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**Economic Commission for Europe**

Inland Transport Committee

**World Forum for Harmonization of Vehicle Regulations**

**190th session**

Geneva, 20-22 June 2023

Item 4.9.3 of the provisional agenda

**1958 Agreement:**

**Consideration of draft amendments to existing UN Regulations submitted by GRBP**

 Proposal for Supplement 26 to UN Regulation No. 54. (Tyres for commercial vehicles and their trailers)

Submitted by the Working Party on Noise and Tyres[[1]](#footnote-2)\*

The text reproduced below was adopted by the Working Party on Noise and Tyres (GRBP) at its seventy-seventh session (ECE/TRANS/WP.29/GRBP/75, para. 14). It is based on GRBP-77-24 as amended by para. 14 of the report. It is submitted to the World Forum for Harmonization of Vehicle Regulations (WP.29) and to the Administrative Committee (AC.1) for consideration at their June 2023 sessions.

*Paragraph 1.,* amend to read:

"**1. Scope**

This Regulation covers new pneumatic tyres\* designed primarily for vehicles of categories M2, M3, N, O3 and O4[[2]](#footnote-3),[[3]](#footnote-4). However, it does not apply to tyre types identified by nominal speed category symbols corresponding to speeds below eighty (80) km/h."

*Paragraph 2.5.2.,* amend to read:

"2.5.2. "*Snow tyre*" means a tyre whose tread pattern, tread compound or construction is primarily designed to achieve in mud and/or snow conditions a performance better than that of a normal tyre with regard to its ability to initiate and controlvehicle motion;"

*Paragraph 2.20.4.1.,* amend to read:

"2.20.4.1. The values of the "d" symbols expressed in millimetres are shown below:

| *Nominal rim diameter code**("d" symbol)* | *Value of the "d" symbol**expressed in mm* |
| --- | --- |
| 8 | 203 |
| 9 | 229 |
| 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 |
| 24 | 610 |
| 25 | 635 |
| 26 | 660 |
| 28 | 711 |
| 30 | 762 |
| 32 | 813 |
| 34 | 864 |
| 36 | 914 |
| 38 | 965 |
| 40 | 1016 |
| 42 | 1067 |
| 14.5 | 368 |
| 16.5 | 419 |
| 17.5 | 445 |
| 19.5 | 495 |
| 20.5 | 521 |
| 22.5 | 572 |
| 24.5 | 622 |
| 26.5 | 673 |
| 28.5 | 724 |
|  |  |
| 30.5 | 775 |

"

*Paragraph 2.31.2.,* amend to read:

"2.31.2. The speed categories are as shown in the table below[[4]](#footnote-5):

| *Speed category symbol* | *Corresponding speed (km/h)* |
| --- | --- |
| E | 70 |
| F | 80 |
| G | 90 |
| J | 100 |
| K | 110 |
| L | 120 |
| M | 130 |
| N | 140 |
| P | 150 |
| Q | 160 |
| R | 170 |
| S | 180 |
| T | 190 |
| U | 200 |
| H | 210 |

"

*Add a new paragraph 2.36.,* to read:

"2.36. "*Additional service description*" means an additional service description, marked within a circle, to identify a special type of service (load-capacity index or indices and speed category symbol) to which the tyre type is also allowed to operate in addition to the applicable load variation with speed (see Annex 8)."

*Add a new paragraph 4.1.6.1.,* to read:

"4.1.6.1 The speed category symbol E can be used only for the additional service description."

*Paragraph 6.2.5.,* amend to read:

"6.2.5. Where application is made for the approval of a type of tyre which has an additional service description, the endurance test prescribed in paragraph 6.2.1. above shall also be carried out on a second tyre of the same type at the additional load/speed combination and the applicable inflation pressure. At option of the tyre manufacturer, one test at the highest load index, the highest speed symbol and the lowest test inflation pressure indicated may be submitted."

*Add a new paragraph 6.2.5.1.,* to read:

"6.2.5.1. Tyres marked with an additional service description for which the load-capacity represents a difference in load not greater than 2 per cent with respect to a load/speed combination applicable to the nominal speed category symbol (see Annex 8) can be exempted from performing an additional load/speed test, provided that the speed category of the additional service description differs from the speed category of the nominal service description and that there is no second test inflation pressure marked for the additional service description."

