

## DESIGN AND CONSTRUCTION OF STONE MATRIX ASPHALT

Stone Matrix Asphalt (SMA) is a gap graded hot mix which contains high amount of coarse aggregate and binder contents. The higher amount of coarse aggregate provides better stone-on-stone contact between the coarse aggregates particles, while the higher amount of binder content in the bitumen mortar adds to the durability of mix and sustain heavy breaking and thermal stresses.

It was found in the laboratory that SMA mixtures gave better resistance to permanent deformation (Rutting) and skid resistance. Two trial sections of SMA have been laid in Delhi by Central Road Research Institute (CRRI), New Delhi. Two types of cellulose fibre in the form of pellets were used as stabilizing additives in the laying of test sections.

Production of SMA mixture is similar to standard hot mix asphalt (HMA). Two types of hot mix plant i.e Drum mix and Batch mix plant, were used for production of SMA mixture. The texture of a newly laid surface of SMA is shown below in photograph.



CRRI has the necessary expertise to assist road departments/ contractors in designing and quality checking of SMA mixes.

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