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| Version | Date | Description of Revisions |
| 1 | August 30, 2006 | Approved final document. |
| 2 | November 13, 2009 | Modified ‘Related Section’ |
| 3 | June 8, 2012 | Addition of References and Replacement Parts sections to this page. |
| 4 | July 6, 2012 | Change tab settings in page 1-8. |
| 5 | April 23, 2015 | General Formatting |
| 6 | April 7, 2016 | Phase 1 update (AV) |
| 7 | November 30, 2016 | Updated based on Legal’s comments (eDOCs #6396340) |
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NOTE:

This is a CONTROLLED Document. Any documents appearing in paper form are not controlled and should be checked against the on-line file version prior to use.

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**The on-line copy is the current version of the document.**

# GEneral

## Section Includes

### Materials and installation for hot applied rubberized asphalt for waterproofing systems.

## Related Sections

### *[Under "Related Sections", identify other Sections that are related to, and/or dependent on, the work results or information specified elsewhere. The list should be limited to Sections with specific information that the reader might expect to find in this Section, but is specified elsewhere. For example, if hardware for aluminum entrances is specified in the aluminum entrance Section, a cross-reference would be appropriate in the finish hardware Section. The purpose of this cross-referencing is for information only, to aid in finding those other requirements—not to define the scope of the Section.*

### *Cross-referencing here may also be used to coordinate assemblies or systems whose components may span multiple Sections and which must meet certain performance requirements as an assembly or system.*

### *Contractor is responsible for coordination of the Work.*

### *This Section is to be completed/updated during the design development by the Consultant. If it is not applicable to the section for the specific project it may be deleted.]*

### *[List Sections specifying installation of products supplied but not installed under this Section and indicate specific items.]*

### Section [\_\_\_\_\_\_ – \_\_\_\_\_\_\_\_\_\_\_\_]: Execution requirements for ...[item]... specified under this Section.

### *[List Sections specifying products installed but not supplied under this Section and indicate specific items.]*

### Section [\_\_\_\_\_\_ – \_\_\_\_\_\_\_\_\_\_\_\_]: Product requirements for ...[item]... for installation under this Section.

### *[List Sections specifying related requirements.]*

### Section [\_\_\_\_\_\_ – \_\_\_\_\_\_\_\_\_\_\_\_]: [Optional short phrase indicating relationship].

#### Section 01060 – Regulatory Requirements

#### Section 01300 – Submittals

#### Section 07920 - Joint Sealers

## References

### Comply with the latest edition of the following statutes, codes, standards, and all amendments thereto:

#### American Society for Testing and Materials International, (ASTM).

##### ASTM D2178/D2178M-15, Standard Specification for Asphalt Glass Felt Used in Roofing and Waterproofing.

#### Canadian General Standards Board (CGSB). *[Consultant to amend with replacement standards]*

##### CAN/CGSB 51.34-M86, Vapour Barrier, Polyethylene Sheet for Use in Building Construction

#### Health Canada/Workplace Hazardous Materials Information System (WHMIS).

##### Material Safety Data Sheets (MSDS).

#### Underwriters' Laboratories of Canada (ULC).

##### CAN/ULC S701-11, Standard for Thermal Insulation, Polystyrene, Boards and Pipe Covering.

##### CAN/ULC S706-09, Standard for Wood Fibre Insulating Boards for Buildings.

## Submittals

### Manufacturer's Instructions: Provide to indicate special handling criteria, installation sequence, cleaning procedures and [\_\_\_].

### Submit product data in accordance with Section 01300 - Submittals.

### Submit WHMIS MSDS - Material Safety Data Sheets in accordance with Section [\_\_\_].

### Submit product data sheets for [rubberized asphalt] [\_\_\_] [insulation]. Include:

#### Product characteristics.

#### Performance criteria.

#### Limitations.

### Submit shop drawings in accordance with Section 01300 - Submittals.

## Delivery, Storage and Handling

### Provide and maintain dry, off ground weatherproof storage.

### Stand roll materials on end.

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

### Store insulation protected from [sunlight] [and] [weather] and deleterious materials.

### Store materials in accordance with manufacturer's written instructions to prevent damage or loss of performance.

## Warranty

### Contractor hereby warrants that Hot Applied Rubberized Asphalt Waterproofing will stay in place and remain leak-proof in accordance with *[Consultant to amend as required, [\_\_\_],* but for [24] [60] months.

## Measurement and Payment

*[Choose one of the following payment language provisions that best suits the individual project.*

*If this Section is not specifically referenced by an item in the Bid Form, please use the following language:*

### The work of this Section will not be measured separately for payment. All costs associated with the work of this Section shall be included in the Contract Price.

