



Bitumen modified with recycled polyurethane foam for employment in hot mix asphalt [

2018

text (article)

Analítica

A wide variety of modifiers have been applied to bitumen in order to enhance their properties and performance. Among them, polymers have been mainly used. The aim of this paper is to assess the use of polyurethane foam waste as a bitumen modifier for hot mix asphalts. The polyurethane foam is a by-product of the manufacturing of polyurethane for thermal insulation. From a bitumen with a penetration grade of 50/70, various samples with percentages of waste material in weight ranging from 1% to 5% were produced and tested. Samples with 5% of waste material or more became rough and were refused due to their poor workability. A bituminous mixture with modified bitumen with a 4% of polyurethane was manufactured and compared with a sample with the same aggregates and original bitumen. Results in Marshall test showed that a mix with polymer modified bitumen yielded improvements in stability and a lower deformability. This result suggests that the employment of polyurethane foam waste is a promising bitumen modifier, contributing also to recycle waste materials

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