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**STUDIES ON TENSILE STRENGTH CHARACTERISTICS OF
DENSE BITUMINOUS MACADAM MIX WITH CRUMB
RUBBER AS MODIFIER**

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ABSTRACT

The performance of bituminous mixes can be improved by using modified binders. The present investigation deals with the study on the tensile strength characteristics of Dense Bituminous Macadam (DBM) mixes with crumb rubber as a bitumen modifier at various temperatures. Marshall stability tests were carried out to determine the Optimum Bitumen Content (OBC) and Optimum Modifier Content (OMC). The OMC was determined by varying the crumb rubber percent. Indirect tensile strength tests were carried out. The optimum percent of crumb rubber that results in the optimum modifier content was determined. The performance of crumb rubber modified bituminous mixes in terms of Marshall stability and indirect tensile strength at various temperatures is found to be higher than plain bituminous mixes. Under soaked conditions, the retained tensile strength in case of crumb rubber modified bituminous mixes is found to be higher than plain bituminous mixes. The investigation conclusively proves that crumb rubber modified dense bituminous macadam is expected to have longer life than the conventional DBM.

KEYWORDS: Marshall Stability, Dense Bituminous Macadam, Crumb Rubber, Optimum Modifier Content, Indirect Tensile Strength.