

Proposal for amendments to the 02 series of amendments to UN Regulation No. 117 (Approval of Tyres with regard to Rolling Sound Emissions and/or to Adhesion on Wet Surfaces and/or to Rolling Resistance)

The changes compared to document ECE/TRANS/WP.29/GRBP/2021/17 are marked in **bold** for added text and ~~strike through~~ for deleted text, all in red font.

I. Proposal:

Insert a new paragraph 2.13.1.1., to read:

"2.13.1.1. **"Ice grip tyre" means a class C1 snow tyre for use in severe snow conditions that is ~~specifically~~ additionally designed to be used on road surfaces covered with ice and that fulfils the requirements of paragraph 6.4.2. of this Regulation.**"

Paragraph 2.18., amend to read:

"2.18. **"Standard Reference Test Tyre" or ~~"SRTT"~~ "SRTT"** means a tyre that is produced, controlled and stored in accordance with the standards of ASTM International:

- (a) E1136 – 17 for the size P195/75R14 and referred to as "SRTT14",
- (b) ~~F2493 – 19~~ **F2493 – 20 for the size P225/60R16 and referred to as "SRTT16",**
- ~~(b)~~(c) F2872 – 16 for the size 225/75R16C and referred to as "SRTT16C",
- ~~(e)~~(d) F2871 – 16 for the size 245/70R19.5 and referred to as "SRTT19.5",
- ~~(d)~~(e) F2870 – 16 for the size 315/70R22.5 and referred to as "SRTT22.5",
- ~~(e)~~ ~~F2493 – 19 for the size P225/60R16 and referred to as "SRTT16".~~

Annex 1, Item 8.2., Part (A), Paragraph 4.2.8.2., amend to read:

8.2. ~~Wet adhesion level of the representative tyre size, see paragraph 2.7. of this Regulation, as per ~~item 7. of the test report~~ **examples shown** in the appendix to Annex 5: (G) using the vehicle or trailer method²~~

Annex 5, Part (A), Paragraph 4.2.8.2., amend to read:

"4.2.8.2. Validation of results

The μ_{peak} coefficient of variation CV_{μ} is calculated as follows:

$$CV_{\mu} = 100\% \cdot \frac{\sigma_{\mu}}{\bar{\mu}_{\text{peak}}}$$

where

$\sigma_{\mu} = \sqrt{\frac{1}{N-1} \sum_{j=1}^N (\mu_{\text{peak},j} - \bar{\mu}_{\text{peak}})^2}$ denotes the corrected sample standard deviation and

$\bar{\mu}_{\text{peak}}$ the arithmetic mean of the peak braking force coefficients ($\mu_{\text{peak},j}$) of N test runs.

For the reference tyre (R):

- (a) The coefficients of variation CV_{μ} of the initial and the final braking tests of the reference tyre within one test cycle shall be less than or equal to 4 per cent;
- (b) The arithmetic mean of the peak braking force coefficients of initial and the final braking test of the reference tyre within one test cycle shall not differ by more than 5 per cent of the average of the two values:

$$CV_{\mu}(\mu_{\text{peak}}) = 100\% \cdot 2 \cdot \frac{|\bar{\mu}_{\text{peak}}(R_i) - \bar{\mu}_{\text{peak}}(R_f)|}{\bar{\mu}_{\text{peak}}(R_i) + \bar{\mu}_{\text{peak}}(R_f)} \leq 5 \%$$

where

~~$\bar{\mu}_{\text{peak}}(R_i) - \bar{\mu}_{\text{peak}}(R_f)$ is~~ $\bar{\mu}_{\text{peak}}(R_i)$ and $\bar{\mu}_{\text{peak}}(R_f)$ are the arithmetic ~~mean~~ **means** of the peak braking force coefficients **respectively** in the ~~initial/final~~ **initial and final** braking ~~test-tests~~ of the reference tyre within a test cycle;

- (c) The temperature-corrected average peak braking force coefficients ($\mu_{\text{peak,corr}}$, see paragraph 3.2.2. of this Annex) as calculated from the initial and from the final braking test of the reference tyre within a test cycle shall be not less than 0.65 and not greater than 0.90.

If one or more of the above conditions is not met, the complete test cycle shall be performed again.

For the candidate tyre(s) (T_n):

The coefficient of variation of the peak braking force coefficient CV_{μ} is calculated for each candidate tyre. If one coefficient of variation is greater than ~~5 per cent~~ **4 per cent**, the data shall be discarded and the braking test repeated for this candidate tyre."

New Annex 8, Paragraph 2.1.3.1., amend to read:

"2.1.3.1. Standard Reference Test Tyre

For the evaluation of the ice performance of class C1 tyres, the Standard Reference Test Tyre SRTT16 shall be used. The reference tyre shall not be older than 30 months starting from the production week and shall be stored in accordance with ASTM ~~F2493~~ **F2493 – 20. "**

New Annex 8, Paragraph 2.1.5.2., amend to read:

"2.1.5.2. The accuracy of measurement sensors and systems ~~should~~ shall be such that would allow a relative uncertainty⁽²⁾ of less than or equal to 1 per cent on the measured or computed mean fully developed deceleration.³"

New Annex 8, Paragraph 2.2.1., amend to read:

"2.2.1. For each braking test of a test tyre, at least nine (9) valid test ~~runs~~ runs shall be performed. "

II. Justification

1. In Annex 1, the paragraph 8.2. has to be amended to eliminate the reference to a non-existing item.
2. In Annex 5, Part (A), the paragraph 4.2.8.2. of has to be amended to correct an editorial error in the formula references