

**PART 1 GENERAL**

1.1 Related Work

- .1 Joint Sealers Section 07 92 00

1.2 References

- .1 American Society for Testing and Materials (ASTM)
  - .1 ASTM C 36-95b, Specification for Gypsum Wallboard
- .2 Canadian General Standards Board (CGSB)
  - .1 CAN/CGSB 37.5-M89, Cutback Asphalt Plastic Cement.
  - .2 CGSB 37-GP-9Ma-83, Primer, Asphalt, Unfilled, for Asphalt Roofing, Dampproofing and Waterproofing.
  - .3 CGSB 37-GP-15M-76, Application of Asphalt Primer for Asphalt Roofing, Dampproofing and Waterproofing.
  - .4 CGSB 37-GP-19M-76, Cement, Plastic, Cutback Tar.
  - .5 CAN/CGSB-37.29-M89, Rubber-Asphalt Sealing Compound.
  - .6 CGSB 37-GP-56M-80, Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing.
  - .7 CAN/CGSB 51.20-M87, Thermal Insulation, Polystyrene, Boards and Pipe Covering.
  - .8 CAN/CGSB 51.26-M86, Thermal Insulation, Urethane and Isocyanurate Boards, Faced.
  - .9 CAN/CGSB 51.31-M84, Thermal Insulation, Mineral Fibre Board for Above Roof Decks.
  - .10 CAN/CGSB 51.33-M89, Vapour Barrier Sheet, Excluding Polyethylene, for use in Building Construction.
  - .11 CAN/CGSB 51.34-M86, Vapour Barrier Sheet, Polyethylene Sheet, for use in Building Construction.
  - .12 CAN/CGSB 51.38-92, Cellular Glass Thermal Insulation.
- .3 Canadian Standards Association (CSA)
  - .1 CSA A123.3-M1992, Asphalt or Tar Saturated Roofing Felt.
  - .2 CSA A123.4-M1992, Bitumen for Use in Construction of Built-up Roof Coverings and Dampproofing and Waterproofing Systems.
  - .3 CAN/CSA-A247-M86, Insulating Fibreboard.
  - .4 CSA A284-1976, Mineral Aggregate Thermal Roof Insulation.
  - .5 CSA O121-M1978, Douglas Fir Plywood.
  - .6 CSA O151-M1978, Canadian Softwood Plywood.

1.3 Storage And Handling

- .1 Provide and maintain dry, off-ground weatherproof storage.
- .2 Store rolls of felt and membrane in upright position. Store membrane rolls with selvage edge up.
- .3 Remove only in quantities required for same day use.
- .4 Place plywood runways over Work to enable movement of materials and other traffic.
- .5 Store sealants at +5°C minimum.
- .6 Store insulation protected from daylight and weather and deleterious materials.
- 1.4 Environmental Requirements
  - .1 Do not install roofing when temperature remains below -18°C for torch application, or -10°C or manufacturers' recommendations for mop application.
  - .2 Minimum temperature for solvent-based adhesive is -5°C.
  - .3 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.
- 1.5 Protection
  - .1 Fire Extinguishers: maintain one cartridge-operated type with hose and shut-off nozzle, ULC labelled for A, B and C class protection. Size 9 kg on roof per torch applicator, within 10 m of torch applicator.
  - .2 Maintain fire watch for 1 hour after each day's roofing operations cease.
- 1.6 Warranty
  - .1 For the Work of this Section 07 52 11- Modified Bituminous Roofing, the 12 months warranty period prescribed in subsection GC 13.2 of General Conditions "C" is extended to 60 months. Material warranty is 10 years non-prorated.
- 1.7 Compatibility
  - .1 Compatibility between components of roofing system is essential. Provide written declaration to Contract Administrator stating that materials and components, as assembled in system, meet this requirement.
- 1.8 Quality Assurance
  - .1 Installers to be CRCA member or RCAM member (in Manitoba) with 5 years minimum experience.

