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agenda item 4.2.18.)

**PROPOSAL FOR SUPPLEMENT 3 TO REGULATION No. 109**  
(Retreaded pneumatic tyres for commercial vehicles)

Transmitted by the Working Party on Brakes and Running Gear (GRRF)

Note: The proposal reproduced below was adopted by GRRF at its fifty- fifth and fifty-sixth sessions (TRANS/WP.29/GRRF/55, para. 46, TRANS/WP.29/GRRF/56, para. 44) and is transmitted for consideration to WP.29 and to AC.1. It is based on TRANS/WP.29/GRRF/2002/19/Rev.1, TRANS/WP.29/GRRF/2003/20, TRANS/WP.29/GRRF/2004/3 and TRANS/WP.29/GRRF/2004/13.

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Paragraph 2.21.2., amend to read:

" ..... in Annex 5 to this Regulation or, depending on the tyre design type, for example, tyres identified by the tyre to rim fitment configuration symbol "A" (see paragraph 2.21.4.), the nominal outer diameter expressed in mm."

Insert a new paragraph 2.21.4., to read:

"2.21.4. an indication of the tyre to rim fitment configuration when it differs from the standard configuration and is not already expressed by the symbol "d" denoting the nominal rim diameter code."

Insert a new paragraph 2.23.1., to read:

"2.23.1 "Tyre to rim fitment configuration" means the type of rim to which the tyre is designed to be fitted. In the case of non-standard rims this will be identified by a symbol applied to the tyre, for example, "A".

Insert new paragraphs 3.2.12. to 3.2.15., to read:

"3.2.12. No later than two years after the date of entry into force of this amendment, tyres manufactured using the "bead to bead" process as defined in paragraph 2.37.3., or any process in which the sidewall material is renewed, shall have the identification referred to in paragraph 2.21.4., placed only immediately after the rim diameter marking referred to in paragraph 2.21.3.

3.2.13. The suffix "C" or "LT" following the rim diameter marking referred to in paragraph 2.21.3. and, if applicable, after the tyre to rim fitment configuration symbol referred to in paragraph 2.21.4.

3.2.13.1. this marking is optional in the case of tyres fitted on 5° drop centre rims, suitable for single and dual fitment, having a load capacity index in single fitment equal to or less than 121 and intended for the equipment of motor vehicles;

3.2.13.2. this marking is mandatory in the case of tyres fitted on 5° drop centre rims, suitable for single fitment only, having a load capacity index equal to or greater than 122 and intended for the equipment of motor vehicles.

3.2.14. The suffix "CP" following the rim diameter marking referred to in paragraph 2.21.3. and, if applicable, after the tyre to rim configuration symbol referred to in paragraph 2.21.4. This marking is mandatory in the case of tyres fitted on 5° drop centre rims, having a load capacity index in single fitment equal to or less than 121 and specifically designed for the equipment of motor caravans.

3.2.15. The inscription "FRT" (free rolling tyre) in the case of tyres designed for the equipment of trailer axles and axles of motor vehicles other than front steer or non-drive axles."

Insert a new paragraph 7.1.1.1.1., to read:

"7.1.1.1.1 In the case of tyres identified by the tyre to rim fitment configuration symbol "A" (see paragraph 2.21.4.) the factor "K" shall be 0.6."

Insert a new paragraph 7.1.2.3., to read:

"7.1.2.3. In the case of tyres identified by the tyre to rim fitment configuration symbol "A" (see paragraph 2.21.4.), the outer diameter shall be that specified in the tyre size designation shown on the sidewall of the tyre."

Paragraph 7.1.4.2., amend to read:

"7.1.4.2. It may exceed the value by 4 per cent in the case of radial-ply tyres and 8 per cent in the case of diagonal (bias-ply) tyres. However, for tyres with nominal section width exceeding 305 mm intended for dual mounting (twinning), the value determined pursuant to paragraph 7.1.1. above shall not be exceeded by more than 2 per cent for radial-ply tyres with nominal aspect ratio higher than 60 or 4 per cent for diagonal (bias-ply) tyres."

Insert a new paragraph 7.1.4.3., to read:

"7.1.4.3. In the case of tyres identified by the tyre to rim fitment configuration symbol "A" (see paragraph 2.21.4.), the overall width of the tyre, in the lower area of the tyre, equals the nominal width of the measuring rim (see paragraph 2.24.), plus 27 mm."