*OR If this Section is specifically referenced in the Bid Form, use the following language and identify the relevant item in the Bid Form:*

### All costs associated with the work of this Section shall be included in the price(s) for Item No(s). \_\_\_ in the Bid Form.

*If the work of this Section is to be measured and paid for by several different methods, please amend the standard wording given above to reflect the different methods of measurement and payment.*]

# PRODUCTS

## Compatibility

### Compatibility between components of system and adjacent materials is essential. Provide written declaration to the Consultant [\_\_\_] stating that materials and components, as assembled in system, meet this requirement.

## Primers

### Asphalt primer: to *[Consultant to amend with replacement standard given the withdrawal of CGSB 37 GP Ma]* [\_\_\_], VOC content [\_\_\_].

## Rubberized Asphalt

### Hot applied rubberized asphalt: to *[Consultant to amend with replacement standard given the withdrawal of CAN/CGSB 37.50]* [\_\_\_], VOC content [\_\_\_].

## Reinforcement

### Membrane reinforcement: fabric, glass mat or spun bonded polyester as recommended by the membrane manufacturer.

### Crack and joint reinforcement: elastomeric sheet, Butyl, EPDM or Chloroprene rubber, uncured neoprene thickness minimum [1.19] [1.2] [1.6] mm.

## Separation Sheet

### Asphalt impregnated glass felt: to [ASTM D2178/D2178M-15] [\_\_\_], Type IV.

### Polyethylene film: to [CAN/CGSB 51.34] [\_\_\_], Type 1, [0.125] [\_\_\_] mm thick.

## Overlay Board

### [12.5 mm] [19 mm] [25 mm] [thickness as indicated in the Contract Documents].

#### [6 mm thick asphalt based recovery board with non-woven glass facers, as recommended by the membrane manufacturer] [\_\_\_].

#### [Asphalt impregnated fiberboard to: CAN/ULC-S706-09] [\_\_\_].

#### [Semi-flexible core board composed of mineral fortified asphaltic core between layers of asphalt saturated felts, recycled content [\_\_\_]] [\_\_\_].

## Polystyrene Insulation

### [Extruded polystyrene (XPS) insulation] [Expanded polystyrene (EPS) insulation]: to [CAN/ULC S701-11] [\_\_\_], Type [2], [3], thickness [[\_\_\_] mm] [as indicated in the Contract Documents], [square] [shiplapped] [vented] edges.

## Sealers

### Plastic cement: [to CAN/CGSB 37.5, cutback asphalt type] [hot rubberized asphalt membrane] [recycled content [\_\_\_]].

### Sealing compound: to *[Consultant to amend with replacement standard given the withdrawal of CAN/CGSB 37.29]* [\_\_\_], rubber asphalt type [recycled content [\_\_\_]] [\_\_\_].

### Sealant: [Asbestos free sealant, compatible with systems materials, recommended by system manufacturer] [Caulking - see Section 07920 - Joint Sealers][\_\_\_].

## Fasteners

### Sheathing to steel substrate: No.10 flat head, self tapping, Type A or AB, cadmium plated screws.

## Filter Fabric

### UV resistant, black woven polyolefin fabric for installation between insulation and stone ballast in protected membrane system. Fabric to meet recommendation of insulation manufacturer.

## Drainage Course Material

### Pit Run Gravel, particle size: [6 to 20] [\_\_\_] mm, well graded crushed stone, opaque, non porous, washed, free from fines, splinters, ice and snow.

## Fixing Bars

### Metal bars 3 mm thick x 25 mm wide, predrilled for fasteners at 225 mm on centre.

## Clamping Rings

### Adjustable, non corrosive metal rings.

## Joint Tape

### Tape: pressure sensitive heat resistant [fiberglass reinforced] [\_\_\_] type.

## Source Quality Control

### Submit laboratory test reports certifying compliance of [rubberized asphalt] [and] [\_\_\_] with specification requirements.

# EXECUTION

## Substrate Examination

### Examine substrates and immediately inform the [Consultant] in writing of defects.

### Prior to beginning of Work ensure:

#### Substrates are firm, straight, smooth, dry, free of snow, ice or frost, contamination and swept clean of dust and debris.

#### Curbs have been built.

#### Sleeves, vents, pipes and other items passing through substrates receiving work of this Section are properly and rigidly installed.

