

A REVIEW OF THE FRICTIONAL
CLASSIFICATION OF IOWA AGGREGATES

Introduction

The Iowa D.O.T. has a classification system designed to rate coarse aggregates as to their skid resistant characteristics. Aggregates have been classified into five functional types, with a Type 1 being the most skid resistant. A complete description of the classification system can be found in the Office of Materials Instructional Memorandum T-203. Due to the variability of ledges within any given quarry the classification of individual ledges becomes necessary. The type of aggregate is then specified for each asphaltic concrete surface course.

As various aggregates become used in a.c. paving, there is a continuing process of evaluating the frictional properties of the pavement surface. It is primarily through an effort of this sort that information on aggregate sources and individual ledges becomes more refined. This study is being conducted to provide that needed up-to-date information that can be used to monitor the aggregate classification system.

Project Scope

All asphaltic concrete surface courses placed from 1975 through 1979 were reviewed. Notations were made of mix size, coarse aggregate, aggregate type, friction numbers, traffic volumes, and cumulative vehicle passes. One-hundred sixty projects are included in this study as detailed in Appendix A.

Eighteen of the projects have a sand-asphalt surface course and an additional seventeen projects have a sprinkle treatment aggregate applied. These types of surfaces are being investigated independently and, therefore, will not be evaluated in this study.

All friction testing was done with a two-wheel trailer in accordance with ASTM E274. Friction number (FN) is being used interchangeably with the more common terminology of skid number (SN).