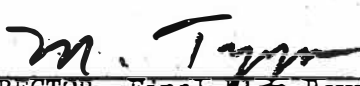


<b>TO:</b>  <b>SUPERSEDED BY EI 90-001</b> <b>EFFECTIVE 6/28/90</b>	<h1>ENGINEERING INSTRUCTION</h1> <p>NEW YORK STATE DEPARTMENT OF TRANSPORTATION</p>
<b>Distribution:</b> <input checked="" type="checkbox"/> Main Office <input checked="" type="checkbox"/> Regions <input checked="" type="checkbox"/> Special	<b>SUBJECT:</b> RESEALING TRANSVERSE JOINTS IN PORTLAND CEMENT CONCRETE PAVEMENT  Subject Code: 7.27-1-502
<b>APPROVED:</b>  M. TEGZA, DIRECTOR, Final Plan Review Bureau	Code: EI 85-28 Date: 5/1/85 Supersedes:

Attached is specification 18502.442010 - Resealing Transverse Joints in Portland Cement Concrete Pavement. This specification will replace the current silicone resealing specification 18502.442002. The current specification only allows the use of General Electric SCS 4403 silicone, while the new specification refers to the new approved list of silicone joint sealants.

At the present time two silicones appear on the Approved List. They are General Electric SCS 4403 and Dow Corning 888. The Dow Corning 888 Silicone may be substituted for General Electric 4403 on all contracts which contain specification 18502.442002.

As stated from EI 84-16, silicone sealants should be used to reseal joints which are less than 1 3/4 inches wide where the original preformed neoprene sealers have failed, and vertical slab movement, loss of load transfer and/or faulting is evident.

18502.442010 RESEALING TRANSVERSE JOINTS IN PORTLAND  
CEMENT CONCRETE PAVEMENT

DESCRIPTION: This work shall consist of cleaning and sealing transverse joints in existing portland cement concrete pavement. Joints not having adequate reservoir width or depth shall be sawed to suitable dimensions in accordance with this specification.

MATERIALS:

Joint Sealant: Sealant shall meet the requirements of the following:

Highway Joint Sealant (Type B): Sealant shall be a one part, low modulus silicone formulation that has dynamic movement capability of  $\pm 50\%$  of joint width. Primer shall be used in conjunction with the silicone sealant if required by the manufacturer.

Backer Rod Material: Backer rod material for Highway Joint Sealant Type B shall be closed cell polyethylene foam rod.

Backer rod diameter shall be such that when the material is placed in the joint reservoir, it will: support the sealant at its proper depth, prevent the sealant from leaking around and underneath it, and allow the sealant to deform freely when the joint expands and contracts.

BASIS OF ACCEPTANCE: Applications for approval of Silicone Joint Sealant shall be submitted to the Materials Bureau by the manufacturer accompanied by all pertinent sealer information. Upon approval by the Materials Bureau, the name of the product will be placed on an "approved list" of Silicone Joint Sealants. The product may then be accepted on the basis of the brand name labeled on the container and appearing on the current Approved List.

CONSTRUCTION DETAILS:

General: The Contractor shall seal transverse pavement joints in accordance with the requirements of this specification. Minimum required joint widths are listed in Table I. Transverse joint sealant dimensions and minimum required reservoir depths are contained in Table II.

Transverse joints that measure less than the minimum widths of TABLE I or have inadequate reservoir depths according to TABLE II shall be sawed to a suitable width and depth.

Seasonal and Temperature Limitations: Type B highway joint sealant shall not be placed when pavement or ambient temperatures fall below 40°F. When Type B sealant is placed prior to May 15 or after September 30, sealing shall cease whenever ambient temperatures exceed 65°F unless the joint openings are at least 5/8".

### Sawing of Joints:

Any transverse joint that does not exhibit adequate depth or width as listed in TABLES I and II shall be sawed to suitable dimensions in order that proper sealant dimension, sealant recess, and backer rod placement can be achieved. The Contractor shall determine joint reservoir depth and width by taking measurements from the top edge of the leave slab or dropped slab.

