

Proposal for the 04 series of amendments to UN Regulation No. 117

The changes compared to document ECE/TRANS/WP.29/GRBP/2022/12 are marked in **bold** for added text and **strike through** for deleted text, all in red font.

I. Proposal:

Insert a new paragraph 2.16. and 2.17., to read:

- "2.16. "Taxi tyre" means a tyre whose tread pattern, tread compound or structure is primarily designed and intended to be fitted for a vehicle used for taxi service (i.e. taxi cab) only.**
- 2.17. "Free Rolling tyre" means a tyre is primarily designed for the equipment of trailer axles and axles of motor vehicles other than front steering and drive axles."**

Paragraphs 2.16. to 2.20.9., renumber as 2.18. to 2.22.9.

Insert a new paragraph 4.2.8. and 4.2.9., to read:

- "4.2.8. The Inscription "FOR TAXI", "For TAXI" or "for TAXI" if the tyre is classified as "Taxi tyre".**
- 4.2.9. The inscription "FRT" if tyre is classified as "Free Rolling tyre". "**

Paragraph 6.2.1., amend to read:

- "6.2.1. For Class C1 tyres, , tested in accordance with either procedure given in Annex 5, Part (A), to this Regulation, the tyre shall meet the following requirements:

<i>Stage 1</i>	
<i>Category of use</i>	<i>Wet grip index (G)</i>
Normal tyre	≥ 1.1
Snow tyre	≥ 1.1
"Snow tyre for use in severe snow conditions" and with a speed symbol ("R" and above, including "H") indicating a maximum permissible speed greater than 160 km/h	≥ 1.0
"Snow tyre for use in severe snow conditions" and with a speed symbol ("Q" or below excluding "H") indicating a maximum permissible speed not greater than 160 km/h	≥ 0.9

Special use tyre	Not defined
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<i>Stage 2</i>		
<i>Category of use</i>	<i>Wet grip index (G)</i>	
Normal tyre		≥ 1.2
	Taxi tyre	≥ 1.1
Snow tyre		≥ 1.2
	Snow tyre for use in severe snow conditions	≥ 1.1
	Snow tyre for use in severe snow conditions	≥ 1.1 ≥ 1.0
	Ice grip tyre Speed symbol ("R" and above, including "H") indicating a maximum permissible suitable for speed greater than 160 km/h	≥ 1.1 ≥ 1.0
	Ice grip tyre Speed symbol ("Q" or below excluding "H") indicating a maximum permissible suitable for speed not greater than 160 km/h	≥ 1.0 ≥ 0.9
	Ice-grip tyres	≥ 1.0 ≥ 1.0
Special use tyre		≥ 1.1

Paragraph 6.2.2., amend to read:

"6.2.2. For Class C2 tyres, tested in accordance with either procedure given in Annex 5, Part (B), to this Regulation, the tyre shall meet the following requirements:

<i>Stage 1</i>		
<i>Category of use</i>	<i>Wet grip index (G)</i>	
	<i>Other</i>	<i>Traction tyres</i>
Normal tyre	≥ 0.95	≥ 0.85
Snow tyre	≥ 0.95	≥ 0.85
	Snow tyre for use in severe snow conditions	≥ 0.85
Special use tyre	≥ 0.85	≥ 0.85

<i>Stage 2</i>			
<i>Category of use</i>	<i>Wet grip index (G)</i>		
	<i>Other</i>	<i>Traction tyres</i>	
Normal tyre	≥ 1.10	≥ 1.00	
Snow tyre	≥ 1.10	≥ 1.00	
	Snow tyre for use in severe snow conditions suitable for speed greater than 140 km/h	≥ 1.00	≥ 1.00
	Snow tyre for use in severe snow conditions suitable for speed equal to 140 km/h	≥ 0.90	≥ 0.90
Special use tyre	≥ 1.00	≥ 1.00	

Paragraph 6.3., amend to read:

"6.3. Rolling resistance coefficient (C_r) limits, as measured by the method described in Annex 6 to this Regulation.

