

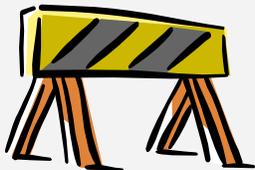
From Brenda O'Brien, Engineer of Construction Field Services

MDOT-Construction Field
Services Division
P.O. Box 30049
Lansing, Michigan 48909
Phone/517-322-1087
Fax/517-322-5664
www.michigan.gov/mdot/

Index: Concrete

Questions regarding this
Construction Advisory
should be directed to:

John Staton, Supervising
Engineer, Materials Research
Group, at 517-322-5701 or
statonj@michigan.gov



BJO:JFS

Alkali-Silica Reactivity (ASR) Testing For Fine Aggregates Used In Portland Cement Concrete

This construction advisory serves as a reminder that the contractor must submit test reports accompanied by a Test Data Certification for ASR testing of the fine aggregate that is proposed to be used in their concrete. These requirements are described in subsection c.5.A of the Frequently Used Special Provision for Quality Control and Acceptance of Portland Cement Concrete (12SP602(F) and 12SP604(A)). This ASR documentation should accompany the concrete mix design and documentation submittal, which is required to be approved by the Engineer prior to concrete placement.

Subsection c.5.A of the current FUSP's (dated 11-22-11) refer to testing of the aggregate for deleterious ASR. The intent of these specification requirements, however, are to evaluate only the fine aggregate to be used in the proposed concrete mixture and should not be extended to include the coarse, nor intermediate (if specified) aggregates. Further, since Class F fly ash and slag cement tend to delay the early-age strength gain of concrete mixtures, mitigation of the potential for ASR using these supplemental cementitious materials in the concrete for pavement repairs may not be practical. Therefore, ASR testing of the fine aggregate used for this application will not be required at this time. As a result of these findings, a forthcoming revision to these special provisions will reflect the language clarification that ASR testing is required for the fine aggregate only and also ASR testing will not be required for concrete mixtures intended to be used for full depth concrete pavement repairs.

It is not expected that there will be any additional cost or delay to the project as a result of these revisions.

If your project includes concrete items (excluding concrete pavement repairs and small incidental quantities as described in 12SP602(F) and 12SP604(A)), it is advised to notify the contractor the requirements for ASR testing of the fine aggregate. This information should be relayed to the contractor as soon as possible to allow them to make the appropriate provisions for material selection prior to mix design and documentation submitted.

Also, please keep in mind that it is important that proper ASR testing documentation is complete and on file to ensure that federal funds are not jeopardized.

Please share this information with consultants and local agencies within your area.