrane application in accordance with manufacturer's recommendations.

.5 Cap sheet flashing:

.1 Complete installation of base sheet flashing prior to installing membrane cap sheet.

.2 Torch cap sheet onto substrate in 1 metre wide strips.

.3 Lap flashing cap sheet to membrane cap sheet minimum 150mm and seal by torch welding.

.4 Extend flashing cap sheet over parapets and down exterior.

.5 Provide 100mm side lap and seal. Stagger end joints by at least 300mm.

.6 Properly secure flashings to their support, without sags, blisters, fishmouths or wrinkles.

.7 Do work in accordance with manufacturer's recommendations.

.6 Roof penetration:

.1 Install roof penetration flashings and seal to membrane in accordance with the manufacturer's recommendations and details.

.2 Install scuppers and seal to membrane in accordance with the manufacturer's recommendations and details.

3.11 Field Quality Control

.1 Inspection and testing of roofing application will be carried out by testing laboratory designated by Owner.

.2 Costs of tests will be paid by Owner.

END OF SECTION 07 52 16