

## SPECIFICATION

**SPEC NOTE:** This waterproofing guide specification is basic and must be adapted to suit the requirements of individual projects. It is written in accordance with the Three-Part Section Format but may be rearranged to suit any format required. Square brackets [ ] indicate choice, alternatives, data required or need for the specifier to make a decision.

### 1 General

#### 1.1 SECTION INCLUDES

- .1 Substrate preparation
- .2 Waterproofing membrane
- .3 [Protective covering]
- .4 [Filter fabric]
- .5 [Insulation]
- .6 [Overburden]
- .7 [Precast Pavers]
- .8 [Metal sleeve flashings]

#### 1.2 RELATED SECTIONS

**SPEC NOTE:** *Re 1.2. Limit the following listings only to sections that have a DIRECT affect on this section.*

- .1 Section [ \_\_\_\_\_ ] – Asphalt Concrete Paving: Traffic bearing surface course
- .2 Section [ \_\_\_\_\_ ] – Cast-In-Place Concrete: Concrete substrate [concrete traffic topping] [slope to drain]
- .3 Section [ \_\_\_\_\_ ] – Concrete Finishing
- .4 Section [ \_\_\_\_\_ ] – Structural Precast Concrete
- .5 Section [ \_\_\_\_\_ ] – Unit Masonry
- .6 Section [ \_\_\_\_\_ ] – Rough Carpentry: Wood nailers, curbs, cants
- .7 Section [ \_\_\_\_\_ ] – Air Barriers
- .8 Section [ \_\_\_\_\_ ] – Insulation: Rigid insulation cover
- .9 Section [ \_\_\_\_\_ ] – Sheet Metal Flashing and Trim: Counter flashings
- .10 Section [ \_\_\_\_\_ ] – Joint Sealants: Sealants and application for waterproofing
- .11 Section [ \_\_\_\_\_ ] – Plumbing Specialties: Deck / Area drains

#### SUBMITTALS

- 1.3 Product Data: Provide data on material characteristics, performance characteristics, limitations and independent water vapour transmission test data.

#### 1.4 QUALIFICATIONS

Applicator: Company specializing in performing work of this section approved by membrane material manufacturer.

#### 1.5 MOCK-UP

**SPEC NOTE:** *Use 1.5 when specifying full sized erected assemblies required for review of construction, coordination of work of several sections, site testing, education of specific trades involved, or observation of installation.*

- .1 Provide mock-up of materials under provisions of Section [01340].
- .2 Construct typical [exterior wall sample panel], [ \_\_\_\_\_ ] m long by [ \_\_\_\_\_ ] m wide, incorporating penetration seals [and junction with air barrier], illustrating materials interface and seals.
- .3 Locate [where directed].
- .4 Mock-up may [not] remain as part of the work.
- .5 Allow [24] h for inspection of mock-up by [Consultant] before proceeding with [waterproofing] work.

#### 1.6 PRE-INSTALLATION CONFERENCE

- .1 Convene [one week] prior to commencing work of this section, under provisions of Section [01040].
- .2 Ensure attendance of representatives from inspection company, manufacturer and applicator, and parties directly affecting the work of this section.
- .3 Review conditions of installation, installation procedures, and coordination with related work. Establish manufacturer's requirements for approval of substrate.

## 1.7 ENVIRONMENTAL REQUIREMENTS

- .1 Ensure application temperature and humidity recommended by material manufacturer is maintained before, during and after installation.
- .2 Provide forced air circulation or adequate natural ventilation during installation and curing periods for enclosed application.
- .3 Do not expose materials vulnerable to water or sun damage in quantities greater than can be installed the same day.
- .4 Install [waterproofing] on dry surfaces, free of snow and ice and during weather that will not introduce moisture into waterproofing system.

## 1.8 SEQUENCE

- .1 Sequence work under the provisions of Section [ \_\_\_\_\_ ].
- .2 Sequence work to permit installation of materials in conjunction with related materials and seals.

## 1.9 CO-ORDINATION

- .1 Co-ordinate work of this section with all sections referencing this section.

