

SECTION 7.07
MEMBRANE WATERPROOFING
(WOVEN GLASS FABRIC)

7.07.01--Description: This item shall consist of furnishing and applying a membrane system of waterproofing to the surface of concrete structures where a bituminous concrete wearing surface is to be constructed, at construction joints and at other locations shown on the plans or ordered.

7.07.02--Materials: The materials for this work shall conform to the requirements of Article M.12.04 for primer, woven glass fabric saturated with asphalt, seal coat, and for asphalt flashing cement.

7.07.03--Construction Methods: Concrete surfaces which are to be waterproofed shall be smooth, free from projections or holes which might cause puncturing of the membrane fabric. The surface shall be thoroughly cleaned of loose or foreign substances.

No priming or waterproofing shall be done in wet weather nor when the temperature of the air or concrete surface is below 2° C, without special authorization from the Engineer.

Unless otherwise directed, construction joints above those at the footings of abutments, wing walls and retaining walls shall be made impervious to water by the application of membrane waterproofing on the unexposed surface for a distance of 450 mm on each side of the joint.

1--Primer: Beginning at the low point of the surface to be waterproofed, the primer shall be applied in one coat at a rate of 0.45 L/m². The cure time of the primer shall be as recommended by the manufacturer.

2--Membrane Fabric: The waterproofing fabric and the seal coat shall be applied as follows:

The asphalt shall be heated to a temperature of about 150° C (not over 175° C) with frequent stirring to avoid local overheating. The heating kettles shall be equipped with approved thermometers.

Waterproofing shall begin at the low point of the surface so that water will run over and not against or along the laps. A section about 500 mm wide and the full length of the surface shall be mopped with hot asphalt, and a strip of fabric of half width shall be rolled into it, pressed into place to eliminate all air bubbles and to obtain close conformity with the surface. This strip and an adjacent section of the surface of a width equal to slightly more than half the width of the fabric being used, shall then be mopped with hot asphalt, and a full width of fabric rolled into it, completely covering the first strip, and pressed into place as before. This second strip and adjacent section of the concrete surface shall then be mopped with hot asphalt and the next succeeding strips of fabric "shingled" on so that there will be two layers of fabric at all points with laps not less than 50 mm wide. All end laps shall be at least 300 mm.

This process shall be continued until the entire surface to be waterproofed has been covered. The fabric shall then be given a final mopping of hot asphalt. The mopping on concrete shall cover the surface so that no gray spots appear, and on fabric it shall be sufficiently heavy to completely conceal the weave. Special care shall be taken that all laps are thoroughly sealed down.

To insure a watertight joint between the bridge deck and the curb, asphalt flashing cement shall be applied to the joint for a distance of approximately 50 mm up on the curb and 50 mm out on the deck after the primer has set up and before the membrane is started. After the final mopping of the membrane, an additional coat of asphalt flashing cement shall be applied to the top edge of the membrane waterproofing to completely cover the fabric and to seal the joint made with the curb.

Care shall be taken to prevent injury to the finished membrane by the passage over it of men and equipment. Any damage which may occur shall be repaired by patching. Patches shall extend at least 300 mm beyond the outermost damaged portion, and the second ply shall extend at least 75 mm beyond the first.

Vehicular traffic shall not be allowed to pass over the finished membrane waterproofing. Upon completion of the membrane waterproofing, at least one course of the bituminous concrete wearing surface shall be placed as soon as practicable in order to prevent damage to the membrane waterproofing.

7.07.04--Method of Measurement: The quantity to be paid for under this item will be the number of square meters of waterproofed surface in the completed and accepted work.

7.07.05--Basis of Payment: This item will be paid for at the contract unit price per square meter for "Membrane Waterproofing (Woven Glass Fabric)" which price shall be full compensation for furnishing all material, equipment, labor and incidentals necessary to complete the item.

Pay Item	Pay Unit
Membrane Waterproofing (Woven Glass Fabric)	m ²