

STUDY OF COIR FIBRE REINFORCED BITUMINOUS MIXES WITH ANTI-STRIPPING AGENT

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ABSTRACT- The development of transportation plays an important role in the development of nation. The flexible pavements being widely used in India, proper care should be taken to increase the life period of the pavements. The pavements are often plagued with problems of cracking and rutting due to repeated traffic loads. In order to avoid cracking of the pavement and improve its stability, reinforcement of coir fibre is used with the addition of anti-stripping agent. Marshall method of mix design was adopted for the mixes and the optimum bitumen content, fibre content and fibre length are determined for coir fibre reinforced bituminous mixes and their performance is analysed. Wet bond-s is next generation Nano-technology Silicon based Anti-stripping additive for Asphalt. This product is a low dose and extremely thermal resistive additive for use in Hot-mix and Warm -mix road constructions. This product is generally suitable for aggregates having very high and tough to control stripping profile.

The addition of fibre as modifier to the base bitumen produced stiff and tough bitumen. Complex modulus was found to increase with increase in fibre modified binder content whereas phase angle decreased. The overall results show that, increasing the amount of fibre content and fibre length in bituminous concrete mix will increase the Marshall stability, air voids in total mix and Complex modulus while flow, phase angle and unit weight tend to decrease.