



Evaluation of Strength Properties of Pavement Binder Replaced with Waste Materials as Modifier

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Abstract: In India, bituminous pavement is commonly used for highways. Due to the increasing traffic intensity, distress such as rutting and cracking of pavements are very common in Indian roads. Under varying seasonal temperature, flexible pavements tend to become soft in summer and brittle in winter. Investigations revealed that properties of bitumen can be improved with the incorporation of modifiers. The bitumen treated with these modifiers is known as Modified Bitumen. In this study, bitumen of grade VG 30 is selected and improved its properties by the addition of modifiers. Low Density Poly Ethylene (LDPE) waste and Pulverised Tyre Waste (PTW) the modifiers used. Basis parameters such as penetration, softening point and ductility of modified bitumen were found. Results showed enhancement in the properties of bitumen. Marshall stability value of modified bitumen is also improved when compared to the selected raw bitumen.

Keywords: Binder, Bitumen, Modifier, Pavement, Viscosity Grade.

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