

**STATE OF OHIO
DEPARTMENT OF TRANSPORTATION**

**SUPPLEMENTAL SPECIFICATION 801
CRACK AND JOINT CLEANING AND SEALING
WITH SILICONE SEALANT**

March 23, 1995

801.01	Description
801.02	Materials
801.03	Equipment
801.04	Construction
801.05	Method of Measurement
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801.01 Description. This work shall consist of sawing and cleaning existing transverse and longitudinal joints or routing and cleaning existing random cracks in portland cement concrete pavement and sealing the prepared cracks or joints with an approved one-part silicone sealant.

801.02 Materials.

The sealant shall be 705.02.

801.03 Equipment. Routing equipment, where required, shall be mechanical and power driven, capable of following the path of the cracks and of widening the cracks to the dimensions in Attachment A without causing spalling or damage to the adjacent concrete.

Sawing equipment, where required, shall be power driven (wet or dry) capable of sawing the sealant reservoir to the dimensions shown in Attachment A.

Water cleaning equipment shall be capable of delivering water with a pressure of 14MPa (2,000 psi) from a nozzle to the crack or joint being cleaned, to remove existing joint sealer, debris and loose material from the crack or joint.

Abrasive blast equipment shall be capable of removing the existing sealant, saw slurry, slit or other foreign material from the vertical face of the crack or joint the specified depth, leaving a clean, newly exposed concrete surface.

The sealant shall be installed with an applicator having a built-in grooving tool. The sealant shall be installed by pushing the seal ahead into the joint as opposed to pulling or dragging, to ensure complete adhesion to the sides of the joint. The silicone shall be tooled against the joint walls as it is pumped into the joint. separate tools for application

and grooving will not be permitted, unless it is demonstrated to the satisfaction of the Engineer that acceptable results can be produced.

Air compressors shall be capable of furnishing not less than 700 kPa (100 psi) air pressure at the nozzle. The compressor shall be equipped with traps that will maintain the compressed air free of oil and water

801.04 Construction.

General. Routing and sealing shall be considered only for cracks that are open wide enough to permit the entry of sealant or mechanical routing tools. Tightly closed cracks that do not show signs of spalling shall not be routed or sealed. Joints or cracks greater than 25 mm (1 inch) in width shall not be sealed.

Both vertical faces of the joint or cracks which are to receive the new sealant shall be completely free of dirt; dust; tar and asphalt; discoloration and stain; as well as any other forms of contamination, leaving a clean, dry, newly exposed concrete surface. Class I, III and V joints or cracks shall be cleaned by abrasive blasting to the bottom of the proposed sealant. Class I, III and V joints or cracks shall be cleaned by abrasive blasting to the bottom of the proposed sealant, Class II, IV and VI joints or cracks shall be cleaned by waterblasting and by abrasive blasting to the bottom of the proposed sealant. Joints or cracks cleaned by waterblasting shall be dry prior to abrasive blasting. Compressed air may be used in lieu of waterblasting to clean Class II cracks. Compressed air shall be used to remove the abrasive residue prior to sealing the joint and crack.

No sealant shall be placed unless the temperature of the air and the pavement is 5° C (40°F) or higher.

No traffic shall be allowed over the sealed joint until adequate curing has been accomplished.

Cracks and joints shall be dry and blown clean with compressed air prior to placing the backer rod and joint sealer. Cracks and joints shall be filled to the level shown in Attachment A.

Sealer material shall be handled and applied according to the manufacturer's recommendations.

The top of the freshly placed sealant shall be 6 ± 2 mm ($1/4 \pm 1/16$ inch) below the pavement surface. Sealant shall not be applied or spilled on the surface of the pavement.

The following classes of cracks and joints are detailed in Attachment A.

Class I Cracks. Random cracks which have an opening of less than 10 mm (3/8" inch) shall be routed to provide a sealer reservoir as shown in Attachment A. Sides of the sealer reservoir shall be near vertical and abrasive blasted clean.

Class II Cracks. Random cracks which have an opening of 10 mm (3/8" inch) or greater will not require routing. They shall be thoroughly cleaned with waterblasting or compressed air, followed by abrasive blasting to a nominal depth of 25 mm (one inch).

Class III Transverse Joints. Existing joints which have an opening of less than 10 mm (3/8 inch) shall be sawed (wet or dry) to provide a sealer reservoir as shown in Attachment A.

