

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

BELGAUM-590018



A Project Report on

**“PERFORMANCE STUDIES OF BITUMINOUS CONCERTE MIX USING
WASTE PLASTIC”**

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

BACHELOR OF ENGINEERING

IN

CIVIL ENGINEERING

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ABSTRACT

The aim of present investigation is to develop an approach to the Performance of Bituminous Concrete Mix using Waste Plastic.

The studies on the use of polymer modified bitumen for flexible Pavement are being carried out by different ways. Virgin and recycled polymers are being used for these studies. The studies on the thermal behavior and binding property of molten plastics promoted a study on the preparation of waste bitumen blend and its properties to find the suitability of blend for road construction. When higher percentage of plastic waste was used, the polymer got separated from the blend. A modified technique was developed and the stone aggregate was coated with molten plastics and plastic waste coated aggregate was used as the raw material for flexible construction.

Plastics are user friendly but not eco-friendly as they are non-biodegradable, generally it is disposed by way of land filling (or) incineration of materials which are hazardous. The better binding property of plastics in its molten state has helped in finding out a method of safe disposal of waste plastics, by using them in road laying.

The benefits are many- Helps in safe disposal of waste plastics by a eco-friendly way, improved solid waste management, better environment hygiene, reduction in the consumption of bitumen by 10%, No toxic emission, better road, withstand heavy load, no pothole formation, value added to waste plastics, cost is less, mix used for Rural and Highway roads.

The plastics tar road has been already laid for 500 km in India at different places like State Capitals as well as Rural roads. The performance of these roads is good even after 24 months.