3rd INTERNATIONAL CONFERENCE
BITUMINOUS MIXTURES AND PAVEMENTS
Thessaloniki, Greece, 21-22 November 2002

LABORATORY ASSESSMENT OF BOND CONDITION USING THE LEUTNER SHEAR TEST

C.Sangiorgi *
PhD student, University of Bologna, ITA
Facoltà di Ingegneria, DISTART, Strade e Geotecnica, V.le Risorgimento 2, Bologna, 40136, Italia; cesare.sangiorgi@mail.ing.unibo.it
A.C.Collop
Reader in Civil Engineering, Nottingham Centre for Pavement Engineering, University of Nottingham, UK
N.H.Thom
Teaching & Research Fellow, Nottingham Centre for Pavement Engineering, University of Nottingham, UK

ABSTRACT
Pavement structures comprise several layers of different materials. The overall strength and stiffness of the pavement depends not only on the strength of each individual layer, but also on the bond between them. Should the bond at an interface be inadequate, the strains throughout the pavement may increase (under trafficking) and its life may consequently be reduced. The actual causes of poor bond are not fully understood and a definitive technique has not yet been developed for measuring the bond strength/stiffness. This paper looks specifically at the problems associated with inadequate bond occurring at the top two pavement interfaces, caused by a number of construction variables including: amount of tack coat, interface condition, degree of compaction and temperature. The Leutner shear test conducted on 150mm cores has been used to quantify the bond between layers of typical pavement materials (SMA, HRA, DBM) with different interface conditions.

KEYWORDS: layers, bond, adhesion, interface, Leutner