Transmitted by the expert from the Netherlands

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agenda item 7)

Proposal for amendments to the 02 series of amendments to Regulation 117

Note: The text below is prepared by the expert from the Netherlands following the discussion on informal document GRB-61-03 in GRB61 and GRB-62-11 in GRB 62. Modifications to the R117 text are marked in **bold characters for new** or as ~~strikethrough for deleted text.~~ Updates to informal document GRB-62-11 are marked in normal red characters if they are copied from R117 or **bold red characters if they are new.**

I. Proposal

Paragraph 6.1, insert three new tables marked "stage 3", amending to read:

6.1. Rolling sound emission limits, as measured by the method described in Annex 3 to this Regulation.

6.1.1. For Class C1 tyres, the rolling sound emission value shall not exceed the values pertinent to the applicable stage given below. These values refer to the nominal section width as given in paragraph 2.17.1.1. of Regulation No. 30:

Stage 1	
Nominal section width	*Limit dB(A)*
145 and lower	72
Over 145 up to 165	73
Over 165 up to 185	74
Over 185 up to 215	75
Over 215	76

The above limits shall be increased by 1 dB(A) for extra load tyres or reinforced tyres and by 2 dB(A) for "special use tyres".

Stage 2	
Nominal section width	*Limit dB(A)*
185 and lower	70
Over 185 up to 245	71
Over 245 up to 275	72
Over 275	74

The above limits shall be increased by 1 dB(A) for "snow tyre for use in severe snow conditions" , extra load tyres or reinforced tyres, or any combination of these classifications.

Stage 3	
Nominal section width	***Limit dB(A)***
185 and lower	**67**
Over 185 up to 245	**68**
Over 245 up to 275	**69**
Over 275	**71**

6.1.2. For Class C2 tyres, the rolling sound emission value with reference to its category of use (see paragraph 2.1. above) shall not exceed the values pertinent to the applicable stage given below:

Stage 1	
Category of use	*Limit dB(A)*
Normal tyre	75
Snow tyre	77
Special use tyre	78

Stage 2			
Category of use		*Limit dB(A)*	
		Other	*Traction tyres*
Normal tyre		72	73
Snow tyre		72	73
	Snow tyre for use in severe snow conditions	73	75
Special use tyre		74	75

Stage 3		
Category of use	***Limit dB(A)***	
	Other	***Traction tyres***
Normal tyre (including normal snow tyres)	**70**	**71**
Snow tyre for use in severe snow conditions	**71**	**73**
Special use tyre	**72**	**73**

6.1.3. For Class C3 tyres, the rolling sound emission value with reference to its category of use (see paragraph 2.1. above) shall not exceed the values pertinent to the applicable stage given below:

Stage 1	
Category of use	*Limit dB(A)*
Normal tyre	76
Snow tyre	78
Special use tyre	79

Stage 2			
Category of use		*Limit dB(A)*	
		Other	*Traction tyres*
Normal tyre		73	75
Snow tyre		73	75
	Snow tyre for use in severe snow conditions	74	76
Special use tyre		75	77

Stage 3		
Category of use	***Limit dB(A)***	
	Other	***Traction tyres***
Normal tyre (including normal snow tyres)	**69**	**71**
Snow tyre for use in severe snow conditions	**71**	**72**
Special use tyre	**71**	**73**

Paragraph 6.2, rename the current tables into "stage 1" and insert three new tables marked "stage 2", amending to read:

6.2. The wet grip performance will be based on a procedure that compares either peak brake force coefficient ("pbfc") or mean fully developed deceleration ("mfdd") against values achieved by a standard reference test tyre (SRTT). The relative performance shall be indicated by a wet grip index (G).

