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Abstract Details

Title: Utilization of LDPE and HDPE Polymer as a Binder and as Filler in Bituminous Mix

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Abstract: The millennium objective for the development encourages countries to a sustainable management of their waste based on the preservation of their environment and natural resources. So, plastic waste management has become a major challenge considering their life span and their impact on environment. Disposal of waste materials like plastic bags has become a serious problem. Waste, mostly plastics are burnt for apparent disposal which cause severe environmental pollution. Utilization of waste plastic bags in bituminous mixes has proved that these enhance the properties of mix in addition to solving disposal problems. Plastic waste which is cleaned is cut into a size such that it passes through 2-3 mm sieve using shredding machine. The use of the innovative technology will not only strengthen the road construction but also increases the road life as well as will help to improve the environment. By this process a road of 1 km length and 3.375 m width of single lane can consumes 1000000 carry bags and the road strength is increased by up to 100 % and there is no pothole formation. The mix polymer bituminous concrete showed higher strength. Use of this mix for road construction helps to use plastic waste. Once the plastic waste is separated from municipal waste, the organic matter can be converted into manure and used. The main object of the project is to analyze & study how the waste plastic can be efficiently utilized in construction of flexible pavements as a binder material for replacing the content of bitumen and as a filler in aggregate in detail process & its successful application.

Keywords: LDPE, HDPE, Bituminous Mix.