

Global Registry

Created on 18 November 2004, pursuant to Article 6 of the Agreement concerning the establishing of global technical regulations for wheeled vehicles, equipment and parts which can be fitted and/or be used on wheeled vehicles (ECE/TRANS/132 and Corr.1) done at Geneva on 25 June 1998

Addendum 16: Global technical regulation No. 16

Global technical regulation on tyres

Established in the Global Registry on 13 November 2014

Amendment 1

I. Statement of technical rationale and justification

A. Objective

1. The objective of this proposal is to develop, in the framework of the 1998 Agreement, an amendment to UN Global Technical Regulation (GTR) No. 16 on tyres aimed at adaptation of UN GTR No. 16 to the technical progress by including the newly developed provisions to wet grip performance, rolling resistance and qualification for use at severe snow conditions both for passenger car (PC) and light truck / commercial (LT/C) tyres, recently adopted within UN Regulation No. 117. The approved changes in the relevant FMVSS and UN Regulations Nos. 30 and 54 also had been included.

B. Introduction and procedural background

2. UN GTR No. 16 on tyres was established in the Global Registry on 13 November 2014. The informal working group on the Tyre GTR was challenged by reaching harmonization of technical provisions making those acceptable both for type approval and self-certification compliance assessment systems.

3. Meanwhile, in parallel to development of UN GTR No. 16, UN Regulation No. 117, which is a base for UN GTR No. 16, had been amended several times by inclusion of the provisions to tyre wet grip performance, rolling resistance and qualification for use at severe snow conditions for all tyre classes included in its scope. The other base UN Regulations Nos. 30 and 54 were also subjects to certain amendments, and the relevant provisions of UN GTR N. 16 became needed to be aligned.

4. As harmonization of the newly introduced provisions of UN Regulation No. 117 was not feasible in a reasonable time frame, the decision for draft UN GTR on tyres was not to consider those provisions for inclusion in the text of GTR at the time of its development.

5. As the aforesaid new provisions of UN Regulation No. 117, as well as those of UN Regulations Nos. 30 and 54 represent the state-of-the art level and are important for assessment of performance of tyres on the markets worldwide, at the 79th GRRF session the decision was made to prepare a draft amendment keeping in line the UN GTR on tyres with the latest regulatory developments (ECE/TRANS/WP.29/GRRF/79, para. 27).

6. The European Tyre and Rim Technical Organisation (ETRTO) agreed to prepare a draft Amendment No. 1 to UN GTR No. 16 considered as Phase 1b of the development of the UN GTR on tyres. The Government of the Russian Federation assumed the duties of the technical sponsor for that development.

C. Justification of Changes

(a) Amendment of Part I

8. This proposal incorporates four new paragraphs in Part I of UN GTR No. 16: 4-bis, 23-bis, 28-bis and 28-ter.

9. Paragraph 4-bis is added for information for further anticipated amendments in UN GTR No. 16 to be followed the results of current rulemaking activities in the United States in the field of the Strength test for passenger car tyres (UN GTR No. 16 - Section 3.6) and the Tubeless tyre bead unseating resistance test for passenger car tyres (UN GTR No. 16 - Section 3.7).

10. Paragraph 23-bis provides for additional clarification that no legal aspects concerning implementation of this GTR in national/regional legislation of the Contracting Parties to the 1998 Agreement is provided within the text of UN GTR, therefore the way of transposition of the GTR provisions into its national/regional legislation is at the discretion of the Contracting Parties. In this regard, paragraph 23-bis contains recommendations on anticipated practice of transposition of the provisions of this GTR into national/regional legislation of the Contracting Parties providing for facilitation of the transposition process. The recommendations of paragraph 23-bis are partly based on the developments of the WP.29 Informal Group dealing with the development of the procedure of International Whole Vehicle type Approval (IWVTA).

11. Paragraphs 28-bis and 28-ter briefly explain the objective and the content of this Amendment No. 1 to the UN GTR No. 16). These two paragraphs are added for clarity and refreshment of history, when this Amendment No. 1 will be incorporated into the main text of the GTR.

