

Date: July 22, 2004

To: Southwest Ohio HMA Users and Producers

From: Flexible Pavements of Ohio, Fred Frecker, Executive Director

Subject: Smoothseal™ Advisory

Supplemental Specification 854 (Smoothseal™) includes a requirement that the natural sand used in the mixture have at least 50% silicon dioxide (SiO<sub>2</sub>) by weight. This provision is included in the specification to ensure that the mix will have high skid resistance.

Through the bidding on a recent project in ODOT District 8 it has become clear that the natural sands locally available in southwest Ohio generally do not possess an adequate percentage of SiO<sub>2</sub>. This is a local condition to the majority of sand deposits in southwest Ohio. The sands available in most of the rest of the state easily exceed this requirement.

Producers bidding on Smoothseal™ projects should perform testing to determine the suitability of their proposed sand source. ODOT has limited test information on various sources, which is available through FPO.

User agencies in southwest Ohio planning to bid Smoothseal™ projects may wish to consider whether the SiO<sub>2</sub> requirement of SS 854 is an essential requirement for their application. Low speed and low traffic volume applications such as subdivision streets should not require high skid resistance. In these situations it would be economical to waive the 50% SiO<sub>2</sub> requirement and save the expense of transporting sand from some distance. As previously stated, this is only an issue for applications in southwest Ohio; as the rest of the state has locally available sands that will easily meet this requirement.

It is also well to remember SS 854 is a good choice for applications that need a highly skid resistant surface, because of the 50% SiO<sub>2</sub> requirement. In fine-graded mixes such as Smoothseal™, the fine aggregate bears much of the burden of providing skid resistance in the mix. This specification is unique among ODOT mixes, as no other has a requirement for a highly polish resistant aggregate. As a result, for economy, a thin overlay of Smoothseal™ should probably be your first consideration where a high level of skid resistance is needed.

If you need the ODOT test data or additional information on this issue, contact the Flexible Pavements of Ohio office.

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