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Project Title

“WARM BITUMINOUS MIXES-A ROAD TO SUSTAINABLE PAVEMENT SURFACE”

Abstract:

The transport sector has become a heavy polluter in recent decades because of the hike in the construction of roads. Due to unavailability of sufficient funds, the construction of Rigid Pavement is pretty uncommon and hence Flexible Pavements are made. The construction of such pavements require Hot Mix Asphalt(HMA) plants for obtaining bituminous concrete which is the essential material used for the surface course in flexible pavement construction. The HMA plants causes pollution and emits certain poisonous gases like CO₂, CO, NO, etc. So, in order to reduce the emissions, certain methods are used, one of which is Warm Bituminous Mixes (WBM). As the asphalt industry is getting more aware of the warm mix technology, there is an increasing need to perform research to determine the feasibility of these technologies. Some European countries are already using the warm mixture technology to be able to produce asphalt mixes at lower temperatures without significantly affecting the quality of the mixes. While the energy savings and the air quality improvements by using warm bituminous mixes are appealing. Warm Bituminous Mixes allows the producers of asphalt pavement material to lower the conventional temperature range at which the material is mixed and laid on the road. WBM solution allows reducing the working temperature of asphalt up to 30°C. Since the start of developing modern WBM technologies, a lot of experiments have been carried out to establish potential benefits of using WBM and evaluating the performance compared to traditional Hot Mix Asphalt (HMA). First research reports are from Europe from mid 90's and starting from 2002 a lot of testing and field trials have been conducted in US with publically available reports. Various tests on bitumen with WBM were conducted at different dosage content to check its property. In this study we refer many research papers on WMA and from this research paper we find that evotherm and sesobit will be used to prepare WMA. So, we are going to use this two material in different proportion for making WMA. Then, we are going to check the change in physical properties of bitumen and also the stability of same material.

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