(b) Amendment of Part II

12. The amendments of Part II are based on the following documents recently adopted by WP.29 and become supplements to the UN Regulations Nos. 30, 54 and 117:

(i) Addition of new definitions (Section 2):

UN Regulation No. 117:

Supplement 1 to the 02 series of amendments – ECE/TRANS/WP.29/2012/2, as amended by para. 65 of the report of the 156th WP.29 session (ECE/TRANS/WP.29/1095);

Supplement 2 to the 02 series of amendments – ECE/TRANS/WP.29/2012/54, as amended by para. 63 of the report of the 158th WP.29 session (ECE/TRANS/WP.29/1099);

Supplement 7 to the 02 series of amendments – ECE/TRANS/WP.29/2015/5 adopted during the 165th WP.29 session (ECE/TRANS/WP.29/1114);

UN Regulation No. 30:

Supplement 17 to the 02 series of amendments – ECE/TRANS/WP.29/2012/48 as amended by para. 50 of the report of the 157th WP.29 session (ECE/TRANS/WP.29/1097);

UN Regulation No. 54:

Supplement 18 to the original version of the Regulation – ECE/TRANS/WP.29/2012/49 adopted during the 157th WP.29 session (ECE/TRANS/WP.29/1097);

(ii) Marking (Section 3.2):

Final rule standardizing the Tire Identification Number (TIN)

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(iii) Other sidewall marking (Section 3.3):

UN Regulation No. 117:

Supplement 2 to the 02 series of amendments – ECE/TRANS/WP.29/2012/54, as amended by para. 63 of the report of the 158th WP.29 session (ECE/TRANS/WP.29/1099);

UN Regulation No. 54:

Supplement 18 to the original version of the Regulation – ECE/TRANS/WP.29/2012/49 adopted during the 157th WP.29 session (ECE/TRANS/WP.29/1097);

(iv) Physical dimensions of tires (Section 3.5):

UN Regulation No. 30 :

Supplement 17 to the 02 series of amendments – ECE/TRANS/WP.29/2012/48 as amended by para. 50 of the report of the 157th WP.29 session (ECE/TRANS/WP.29/1097);

(v) Strength test for passenger car tyres (Section 3.6)

UN Regulation No. 30 :

Supplement 17 to the 02 series of amendments – ECE/TRANS/WP.29/2012/48 as amended by para. 50 of the report of the 157th WP.29 session (ECE/TRANS/WP.29/1097);

(vi) Tyre rolling sound emission test (Section 3.8):

UN Regulation No. 117:

Exemptions added as in the 02 series of amendments;

For the test surface the reference is made to ISO 10844:2014 (Supplement 4 to the 02 series of amendments – ECE/TRANS/WP.29/2013/55;

Supplement 8 to the 02 series of amendments to Regulation No. 117 (Tyre rolling resistance, rolling noise and wet grip) ECE/TRANS/WP.29/2015/65 as amended by para.66 of the report of the 166th WP.29 session (ECE/TRANS/WP.29/1116);

(vii) Modification of test for adhesion performance on wet surfaces (Section 3.12):

UN Regulation No. 117:

Exemptions added as in the 02 series of amendments;

Supplement 1 to the 02 series of amendments – ECE/TRANS/WP.29/2012/2, as amended by para. 65 of the report of the 156th WP.29 session (ECE/TRANS/WP.29/1095);

Supplement 6 to the 02 series of amendments – ECE/TRANS/WP.29/2013/66, as amended by para. 56 of the report of the 162nd WP.29 session (ECE/TRANS/WP.29/1108);

Special session of GRRF held during the 163rd session of WP.29

ECE/TRANS/WP.29/GRRF/77 approved by para 28 of the 164th WP.29 session (ECE/TRANS/WP.29/1112)

(viii) Strength test for LT/C tyres (section 3.14):

The following has been introduced for consistency with 3.6.(Strength test for passenger car tyres) and definition 2.89 :

UN Regulation No. 30 :

Supplement 17 to the 02 series of amendments – ECE/TRANS/WP.29/2012/48 as amended by para. 50 of the report of the 157th WP.29 session (ECE/TRANS/WP.29/1097);

(ix) Addition of new requirements to rolling resistance (new Section 3.22):

UN Regulation No. 117:

02 series of amendments – ECE/TRANS/WP.29/2010/63, as amended by para. 45 of the report of the 151st WP.29 session (ECE/TRANS/WP.29/1085);

Supplement 1 to the 02 series of amendments – ECE/TRANS/WP.29/2012/6 adopted during the 156th WP.29 session (ECE/TRANS/WP.29/1095);

Supplement 2 to the 02 series of amendments – ECE/TRANS/WP.29/2012/54, ECE/TRANS/WP.29/2012/55 as amended by para. 63 of the report of the 158th WP.29 session (ECE/TRANS/WP.29/1099);