**PART 2 PRODUCTS**

- 2.1 Membrane
  - .1 Base Sheet: to CGSB 37-GP-56M, Styrene-Butadiene-Styrene (SBS) Elastomeric polymer thermoplastic polymer, prefabricated sheet, polyester reinforcement, weighing 180 g/m<sup>2</sup>.
    - .1 Type 1, fully adhered.
    - .2 Type 2, fully adhered, loose laid.
    - .3 Class A-C plain surfaced.
    - .4 Grade 1- heavy-duty service.
    - .5 Top and bottom surfaces:

- .1 Polyethylene/polyethylene.
  - .6 Acceptable material: Soprabase ½ FR board with laminated base sheet or approved equal in accordance with B7.
- 2 Cap sheet: to CGSB 37- GP-56M, Styrene-Butadiene-Styrene (SBS) Elastomeric polymer thermoplastic polymer, prefabricated sheet, polyester reinforcement, weighing 250 g/m<sup>2</sup>.
  - .1 Type 1, fully adhered.
  - .2 Class A- granule surfaced.
  - .3 Grade heavy-duty surface.
  - .4 Bottom surface polyethylene.
  - .5 Acceptable material: Sopralene Flam 250 or approved equal, granulated, colour from standard range (non-metallic) colours.
- 2.2 Insulating Fibreboard
  - .1 To CAN/CSA-A247, Type 1 roof board, surface coated, 6.4 mm thick.
    - .1 Acceptable material: Soprabase or approved equal in accordance with B7.
- 2.3 Membrane Flashing
  - .1 Acceptable material: Soprabase or approved equal in accordance with B7.
- 2.4 Sealers
  - .1 Plastic cement: asphalt, SBS to CAN/CGSB-37.5, to CGSB 37-GP-19M.
    - .1 Acceptable material: Sopramastic, or approved equal in accordance with B7.
  - .2 Sealing compound: to CAN/CGSB- 37.29, rubber asphalt type.
    - .1 Acceptable material: Sopramastic, or approved equal in accordance with B7.
  - .3 Sealants: Sopramastic, or approved equal in accordance with B7.
- 2.5 Fasteners
  - .1 Insulation to deck: fasteners and 50mm plates minimum must meet Factory Mutual 4470 Standard for wind uplift and corrosion resistance.

**PART 3 EXECUTION**

- 3.1 Workmanship
  - .1 Do roofing Work in accordance with applicable standard in Canadian Roofing Contractors Association (CRCA) Roofing Specifications Manual.
  - .2 Do priming for asphalt roofing in accordance with CGSB 37-GP-15M.
- 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 rainwater off roof and away from face of building until roof drains or hoppers are installed and connected.

- .5 Protect roof from traffic and damage. Comply with precautions deemed necessary by Contract Administrator.
  - .6 At end of each day's Work or when stoppage occurs due to inclement weather, provide protection for completed Work and material out of storage.
- 3.3 Examination Of Roof Decks
- .1 Examine roof decks and immediately inform Contract Administrator in writing of defects.
  - .2 Inform Contrast Administrator 24 hours prior to beginning Work.
  - .3 Prior to commencement of Work, ensure:
    - .1 Decks are firm, straight, smooth, fry, 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 Exposed Membrane Roofing Application
- .1 Base sheet application.
    - .1 Fasten boards mechanically in conformance with illustrations in Specifications Manual.
    - .2 All panels must be in perfect condition, without any significant differences in level, and must be adhered on all their surfaces completely.
    - .3 Complete side pals sealing by torching seal and overlaps in a similar fashion.
    - .4 All vertical joints between substrate and boards will be staggered vertically and horizontally.
  - .2 Cap sheet application
    - .1 Starting at low point on roof, perpendicular to slope, unroll cap sheet, align and re-roll from both ends.
    - .2 Unroll and embed cap sheet in uniform coating of asphalt applied at rate of 1.2 kg/m<sup>2</sup>, EVT at point of contact.
    - .3 Unroll and torch cap sheet onto base sheet taking care not to burn membrane or its reinforcement.
    - .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 manufacturers recommendations.
  - .3 Flashings
    - .1 Complete installation of flashing base sheet stripping prior to installing membrane cap sheet.
    - .2 Torch cap sheet onto substrate in 1 metre wide strips.

- .3 Lap flashing base sheet to membrane base sheet minimum 150 mm and seal by torch welding.
- .4 Lap flashing cap sheet to membrane cap sheet 250 mm minimum and torch weld.
- .5 Provide 75 mm minimum side lap and seal.
- .6 Properly secure flashings to their support, without sags, blisters, fishmouths or wrinkles.
- .7 Do Work in accordance with manufacturers recommendations.