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Evaluación del proceso de fatiga de mezclas asfálticas mediante un nuevo procedimiento
cíclico de barrido de deformaciones - EBADE.

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Abstract

This paper presents a new experimental procedure to characterize fatigue behaviour of asphalt mixtures, called EBADE procedure. It has been developed at the Road Research Laboratory based in the Technical University of Catalonia (UPC-Barcelona Tech). The procedure consists of applying cyclic tension-compression loads in a displacement-controlled uniaxial test at different strain levels. By doing so it is possible to obtain two key strain values in the characterization of asphalt mixtures fatigue behaviour. Those are the strain level at which the mixture does not undergo fatigue (endurance limit) and the strain level at which critical fatigue failure takes place. In addition, EBADE procedure allows one to emulate the fatigue process a pavement goes through when it has to sustain thermal stresses. In this paper the EBADE procedure is detailed, and the main results and conclusions obtained in the experimental study carried out in order to evaluate its sensitivity are exposed.

Keywords

Asphalt mixtures, fatigue, cracking.

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