

DETERMINATION OF THE SCUFFING RESISTANCE OF POROUS ASPHALT USING ANNEX A OF prTS 12697-50 (THE ARTE)

Maarten M.J. Jacobs, Rémy C.M.A. van den Beemt en Mark H.T. Frunt
BAM Infra Asfalt, Utrecht, the Netherlands

ABSTRACT

In the current version of prTS 12697-50, the Aachener Ravelling Tester (ARTE) is mentioned as one of the tests to determine the resistance to scuffing of an asphalt mixture. In the last 4 years, the ARTE has been used by BAM Infra Asfalt to characterise the scuffing resistance of porous asphalt mixes. In this research programme, the loss of aggregates due to ravelling has been determined using 3 procedures: visual inspection, loss of mass of the specimen and change in texture of the surface of the specimen. The change in surface texture of the slab has been determined using a laser scanning device with 2 lasers which are able to determine an accurate 3-D image of the surface.

In the test programme one type of a porous asphalt mixtures has been tested with a variation in bitumen content. From the test programme it is concluded that the ARTE is able to generate test results which comply to the behaviour of porous asphalt mixtures in practice: the less bitumen is used, the shorter the life span of a porous asphalt mixture will be. The test programme also indicates that material loss due to ravelling is determined more accurately using the laser scanner (change in texture) than using loss of mass. In the paper the test programme, test devices (ARTE and laser scanner) and test results will be presented and discussed.