

ITEM 595.50 18 – SHEET-APPLIED WATERPROOFING MEMBRANE

DESCRIPTION

Furnish and install a manually or machine-applied sheet waterproofing membrane in accordance with the contract documents. Include all surface preparation.

MATERIALS

Use a sheet-applied waterproofing membrane meeting the requirements of §717-02.

CONSTRUCTION DETAILS

General - On new structural concrete, the provisions of §557-3.11, Curing, shall be met prior to membrane system placement. Work will not be done during wet-weather conditions. No work will be done when the concrete structural slab surface temperature is below 10°C, or ambient temperatures are below 10°C. The concrete structural slab shall be surface dry at the time of application of the membrane. The Engineer will verify that atmospheric conditions are favorable for placement of the system based on the manufacturer's recommendations.

Arrange for the membrane manufacturer to have a competent technical representative at the job site during all phases of preparation and installation.

Supply Material Safety Data Sheets (MSDS) and approved Material Detail Sheets prepared by the membrane manufacturer to the Engineer a minimum of two (2) weeks prior to the scheduled commencement of work. The Material Detail Sheets will contain all material requirements and installation information for each specific waterproofing membrane. The Material Detail Sheets will be accessible at the Department's Approved List website for reference.

(Bridge Decks) – Begin work no less than (7) calendar days after placement of Portland cement concrete, Portland cement mortar, or epoxy mortar for structural concrete repair. The Engineer may waive the seven-day requirement if the areas of repair can sustain loads without damage or deformation. Subject to the concurrence of the Engineer, if an alternate concrete repair material is used, follow the manufacturer's instructions for allowable loading.

(Culverts) - Fill the joints between precast culvert sections flush to the culvert slab and sidewall surfaces with a grout conforming to §701-08 Vertical and Overhead Patching Material. In areas where the joints do not line up evenly, taper the grout with a maximum slope of 2:1, from the high side of the joint to the low side, to provide a smooth transition from one unit to the next.

Place the waterproofing membrane over the joints of precast or cast-in-place units following the guidelines of Chapter 19 of the Highway Design Manual, or as indicated on the contract plans and Material Detail Sheets.

Membrane Protection (Culverts) – To protect the waterproofing membrane from punctures, the following procedures will be used:

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1. On vertical surfaces, the waterproofing membrane will be covered with material conforming to §705-07 Premoulded Resilient Joint Filler.
2. On horizontal surfaces,
 - a. If select granular fill is specified over the culvert, a 150-mm thick protective layer of concrete sand, meeting the requirements of §703-07 Concrete Sand, will be placed on the membrane.

Or

- b. If asphalt pavement using aggregate larger than 9.5 mm is specified directly above the membrane, or if clearances don't allow for 150 mm of concrete sand, a 25-mm thick (minimum) course of 9.5-mm F9 Superpave HMA will be placed on top of the membrane. The hot mix asphalt will be thoroughly compacted with mechanical tampers.

METHOD OF MEASUREMENT

This work will be measured as the number of square meters of sheet-applied, waterproofing membrane satisfactorily installed (measured to the nearest 0.1 sqm). No separate measurement of the vertical faces of curbs, joints, concrete barriers, headers, scuppers, or for the inside surfaces of subdrainage outlets, shall be made. No deductions will be made for holes less than 0.1 square meter in area.

BASIS OF PAYMENT

The unit price bid per square meter for this item shall include the cost of furnishing all labor, materials, and equipment necessary to complete the work.

No additional payments will be made for any repriming done in conformance with the requirements of the manufacturer's detail sheets.