The maximum value of the rolling resistance coefficient shall not exceed the values given below (value in N/kN is equivalent to value in kg/tonne):

<i>Stage 2</i>	
<i>Tyre class</i>	<i>Max value of C_r (N/kN)</i>
C1	10.5
C2	9.0
C3	6.5

For "snow tyre for use in severe snow conditions", the limits shall be increased by 1 N/kN.

<i>Stage 3</i>			
<i>Tyre class</i>		<i>Max value of C_r (N/kN)</i>	
C1	load capacity index < 87		10.0
	load capacity index ≥ 87	Tyres other than Run Flat Tyres or Extended Mobility Tyres	9.0
		Taxi tyres	10.0
		Tyres with a nominal aspect ratio ≤ 40 and suitable for speeds ≥ 300 km/h	10.0
	Run Flat Tyres or Extended Mobility Tyres		10.0
Special use tyres		10.0	
C2	Tyres other than Traction tyres		8.5
	Traction tyres		9.0
C3	Tyres other than tyres marked with “C”, “CP” or “LT”		6.0
	Tyres marked with “C” or “CP” as suffix to the tyre-size designation or with “LT” either as prefix or suffix to the tyre-size designation or with “LT” placed after the service description		6.5

For "snow tyre for use in severe snow conditions", the limits shall be increased by 1 N/kN **except below**.

For Class C1 "Ice grip tyre suitable for speed not greater than 160 km/h and load capacity index ≥ 87 , tyres other than Run Flat Tyres or Extended Mobility Tyres except Taxi tyres and Tyres with a nominal aspect ratio ≤ 40 and suitable for speeds ≥ 300 km/h", the limits shall be increased by 2 N/kN.

For Class C3 "snow tyre for use in severe snow conditions suitable for speed not greater than 100 km/h except Free Rolling tyres", the limits shall be increased by 1.5 N/kN.

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II. Justification

1. Since taxis need to drive long distances and mainly drive in urban areas with frequent acceleration and deceleration in both longitudinal and lateral directions, low wear resistance performance increases the frequency of tyre replacement, resulting in increase of resource consumption. Therefore, taxi tyres are required to have high wear resistance and long service life. To achieve long service life, taxi tyres tend to have deep tread depths, which results in trade-off with rolling resistance performance. Also, wear resistance performance and wet grip performance are trade-off performances. Over-regulating these performances will bring a negative impact on wear resistance and long service life. In addition, the current wet grip threshold has not caused any problems on road safety including driving on the highway. Therefore, Japan needs to introduce a new definition for taxi tyres and establish different threshold from other tyres.

2. Since the sales and use of studded tyres are restricted in Japan, “studless tyres”, which specializes in ice grip and snow grip performances, provide road traffic safety on slippery ice-covered roads during the winter season that is unique road condition Japan. There is a trade-off between rolling resistance/wet grip performance and ice grip performance. The safety on icy and snowy roads should not be deteriorated than present by over-regulating rolling resistance and wet grip performances. In addition, ice tyres with a speed symbol of Q or below have not caused any safety problems in Japan under the current wet grip threshold. Therefore, Japan needs to establish a different threshold for ice tyres with a speed symbol of Q or below.

3. Since the sales and use of studded tyres are restricted in Japan, “studless tyres”, which specializes in ice grip and snow grip performances, provide road traffic safety on slippery ice-covered roads during the winter season that is unique road condition Japan. There is a trade-off between rolling resistance/wet grip performance and ice grip performance. The safety on icy and snowy roads should not be deteriorated than present by over-regulating rolling resistance and wet grip performances. In addition, severe snow tyres have not caused any safety problems in Japan under the current wet grip performance threshold. Therefore, Japan needs to establish a different threshold for “Snow tyre for use in severe snow conditions suitable for speed symbol N for C2 tyres” and “Snow tyre for use in severe snow conditions suitable for speed symbol J or below for C3 tyres except Free Rolling tyres”, which are mainly available in the Japanese market, as well as for C1 ice tyres.