



BOB RILEY
GOVERNOR

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JOE MCINNES
TRANSPORTATION DIRECTOR

January 30, 2008

MATERIALS AND TESTS TECHNICAL ADVISORY 2-08

TO: All Division Engineers

FROM: Larry Lockett, P.E. *Larry Lockett*
Materials and Tests Engineer

RE: Reactive Silica in Limestone Used in Portland Cement Concrete

The Bureau of Materials and Tests is currently working on the revision of Section 801, "Coarse Aggregate", of the Standard Specifications. Until this revision is final, the following options may be used to design concrete mixes with limestone aggregates containing more than 8.0% silica:

1. Class F fly ash may be substituted for cement at a fixed rate of 20% replacement by weight.
2. Ground Granulate Blast Furnace Slag (GGBFS) may be substituted for cement at a fixed rate of 50% replacement by weight. Since GGBFS increases the time of setting of concrete, this option may be used only for concrete placed at ambient temperatures of 45 °F or above.
3. Class C fly ash and microsilica may be substituted for cement at a fixed rate of 35% replacement by weight. If this option is used, the distribution of the replacement will be 30% Class C fly ash and 5% microsilica by weight.

Any concrete mix design submitted using limestone aggregate with more than 8% silica not meeting the above options, will not be approved. If further information is needed, please contact Mr. Sergio Rodriguez, P.E. at (334) 206-2410.

LL/sr

Attachments

cc: Mr. Terry McDuffie, P.E.	Ms. Lyndi Blackburn, P.E.
Mr. Lynn Wolfe, P.E.	Mr. Sergio Rodriguez, P.E.
Mr. Shannon G. Golden, P.E.	Mr. Blaine J. Guidry
All Division Materials Engineers	All Division Construction Engineers
FHWA (Attn. Mr. Robert King, P.E.)	ACIA (Attn. Mr. John Sorrel)
ARBA (Attn. Mr. George W. Norrell)	File