*Paragraph 6.3.1.,* amend to read:

"6.3.1. In order to be classified as a "special use tyre" a tyre shall have a block tread pattern in which the blocks**\*** are larger and more widely spaced than for normal tyres and have the following characteristics:

For C2 tyres: a tread depth ≥ 11 mm and void to fill ratio ≥ 35 per cent

For C3 tyres: a tread depth ≥ 16 mm and void to fill ratio ≥ 35 per cent

\* blocks may be shaped as lugs and cleats"

*Annex 6, paragraph 4.,* amend to read:

"4. The overall width is measured at six equally-spaced points, account being taken of the thickness of the protective ribs or bands. The highest measurement so obtained is taken as the overall width."

*Annex 7, paragraph 2.1.,* amend to read:

"2.1. Mount the tyre-and-wheel assembly on the test axle and press it against the outer face of a smooth power-driven test drum of at least 1.70 m **±** 1 per cent in diameter having a surface at least as wide as the tyre tread."

*Annex 7, Appendix 1,* amend to read:

"**Annex 7 - Appendix 1**

Endurance-test programme

| *Load****-capacity*** *index* | *Tyre speed category symbol* | *Test-drum speed* | *Load placed on the wheel as a percentage of the load corresponding to the load-****capacity*** *index* |
| --- | --- | --- | --- |
| *Radial-plykm/h* | *Diagonal (bias-ply)km/h* | *7 h* | *16 h* | *24 h* |
| 122 or more | E | 32 | 32 | 66 % | 84 % | 101 % |
| F | 32 | 32 |
| G | 40 | 32 |
| J | 48 | 40 |
| K | 56 | 48 |
| L | 64 | **—** |
| M | 72 | **—** |
| N | 80 | — |
| 121 or less | E | 32 | 32 |
| F | 32 | 32 |
| G | 40 | 40 |
| J | 48 | 48 |
| K | 56 | 56 |
| L | 64 | 56 | 70 % | 88 % | 106 % |
|  |  |  | *4 h* | *6 h* | *24 h* |
| M | 80 | 64 | 75 % | 97 % | 114 % |
| N | 88 | **—** |
| P | 96 | **—** |

*Notes:*

(1) "Special-use" tyres (see paragraph 2.1. (c) of this Regulation) should be tested at a speed equal to 85 per cent of the speed prescribed for equivalent normal tyres.

(2) Tyres with load index 122 or more, speed category symbols N or P and the additional marking "LT", or "C", referred to in paragraph 3.1.14. of this regulation, shall be tested with the same programme as specified in the above table for tyres with load index 121 or less.

(3) In case of a test drum diameter larger than 1,700 mm ± 1 per cent, the above "percentage of test load" shall be increased as follows:

$$F\_{1}=K∙F\_{2}$$

Where:

$$K=\sqrt{\frac{\left({R\_{1}}/{R\_{2}}\right)∙\left(R\_{2}+r\_{T}\right)}{\left(R\_{1}+r\_{T}\right)}}$$

*R*1 is the diameter of test drum, in millimetres

*R*2 is the diameter of the reference test drum of 1,700 mm

*r*T is the tyre outer diameter (see paragraph 6.1.5 of this Regulation), in millimetres

*F*1 is the percentage of load to be applied for the test drum

*F*2 is the percentage of load, as per above table, to be applied for reference test drum of 1,700 mm

Example:

*K* = 1 for a test drum diameter of 1,700 mm;

In case of a test drum diameter of 3,000 mm and a tyre diameter of 1,500 mm:

$$K=\sqrt{\frac{\left({3000}/{1700}\right)∙\left(1700+1500\right)}{\left(3000+1500\right)}}=1.12$$

"

1. \* In accordance with the programme of work of the Inland Transport Committee for 2023 as outlined in proposed programme budget for 2023 (A/77/6 (Sect. 20), table 20.6), the World Forum will develop, harmonize and update UN Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate. [↑](#footnote-ref-2)
2. As defined in the Consolidated Resolution on the Construction of Vehicles (R.E.3.) (ECE/TRANS/WP.29/78/Rev.6). [↑](#footnote-ref-3)
3. This Regulation defines requirements for tyres as a component. It does not limit their installation on any categories of vehicles.

 \* For the purpose of this Regulation, "tyres" means "pneumatic tyres". [↑](#footnote-ref-4)
4. For consistency, the symbols and speeds shown in this table are the same as those for passenger cars (as in UN Regulation No. 30). They should not be taken to indicate the speeds at which commercial vehicles fitted with such tyres may be operated on the roads. [↑](#footnote-ref-5)