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Working Party on the Construction of Vehicles

Working Party on Noise (GRB)

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agenda item 1.)

PROPOSAL FOR A NEW DRAFT REGULATION: UNIFORM PROVISIONS CONCERNING THE  
APPROVAL OF TYRES WITH REGARD TO ROLLING SOUND EMISSIONS

Transmitted by the Expert from the European Tyre and Rim  
Technical Organization (ETRTO)

Note: The text reproduced below is a revision of the proposal prepared by the expert from ETRTO, concerning the approval of tyres with regard to rolling sound emissions. It incorporates the amendments agreed (text in bold and crossed-out) during the thirty-first session (TRANS/WP.29/GRB/29, para. 11 and annex 2).

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Note: This document is distributed to the Experts on Noise only.

1. Scope

This Regulation contains provisions relating to the sound emission level of tyres in rolling conditions on a Standard Test Surface.

1.1 This Regulation applies to new pneumatic tyres ~~sizes~~ primarily designed for use by road vehicles of categories M, N and O. It does not, however, apply to:

[1.1.1. Tyres designed as 'Temporary use spare tyres' and marked 'Temporary Use only';]

1.1.2. Tyres having a nominal rim diameter code ~~# 10 (or 254 mm) or \$ 25 (or 635 mm)~~;

1.1.3. Tyres designed for competitions.

~~1.1.4. Tyres having a nominal rim diameter code equal to or larger than 25 (or 635 mm)~~

1.1.4. Tyres primarily designed for vehicle categories other than M, N and O

1.1.5. Tyres with additional devices to improve traction properties (e.g. studded tyres).

2. Definitions

**For the purpose of this Regulation, in addition to the definitions contained in ECE Regulations Nos. 30 and 54, the following definitions apply.**

[ 2.1. "Type of tyres" means, in relation to this regulation, a range of tyres consisting of a list of tyre size designations, trade marks and trade designations which do not differ in such essential characteristics as:

- the manufacturer's name
- the tyre class (see section 2.4)
- the tyre structure
- the category of use
- **the rolling sound emission characteristics]**

[ 2.2. "Trade designation" means an identification of the tread pattern design as provided by the tyre manufacturer. It may coincide with the trade mark.]

2.3. "Rolling sound emission" means the sound emitted from the contact between the tyres in motion and the road surface.

2.4. "Tyre Class" means one of the following groupings:

2.4.1. Class C1 tyres: Tyres conforming to ECE Regulation No. 30.

- 2.4.2. Class C2 tyres: Tyres conforming to ECE Regulation No. 54 and identified by a load capacity index in single formation lower or equal to 121 and a speed category symbol higher or equal to 'N'.
- 2.4.3. Class C3 tyres: Tyres conforming to ECE Regulation No. 54 and identified by:
- a load capacity index in single formation higher or equal to 122, or
  - a load capacity index in single formation lower or equal to 121 and a speed category symbol lower or equal to 'M'
- 2.5. "Representative tyre size" means the tyre size which is submitted to the test described in annex 3 to this Regulation, to assess the conformity for the type approval of the *type* of tyres.
- ~~2.6. For the purpose of this Regulation, in addition to the definitions contained in ECE Regulations Nos. 30 and 54, the following definitions apply, with the exceptions of the definitions mentioned above.~~
3. Application for approval
- 3.1. The application for approval of a *type* of tyres with regard to the rolling sound emission level shall be submitted by the tyre manufacturer or by his duly accredited representative.
- 3.2. It shall be accompanied by the following documents:
- 3.2.1. A list, in triplicate, specifying the tyre class (see paragraph 2.4. above), the category of use (see paragraph 2.1.3. of ECE Regulation No. 30 for Class C1 tyres or of ECE Regulation No. 54 for class C2 and class C3 tyres), the tyre size designations (see paragraph 2.17. of ECE Regulation No. 30 for class C1 tyres or of ECE Regulation No. 54 for class C2 and class C3 tyres) and the relevant trade designation(s) of all sizes constituting the *type* of tyres submitted for type approval.
- 3.2.2. Sketch(es) or photograph(s) representative of the tread pattern design(s) of the trade designation(s) constituting the *type* of tyres submitted for type approval.
- 3.3. At the request of the approval authority the application shall be supplemented either with a test report in conformity to annex 3 to this Regulation issued by an approved laboratory, or with a set of four samples of the tyre representative for the *type* of tyres to be dispatched to the technical service conducting the approval tests.
- 3.4. The tyre manufacturer may apply for extensions of the type approval assigned to a *type* of tyres in order to include additional tyre size designations and/or modified trade designations and/or additional trade designations.

4. Markings

- 4.1. All tyres constituting the *type* of tyres must be marked as prescribed by either ECE Regulation No. 30 or No. 54, as applicable.
- 4.2. In particular tyres must bear:
  - 4.2.1. the manufacturer's name or trade mark
  - 4.2.2. the trade designation (see section 2.2). However, the trade designation is not required when it coincides with the trade mark.
  - 4.2.3. the tyre size designation
  - 4.2.4. the inscription "REINFORCED" (or alternatively "EXTRA LOAD") if the tyre is classified as reinforced.
  - 4.2.4. the inscription "M+S" (or alternatively "M.S" or "M&S") if the tyre is classified in the category of use "snow".
  - 4.2.5. the inscription "MPT" (or alternatively "ML" or "ET") if the tyre is classified in the category of use "special".

