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Tyres – Regulation No. 30

Proposal for amendments to the 02 series of amendments to Regulation No. 30 (Pneumatic Tyres for Motor Vehicles and their Trailers)

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The text reproduced below was prepared by the experts from the European Tyre and Rim Technical Organisation (ETRTO) amending the tyre dimensional requirements of UN Regulation No. 30. The modifications to the existing text of the Regulation are marked in bold for new or strikethrough for deleted characters.

I. Proposal

After Paragraph 2.20., insert the new Paragraph 2.20.1.:

"**2.20.1.** **The values of the nominal rim diameters for code-designated rims expressed in millimetres are shown below:**

Nominal rim diameter code ("d" symbol)	Value of the "d" symbol expressed in mm
10	254
11	279
12	305
13	330
14	356
15	381
16	406
17	432
18	457
19	483
20	508
21	533
22	559
23	584
24	610
25	635
26	660
27	686
28	711
29	737
30	762

"

Paragraph 6.1.1.1., amend to read:

6.1.1.1.   The section width shall be calculated by the following formula:

$$S = S_1 + K (A-A_1),$$

where:

S   is the "section width" ~~expressed in mm~~ **rounded to the nearest millimetre** and measured on the measuring rim;

S_1 is the "nominal section width" (in mm) as shown on the side wall of the tyre in the designation of the tyre as prescribed;

A   is the width (expressed in mm) of the measuring rim, as shown by the manufacturer in the descriptive note; [5]

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[5] When the conventional number is given by codes, the value in mm is obtained by multiplying such number by 25.4.

A_1 is the width (expressed in mm) of the theoretical rim.

A_1 shall be taken to equal S_1 multiplied by the factor x, as specified by the manufacturer, and K shall be taken to equal 0.4."

Paragraph 6.1.2.1., amend to read:

"6.1.2.1.   The outer diameter of a tyre shall be obtained by means of the following formula:

D = d + 2H

where:

D   is the outer diameter expressed in millimetres;

d   is the ~~conventional number~~ **nominal rim diameter** defined in paragraph ~~2.17.1.3.~~ **2.20.** above, expressed in millimetres; ~~5/~~

~~S_1 is the nominal section width in millimetres;~~

~~Ra   is the nominal aspect ratio;~~

H   is the nominal section height **rounded to the nearest millimetre** ~~in millimetres~~ and is equal to

H = S_1 x 0.01 Ra**, where**

S_1 is the nominal section width in millimetres;

Ra   is the nominal aspect ratio;

all as shown on the sidewall of the tyre in the tyre-size designation in conformity with the requirements of paragraph 3.4. above."

Amend *paragraph 6.1.4.*:

"6.1.4.   Tyre section-width specifications"

to read:

"6.1.4.   Tyre section width specifications"

Paragraph 6.1.4.2., amend to read:

"6.1.4.2.   It may exceed that value by the following percentages**, whereby the limits shall be rounded to the nearest mm**:"

Paragraph 6.1.5., amend to read:

"6.1.5.   Tyre ~~outer diameter~~ **outer diameter** specifications

The ~~outer diameter~~ **outer diameter** of a tyre must not be outside the values D_{min} and D_{max} obtained from the following formulae:

D_{min} = d + 2 • $\mathbf{H_{min}}$ ~~(2H x a)~~

D_{max} = d + 2 • $\mathbf{H_{max}}$ ~~(2H x b)~~

where:

$\mathbf{H_{min} = H \cdot a}$ **rounded to the nearest mm**

$\mathbf{H_{max} = H \cdot b}$ **rounded to the nearest mm**

and"

Paragraph 6.1.5.1., amend to read:

"6.1.5.1.   For sizes listed in Annex 5 and for tyres identified by the "tyre to rim fitment configuration" (see paragraph 3.1.11.) symbol "A" or "U", the nominal section height H is equal to:

H = 0.5 (D-d)**, rounded to the nearest mm** – for references see paragraph 6.1.2.1."

Paragraph 6.1.5.3., amend to read:

"6.1.5.3.   Coefficients "a" and "b" are respectively:

6.1.5.3.1.   Coefficient "a" = 0.97

6.1.5.3.2.	Coefficient "b" for ~~ordinary~~ ~~(road type)~~ **normal** tyres	Radial, Run flat tyre	Diagonal and Bias Belted
		1.04	1.08
	for special-use tyres	**1.06**	**1.09**"

Paragraph 6.1.5.4., amend to read:

"6.1.5.4.   For snow tyres the outer diameter ~~(Dmax)~~ **shall not exceed the following value**

$D_{max,snow} = 1.01 \cdot D_{max}$ **rounded to the nearest mm**

where D_{max} is the maximum outer diameter established in conformity with the above ~~may be exceeded by 1 per cent~~."

II.   Justification

1.   The current rules for calculating the dimensional limits are not consistent among the UN Regulations for tyres and within the Regulations themselves. Hence they lead to uncertainty about the correct calculation. For example, the design section widths in Annex 5 are calculated according to the rules of ISO 4000-1, whereas rounding is not defined in section 6. The nominal rim diameters used in Regulation No. 30 are different from those used in Regulation No. 54, even if the same rims are used.

2.   The current proposal aims at unifying the calculation rules to those used in ISO 4000-1 and all major tyre standards, e.g. ETRTO, Tyre & Rim Association (T&RA), Japan Automobile Tyre Manufacturers Association (JATMA). This will also facilitate the work of the type approval authorities that still often refer to these standards.

3.   Supplement 17 of this regulation introduced Special Use tyres. The proposal for amendment of paragraph 6.1.5.3. aims to introduce a higher tolerance on the overall diameter of those tyres because they have to have a larger tread depth compared to Normal tyres. It is proposed to use the same tolerances as in GTR No. 16 and Regulation No. 54.

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