

**ON THE DEVELOPMENT OF A NEW TEST METHODOLOGY  
FOR MOISTURE DAMAGE SUSCEPTIBILITY  
OF ASPHALT CONCRETE**

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*ABSTRACT*

In this contribution the development of a new moisture susceptibility test protocol is described in which the individual asphalt mix components (aggregates, aggregate-mastic interface and mastic) are evaluated for their physical and mechanical moisture susceptibility characteristics. In the paper, the principle and development consideration of the test procedure are described, which is built around the measurement of the tensile strength of mastic (bitumen, filler and sand) and aggregate-mastic samples as a function of moisture concentration at the location of the fracture plane.

The developed moisture conditioning procedure allows for an easy measurement of moisture uptake and release behavior of the components and can show distinct differences between the investigated mastic-aggregate combinations. Comparing the measured adhesive versus cohesive moisture susceptibility strength curves allows for a fundamental material selection that can assist in the mitigation of susceptibility to moisture damage in the field.

*KEY WORDS:* Mastic, aggregate-mastic bond, moisture damage