

**KANSAS DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION TO THE
STANDARD SPECIFICATIONS, EDITION OF 1990**

NOTE: This special provision is generally written in the imperative mood. The subject, "the *Contractor*" is implied. Also implied in this language are "*shall*", "*shall be*", or similar words and phrases. The word "*will*" generally pertains to decisions or actions of the Kansas Department of Transportation.

Create a new Section in DIVISION 800:

DIVISION 800

**DOWEL BAR RETROFIT
(Existing Portland Cement Concrete Pavement)**

1.0 DESCRIPTION.

Retrofit the existing PCCP with epoxy-coated steel dowel bars as shown in the Contract documents.

BID ITEM	UNIT
Dowel Bar Retrofit (38 mm x 450 mm)	Each

2.0 MATERIALS.

a. Epoxy-Coated Dowel Bars. Provide epoxy-coated (coated on all surfaces, including the ends) steel dowel bars that conform to the requirements of **Section 1600**.

Provide a tight fitting nonmetallic expansion cap on one end of the dowel bars. The Engineer must approve the expansion cap before it is used.

Provide epoxy-coated or nonmetallic chair devices to support and hold the dowel bars. The Engineer must approve the chair devices before they are used.

b. Bondbreaker for Dowel Bars. Provide a bondbreaker that conforms to the requirements of Special Provision 90M-217(latest revision).

c. Caulking Filler. Provide a silicone sealant caulking filler intended for filling cracks in PCCP. The Engineer must approve the caulking filler before it is used.

d. Board Filler. Provide a closed-cell foam core board filler (12 mm thick) faced with poster board material on each side. The Engineer must approve the board filler before it is used.

e. Grout. Provide a product that complies with Special Provision 90M-252 and is prequalified as “very rapid hardening” when extended. The grout may be extended as the manufacturer recommends (maximum aggregate size is 9 mm). All extender aggregate used on Contracts must be from a source that has a current Official Quality approval status for Mixed Aggregate per **Subsection 1102**.

f. Liquid Membrane-Forming Compound. Provide a liquid membrane-forming compound that conforms to the requirements of **Section 1400**.

3.0 CONSTRUCTION REQUIREMENTS.

Cut slots for the dowel bars into the existing PCCP at the locations shown in the Contract documents. Use a gang saw capable of simultaneously cutting all the slots at one location (one wheel path). Make the slots large enough to provide the minimum clearances shown in the Contract documents. If necessary, make multiple parallel saw cuts to remove the existing concrete from the slot.

If jackhammers are used to break the concrete loose, do not use jackhammers larger than the nominal 14 kg class.

Sandblast and clean all surfaces of the slot. Sandblast and clean all cracks in the slot. Remove all broken concrete and debris from the project.

Fill the transverse crack in the bottom and sides of the slot with caulking filler. Prevent the caulking filler from contacting the surfaces outside the crack.

Before the dowel bar is placed in the slot, cut a piece of the board filler material to fit tightly around the dowel bar and against the bottom and sides of the slot. Place the board filler material vertically above the transverse crack in the bottom of the slot. Keep the board filler material in this position during placement of the grout.

Use chair devices to position and hold the dowel bars parallel (± 6 mm) to the pavement centerline and the pavement surface, and at the depth shown in the Contract documents. Coat the dowel bars with an approved bondbreaker before the grout is placed.

Place and consolidate the grout as recommended by the manufacturer. Cure the surface of the grouted slots with a liquid membrane-forming compound.

The extended grout must obtain a minimum of 13.79 Mpa compressive strength before the roadway can be opened to traffic, but no sooner than 2 hours.

Saw the transverse joint through the patched areas within 24 hours of the placement of the grout. Saw and seal the joint as shown in the Contract documents.

4.0 MEASUREMENT AND PAYMENT.

The Engineer will measure each dowel bar complete in place.

Payment for "Dowel Bar Retrofit" at the Contract unit price is full compensation for the specified work.

DOWEL PLACEMENT DETAILS

