

HR-224 RESTORATION OF FRICTIONAL CHARACTERISTICS ON OLDER PCC PAVEMENT

Key Words: Portland cement pavement, Safety, Friction values

ABSTRACT

Safety is a very important aspect of the highway program. The Iowa DOT initiated an inventory of the friction values of all paved primary roadways in 1969. This inventory, with an ASTM E-274 test unit, has continued to the present time. The testing frequency varies based upon traffic volume and the previous friction value.

Historically, the state of Iowa constructed a substantial amount of PCC pavement during the 1928-30 period to "get Iowa out of the mud". Some of that pavement has never been resurfaced and has been subjected to more than 50 years of wear. The textured surface has been worn away and has subsequently polished. Even though some pavements from 15 to 50 years old continue to function structurally, because of the loss of friction, they do not provide the desired level of safety to the driver. An economical method of restoring the high quality frictional properties is needed.

The objective of the research is to identify a cost effective method of restoring the frictional characteristics on older PCC pavement.

This research on restoration of frictional characteristic supports the following conclusions:

1. Pavement grooving is an effective means of improving friction on older PCC pavement.
2. Transverse grooving provides better Friction Numbers than longitudinal grooving.
3. Improved application equipment is needed for use and proper evaluation of LMCS D.
4. It was not possible to determine the longevity of LMCS D from this research.
5. The thin layer of hot sand asphalt was durable, but resulting Friction Numbers were marginal.