## 2 Products

### 2.1 MATERIAL

- .1 Waterproofing Membrane: Rub-R-Wall liquid applied 100% rubber copolymer membrane having a water vapour permeance of 0.21 perms when tested to ASTM E96, nominal total thickness [of 1 mm (40 mils)] [as indicated on the drawings], manufactured by Advanced Coatings Inc. (800-787-8059) in accordance with physical properties as stated in manufacturer's literature.
- .2 Primer: Wet Prime cold-sprayed, low viscosity primer as manufactured by Advanced Coatings Inc.
- .3 Substrate Filler: Rub-R-Wall Mastic, trowel grade heavy-bodied rubber mastic as manufactured by Advanced Coatings Inc.
- .4 Joint and Crack Reinforcement Strip: Rub-R-Wall SA, a composite sheet composed of rubberized asphalt integrally bonded to a film of high density cross laminated polyethylene, nominal 1.0 mm (40 mils) thickness, width as required, manufactured by Advanced Coatings Inc.
- .5 Protection Board: Reinforced high-density polyethylene cross-laminated sheeting.
- .6 Protection Board: Dow Protection Board 111, 6.35 mm (1/4") extruded polystyrene foam insulation.
- .7 Protection Board: Wrap-N-Drain "X" , Dimpled, High Density Polypropylene (HDPE) sheet barrier providing a continuous air gap of approximately 3/8" between foundation walls and backfill.
- .8 Protection Board : Geo-Wrap prefabricated composite drainage system, a three dimensional polymeric core drain board with a non-woven geo-textile fabric fully bonded to the top dimples of the core. compressive strength 250 kN/m<sup>2</sup> .
- .9 Protection Board: Dow Styrofoam PERIMATE Insulation Drainage Media, 53 mm (2.1" ) (R-10) or 62.5 mm (2.5" ) (R-12) extruded polystyrene foam insulation, Class A, Type 2 Drainage Product, Can/ULC S701-97 Type 4.
- .10 Insulation: CAN/CGSB-51.20, Type IV, Type III, extruded, foamed poly, rigid board, [square] [shiplapped] edges or approved equal.
- .11 Gravel for [Drainage Layer] [Setting Bed]: Stone [19 to 32 mm (3/4" to 1-1.4")] size, well graded crushed stone, opaque, non-porous, washed, free from fines, long splinters, moisture, ice and snow.

### 2.2 ACCESSORIES

- .1 Backer Rod: Extruded, round, closed cell, heat resistant foam rod, 50% wider than joint, and as recommended by membrane manufacturer.
- .2 Fasteners: For poured concrete and concrete block use 1 1/4" concrete nails, non-corrosive self-tapping screws for ICF Forms.
- .3 Paver Pedestals: Elevated [neoprene] [high-density polyethylene] pedestals with leveling plates and integral spacer ribs on upper surface, [ \_\_\_\_\_ ] model manufactured by [ \_\_\_\_\_ ].
- .4 Joint Sealers:
  1. Traffic Bearing Type [Silicone] [Polyurethane] type, colour [ \_\_\_\_\_ ], as recommended by membrane manufacturer.[OR]
  2. Traffic Bearing Type: In accordance with Section [07900 – Joint Sealers].
  3. Non Traffic Bearing Type for substrate Joints: [ \_\_\_\_\_ ], as recommended by membrane manufacturer.

### **3 Execution**

#### **3.1 EXAMINATION**

- .1 Verify that surfaces and condition are suitable prior to commencing work of this section.
- .2 Ensure that:
  1. Surfaces are sound, dry, even and free of oil, grease, dirt, excess mortar or other contaminants.
  2. Concrete surfaces are cured and dry, smooth and without large voids, spalled areas or sharp protrusions.
  3. Masonry joints are flush and completely filled with mortar.
  4. Verify that all penetrations, sleeves, etc. are properly placed and secure.