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:

Stage 1		
Category of use		*Wet grip index (G)*
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	≥ 0.9

Stage 1		
Category of use		*Wet grip index (G)*
	snow conditions" and with a speed symbol ("Q" or below excluding "H") indicating a maximum permissible speed not greater than 160 km/h	
Special use tyre		Not defined

Stage 2		
Category of use		***Wet grip index (G)***
Normal tyre		**≥ 1.4**
Snow tyre		**≥ 1.4**
	"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	**≥ 1.3**
	"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	**≥ 1.2**
Special use tyre		**Not defined**

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:

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

Stage 2			
Category of use		***Wet grip index (G)***	
		Other	***Traction tyres***
Normal tyre		**≥ 1.25**	**≥ 1.15**
Snow tyre		**≥ 1.25**	**≥ 1.15**
	Snow tyre for use in severe snow conditions	**≥ 1.15**	**≥ 1.15**
Special use tyre		**≥ 1.15**	**≥ 1.15**

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:

Stage 1			
Category of use		*Wet grip index (G)*	
		Other	Traction tyres
Normal tyre		≥ 0.80	≥ 0.65
Snow tyre		≥ 0.65	≥ 0.65
	Snow tyre for use in severe snow conditions	≥ 0.65	≥ 0.65
Special use tyre		≥ 0.65	≥ 0.65

Stage 2			
Category of use		***Wet grip index (G)***	
		Other	***Traction tyres***
Normal tyre		**≥ 1.10**	**≥ 0.95**
Snow tyre		**≥ 0.95**	**≥ 0.95**
	Snow tyre for use in severe snow conditions	**≥ 0.95**	**≥ 0.95**
Special use tyre		**≥ 0.95**	**≥ 0.95**

Paragraph 6.3, insert paragraph 6.3.3 for "stage 3 limits", amending to read:

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

6.3.1. The maximum values for stage 1 for the rolling resistance coefficient shall not exceed the following (value in N/kN is equivalent to value in kg/tonne):

Tyre class	*Max value (N/kN)*
C1	12.0
C2	10.5
C3	8.0

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

6.3.2. The maximum values for stage 2 for the rolling resistance coefficient shall not exceed the following (value in N/kN is equivalent to value in kg/tonne):

Tyre class	*Max value (N/kN)*
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.

6.3.3. The maximum values for stage 3 for the rolling resistance coefficient shall not exceed the following (value in N/kN is equivalent to value in kg/tonne):

Tyre class	***Max value (N/kN)***
C1	**9.0**
C2	**8.0**
C3	**6.0**

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

Insert two new paragraphs 12.9 and 12.10, amend to read:

12.9. As from 1 November 2020, Contracting Parties applying this Regulation shall refuse to grant approvals if the tyre type to be approved does not meet the requirements of this Regulation as

amended by the 02 series of amendments including the stage 3 rolling sound emission requirements set out in paragraph 6.1 of this Regulation and the stage 2 wet grip requirements set out in paragraph 6.2 of this Regulation and the stage 3 rolling resistance requirements set out in paragraph 6.3 of this Regulation.

12.10. As from the dates given below, any Contracting Party applying this Regulation may refuse to allow the sale or entry into service of a tyre which does not meet the requirements of this Regulation as amended by the 02 series, and which does not meet the stage 3 rolling sound emission requirements set out in paragraph 6.1 of this Regulation and the stage 2 wet grip requirements set out in paragraph 6.2 of this Regulation and the stage 3 rolling resistance requirements set out in paragraph 6.3 of this Regulation:

Tyre class	*Date*
C1 and C2	**1 November 2022**
C3	**1 November 2024**

II. Justification

1. A further improvement of tyre performance levels would increase the level of environmental protection and safety. Doing so has a very profitable cost/benefit ratio. The proposed limits are technically achievable, as in 2016 already around 50% of the new tyres meet the limits proposed.

2. Indicating future limits well before 2020 allows industry to anticipate such developments well in time and to incorporate the necessary design changes in future new tyre types at reasonable costs.

3. References: informal docs GRB60-3, GRB60-8, GRB60-12, GRB60-13, GRB60-14 and GRB61-3