
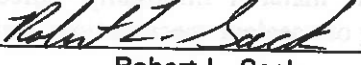


To: <b>SUPERSEDED BY</b> <u>EB 06-057</u> <b>EFFECTIVE</b> <u>5/3/07</u>		New York State Department of Transportation <b>ENGINEERING          INSTRUCTION</b>	<b>EI</b> <b>05-015</b>
<b>Title: 705-02 HIGHWAY JOINT SEALANTS</b>			
Distribution: <input checked="" type="checkbox"/> Manufacturers (18) <input type="checkbox"/> Surveyors (33) <input checked="" type="checkbox"/> Local Govt. (31) <input checked="" type="checkbox"/> Consultants (34) <input checked="" type="checkbox"/> Agencies (32) <input checked="" type="checkbox"/> Contractors (39) <input type="checkbox"/> _____ ( )	Approved:  Robert L. Sack, <u>27 Apr 05</u> Deputy Chief Engineer, Research      Date		

**ADMINISTRATIVE INFORMATION:**

- This Engineering Instruction (EI) is effective beginning with projects submitted for the letting of September 8, 2005.
- No issuances are superseded by this EI.
- The shelf notes transmitted by this EI will be incorporated into a future revision of the Standard Specifications.

**PURPOSE:** To create a new specification, and corresponding approved list, for Highway Joint Sealants. The creation of the new specification necessitates minor revisions to existing standard and special specifications identified below in "Implementation."

**TECHNICAL INFORMATION:** No new technical information is contained in this EI. There are no cost impacts.

**IMPLEMENTATION:**

- The Materials Bureau will test submitted sealants in accordance with ASTM D 6690 and generate a new Approved List entitled "Highway Joint Sealants (ASTM D 6690, Type IV)."
- The Design Quality Assurance Bureau (DQAB) will insert the transmitted shelf notes into contract proposals containing the following items:
  - 402.2502--18, Sawing and Sealing Joints in New Hot Mix Asphalt Overlays Using Hot Applied Sealant.
  - 402.7507XX18, Filling Shoulder Joint Between PCC Pavement and HMA Shoulder Using Fiber Reinforced P-G Binder or Hot Applied Sealant.
  - 402.7601--18, Routing, Cleaning and Sealing Cracks in Hot Mix Asphalt Pavements Using Hot Applied Sealant.
  - 402.7602--18, Cleaning and Sealing Cracks in Hot Mix Asphalt Pavements Using Hot Applied Sealant.
  - 502.9210, Sealing Transverse Contraction Joints – Highway Joint Sealant.
  - 502.9001--18, Clean and Fill Cracks and Joints in PCC Pavement, ASTM D6690, Type IV.

The minor revisions needed in these items have been made without further review. The revised specifications can be found in the Toolbox and on the Department's web site.

- Refer to *The Comprehensive Pavement Design Manual (CPDM)*, Chapter 10, Preventive Maintenance, for guidance on sealing (and routing and sealing) cracks and joints in hot mix asphalt pavements.
- New Specification: 705-02, Highway Joint Sealants.

**TRANSMITTED MATERIAL:** A shelf note revising Sections 502, Portland Cement Concrete Pavement, and 705, Joint Materials. A new specification, 705-02, Highway Joint Sealants, is included in the shelf note.

**BACKGROUND:** The Department has been using hot-applied joint and crack sealants meeting ASTM D 3405 in hot mix asphalt (HMA) pavements for many years. Historically, they have been an Approved List material

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tested in accordance with ASTM, but without an accompanying Department specification. In 2002, Standard Specification Section 502, Portland Cement Concrete (PCC) Pavement, initiated the use of these sealants in PCC pavement joints. Shortly thereafter, it was determined that "low-modulus modified D 3405" sealants are better suited for PCC pavements in cold weather environments. Even though these "modified D 3405" sealants were used in New York (and commonly across the nation), they never had approved list status nor an ASTM evaluation standard.

In 2002, ASTM issued D 6690, Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavement. ASTM D 6690, Type II, is material formerly meeting D 3405 and ASTM D 6690, Type IV, is material informally called "low-modulus modified D 3405." This EI and transmitted specification bring our sealant specifications and nomenclature in line with current ASTM standards.

**CONTACT:** For acceptance testing and HMA pavement applications, contact Guy Hildreth, Materials Bureau, at (518) 485-5431 or [ghildreth@dot.state.ny.us](mailto:ghildreth@dot.state.ny.us). For PCC pavement applications, contact Bill Cuerdon, Materials Bureau, at (518) 485-5278 or [wcuerdon@dot.state.ny.us](mailto:wcuerdon@dot.state.ny.us).

**SECTION 502 – PORTLAND CEMENT CONCRETE PAVEMENT**

Make the following changes to *Volume I of the Standard Specifications of January 2, 2002*, (amended by Engineering Instruction 04-019), Section 502 – Portland Cement Concrete Pavement:

**Page 5-18**

Under 502-2, Materials and Equipment, *delete* :

“Highway Joint Sealants

ASTM D 6690, Type IV”

and *insert*:

“Highway Joint Sealants (ASTM D 6690, Type IV)

705-02”

between:

“Anchoring Materials – Chemically Curing  
“Silicone Joint Sealants

701-07,” and  
705-05.”

**Page 5-19**

In Table 502-1 High-Early-Strength Concrete Mix Requirements, *insert* a new third row:

Property	Minimum	Desired	Maximum
Freeze-Thaw Loss (Test 502-3P, 3% NaCl)	-	0.0 %	3.0 %

**SECTION 705 – JOINT MATERIALS**

Make the following changes to *Volume III of the Standard Specifications of January 2, 2002*, Section 705 – Joint Materials:

**Page 7-46**

Under 705-02, *delete* “(Vacant)” and *insert* the following:

**“705-02 HIGHWAY JOINT SEALANTS**

**SCOPE.** Material requirements for hot-applied joint and crack sealants.

**MATERIAL REQUIREMENTS.** ASTM D 6690, Types II and/or IV, except the bond, non-immersed requirement for Type IV is 3 cycles at 100% extension at -29°C.

**SAMPLING AND TESTING.** Deliver sealant sampled, packaged, and marked in accordance with ASTM D 6690, to:

The New York State DOT Laboratories  
1220 Washington Avenue  
Albany, NY, 12206

Include the following information along with the sample:

- Manufacturer's address, telephone number, fax number, and e-mail address.
- Type (II or IV) for which testing is requested.

**BASIS OF ACCEPTANCE.** Highway joint sealants will be accepted at the contract based on the product name appearing on the appropriate Approved List entitled "Highway Joint Sealants (ASTM D 6690, Type II)" or "Highway Joint Sealants (ASTM D 6690, Type IV)" under "Joint Materials, Pavements."