TOWARDS AN ENHANCED TEST METHOD FOR HOT MIX ASPHALT TO ADDRESS RESISTANCE TO FUEL

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ABSTRACT
In areas where hot mix asphalt (HMA) is likely to be exposed by any form of mineral oil the layer has to withstand the attack of these substances in order not to damage the construction. The European Standard EN 12697-43 provides a test procedure to determine the resistance of HMA to fuel. The paper reviews this method thoroughly. A completely revised and simplified test device for the brush test was developed meeting the requirements of the standard and creating results with a high repeatability at the same time. The test conditions given by the standard such as the exposure to fuel, cleaning of the specimen after exposure or the contact pressure of the brush were varied to isolate those test conditions with a substantial influence on the result. The research revealed that in the standard some conditions with a rather small influence are set quite strictly while other conditions with a distinct influence on the result are not defined with the required accuracy to obtain comparable and repeatable results. The paper presents suggestions for the improvement of the test method and the standard itself in respect to the layout of the test device and the definition of important test conditions to enhance the outcome of the EN 12697-43.

KEY WORDS: Fuel resistance, hot mix asphalt, abrasion test