

# Accepted Manuscript

Ageing and performance of warm mix asphalt pavements

Christiane Raab, Ingrid Camargo, Manfred N. Partl

PII: S2095-7564(17)30305-7

DOI: [10.1016/j.jtte.2017.07.002](https://doi.org/10.1016/j.jtte.2017.07.002)

Reference: JTTE 141

To appear in: *Journal of Traffic and Transportation Engineering (English Edition)*

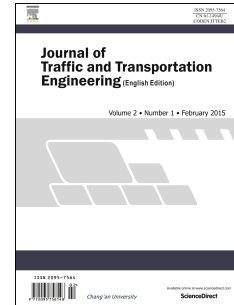
Received Date: 2095-7564 2095-7564

Revised Date: 2095-7564 2095-7564

Accepted Date: 2095-7564 2095-7564

Please cite this article as: Raab, C., Camargo, I., Partl, M.N., Ageing and performance of warm mix asphalt pavements, *Journal of Traffic and Transportation Engineering (English Edition)* (2017), doi: 10.1016/j.jtte.2017.07.002.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



1 Original research paper

2

3

# Ageing and performance of warm mix 4 asphalt pavements

5

6

Christiane Raab<sup>a,\*</sup>, Ingrid Camargo<sup>b</sup>, Manfred N. Partl<sup>a</sup>

7

8 <sup>a</sup> *Laboratory for Road Engineering/Sealing Components, Swiss Federal Laboratories for Materials Science and*  
9 *Technology (EMPA), Duebendorf 8600, Switzerland*

10 <sup>b</sup> *Department of Civil Engineering, University Estadual Paulista, Sao Paulo 01049, Brasil*

11

## 12 Highlights

- 13 • For the investigation and simulation of the long term ageing behaviour of different energy reduced  
14 pavement mixtures, a special laboratory ageing protocol with different heating and watering cycles  
15 was developed.
- 16 • The rutting behaviour revealed quite controversial results with most of the energy reduce  
17 pavements showing an increase in rut depth.
- 18 • Fatigue resistance of all aged energy reduced mixtures compared to unaged mixtures improved  
19 significantly resulting in an increase of fatigue life for the aged mixtures as expected due to  
20 increasing binder stiffness.

## 21 Abstract

22 This paper presents results from investigating the ageing behaviour and performance of  
23 different warm mix asphalt (WMA) pavement mixtures. The mixtures were either prepared  
24 in the laboratory or taken directly from mixing plant. The study compared the rutting and  
25 fatigue behaviours of unaged material in comparison to long term aged material. In order

Download English Version:

<https://daneshyari.com/en/article/6756772>

Download Persian Version:

<https://daneshyari.com/article/6756772>

[Daneshyari.com](https://daneshyari.com)