Analysis of the moisture susceptibility of hot bituminous mixes based on the comparison of two laboratory test methods [

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Analítica

One of the most common road pavement pathologies is caused by water action. The presence of moisture causes a reduction in aggregate-binder adhesion in the mix as well as in the internal cohesion of the bitumen. This leads to problems such as pot holes, aggregate peeling, stripping, etc., which eventually lead to the structural failure of the pavement. Currently, there are numerous laboratory tests that analyze the susceptibility of bituminous mixes to moisture, providing a qualitative or quantitative evaluation. This study analyzes the performance of bituminous mixes in different experimental conditions. For this purpose, a comparative study of two laboratory tests was carried out. The tests differed in mix compaction method, the conditioning of the test specimens, and the type of load applied. The results obtained showed that in these tests the conditioning temperature had a greater impact on mix performance than the temporal duration of the conditioning process. Furthermore, the application of tensile stress was found to be more suitable for studying moisture susceptibility since mixes were found to be more sensitive to this type of load
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