

PART 1 GENERAL

1.1 SECTION INCLUDES

- .1 Modified bitumen membrane roofing with protective covering, gypsum board sheathing, vapour barrier, insulation and base flashings.

1.2 RELATED SECTIONS

- .1 Section 05310-Steel Deck..
- .2 Section 06114 - Rough Carpentry.
- .3 Section 07212 – Insulation and Air/Vapour Barriers
- .4 Section 07620 - Sheet Metal Flashing.
- .5 Section 09260 - Gypsum Board Systems
- .6 Division 15 – Mechanical roof openings.
- .7 Division 16 – Openings in roof system for electrical equipment.

1.3 REFERENCES

- .1 CAN/ULC-701-97- Preformed, Cellular Polystyrene Thermal Insulation.
- .2 CSA A 247-M – Fibreboard.
- .3 CGSB 37-GP-9M - Primer, Asphalt, Unfilled, for Asphalt Roofing, Dampproofing and Waterproofing.
- .4 CAN2-51.32M - Sheathing, Membrane, Breather Type.
- .5 CAN/CGSG-51.31-M84– Glass and Mineral Fiber Block and Board Thermal Insulation.
- .6 ASTM C 79-94 - Specification for Gypsum Sheathing Board.
- .7 ASTM C1002 - Steel Drill Screws for the Application of Gypsum Board.
- .8 CRCA (Canadian Roofing Contractors Association) "Roofing Specification"

1.4 SYSTEM DESCRIPTION

- .1 Modified Bitumen Conventional Roofing System: Two ply hot asphalt and torched on conventional SBS membrane system with vapour barrier, insulation and gypsum board on steel deck.

1.5 QUALITY ASSURANCE

- .1 Perform Work in accordance with CRCA manufacturer's instructions.

1.6 QUALIFICATIONS

- .1 Applicator: Company specializing in performing the work of this section with three years documented experience and approved by system manufacturer.

1.7 REGULATORY REQUIREMENTS

- .1 Conform to applicable code for roof assembly fire hazard requirements.

1.8 MANUFACTURERS REPRESENTATIVE

- .1 The roofing material manufacturer shall delegate a representative to visit the work site at commencement of work and periodically during work in progress
- .2 At all times the contractor shall permit and facilitate access to the work site and roofs to manufacturers representative.

1.9 DELIVERY, STORAGE, AND HANDLING

- .1 Deliver, store, protect, and handle products to site.
- .2 Deliver products in manufacturer's original containers, dry, undamaged, seals and labels intact.
- .3 Store products in weather protected environment, clear of ground and moisture.
- .4 Stand roll materials on end.

1.10 ENVIRONMENTAL REQUIREMENTS

- .1 Do not apply roofing membrane to damp or frozen deck surface.
- .2 Do not apply roofing membrane during inclement weather.
- .3 Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed during same day.

1.11 COORDINATION

- .1 Coordinate the work with installing associated metal flashings as the work of this section proceeds.

1.12 WARRANTY

- .1 Provide a 15 year manufacturer's warranty.

PART 2 PRODUCTS

2.1 MANUFACTURERS - MEMBRANE MATERIALS

- .1 Soprema Waterproofing Inc.

2.2 MEMBRANE MATERIAL

- .1 Membrane: Asphalt and polymer modifiers of styrene-butadiene-styrene (SBS) type, reinforced with non-woven polyester; granule surfaced:
 - .1 Base sheet : Elastophene 180 Both sides lightly sanded; 180 g/sq.m. non woven polyester reinforcement; 2 mm thick.
 - .2 Base Sheet Stripping: Soprema Sopralene Flam 180, Thermofusable surface both sides; 180 g/sq.m. non woven polyester reinforcement; 2 mm thick.
 - .3 Membrane Cap Sheet: Soprema Sopralene Flam 250 granules; Thermofusable bottom surface; granule top surface of gray colour; 250 g/sq.m. non woven polyester reinforcement
 - .4 Cap sheet stripping: Sopralene Flam 250 granules as per cap sheet.

2.3 SHEET MATERIALS

- .1 Gypsum Sheathing: CSA A82.27 ; 13 mm thick; uncoated face, fire rated type.
- .2 Vapour barrier: two layers Asphalt Saturated Organic Felts: CSA 1123.3-M-, No. 15; perforated.
- .3 Fibreboard Protection Board: to CAN/CSA-A247-M, type 2, 13mm thick, asphalt impregnated.