Paragraph 7.1.5.1.2., amend to read:

"7.1.5.1.2 For sizes referred to in paragraph 7.1.2.2. and for tyres identified by the tyre to rim fitment configuration symbol "A" (see paragraph 2.21.4.), the nominal section height "H" is equal to:

$$H = 0.5(D - d)$$

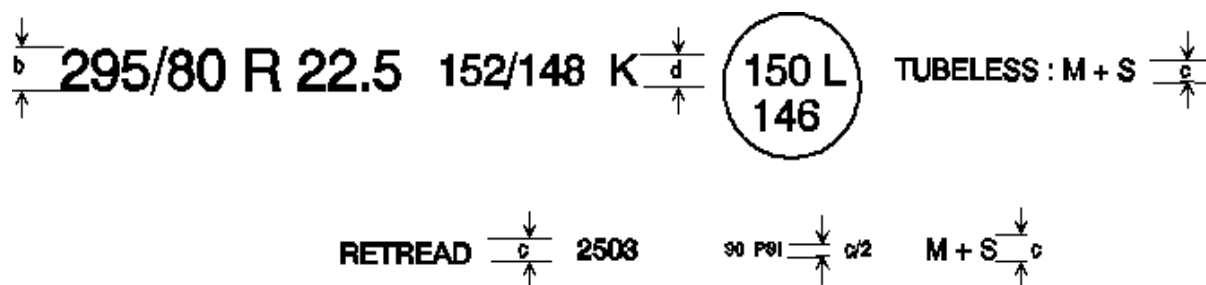
where "D" and "d" are as defined in paragraph 7.1.2.1."

Annex 3, amend to read:

"Annex 3

ARRANGEMENT OF RETREAD TYRE MARKINGS

1.



MINIMUM HEIGHTS OF MARKING (mm)		
	Tyres of rim diameter ≤ code 20 or ≤ 508 mm or of section width ≤ 235 mm or ≤ 9"	Tyres of rim diameter > code 20 or > 508 mm or of section width > 235 mm or > 9"
b	6	9
c		4
d		6

The above example defines a retreaded pneumatic tyre:

- Having a nominal section width of 295;
- Having a nominal aspect ratio of 80;
- Of radial-ply structure (R);
- Having a nominal rim diameter of 572 mm, for which the code is 22.5;
- Having load capacities of 3550 kg (single) and 3150 kg (twinned or dual), corresponding respectively to the load indices 152 and 148 shown in Annex 4 to this Regulation;
- Having a nominal speed symbol K (reference speed 110 km/h);
- Able to be used at the Unique Point, speed symbol L (reference speed 120 km/h); with a load capacity of 3350 kg (single) and 3000 kg (twinned or dual), corresponding respectively to the load indices 150 and 146 shown in Annex 4 to this Regulation;
- Intended to be used without an inner tube ("TUBELESS") and of Snow type (M+S);
- Retreaded in the weeks 25, 26, 27 or 28 of the year 2003.
- Requiring to be inflated to 620 kPa for load/speed endurance tests, for which the PSI symbol is 90.

2. In the particular case of tyres having a tyre to rim fitment configuration "A", the marking shall be in the form of the following example:

235-700 R 450A where:

235 is the nominal section width in mm

700 is the outer diameter expressed in mm

R is an indication of the structure of the tyre – see paragraph 3.1.3. of this Regulation

450 is the nominal diameter of the rim expressed in mm

A is the tyre to rim fitment configuration.

The marking of the load index, speed category date of manufacture and other markings, shall be as given in example 1 above.

3. The positioning and order of the markings constituting the tyre designation shall be as follows:

- (a) The size designation as defined in paragraph 2.21. of this Regulation shall be grouped as shown in the above examples: 295/80 R 22.5 or 235-700 R 450 A.
- (b) The service description comprising the load index (indices) and the speed symbol(s) shall be placed immediately after the tyre size designation as defined in paragraph 2.21. of this Regulation.
- (c) The symbol "TUBELESS" and "M+S" may be at a distance from the size-designation symbol.
- (d) The word "RETREAD" may be at a distance from the size-designation symbol.
- (e) If paragraph 3.2.5. of this Regulation is applied, the additional service description (Unique Point), comprising the load indices and speed symbol, must be shown inside a circle near the nominal service description appearing on the tyre sidewall."

#### Annex 7,

Paragraph 2.2.1., amend to read:

"2.2.1. In the case of tyres with a speed capability greater than 150 km/h (speed category symbol "Q" and above, plus "H") the test procedure shall be as given in paragraph 3. of this annex."

Paragraph 3., amend to read:

"3. Load/speed test programme for tyres having a speed capability greater than 150 km/h (speed category symbol "Q" and above, plus "H");"

Insert new paragraphs 3.1. to 3.1.2., to read:

"3.1. This programme applies to:

3.1.1. all tyres having a load capacity index in single fitment equal to or less than 121;

3.1.2. tyres having a load capacity index in single fitment equal to or greater than 122 and having the additional marking "C" or "LT" referred to in paragraph 3.2.13. of this Regulation."

Paragraphs 3.1. to 3.5. (former), renumber as paragraphs 3.2. to 3.6.

Insert a new Note (2) to Annex 7, Appendix 1, to read:

"(2) Tyres having a load capacity index equal to or greater than 121, a speed category symbol "N" or "P" and the additional markings "C" or "LT" included in the tyre size designation (referred to in paragraph 3.2.13. of this Regulation), shall be tested with the same programme as specified in the above table for tyres having a load capacity index equal to or less than 121."

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