

Part 1 General

1.1 REFERENCES

- .1 ASTM International Inc.
 - .1 ASTM D41-11, Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing.
 - .2 ASTM D3676-13, Standard Specification for Rubber Cellular Cushion Used for Carpet or Rug Underlay
 - .3 ASTM D6163-00e1, Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fibre Reinforcements.
 - .4 ASTM D6164-11, Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements.
- .2 Canadian Roofing Contractors Association (CRCA)
 - .1 CRCA Roofing Specifications Manual-2012.
- .3 Canadian Standards Association (CSA International)
 - .1 CSA A123.21-14, Standard Test Method for the Dynamic Wind Uplift Resistance of Mechanically Attached Membrane-Roofing Systems
 - .2 CSA-A123.4-04, Asphalt for Constructing Built-Up Roof Coverings and Waterproofing Systems.
 - .3 CSA A231.1-14, Precast Concrete Paving Slabs.

1.2 SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Provide two copies of most recent technical roofing components data sheets describing materials' physical properties and include product characteristics, performance criteria, physical size, finish and limitations.
- .3 Provide shop drawings:
 - .1 Provide layout for tapered insulation.
- .4 Manufacturer's Installation Instructions: indicate special precautions required for seaming the membrane.

1.3 QUALITY ASSURANCE

- .1 Installer qualifications: company or person specializing in application of modified bituminous roofing systems recognized by manufacturer.

1.4 DELIVERY, STORAGE, AND HANDLING

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

1.5 WASTE MANAGEMENT

- .1 Waste products to be disposed or recycled in accordance with Section 01 00 10 - General Instructions

1.6 SITE CONDITIONS

- .1 Ambient Conditions: Comply with manufacturer's written requirements for each product
- .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.

Part 2 Products

2.1 PERFORMANCE CRITERIA

- .1 Compatibility between components of roofing system is essential. Provide written declaration to Departmental Representative stating that materials and components, as assembled in system, meet this requirement.
- .2 All materials and products of this Section to be by single roofing manufacturer.
- .3 Roofing System: tested to CSA A123.21 for wind uplift resistance of actual building conditions.

2.2 DECK PRIMER (FOR CONCRETE DECK)

- .1 Asphalt primer: to ASTM D41.

2.3 DECK PRIMER (FOR STEEL DECK)

- .1 Roof membrane primer as recommended by roofing manufacturer

2.4 VAPOUR RETARDER

- .1 Self adhesive: SBS modified bitumen self-adhesive membrane with polyethylene facer, minimum 0.7 mm thickness

2.5 MEMBRANE

- .1 Base sheet: to glass fibres to ASTM D6163.
 - .1 Styrene-Butadiene-Styrene (SBS) elastomeric polymer prefabricated sheet, glass reinforcement to 180 g/m³
 - .2 Thickness: minimum 2.5 mm.
 - .3 Surfaces:

- .1 Top: Sanded.
 - .2 Bottom: Self-adhesive
 - .2 Cap sheet membrane: to polyester fibres to ASTM D6164 .
 - .1 Styrene-Butadiene-Styrene(SBS) elastomeric polymer, prefabricated sheet, polyester reinforcement to 250 g/m³
 - .2 Thickness: minimum 3 mm.
 - .3 Surfaces:
 - .1 Top: sanded, standard colour to be selected by Departmental Representative
 - .2 Bottom: Self-adhesive
- 2.6 ADHESIVE**
 - .1 Adhesive: .as recommended by membrane manufacturer
- 2.7 OVERLAY BOARD**
 - .1 Overlay Board: 3 mm thick asphalt based recovery board with non-woven glass facers, as recommended by the membrane manufacturer.
- 2.8 POLYISOCYANURATE INSULATION**
 - .1 In accordance with Section 07 21 13 - Board Insulation
- 2.9 CARPENTRY**
 - .1 In accordance with Section 06 10 00 - Rough Carpentry.
- 2.10 CANT STRIPS (if required by roofing manufacturer)**
 - .1 Wood, fibreboard or other products as recommended by roofing manufacturer. Profiles and sizes as required
- 2.11 FASTENERS**
 - .1 Insulation to deck: in accordance with Section 07 21 13 - Board Insulation to meet CSA wind uplift requirement.
- Part 3 Execution**
 - 3.1 QUALITY OF WORK**
 - .1 Do examination, preparation and roofing Work in accordance with CRCA Roofing Specification Manual
 - .2 Do priming in accordance with manufacturers written recommendations.
 - .3 The interface of the walls and roof assemblies will be fitted with durable rigid material sheet metal providing connection point for continuity of air barrier.

