

### 503.10

#### 503.10-BASIS OF PAYMENT:

The quantity of work, as determined above, will be paid for at the contract unit price bid for the item below, which price and payment shall be full compensation for furnishing all the materials and doing all the work prescribed in a workmanlike and acceptable manner, including all the labor, tools, equipment, supplies and incidental necessary to complete the work.

#### 503.11-PAY ITEM:

ITEM	DESCRIPTION	UNIT
503001-*	SEALING JOINTS AND CRACKS	LINEAR FOOT (METER)
503006-*	SAW AND SEAL, HOTPOUR SEAL METHOD	LINEAR FOOT (METER)

\* Sequence Number

## SECTION 504 BITUMINOUS UNDERSEAL FOR CONCRETE PAVEMENT

#### 504.1-DESCRIPTION:

This work shall consist of drilling holes in portland cement concrete pavement at the locations shown on the Plans or where directed by the Engineer, pumping bituminous material through the holes, and sealing the holes with cement grout.

#### 504.2-MATERIALS:

The materials shall meet the requirements specified in the following Subsections of Division 700:

MATERIAL	SUBSECTION
Asphalt Cement	705.6
Portland Cement	701.1 & 701.3
*Fine Aggregate	702.1
Water	715.7

\* The use of limestone sand will not be permitted.

Grout for sealing holes shall consist of one part portland cement and three parts fine aggregate, mixed to the consistency directed by the Engineer.

## CONSTRUCTION METHODS

#### 504.3-GENERAL:

Holes of 1 ½ in. (40 mm) diameter shall be drilled through the concrete pavement at the locations shown on the Plans or as directed by the Engineer.

Bituminous material shall then be pumped through the holes and under the pavement by means of an approved type of pump.

Equipment for pumping shall be capable of developing a pressure of 80 lb. per sq. in. (550 kPa), the exact working pressure to be determined by the Engineer.

Prior to pumping, the surface of the concrete pavement around the previously drilled holes shall be thoroughly sprinkled with water or shall be covered with sand, earth or other suitable material in order to prevent any bitumen that may be spilled on the pavement from adhering to the surface. The nozzle shall then be inserted in the hole, driven to a snug fit, and pumping operations begun. Bituminous material shall be pumped through the holes and under the pavement until the voids under the pavement are completely filled, or the concrete pavement has been raised to the grade of existing adjacent pavement or to such grade as directed by the Engineer. At the first indication of an undesirable movement of the slab or a blowout, pumping shall immediately be discontinued. The connecting device placed in the drilled hole shall not be removed from the hole until the bitumen has cooled sufficiently to prevent backflow. At the time the bituminous material is pumped under the pavement, it shall have a temperature of not less than 400° F (205° C). The Contractor shall provide all necessary facilities for determining the temperature of the bituminous material in all heating equipment and distributors.

After completion of the pumping in each hole, all bituminous material shall be cleaned from the pavement surface and the drilled hole shall be filled with grout to an elevation flush with the pavement surface.

After the completion of subsealing operations, the pavement surface shall be left in a clean and neat condition satisfactory to the Engineer.

The bituminous material shall not be applied on a frozen subgrade, nor when the atmospheric temperature is below 40° F (5° C) and is falling, with the further provision that it shall be placed only when general weather conditions, in the opinion of the Engineer, are suitable.

#### **504.4-METHOD OF MEASUREMENT:**

The quantity of work done will be measured in gallons (liters) of "Bituminous Underseal Material" and in "Drilling Holes in Concrete Pavement" determined as follows: The quantity of "Bituminous Underseal Material" shall be the number of gallons (liters) incorporated in the completed and accepted work, which volume will be measured as prescribed in 109.1. The quantity of "Drilling Holes in Concrete Pavement" shall be the actual counted number of holes drilled and satisfactorily filled.

#### **504.5-BASIS OF PAYMENT:**

The quantities, determined as provided above, will be paid for at the contract unit prices bid for the items listed below, which prices and payments shall be full compensation for furnishing all the materials, including grout, and doing all the work prescribed in a workmanlike and acceptable manner, including all labor, tools, equipment, supplies and incidentals necessary to

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complete the work.

**504.6-PAY ITEMS:**

<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>
504001-*	BITUMINOUS UNDERSEAL MATERIAL	GALLON (LITER)
504002-*	DRILLING HOLES IN CONCRETE PAVEMENT	EACH

\* Sequence Number

**505 –BLANK****SECTION 506**

**CONCRETE PAVEMENT REPAIR AND  
HIGH EARLY STRENGTH CONCRETE PAVEMENT  
REPAIR**

**506.1-DESCRIPTION:**

This work shall consist of the removal and replacement of deteriorated concrete pavement and patches at locations as shown on plans or as specified by the Engineer. This work shall conform to the requirements of Section 601 except as modified herein.

**506.2-MATERIALS:**

Materials shall meet the provisions of 601.2.

Epoxy-coated dowel bars shall meet the requirements of Section 709.15.

Water reducer-accelerating admixtures shall meet the requirements of AASHTO M 194 Type E.

**506.3-PROPORTIONING:**

**506.3.1-Concrete Pavement Repair:** When Item 506001-\* is specified, the concrete produced shall meet the requirements of Class B Concrete as specified in Section 601.

**506.3.2-High Early Strength Concrete Pavement Repair:** When Item 506002-\* is specified, the concrete shall have a design compressive strength of 2000 psi at age 6 hours and shall have an entrained air content of  $7\% \pm 2.5\%$ .

**506.4-OPENING PAVEMENT TO TRAFFIC:**

When the strength of concrete specimens representing the concrete placed indicate that the concrete has attained a strength of 2000 psi, that concrete represented by the specimens may be put into service.

**506.5-EQUIPMENT AND TOOLS:**

All provisions of 501.5, Equipment and Tools, shall apply.