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(57) Abstract :

In consideration of frequent submergence problems, high summer temperature and poor pavement construction practice and above all environmental hazards due to waste plastic, the use of waste plastic in road construction may bring economic benefits in the many ways. After conducting laboratory tests on bitumen binder and mixtures with different polymer content and after analyzing the data and comparing the results, the following conclusions are drawn: -(1) The result shows that with increase of waste plastic in bitumen increases the properties of aggregate and bitumen. (2) The optimum use of plastic can be 12 % of bitumen based on 10 Marshal Stability test. (3) The modified bitumen shows good result when compared to standard results. (4) For all modified binders prepared, the penetration values decrease as waste plastic ratio increases whilst, softening point values increase as waste plastic ratio increases. (5) The coating of aggregates with waste plastic reduces the absorption of moisture. (6) By using waste commodity plastics in binder modification carries the advantage of a cheap, technologically effective means of enhancing conventional binder performance and offers an alternative way to manage plastic waste. (7) This has added more value in minimizing the disposal of plastic waste is the eco-friendly technique.

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