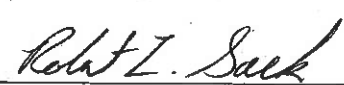


To: SUPERSEDED BY <u>EI 05-037</u> EFFECTIVE 09/07/06		New York State Department of Transportation ENGINEERING INSTRUCTION	EI 04-044
Title: REVISION TO STANDARD SPECIFICATION 711-08 ADMIXTURES			
Distribution: ☒ Manufacturers (18) ☐ Local Govt. (31) ☐ Agencies (32) ☐ Surveyors (33) ☐ Consultants (34) ☐ Contractors (39) ☐ _____ ()		Approved:  R. L. Sack, Deputy Chief Engineer Technical Services 16 DEC 04 Date	

ADMINISTRATIVE INFORMATION:

- This Engineering Instruction (EI) is effective with the lettings of May 5, 2005.
- This EI does not supersede any previous issuances.
- The revision transmitted by this EI will be incorporated into a future revision of the Standard Specifications.

PURPOSE: This EI transmits a revision to Volume III of the Standard Specifications of January 2, 2002, Section 711-08 ADMIXTURES.

TECHNICAL INFORMATION:

- The overall cost of portland cement concrete (PCC) will either remain the same or be slightly lower as a result of this change.
- The requirement for pH in Standard Specification 711-08 ADMIXTURES has been changed from a pH greater than 8 at all admixture dosages to a pH of 7 or greater for admixtures used at a maximum dosage of four liters or more per cubic meter. Admixtures used at a lesser dosage rate will not have a pH requirement.

IMPLEMENTATION: Beginning with projects submitted for the letting of May 5, 2005, the Design Quality Assurance Bureau (DQAB) will insert the shelf note into all contract proposals. DQAB will incorporate the transmitted revision into a future revision of the Standard Specifications. The Regional Materials Engineer may implement this change at their discretion on existing projects at no additional cost to the State.

TRANSMITTED MATERIALS: This EI transmits a shelf note which revises Volume III of the Standard Specifications, Section 711-08 ADMIXTURES.

BACKGROUND: The Standard Specifications of January 2, 2002, require that all concrete admixtures have a pH greater than 8. This requirement existed due to concerns that the use of admixtures with a pH lower than 8 would reduce the overall pH of the concrete. The pH of new concrete is approximately 12. This environment provides protection of reinforcement from corrosion. As the pH of a concrete decreases the risk of corrosion of reinforcement becomes greater.

Recent developments in admixture technology have led to the development of many new admixtures with a pH lower than 8. The revised requirements will allow the use of many of these new admixtures while making a limited number of admixtures unacceptable for use based on pH. A review of the affect of admixtures on the overall pH of the concrete determined that admixtures, particularly at lower dosage rates (less than 4 liters/cubic meter), had little affect on the overall pH of the concrete. The limit of a pH

rates (less than 4 liters/cubic meter), had little effect on the overall pH of the concrete. The limit of a pH equal to or greater than 7, when the maximum dosage rate for an admixture is four liters or more, is based on a concern that the admixture will have a reaction with the higher pH of the concrete mixture.

CONTACT: David Graves of the Field Engineering 1 office of the Materials Bureau at dzgraves@dot.state.ny.us or (518)457-4592.

Make the following changes to the Standard Specifications of January 2, 2002:

Pages 7-124 to 7-125

Line 42 of Page 7-124 to Line 1 of Page 7-125 *delete* "The pH of all admixtures shall be greater than 8." and *replace* it with the following:

"The pH shall be equal to or greater than 7 for all admixtures used at a dosage rate of four liters or more per cubic meter."