Supplement 3 to the 02 series of amendments – ECE/TRANS/WP.29/2013/7 adopted during the 159th WP.29 session (ECE/TRANS/WP.29/1102);

Supplement 7 to the 02 series of amendments – ECE/TRANS/WP.29/2015/5 adopted during the 165th WP.29 session (ECE/TRANS/WP.29/1114);

- (x) Addition of new requirements for qualification of a tyre to be designated for use in severe snow conditions (new Section 3.23):

UN Regulation No. 117:

Supplement 1 to the 02 series of amendments – ECE/TRANS/WP.29/2012/2, as amended by para. 65 of the report of the 156th WP.29 session (ECE/TRANS/WP.29/1095);

Supplement 2 to the 02 series of amendments – ECE/TRANS/WP.29/2012/54, as amended by para. 63 of the report of the 158th WP.29 session (ECE/TRANS/WP.29/1099);

Supplement 5 to the 02 series of amendments – ECE/TRANS/WP.29/2013/59 adopted during the 161th WP.29 session (ECE/TRANS/WP.29/1106);

Supplement 7 to the 02 series of amendments – ECE/TRANS/WP.29/2015/5 adopted during the 165th WP.29 session (ECE/TRANS/WP.29/1114);

Addition of new Annexes containing the details of the newly added test methods.

Annex 11 - Rolling resistance test equipment tolerances

Supplement 1 to the 02 series of amendments – ECE/TRANS/WP.29/2012/6 adopted during the 156th WP.29 session (ECE/TRANS/WP.29/1095);

Supplement 2 to the 02 series of amendments – ECE/TRANS/WP.29/2012/55 adopted during the 158th WP.29 session (ECE/TRANS/WP.29/1099);

Supplement 7 to the 02 series of amendments – ECE/TRANS/WP.29/2015/5 adopted during the 165th WP.29 session (ECE/TRANS/WP.29/1114);

Supplement 8 to the 02 series of amendments to Regulation No. 117 (Tyre rolling resistance, rolling noise and wet grip) ECE/TRANS/WP.29/2015/65 as amended by para.66 of the report of the 166th WP.29 session (ECE/TRANS/WP.29/1116);

Annex 12 – Measuring rim width;

02 series of amendments – ECE/TRANS/WP.29/2010/63, as amended by para. 45 of the report of the 151st WP.29 session (ECE/TRANS/WP.29/1085);

Annex 13 – Test report - Rolling resistance for tyres;

02 series of amendments – ECE/TRANS/WP.29/2010/63, as amended by para. 45 of the report of the 151st WP.29 session (ECE/TRANS/WP.29/1085);

Annex 14 – Deceleration method - Measurements and data processing for deceleration value obtaining in differential form $d\omega/dt$;

Supplement 7 to the 02 series of amendments – ECE/TRANS/WP.29/2015/5 adopted during the 165th WP.29 session (ECE/TRANS/WP.29/1114);

Annex 15 – Test reports and test data for C1 and C2 tyres – Snow test;

02 series of amendments – ECE/TRANS/WP.29/2010/63, as amended by para. 45 of the report of the 151st WP.29 session (ECE/TRANS/WP.29/1085);

Supplement 2 to the 02 series of amendments – ECE/TRANS/WP.29/2012/54 as amended by para. 63 of the report of the 158th WP.29 session (ECE/TRANS/WP.29/1099);

Annex 16 – Test reports and test data for C3 tyres – Snow test.

Supplement 1 to the 02 series of amendments – ECE/TRANS/WP.29/2012/2, as amended by para. 65 of the report of the 156th WP.29 session (ECE/TRANS/WP.29/1095);

Modifications of annexes.

Annex 8 - Test report – Rolling sound emissions for tyres;

Supplement 4 to the 02 series of amendments-ECE/TRANS/WP.29/2013/55 as amended by para. 67 of the report of the 160th WP.29 session (ECE/TRANS/WP.29/1104);

Supplement 8 to the 02 series of amendments to Regulation No. 117 (Tyre rolling resistance, rolling noise and wet grip)ECE/TRANS/WP.29/2015/65 as amended by para.66 of the report of the 166th WP.29 session (ECE/TRANS/WP.29/1116);

Annex 9 - Test reports examples of wet grip index

Supplement 1 to the 02 series of amendments - ECE/TRANS/WP.29/WP.29/2012/2 amended by para 65 of the report of the 156th WP.29 session (ECE/TRANS/WP.29/1095);

II. Proposed amendments to UN GTR No. 16

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