- .4 Assembly, component and material connections will be made in consideration of appropriate design loads, with reversible mechanical attachments.

3.2 EXAMINATION OF ROOF DECKS

- .1 Verification of Conditions:
 - .1 Inspect deck conditions including parapets, construction joints, roof drains, plumbing vents and ventilation outlets to determine readiness to proceed. Immediately inform Departmental Representative of unacceptable conditions and await written instruction prior to proceeding with work
 - .2 Evaluation and Assessment:
 - .1 Prior to beginning of work ensure:
 - .1 Decks are firm, straight, smooth, dry, free of snow, ice or frost, and swept clean of dust and debris. Do not use calcium or salt for ice or snow removal.
 - .2 Curbs have been built.
 - .3 Roof drains have been installed at proper elevations relative to finished roof surface.
 - .3 Do not install roofing materials during rain or snowfall.

3.3 PROTECTION OF IN-PLACE CONDITIONS

- .1 Cover walls, walks, sloped roofs 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 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.

3.4 MEMBRANE PATCHING

- .1 Clear away ballast and fabric covering from roof membrane near scupper area as indicated. Cut back existing membrane to permit repair work.
- .2 Clean asphalt, sealant and other loose materials between existing membrane and scupper.
- .3 Clean and prime edges of existing rubberized asphalt membrane in accordance with roofing manufacturer's printed recommendations.
- .4 Adhere base and cap membrane in accordance with roofing manufacturer's printed recommendations. Provide watertight integration with existing roofing assembly and scupper.

- .5 Replace fabric and ballast to match existing.

3.5 PREPARATION OF STEEL DECK

- .1 Ensure all existing substrates and fasteners have been removed to permit installation of new roofing assembly

3.6 PRIMING CONCRETE SUBSTRATE

- .1 Apply deck primer to concrete roofing substrate at rate recommended by roofing manufacturer.

3.7 VAPOUR RETARDER (for steel deck only)

- .1 Adhere vapour retarder using solvent based primer as per manufacturer's instructions.

3.8 EXPOSED MEMBRANE ROOFING APPLICATION

- .1 Insulation application (for steel deck only):
 - .1 Mechanically fastened insulation in accordance with manufacturer's printed instructions.
 - .2 Place boards in parallel rows with ends staggered, and in firm contact with one another.
- .2 Tapered insulation application (for steel deck only):
 - .1 Adhere tapered insulation to base insulation with adhesive in accordance with roofing manufacturer's recommendations
- .3 Overlay Board application (for steel deck only):
 - .1 Adhere overlay board to insulation with adhesive in accordance with roofing manufacturer's recommendations.
 - .2 Place boards in parallel rows with end joints staggered. Cap joints approximately 25 mm.
- .4 Cants:
 - .1 Secure cants as required by roofing membrane manufacturer.
- .5 Base sheet application:
 - .1 Starting at low point of roof, perpendicular to slope, unroll base sheet, align and reroll from both ends.
 - .2 Prime base sheet.
 - .3 Unroll and adhere base sheet in accordance with roofing manufacturer.
 - .4 Lap sheets 75 mm minimum for side and 150 mm minimum for end laps.
 - .5 Application to be free of blisters, wrinkles and fishmouths.
- .6 Cap sheet application:

- .1 Starting at low point on roof, perpendicular to slope, unroll cap sheet, align and reroll from both ends.
- .2 Prime base sheet.
- .3 Unroll and adhere cap sheet in accordance with roofing manufacturer.
- .4 Lap sheets 75 mm minimum for side laps and 150 mm minimum for end laps. Offset joints in cap sheet 300 mm minimum from those in base sheet.
- .5 Application to be free of blisters, fishmouths and wrinkles.
- .6 Do membrane application in accordance with manufacturer's recommendations.
- .7 Flashings:
 - .1 Complete installation of flashing base sheet stripping prior to installing membrane cap sheet.
 - .2 Adhere sheets onto primed substrates in 1 metre wide strips.
 - .3 Lap flashing base sheet to membrane base sheet minimum 150 mm and adhere.
 - .4 Lap flashing cap sheet to membrane cap sheet 250 mm minimum adhere.
 - .5 Provide 75 mm minimum side lap and seal.
 - .6 Properly secure flashings to their support, without sags, blisters, fishmouths or wrinkles.
- .8 Roof penetrations:
 - .1 Install roof drain pans, vent stack covers and other roof penetration flashings and seal to membrane in accordance with manufacturer's recommendations and details.

END OF SECTION