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Reclaiming Properties of Bituminous Concrete Using Cold Mix Design Technology

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Abstract : Pavement plays a vital role in the socio-economic development of a country. Bituminous roads construction with conventional paving grade bitumen obtained from hot mix plant creates pollution and involves emission of greenhouse gases, also the construction of pavements at very high temperature is not feasible or desirable for high rainfall and snowfall areas. This problem of overheating can be eliminated by the construction of pavements with the usage of emulsified cold mixes which will eliminate emissions and help in the reduction of fuel requirement at mixing plant, which leads to energy conservation. Cold mix is a mixture of unheated aggregate and emulsion or cutback and filler. The primary objective of this research is to assess the volumetric mix design parameters of recycled aggregates with cold mixing technology and also to assess the impact of additives on volumetric mix characteristics. In this present study, bituminous pavement materials are reclaimed using cold mix technology, and Marshall specimens are prepared with the help of slow setting type 2 (SS-2) cationic bitumen emulsion as a binder for recycled aggregates. This technique of road construction is more environmentally friendly and can be done in adverse weather conditions.

Keywords : cold mixes, bitumen emulsion, recycled aggregates, volumetric properties
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