2.4 BITUMINOUS MATERIALS

- .1 Asphalt Primer: to CGSB 37-GP-9M Sopradere.
- .2 Asphalt: to CSA A123.4M, Type III
- .3 Rubberized sealant(pitch pockets):
 - .1 Polyroof; one part rubberized asphalt.
 - .2 Sopramastic 200; synthetic plasticized with bitumen and solvents.

2.5 INSULATION

- .1 Insulation: ASTM C1013, polyisocyanurate foam with specially formulated facers; Factory Mutual Class 1;
 - .1 Genflex Roofing Systems - Model Genflex Iso.
 - .2 Celotex – HyTherm AP
 - .3 Firestone – ISO 95+
 - .4 IKO - Ikootherm

2.6 FLASHINGS

- .1 Flexible Flashings: Butyl; black colour.

2.7 ACCESSORIES

- .1 Sheathing Fasteners: ASTM C1002, steel drill type, for mechanical attachment of gypsum sheathing to metal deck.
- .2 Sealants: As recommended by membrane manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION

- .1 Verify that surfaces and site conditions are ready to receive work.
- .2 Verify deck is supported and secured.
- .3 Verify deck is clean and smooth, free of depressions, waves, or projections, properly sloped to drains.
- .4 Verify deck surfaces are dry and free of snow or ice.
- .5 Verify roof openings, curbs, pipes, conduit, sleeves, ducts, and vents through roof are solidly set, and are in place.

3.2 PREPARATION - METAL DECK

- .1 Install preformed sound absorbing glass fiber insulation strips supplied by Section 05310, in acoustic deck flutes; in accordance with manufacturer's instructions.

3.3 VAPOUR RETARDER APPLICATION

- .1 Lay with gypsum board with long side at right angle to flutes; stagger end joints; provide support at ends.
- .2 Mechanically fasten sheathing at full roof area of roof deck, using 8 fasteners with washers per board.
- .3 Cut sheathing cleanly and accurately at roof breaks and protrusions to provide smooth surface. Tape joints.
- .4 Provide 600 mm of 13 mm PWF plywood sheathing to outside edge of deck.
- .5 Mop surface with hot bitumen and embed two plies of roof felt; lap plies 480 mm; full mop each ply. Apply bitumen at the rate of 98 kg/100 sq m.
- .6 Lap flexible flashings over vapour barrier of wall construction to provide continuity of vapour barrier envelope.
- .7 Glaze top surface of the vapour barrier if insulation is not placed immediately.

3.4 INSULATION APPLICATION

- .1 Ensure vapour retardant is clean and dry, continuous, and ready for application of roofing system.

- .2 Embed two layers of insulation into flood coat mopping of hot bitumen in accordance with insulation manufacturer's instructions. Lay second layer of insulation with joints staggered from first layer.
- .3 Lay boards with edges in moderate contact without forcing. Cut insulation to fit neatly to perimeter blocking and around penetrations through roof.
- .4 Apply no more insulation than can be covered with membrane in same day.
- .5 Protection Board: Mop on 1 layer of fibreboard. Offset joints of fibreboard with joints of insulation.

3.5 MEMBRANE APPLICATION

- .1 Install roofing membrane to manufacturers instructions.
- .2 Install base sheet using mopped hot asphalt.
- .3 Torch weld base sheet stripping, nail top edge.
- .4 Torch weld cap sheet to base sheet. Offset cap sheet 300 mm with base sheet.
- .5 Torch weld cap sheet striping to base stripping. Offset 100 mm with base sheet stripping.
- .6 Base sheet and cap sheet shall have 75 mm side laps and 6" end laps
- .7 Stripping shall have side laps of 75mm..
- .8 Extend membrane over vapour and air barrier of wall construction and seal.
- .9 Seal membrane around roof protrusions and penetrations.
- .10 Install waterproof cut-off to membrane at end of day's operation. Remove cut-off before resuming roofing.

3.6 FLASHINGS AND ACCESSORIES

- .1 Apply flexible sheet base flashings to seal membrane to vertical elements.
- .2 Coordinate installation of roof drains, curbs, fall protection anchors and related flashings.
- .3 Seal flashings and flanges of items penetrating or protruding through the membrane.

3.7 CLEANING

- .1 In areas where finished surfaces are soiled by work of this section, consult manufacturer of surfaces for cleaning advice and comply with their documented instructions.
- .2 Repair or replace defaced or disfigured finishes caused by work of this section.

3.8 PROTECTION

- .1 Protect building surfaces against damage from roofing work.

- .2 Where traffic must continue over finished roof membrane, protect surfaces.

END OF SECTION