

Proposal for amendments to ECE/TRANS/WP.29/2013/66 concerning the proposal for a supplement to the 02 series of amendments to Regulation No. 117 (Tyres, rolling resistance, rolling noise and wet grip)

I. Proposal

Paragraph 6.2.3., modify as follows:

"6.2.3. For Class C3 tyres, tested in accordance with either procedure given in Annex 5 (B) to this Regulation, the tyre shall meet the following requirements:

Category of use		Wet grip index (G)	
		Other	Traction tyres
Normal tyre		≥ 0.65 0.80	≥ 0.65 0.80
Snow tyre		≥ 0.65 0.80	≥ 0.65 0.80
	Snow tyre for use in severe snow conditions	≥ 0.65	≥ 0.65
Special use tyre		≥ 0.65	≥ 0.65

"

II. Justification

1. The impact on the state of art of the forthcoming new requirements for rolling resistance and noise are unknown. Therefore, at least the current level on wet grip performance must be maintained for safety reasons.

2. The current state of art:

(based on information provided in document GRRF-75-02 and GRRF-73-18)

- for C3 tyres (normal tyre and traction tyre):

- about 99.6 per cent (normal tyre and traction tyre) has a wet grip index above 0.80,
- about 93 per cent (normal tyre) has a wet grip index above 0.95,
- about 78 per cent (traction tyre) has a wet grip above 0.95.

3. The minimum wet grip index (G) for the C1 tyre shall be 1.1 (02 series of amendments to UN Regulation No 117 para. 6.2.1). The reference for the wet grip of the C1 tyre is the SRTT-14". The SRTT-14" shall according R117.02 Annex 5 par. 3.2.2. have a peak braking force coefficient

of 0.7. The resulting theoretical brake retardation for a car with C1 tyres is $1.1 * 0.7 = 0.77$ which corresponds to about 7.7 m/s^2 .

4. The original proposed minimum wet grip index (G) for the C3 tyre is 0,65. The C3-reference tyre has a peak braking force coefficient of about 0,63 (measured at RDW test centre on a track according to 02 series of amendments to UN Regulation No 117 and the proposal ECE/TRANS/WP.29/2013/66). The resulting theoretical brake retardation for a truck with C3 tyres would be $0.65 * 0.63 = 0.41$ which corresponds to about $4,1 \text{ m/s}^2$.

5. This would result in a difference between heavy vehicles and cars of $4.1 / 7.7 = 0.53$. The ratio between the prescribed minimum braking retardation according Regulations Nos. 13H and 13 is $5.0 / 6.43 = 0.78$.

6. A minimum wet grip index of 0.95 would bring the requirements for the C3 tyre for trucks in line with the requirements for the C1 tyres for cars; $0.95 * 0.63 = 0.6$ which leads to the comparison $6.0 / 7.7 = 0.78$ which corresponds to the ratio of the braking retardation requirements of Regulations Nos. 13 and 13-H.

7. The proposed minimum wet grip index is 0.80 and not 0.95 because of the tolerances during production of the tyres and so that only very, very few of the existing tyres will not be allowed any more.
