

SECTION 507

PORTLAND CEMENT CONCRETE PAVEMENT PATCHING

507.01 Description. This item shall consist of removing and replacing portland cement concrete pavement at the locations designated on the plans or where directed by the Engineer.

507.02 Materials. The materials and proportions for concrete patching shall comply with the applicable requirements of Sections 501 and 502, except that the mixed concrete shall have a maximum slump of 100 mm (4"). Mix designs shall be performed by the Contractor in accordance with Subsection 501.03. Quality control and acceptance testing shall be according to Subsection 501.04, except that compressive strength will be determined by cylinders obtained according to AASHTO T23 and that coring will not be required to determine pavement thickness. Thickness will be determined immediately prior to placing the concrete for the pavement patch.

Materials for securing tie bars and dowel bars shall be listed on the QPL.

507.03 Construction Requirements. The construction requirements for Removal and Disposal of Concrete Pavement shall comply with subsection 202.03 and the following:

The existing pavement to be removed shall be sawed the full depth of the slab as shown on the plans. If necessary and approved by the Engineer, one additional cut may be made to facilitate removal. Overcutting beyond the limits of the area to be removed shall be held to a minimum. All overcuts shall be thoroughly cleaned of saw slurry and other contaminants and completely filled with a low viscosity epoxy compound.

After sawing, the pavement to be removed shall be carefully lifted out in a manner that will not damage the existing pavement that is to remain or the existing base material. Any damage shall be repaired to the satisfaction of the Engineer at no cost to the Department. The material removed shall be placed in locations that will not cause a hazard to motorists and shall be removed from the project site by the end of each day's work.

Before placing the patch, any loose base material shall be removed. If the existing base material is granular, it shall be recompact as necessary.

The Contractor shall take all precautions necessary to ensure that the base material remains dry until the new concrete is placed.

The construction methods for Portland Cement Concrete Pavement Patching shall comply with subsections 501.05 and 503.04 and the following:

(a) Installation of Dowel Bars and Tie Bars. Dowel bars and tie bars shall be installed according to details included on the plans. Drills used to make holes shall be held in a rigid frame to assure proper horizontal and vertical alignment. The equipment shall be operated so as to prevent damage to the pavement being drilled. The drilling procedure shall be approved by the Engineer. When using the epoxy or polyester resin system, the bars shall be installed according to information provided by the manufacturer. To secure the bars, special care must be taken to ensure that the filling system completely surrounds the bars and fills the holes.

The filling system shall be an injection type system approved by the Engineer that will ensure that sufficient material is injected into the hole before the bar is inserted.

(b) Joints. Joints shall be constructed according to details shown on the plans. Joints that will require sawing and sealing shall be re-established as soon as possible to prevent random cracking.

(c) Patches. The initial areas to be patched will be marked by the Engineer. If there are subsequent pavement or patch failures in the initial patching phase, not due to the Contractor's negligence, they shall be repaired and will be paid for under the appropriate bid item. At this time, the item of patching will be considered to be completed.

Completed patches, and areas of the existing pavement adjacent to a completed patch, that are found to contain cracks or other damage due to Contractor negligence shall be removed and replaced at no cost to the Department.

(d) Equipment. Hand methods of spreading, consolidating, and finishing will be permitted, provided that satisfactory results are obtained.

507.04 Method of Measurement. Removal and Disposal of Concrete Pavement and Portland Cement Concrete Pavement Patching will be measured by the square meter (square yard).

507.05 Basis of Payment. (a) Removal and Disposal of Concrete Pavement for Patching. Work completed and accepted and measured as provided above will be paid for at the contract unit price bid per square meter (square yard) for Removal and Disposal of Concrete Pavement for Patching, which price shall be full compensation for sawing, removing, and satisfactorily disposing of the concrete pavement and any underlying base material as directed; for cleaning and filling all overcuts; and for all labor, equipment, tools, and incidentals necessary to complete the work.

(b) Portland Cement Concrete Pavement Patching. Work completed and accepted and measured as provided above will be paid for at the contract unit price bid per square meter (square yard) for Portland Cement Concrete Pavement Patching of the thickness specified, which price shall be full compensation for preparing the existing base material; for furnishing, transporting, and placing materials, including reinforcing steel for pavement, tie bars, dowel bars, and materials for anchoring tie bars and dowel bars; for preparation and processing of materials; for mixing, spreading, vibrating, finishing, and curing concrete; for performing mix designs and quality control and acceptance sampling and testing; and for all labor, equipment, tools, and incidentals necessary to complete the work.

Adjustment for Additional Thickness. Where the thickness of Portland Cement Concrete Pavement Patching is in excess of the specified uniform thickness (U.T.) plus 25 mm (1"), payment will be made for the percentage in excess of this amount. Payment will be made as follows:

Avg.Depth - (Spec. U.T.+25 mm)
----- X Normal sq m = Add'l. sq m
Specified U.T.

OR

Avg.Depth - (Spec. U.T.+1")
----- X Normal S.Y. = Add'l. S.Y.
Specified U.T.

(c) Joints. When Joint Rehabilitation under Section 509 is included as a pay item in the Contract, joints in concrete pavement

patches will be measured and paid for under Section 509. When Joint Rehabilitation under Section 509 is not included as a pay item in the Contract, sawing and sealing of joints in concrete pavement patches will not be paid for separately, but full compensation therefor will be considered included in the contract unit price bid for PCCP Patching.

Payment will be made under:

Pay Item	Pay Unit
Removal and Disposal of Concrete Pavement for Patching	Square Meter (Square Yard)
Portland Cement Concrete Pavement Patching (___mm [___"]Uniform Thickness)	Square Meter (Square Yard)