

**SUPERSEDED BY EB 01-017
EFFECTIVE 7/5/01**

ENGINEERING INSTRUCTION

NEW YORK STATE DEPARTMENT OF TRANSPORTATION

**SUBJECT: Repair of Spalled Areas ,
Joints and/or Cracks in PCC Pavement**

Subject Code: 727-3-18502.4467

Distribution: 30 Main Office 32 Regions 34 Specials

Code: EI 93- 28

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Supersedes:

Revises EI 92-26 pg. 8 of 20

APPROVED:



J.R. LAMBERT, Deputy Chief Engineer, Facilities Design Division

This Engineering Instruction transmits Item 18502.4467 entitled "Repair of Spalled Areas, Joints and/or Cracks in Portland Cement Concrete Pavement" and disapproves Items 02502.2587, 10502.2588, 18502.4466, 08502.4466 and 10502.4466. The transmitted specification establishes a minimum patch size. In addition, it provides a uniform statewide specification to resolve the differences between the various regional specifications.

The basic problem being addressed is that the minimum width milling machine commonly available to contractors is 12 inches. Therefore the only way the contractor could create a recess with a narrower dimension would be by removing teeth from the mandrel of the milling machine or by using chipping hammers. Either of these alternatives lowers production rates and increases the unit cost of the item. When confronted with this situation, contractors usually have opted to use the fully equipped 12 inch mandrel sacrificing payment for production and adjusting unit price bid accordingly.

Therefore the decision has been made to require a least dimension for the repair of 12 inches. The proposed revision will benefit the Department as well as the contractor by minimizing disputes and providing for slightly better compaction. It is anticipated that there will be no change in cost or perhaps a slight reduction in cost to the Department.

The designer should detail on the plans the location and extent of all material to be removed by the contractor as determined by a detailed on-site inspection. The designer should also note that the actual quantities may change during construction by order of the E.I.C.

If you have any questions, please contact Mike Brinkman of the Materials Bureau, Field Engineering I unit at (518) 457-5956. This instruction takes effect with the letting of February 24, 1994. The attached specifications will be inserted into proposals by the Design Quality Assurance Bureau.

**ITEM 18502.4467 - REPAIR OF SPALLED AREAS, JOINTS AND/OR CRACKS
IN PORTLAND CEMENT CONCRETE PAVEMENT**

DESCRIPTION: This work shall consist of removing cracked, spalled or delaminated concrete and/or existing asphalt patches and/or overlays at spalled areas, longitudinal joints, transverse joints and cracks. This work shall be done at the locations and to the dimensions indicated on the plans or where directed by the Engineer. However, in no instance shall the smallest dimension be less than 12 inches. The excavated area is to be cleaned and tack coated, and filled with asphalt concrete.

MATERIALS: The materials shall meet the requirements of the following sections:

Asphalt Emulsion Tack Coat 702-90
Hot Mix Asphalt Concrete (Type 1, 3, 6 or 7)

CONSTRUCTION DETAILS: The contractor shall schedule his work to insure that removal and replacement at each location will be completed within the time allotted for closing of traffic lanes found under the requirements for maintenance of traffic.

Material may be removed by a milling machine, powered rotary rock or concrete cutter, chipping hammer weighing not more than forty pounds, or other means approved by the Engineer. If a milling machine is used, it shall be equipped with a means to control dust and other particulate matter. The cutting device shall be capable of producing a finished depth within ¼ inch of the dimensions specified. The removal operation shall be performed in such a manner that the milled area is immediately cleaned of all loose material and dust, without producing objectional dust. The patch limits shall be extended beyond the detected delaminated or spalled area by 3 to 4 inches to assure removal of all unsound concrete. Power brooms shall be equipped with dust control devices.

Portland cement concrete and/or asphalt concrete patches which are loose, cracked, and/or delaminated adjacent to or in the spalled areas, joints and/or cracks shall be removed to 3.5 inches below the existing concrete pavement surface. Deteriorated portland cement concrete and/or asphalt concrete patches below this depth shall be cleaned and repaired as ordered by the Engineer. Excavated sides shall be nearly vertical. All reinforcing, joint supports, etc. encountered during removal of deteriorated concrete shall be cut flush, removed and disposed of by the contractor.

All excavated material shall become the property of the Contractor and shall be disposed of in a manner approved by the Engineer.

Prior to tack coating, the excavated surface shall be cleaned of dust, dirt and loose material and dried. Tack coat or asphalt concrete repair shall be placed only when ambient and surface temperatures are above 45°F and exposed surfaces are dry.

All excavated surfaces shall be sprayed or painted with asphalt emulsion tack coat. Complete coverage and uniform coating shall be obtained.

The asphalt concrete shall be placed and compacted in the prepared hole. Holes that cross an existing joint shall be filled across the joint, new joints do not have to be formed.

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Asphalt concrete shall be kept hot until placed, using insulated units or other means. No asphalt concrete shall be placed if its temperature is below 250°F.

The asphalt concrete shall be thoroughly compacted with a small vibratory roller approved by the Engineer. The asphalt concrete shall be overfilled slightly for compaction and to prevent bridging the roller. ~~The resulting patch shall be dense, smooth and no more than 3/8"~~ above the existing surface.

METHOD OF MEASUREMENT: The quantity to be measured under this item shall be the actual number of square feet of existing pavement repaired as specified.

BASIS OF PAYMENT: The unit price bid per square foot shall include the cost of furnishing all labor, materials, and equipment necessary to complete the work including the asphalt concrete.