

3^ο ΔΙΕΘΝΕΣ ΣΥΝΕΔΡΙΟ
ΑΣΦΑΛΤΙΚΑ ΜΙΓΜΑΤΑ ΚΑΙ ΟΔΟΣΤΡΩΜΑΤΑ
Θεσσαλονίκη, 21-22 Νοεμβρίου 2002

LABORATORY EVALUATION OF SMA MIXTURES

A. Loizos *

Associate Professor, National Technical University of Athens (NTUA), GR

*Department of Transportation Planning & Engineering

Iroon Polytehneiou 5, 157 73 Zografou, aloizos@central.ntua.gr

V. Papavasileiou

Civil Engineer, Scien. Researcher, Laboratory of Highway Engineering NTUA

A. Prapidis

Civil Engineer of NTUA, GR

ABSTRACT

SMA mixtures were developed in the late sixties in Germany to cope with the problem of premature rutting. SMA's good resistance to permanent deformation was instantly recognized, and their development continued in many European countries as well as in the United States so that today they are considered as a very successful skid resistance wearing course, in heavily trafficed roads.

In the present study, SMA technology is reviewed and a potential of laboratory evaluation is being examined. The experimental part of this study took place in the Laboratory of Highway Engineering of NTUA's Department of Transportation Engineering. SMA mixtures with plain and modified binder were manufactured and tested with the Marshall method, which is used in normal asphalt concrete mixtures.

Additionally, laboratory tests were run for the determination of mechanical properties of these mixtures (Stiffness modulus, Permanent deformation characteristics).

All the examinations, conclusions and experience gained from the laboratory tests are reported and commented.

KEY WORDS: SMA, rutting, permanent deformation, fibres.