

Effective Utilization of Crumb Rubber from Waste Tyre as a Modifier of Bitumen for Asphalt Mixes with Improved Resistance Against Rutting and Cracking for Local Omani Roads

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Abstract:

Crumb Rubber can be used as modifier for bitumen in preparation of asphaltic aggregates by dry process or wet process. Crumb rubber modified bitumen in asphaltic aggregates by the wet process has shown better performance of road with better resistance for rutting, cracking and resilience modulus. In this work crumb rubber was thermally pre-treated and mixed with bitumen at temperature range 1600C to 180 0C. The SEM, FTIR, DSC and XRD analysis showed improved performance of crumb rubber modified bitumen against rutting and cracking.

Keywords:

Crumb Rubber, Modified bitumen, Rutting, Cracking, Asphalt Mixes.