## Preparation - Protection

### Cover walls, walks [\_\_\_] and adjacent work where materials hoisted or used.

### Use warning signs and barriers. Maintain in good order until completion of Work.

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

### Protect from traffic and damage. Comply with precautions deemed necessary by the [Consultant] [\_\_\_].

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

### At end of each Working Day or when stoppage occurs due to inclement weather, provide protection for completed Work and materials out of storage.

### Seal and ballast exposed edges.

### Free substrates from curing compounds, dust and loose particles, grease, paint, frost, form oil and other material detrimental to bond of membrane materials.

### Heat membrane in double shell indirect fired melter using high flash point oil as heat transfer medium. Equip melter with positive mechanically operated agitator, and thermometers. Under no circumstances is membrane material to be heated in direct heating kettle.

### Reinforce substrate cracks less than 3 mm wide with layer of hot rubberized asphalt 300 mm wide centred on crack and 150 mm wide fabric reinforcing sheet embedded into it.

### Reinforce substrate cracks larger than 3 mm with layer of hot rubberized asphalt 300 mm wide centred over crack and 225 mm wide strip of standard thickness elastomeric reinforcing sheet embedded into it.

### At expansion joints, loop heavy duty elastomeric reinforcing sheet down into joint, embedded into 3 mm thick layer to membrane. Ensure that depth of loop is minimum 1.5 mm. Extend reinforcing sheet minimum 150 mm on each side of joint. Cap end joints min. of 150 mm and seal with 3 mm coat of membrane. Fill loop with membrane. Secure top of reinforcing sheet with continuous fixing bar at vertical wall locations.

### At mechanical vent and pipe flashings, provide standard elastomeric reinforcing sheet around vent pipes and protrusions through membrane. Set and seal with membrane and clamping ring. Install prefabricated metal sleeves for substrate perforations.

## Preparation of Concrete Surface

### Fill surface honeycomb depressions and voids with latex filler.

### Apply primer to dry substrate in accordance with [*Consultant to amend with replacement standard given the withdrawal of CAN/CGSB 37.51]* [\_\_\_].

## Preparation of Precast Concrete Deck

### Ensure that side and end joints are grouted prior to installation of membrane.

### Reinforce joints along length of units with 3 mm thick coat of membrane and strip of 150 mm wide fabric reinforcing sheet, extending 75 mm beyond sheet edges.

### At joints occurring along width of precast units, reinforce with minimum 300 mm wide standard elastomeric reinforcing sheet, embedded between two 3 mm layers of membrane.

## Membrane

### Install hot applied rubberized asphalt, reinforcement fabric and flashings in accordance with *[Consultant to amend with replacement standard given the withdrawal of CAN/CGSB 37.51]* [\_\_\_].

## Separation Sheet

### Place separation sheet in asphalt while still hot enough to ensure good bond but not so hot as to damage sheet.

### Begin application at low end, lapping sheets 100 mm.

### Carry sheet up vertical faces over rubberized asphalt while still warm.

### Install separation sheet on top layer of membrane between membrane and insulation.

## Overlay Board

### Install protection board while rubberized asphalt membrane is still "tacky". Lap 10 mm to 25 mm to ensure complete coverage.

### Install protection board in all locations where insulation is not provided.

## Insulation Application

### Apply insulation loose laid immediately after application of separation sheet.

#### Butt insulation boards tightly, in parallel rows with staggered end joints.

#### Cut and fit around peripheries and items passing through insulation.

## Filter Fabric Application

### Apply continuous layer of filter fabric unbonded over installed insulation lapping joints 300 mm minimum.

### Cut fabric around drains, vents and other penetrations and extend up protrusions and place under metal flashings.

## Drainage Course

### Apply granular, as soon as possible after placement of [fabric] [insulation].

### Spread granular to an even thickness of [     ] over entire area.

## Field Quality Control

### Inspection and testing of membrane application will be carried out by testing laboratory designated by the [Consultant].

### The cost of testing will be paid by [the Contractor] [the Region].

## Flood Testing

### Do not conceal waterproofing until inspection and testing are completed and approved by the Consultant.

### Temporarily plug openings and dam horizontal surface areas to be tested and flood with water to minimum depth of [80] [\_\_\_] mm.

### Maintain flooded depth for [24] [\_\_\_] hours.

### If leaks occur repair and retest.

### Remove water at end of test.

## Protection of Completed Work

### Ensure membrane is undamaged before application of protection board.

### Apply protection board to cover membrane [at locations as indicated] [below grade].

## Cleaning

### Clean to the Consultant’s approval, soiled surfaces, spatters, and damage caused by the work of this Section.

### Check area drains to ensure cleanliness and proper function, and remove debris, equipment and excess material from site.

**END OF SECTION**