#### **3.2 PROTECTION**

- .1 Protect adjacent work of other sections from splash, spray or spillage.
- .2 Ensure drains, sleeves, vents, pipes and other items passing through substrates to be waterproofed are properly and rigidly installed.
- .3 Commencement of installation implies acceptance of [site conditions], [surfaces], [substrate].

#### **3.3 PREPARATION – GENERAL**

- .1 Remove loose or foreign material such as grease, frost, paint, form oil or other material which might impair adhesion of materials.
- .2 Fill any voids with mastic substrate filler.  
*SPEC NOTE: Check if project requires treatment of cracks, surface defects, and joints. Co-ordinate articles 3.3, 3.4 accordingly. For cracks and joints more than 3 mm in width, please call manufacturer.*
- .3 Repair defects which will impair adhesion and performance of [waterproofing].
- .4 Reinforce cracks 0 to 3 mm (1/8") wide with layer of Rub-R-Wall SA min. 300 mm (12") wide centered over the crack.

#### **3.4 PREPARATION – CONCRETE DECK**

- .1 Fill cracks, rivulets, holes and depressions larger than 3 mm with substrate filler, in accordance with manufacturer's instructions.
- .2 Grind smooth fish tails, sharp projections and spills from other pours.
- .3 Light sandblast of blast track finish concrete surfaces to remove laitance, curing compounds and sealers.
- .4 If necessary apply primer to damp substrates at a rate as recommended by membrane manufacturer. Allow primer to dry.

#### **3.5 MEMBRANE APPLICATION**

- .1 Apply membrane and reinforcing in accordance with manufacturer's instructions. Ensure full bond of membrane to substrate.
- .2 Apply membrane within recommended application temperature ranges. Consult manufacturer when membrane cannot be applied within these temperature ranges.
- .3 Using airless spray equipment having a minimum pressure of 20 684 kPa (3000 psi), apply waterproofing membrane in multiple, uniform passes to provide seamless, monolithic cured membrane thickness of 1mm (40mils) as determined by a standard gauge.
- .4 Complete application of membrane over vertical and horizontal surfaces, including previously reinforced areas, at a rate of 2.3 to 2.8m<sup>2</sup>/4.5L (25 to 30 sq.ft./gal.) for poured concrete substrates [and 1.9 to 2.3m<sup>2</sup>/4.5L (20 to 25 sq.ft./gal.) for block walls]. Continue membrane up vertical surfaces 150 mm (6") where detailed.
- .5 For foundation walls, commence application at the top of footings, keeping the spray orifice 75 mm (3") away from the wall. Carry the membrane up the wall to a minimum height of 150 mm (6") above the final grade line or previously determined height.
- .6 Ensure water tight seal at items penetrating membrane.
- .7 Ensure continuity of building envelope air barrier.
- .8 Upon completion of application, after allowing a cure time of approximately 20 minutes, depending on temperature and humidity, and while membrane is still tacky, adhere protection board [and/or insulation]. Take care to ensure proper initial placement. Do not overlap protection board.
- .9 Do not commence backfill sooner than 24 hours after membrane application. Ensure that backfill material is free of debris, organic material, boulders, rocks, concrete block debris or any other deleterious material considered unsuitable fill.  
*SPEC NOTE: Add, as necessary, clauses pertaining to installation of insulation and filter fabric, metal flashings or other items as determined by job conditions.*

3.6 FIELD QUALITY CONTROL

- .1 An independent inspection and testing company appointed [and paid for by the owner] [under Cash Allowance specified in Section 01020] [will carry out inspection and testing in accordance with the General Conditions] [and Section \_\_\_\_\_].

3.7 CLEANING

- .1 Clean work in accordance with Section [\_\_\_\_\_].
- .2 Clean to the Consultant's approval, soiled surfaces, spatters, and damage caused by work of this Section.
- .3 Check drains to ensure cleanliness and proper function, and remove debris, equipment and excess material from the site.

3.8 PROTECTION OF FINISHED WORK

- .1 Protect the finished work under provisions of Section [\_\_\_\_\_] – [\_\_\_\_\_].
- .2 Do not permit adjacent work to damage work of this section.