

## AGGREGATE BLENDING TO IMPROVE SKID RESISTANCE

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### *ABSTRACT*

Wet skidding accidents on highways due to reduced pavement friction are a continuing concern to highway engineers. Improving pavement friction requires the use of high polishing resistant and high friction aggregate source for pavement surface materials. Since sources of high friction aggregates have been depleted in many areas of the country, highway engineers must increasingly rely on the use of aggregates for which the performance record is poor. It is necessary, therefore, to blend the low quality aggregate with high quality aggregate to improve skid resistance. This paper presents laboratory test results of blending aggregates.

The blended aggregate samples are polished using the Accelerated Polishing Machine according to ASTM D 3319-90: Standard Test Method for Accelerated Polishing of Aggregates Using the British Wheel, while the friction numbers of the polished samples are measured using the British Pendulum Tester (BPT) according to ASTM E 303-93: Standard Test Method for Measuring Surface Frictional Properties Using the British Pendulum Tester.

Blending technique is shown to significantly improve the low skid resistant aggregate. The residual polish values of the aggregate blends could be approximately estimated as the weight based weighted average of the individual aggregates' residual British Pendulum Number (BPN).

*KEY WORDS:* Blending; aggregate, skid resistance, accelerated polishing, BPT, PV