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ERRATUM

Erratum to: Rheological analysis of asphalt binders modified with Elvaloy® terpolymer and polyphosphoric acid on the multiple stress creep and recovery test

Matheus David Inocente Domingos · Adalberto Leandro Faxina

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Due to an unfortunate turn of events this article was published with two erroneous values. One in the text (erroneous value = 0.25, correct value = 0.025) and one in Table 3 (erroneous value = 3.0, correct value = −3.0). Please find on this page the correct paragraph from the text and also the correct Table 3 that should be regarded by the reader as the final version.

The characterization of the resistance of asphalt binders to the pavement distress mechanisms is typically made by means of laboratory tests that are supposed to adequately simulate the actual temperature and loading conditions in the pavement. With respect to rutting, one notable advance was the development of the repeated creep and recovery test (RCRT) by Bahia et al. [5], in which subsequent loading–unloading cycles at a predefined stress level are applied on a 25-mm asphalt binder sample that is sandwiched between the two parallel plates of a dynamic shear rheometer (DSR) and the resulting strain levels are continuously monitored. This test was later refined by the United States Federal Highway Administration (FHWA) through the introduction of a new rutting parameter—the non-recoverable (creep) compliance J_{nr}—and the addition of stress levels ranging from 0.025 to 25.6 kPa in the same procedure to determine the stress dependency of the material. It was then renamed as multiple stress creep and recovery test, or simply MSCR test [14].

Table 3 Percent differences in non-recoverable compliances ($J_{nr,\ diff}$, %) of asphalt binders

Temperature and loading–unloading condition	Base binder (AC)	AC+PPA	AC+Elvaloy+PPA
52 °C, 1/9 s[a]	6.1	0.0	0.0
58 °C, 1/9 s	10.9	12.5	−7.1
64 °C, 1/9 s	14.0	26.7	−6.9
70 °C, 1/9 s	14.0	46.2	−8.1
76 °C, 1/9 s	12.6	61.4	−3.0
52 °C, 2/18 s[b]	7.5	5.6	−4.0
58 °C, 2/18 s	14.5	20.0	−2.2
64 °C, 2/18 s	15.7	39.5	−7.6
70 °C, 2/18 s	13.9	58.2	−7.4
76 °C, 2/18 s	13.8	71.6	1.0

[a] 1/9 s = 1-s creep time and 9-s recovery time

[b] 2/18 s = 2-s creep time and 18-s recovery time

The online version of the original article can be found under doi:10.1617/s11527-013-0242-y.

M. D. Inocente Domingos (✉) · A. L. Faxina
Department of Transportation Engineering, Sao Carlos School of Engineering, University of Sao Paulo, Avenida Trabalhador Sao-Carlense, 400, Parque Arnold Schimidt, Sao Carlos, Sao Paulo 13566-590, Brazil
e-mail: matheusdavid@sc.usp.br