The existing joint dimensions, amount of slab faulting, amount of pavement grinding or slab jacking, and time of year joints are sealed, will determine the amount of joint sawing required.

Sawing of a transverse joint shall extend the width of a single lane or of multiple lanes when required. The sawing shall produce vertical and parallel joint faces the complete width of a lane.

Immediately after sawing the joint, the resulting slurry shall be completely removed from the joint and the immediate area by flushing with a jet of water under pressure and by the use of other tools as necessary.

Joint Preparation and Cleaning: Existing joint sealing material, asphalt, incompressibles and any other material present in the joint reservoir or adhering to the joint wall shall be removed by plow, router, wire brush, high pressure air or other suitable tools approved by the Engineer. The material and debris removed from the joint shall be removed from the pavement to prevent re-contamination of the joint.

After the joint has been prepared as specified above, both joint faces shall be thoroughly cleaned to the bottom of the joint reservoir by sand blasting. The operator of the sandblaster shall tip the nozzle of his equipment so that the blast material is directed against one wall at a time. The joint walls shall be thoroughly clean and indicate a uniform minor abrasion of the wall surface. All joints are to be sandblasted.

Immediately prior to the placement of the backup material and the sealant, the joints shall be blown with an air stream of sufficient power to remove any remaining blast sand, dirt and loose material. Suitable traps or devices shall be installed on the air equipment to prevent moisture and oil from contaminating the joint surfaces. The Contractor shall maintain these devices and see that they are functioning properly.

The Contractor shall be responsible for protecting traffic and property from hazard or damage during the joint cleaning operation. Materials and methods used for this purpose will be subject to the approval of the Engineer.

Sealing: The proper diameter and type of backer rod shall be installed in a manner that will produce the sealant dimensions specified. The joints must be thoroughly dry and clean at the time of sealing.

The primer for Type B sealant, if required by the manufacturer of the material, shall be applied to the joint faces in a thin film by brush or spray equipment. The primer shall completely wet the surfaces to be sealed and shall dry tack free prior to installation of the backer rod.

Type B sealant shall be pumped directly from plastic pails or drums by compressed air powered extrusion pumps designed for moisture curing silicone sealants. Teflon seals and packing and teflon lined hoses are recommended to prevent moisture permeation.

Sealant application nozzles should be designed so that sealant is applied within the confines of the joint slot. The sealant shall be applied so that it is held below the surface of the slab and completely fills the width of the joint.

Immediately after the sealant is applied, it shall be tooled to provide firm contact with the joint faces and to form the required recess below the slab surface.

Traffic may be allowed over the sealed areas within one hour of application when no noticeable rocking or slab deflection due to vehicle loads is expected. If vertical deflection is expected, the sealant shall be allowed to cure for a longer period of time, as ordered by the Engineer, to prevent displacement of the sealant by the backer rod and to develop stronger adhesion to the joint surface.

Type B sealant that becomes damaged or that is installed improperly shall be repaired. Damaged or deficient areas shall have the sealant removed, the surfaces properly cleaned, and new sealant installed to the satisfaction of the Engineer at the Contractor's expense.

METHOD OF MEASUREMENT: This work shall be measured by the number of linear feet of joints sealed.

BASIS OF PAYMENT: The unit price bid per linear foot shall include the cost of furnishing all labor, equipment, and materials necessary to complete the work as specified or as directed by the Engineer.

TABLE I

Sealing Dates	Minimum Width (W) For Sealing
May 15 to Sept. 30	5/8"
Prior to May 15 and After Sept. 30	4/8"

TABLE II

JOINT AND SEALANT DIMENSIONS FOR TYPE B SEALANTS

(W) Joint Width	d (Minimum) (in.)	a (in.)	b (in.)
4/8	1 2/8	1/4-3/8	1/4-3/8
5/8	1 3/8	1/4-3/8	1/4-3/8
6/8	1 5/8	3/8-4/8	1/4-3/8
7/8	1 6/8	3/8-4/8	3/8-1/2
1	1 7/8	3/8-4/8	3/8-1/2
1	1 7/8+	4/8-5/8	3/8-1/2

TRANSVERSE JOINT

