

Crumbed Rubber Modified Asphalt

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Abstract : Nowadays, only a small percentage of waste tyres are being land-filled. The Recycled Tyres Rubber is being used in new tyres, in tyre-derived fuel, in civil engineering applications and products, in molded rubber products, in agricultural uses, recreational and sports applications and in rubber modified asphalt applications. The benefits of using rubber modified asphalts are being more widely experienced and recognized, and the incorporation of tyres into asphalt is likely to increase. The technology with much different evidence of success demonstrated by roads built in the last 40 years is the rubberised asphalt mixture obtained through the so-called “wet process” which involves the utilisation of the Recycled Tyre Rubber Modified Bitumen (RTR-MBs). Since 1960s, asphalt mixtures produced with RTRMBs have been used in different parts of the world as solutions for different quality problems and, despite some downsides, in the majority of the cases they have demonstrated to enhance performance of road’s pavement. The present study aims in investigating the experimental performance of the bitumen modified with 15% by weight of crumb rubber varying its sizes. Four different categories of size of crumb rubber will be used, which are coarse (1 mm - 600 μm); medium size (600 μm - 300 μm); fine (300 μm - 150 μm); and superfine (150 μm - 75 μm). Common laboratory tests will be performed on the modified bitumen using various sizes of crumb rubber and thus analyzed. Marshall Stability method is adopted for mix design.

Keywords : Bitumen, CRMB, Marshall Stability Test, Pavement

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