VISVESVARAYA TECHNOLOGICAL UNIVERSITY

BELGAUM-590014

A Project Report on

"EFFECT OF AIR VOID CONTENT IN AGING CHARATERISTICS OF BITUMINOUS MIX"

Submitted in partial fulfillment of the requirement for the 8th SEMESTER of

BACHELOR OF ENGINEERING

IN

CIVIL

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SYNOPSIS

The general fuel saving tendency of the contractor leads in less compactive effort of a mix which causes high air void content of the mix , due to this the oxidation process of the binder accelerates the presence of oxygen and ultra violet radiation from the sunlight aggravates the process. Further the combination of high air voids and the aging characteristics of the binder in combination leads to poor performance of the mix. Long term aging occurs after bituminous pavement construction and is generally due to environmental exposure and loading. An investigation of the effects of long term aging using U.V. oven on initial stiffness and fatigue of bituminous concrete was made using two typical binders exhibiting different aging characteristics with mix binder content, air void content and hours of long term aging were varied independently and behavior of stiffness and fatigue characteristics were evaluated using pavement intensity tester. The results indicated that both mixes exhibited an initial stiffness with long term aging periods of 144hours.

Performance test such as rutting test using rolling compactor and rut analyzer was performed on the aged bituminous mix samples and it was found out that modified bitumen such as CRMB, WPMB, exhibited better resistance when compared to plain bitumen 60/70 in terms of aging.

Keywords: CRMB: Crumb Rubber Modified Bitumen.
WPMB: Waste Plastic Modified Bitumen.