

I. Proposal to amend documents ECE/TRANS/WP.29/GRBP/2022/12

The changes are marked in **bold** for added text and ~~strike through~~ for deleted text, all in red font.

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 Snow tyre that is classified as tyre for use in severe snow conditions" and with a speed symbol ("R" and above, including "H") indicating a maximum permissible speed category greater than 160 km/h	≥ 1.0
	"Snow Snow tyre that is classified as tyre for use in severe snow conditions" and with a speed symbol ("Q" or below excluding "H") indicating a maximum permissible speed category not greater than 160 km/h	≥ 0.9
Special use tyre		Not defined
	Special use tyre that is classified as tyre for use in severe snow conditions	Not defined

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

<i>Stage 2</i>		
<i>Category of use</i>		<i>Wet grip index (G)</i>
Special use tyre		≥ 1.1
	Special use tyre that is classified as tyre for use in severe snow conditions	≥ 1.0

"

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 that is classified as tyre for use in severe snow conditions	≥ 0.85	≥ 0.85
Special use tyre		≥ 0.85	≥ 0.85
	Special use tyre that is classified as tyre for use in severe snow conditions	≥ 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 that is classified as tyre for use in severe snow conditions	≥ 1.00	≥ 1.00
Special use tyre		≥ 1.00	≥ 1.00
	Special use tyre that is classified as tyre for use in severe snow conditions	≥ 1.00	≥ 1.00

"

Paragraph 6.2.3., amend to read:

"6.2.3. For Class C3 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>	
		Other	Traction tyres
Normal tyre		≥ 0.80	≥ 0.65
Snow tyre		≥ 0.65	≥ 0.65
	Snow tyre that is classified as tyre for use in severe snow conditions	≥ 0.65	≥ 0.65
Special use tyre		≥ 0.65	≥ 0.65
	Special use tyre that is classified as tyre for use in severe snow conditions	≥ 0.65	≥ 0.65

"

<i>Stage 2</i>			
<i>Category of use</i>		<i>Wet grip index (G)</i>	
		Other	Traction tyres
Normal tyre		≥ 0.95	≥ 0.80
Snow tyre		≥ 0.80	≥ 0.80
	Snow tyre that is classified as tyre for use in severe snow conditions	≥ 0.80	≥ 0.80
Special use tyre		≥ 0.80	≥ 0.80
	Special use tyre that is classified as tyre for use in severe snow conditions	≥ 0.80	≥ 0.80

"

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 values for stage 2 for value of the rolling resistance coefficient shall not exceed the following 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 that is classified as "snow** tyre for use in severe snow conditions², 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	9.0
		or Extended Mobility Tyres	10.0
		Tyres with a nominal aspect ratio ≤ 40 and suitable for speeds ≥ 300 km/h	
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 that is classified as "~~snow~~ tyre for use in severe snow conditions", the limits shall be increased by 1 N/kN.

"

Paragraph 6.5., amend to read:

"6.5. In order to be classified as a "~~snow~~ tyre for use in severe snow conditions" the tyre shall meet the performance requirements of paragraph 6.4.1-6.5.1. below. The tyre shall meet these requirements based on a test method of Annex 7 by which:

- (a) The mean fully developed deceleration ("mfdd") in a braking test,
- (b) Or alternatively an average traction force in a traction test,
- (c) Or alternatively the average acceleration in an acceleration test

of the candidate tyre is compared to that of a Standard Reference Test Tyre (SRTT).

The relative performance shall be indicated by a snow grip index."

Annex 5, Part (A), Paragraph 3.3., amend to read:

"3.3. Atmospheric conditions

The wind conditions shall not interfere with wetting of the surface (wind-shields are allowed).

The wetted surface temperature and the ambient temperature shall be between:

<i>Category of use</i>	<i>Wetted surface temperature</i>	<i>Ambient temperature</i>
Normal tyres	12 °C – 35 °C	12 °C – 40 °C
Snow tyres	5 °C – 35 °C	5 °C – 40 °C

	Snow tyres that are classified as tyre for use in severe snow conditions	5 °C – 20 °C	5 °C – 20 °C
Special use tyres		not applicable 5 °C – 35 °C	not applicable 5 °C – 40 °C
	Special use tyres that are classified as tyre for use in severe snow conditions	5 °C – 20 °C	5 °C – 20 °C

Moreover, the wetted surface temperature shall not vary during the test by more than 10 °C.

The ambient temperature shall remain close to the wetted surface temperature; the difference between the ambient and the wetted surface temperatures shall be less than 10 °C."

Annex 5, Part (A), Paragraph 4.1.6.4., Table 2, amend to read:

" Table 2

Category of use	g_0 (°C)	a	b (°C ⁻¹)	c (°C ⁻²)	d (mm ⁻¹)	
Normal tyre	20	+0.99382	+0.00269	-0.00028	-0.02472	
Snow tyre	15	+0.92654	-0.00121	-0.00007	-0.04279	
	Snow tyre that is classified as tyre for use in severe snow conditions	10	+0.72029	-0.00539	+0.00022	-0.03037
Special use Special use tyre		not defined				
		15	+0.92654	-0.00121	-0.00007	-0.04279
	Special use tyre that is classified as tyre for use in severe snow conditions	10	+0.72029	-0.00539	+0.00022	-0.03037

"

Annex 5, Part (A), Paragraph 4.2.8.4., Table 4, amend to read:

" Table 4

Category of use	g_0 (°C)	a	b (°C ⁻¹)	c (°C ⁻²)	d (mm ⁻¹)	
Normal tyre	20	+0.99757	+0.00251	-0.00028	+0.07759	
Snow tyre	15	+0.87084	-0.00025	+0.00004	-0.01635	
	Snow tyre that is classified as "tyre for use in severe snow conditions"	10	+0.67929	+0.00115	-0.00005	+0.03963
Special use Special use tyre		not defined				
		15	+0.87084	-0.00025	+0.00004	-0.01635
	Special use tyre that is classified as tyre for use in severe snow conditions	10	+0.67929	+0.00115	-0.00005	+0.03963

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II. Justification

1. This proposal is aimed to introduce provisions to allow the type approval of special use tyres that fulfil the requirements for snow performance as laid out in Annex 7. The respective marking related to the “Alpine” symbol has been considered for those tyres complying with these requirements.
 2. Based on preliminary technical assessment submitted through document GRBP-71-26 allowances for rolling sound emission and rolling resistance could be needed for special use tyres that are classified as tyres for use in severe snow condition. However, special use tyres that are classified as tyres for use in severe snow condition currently do not exist. Therefore in this document allowances for rolling sound emission and rolling resistance are not proposed considering that the performance of such tyres cannot be assessed until they are developed.
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