Class IV Transverse Joints. Existing joints which have an opening of 10 mm (3/8 inch) or greater will not require sawing. The existing joint sealer shall be removed by waterblasting or other methods approved by the Engineer, followed by abrasive blasting to a nominal depth of 25 mm (one inch).

Class V Longitudinal Joints. Existing joints which have an opening of less than 6 mm (1/4 inch) shall be sawed (wet or dry) to provide a sealer reservoir as shown in Attachment A and abrasive blasted clean.

Class VI Longitudinal Joints. Existing joints which have a joint opening a 6 mm (1/4 inch) or greater will not require sawing. The existing joint sealer shall be removed by water blasting or other methods approved by the Engineer, followed by abrasive blasting to a nominal depth of 25 mm (one inch).

801.05 Method of Measurement.

Class I cracks will be measured by the meter (linear foot) of cracks, routed, cleaned by abrasive blasting , sealed and accepted.

Class II cracks will be measured by the meter (linear foot) of cracks, cleaned by water and abrasive blasting, sealed and accepted.

Class III and V joints will be measured by the meter (linear foot) of joints, sawed, cleaned, by abrasive blasting, sealed and accepted.

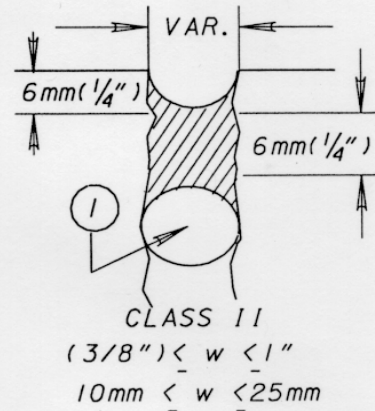
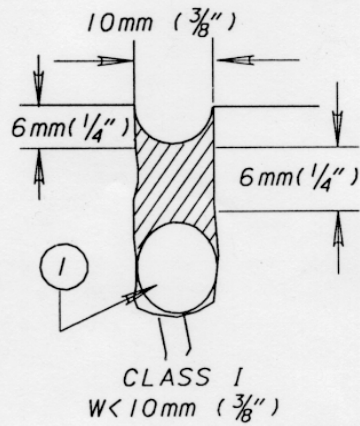
Class IV and VI joints will be measured by the meter (linear foot) of joints, cleaned by water and abrasive blasting, sealed and accepted.

801.06 **Basis of Payment.** Payment for accepted quantities will be made at the contract price for:

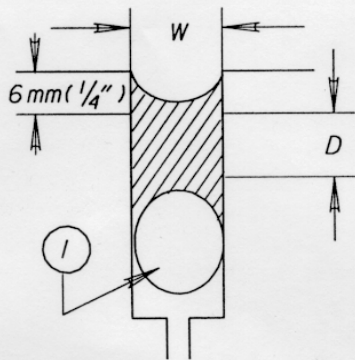
Item	Unit	Description
801	Meter (Linear foot)	Crack sealing, Class I, Silicone
801	Meter (Linear foot)	Crack sealing, Class II, Silicone
801	Meter (Linear foot)	Transverse joint sealing, Class III Silicone
801	Meter (Linear foot)	Transverse joint sealing, Class IV, Silicone
801	Meter (Linear foot)	Longitudinal joint sealing, Class V, Silicone
801	Meter (Linear foot)	Longitudinal joint sealing, Class VI, Silicone

SUPPLEMENTAL SPECIFICATION 801

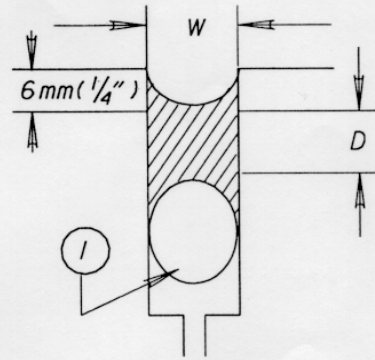
CRACK DETAILS



JOINT DETAILS



CLASS V LONGITUDINAL
 $W = 6\text{mm} \frac{1}{4}\text{'}$, $D = 6\text{mm} \frac{1}{4}\text{'}$



CLASS VI LONGITUDINAL
 $W > 6\text{mm} (\frac{1}{4}\text{'})$, $D = 6\text{mm} (\frac{1}{4}\text{'})$

① BACKER ROD, APPROXIMATELY 25% LARGER THAN CRACK OR JOINT

SILICONE SEALANT
 FOR
 CONCRETE PAVEMENT