5. Approval

- 5.1. If the representative tyre size of the *type* of tyres submitted for approval pursuant to this Regulation meets the requirements of paragraphs 6 and 7 below, approval of that range of tyres shall be granted.
- 5.2. An approval number shall be assigned to the *type* of tyres approved. The same Contracting Party may not assign the same number to another *type* of tyres.
- 5.3. Notice of approval or extension of approval or refusal of approval of a *type* of tyres pursuant to this Regulation shall be communicated to the Parties to the Agreement which apply this Regulation by means of a form conforming to the model in annex 1 to the Regulation.
- 5.4. There shall be affixed conspicuously and in a readily accessible place to every tyre size conforming to the *type* of tyres approved under this Regulation, an international approval mark consisting of:
  - 5.4.1. a circle surrounding the letter 'E' followed by the distinguishing number of the country which has granted approval, and
  - 5.4.2. the approval number, followed by '-s', placed to the right (or below) the circle prescribed in paragraph 5.4.1.
- 5.5. If the tyre conforms to type approvals under one or more other Regulations annexed to the Agreement in the country which has granted approval under this Regulation, the symbol prescribed in paragraph 5.4.1. need not be repeated. In such a case the

additional numbers and symbols of all the Regulations under which approval has been granted in the country which has granted approval under this Regulation shall be placed **adjacent to the symbol prescribed in paragraph 5.4.1. above.**

5.6. The approval mark shall be clearly legible ~~and be indelible and shall be moulded into or onto at least one sidewall.~~

~~5.7. The approval mark shall be placed on one tyre sidewall only.~~

5.7. Annex 2 to this Regulation gives examples of arrangements of approval marks.

6. Specifications

~~6.1. A set of four tyres bearing the same size designation and trade description, representative for the type of tyres submitted for approval, must undergo a rolling sound emission level test carried out as described in annex 3 to this Regulation.~~

6.1. A type of tyres, whose representative ~~sample tyre size~~ tested as per annex 3 to this Regulation, does not exceed the limits, expressed in dB(A), specified in paragraph 6.3. below, is deemed to be in conformity with the requirements of this Regulation. ~~and shall not be submitted to any further test:-~~

6.2. Rolling sound emission limits

6.2.1. For Class C1 tyres, **the rolling noise emission value shall not exceed the values given below. These values apply to both normal and snow tyres and refer to the nominal section width as given in paragraph 2.17.1.1 of Regulation No. 30:**

<u>Nominal Section Width</u>	<u>Limit dB(A)</u>
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

6.2.1.1. In case of 'Reinforced' Class C1 tyres (see paragraph 3.1.8. of ECE Regulation No. 30) the limits of paragraph 6.3.1. are to be increased by 1 dB(A).

6.2.1.2. In case of Class C1 tyres classified in category of use 'Special' the limits of paragraph 6.3.1. are to be increased by 2 dB(A).

- 6.2.2. For Class C2 tyres, ~~the rolling noise emission value no tyre size of the type of tyres shall exceed,~~ with reference to its category of use (see paragraph 2.1.3. of Regulation No. 54) **shall not exceed** :

<u>Category of use</u>	<u>Limit dB(A)</u>
Normal	75
Snow	77
Special	78

- 6.2.3. For Class C3 tyres, ~~the rolling noise emission value no tyre size of the type of tyres shall exceed,~~ with reference to its category of use (see paragraph 2.1.3. of Regulation No. 54) **shall not exceed**:

<u>Category of use</u>	<u>Limit dB(A)</u>
Normal	76
Snow	78
Special	79

## 7. Modifications of the type of tyres and extension of approvals

- 7.1. Every modification of the type of tyres shall be notified to the administrative department which type approved the range of tyres. The said department may then either:

- 7.1.1. consider that the modifications made are unlikely to have an appreciable adverse effect or,  
 7.1.2. require a further test report from the technical service, [or from the approved laboratory].

- 7.2. Confirmation of extension or refusal of approval shall be communicated to the Parties to the Agreement applying this Regulation in accordance with the procedure specified in paragraph 5.3. above.

## 8. Conformity of production

The conformity of production procedures shall comply with those set out in the Agreement, Appendix 2 (E/ECE/324-E/ECE/TRANS/505/Rev.2) with the following requirements:

- 8.1. Any tyre approved under this Regulation shall be so manufactured as to conform to the rolling sound emission limits of the type of tyres approved and satisfy the requirements of paragraph 6 above.

8.2. In order to verify conformity as prescribed in paragraph 8.1. above, a sample of tyres bearing the approval mark required by this Regulation shall be taken from the series production.

8.3. Production shall be deemed to conform to the requirements of this Regulation if the levels measured do not exceed by more than 1 dB(A), the limits prescribed in paragraph 6.3. above.

9. Penalties for non-conformity of production

9.1. The approval granted in respect of a *type* of tyres pursuant to this Regulation may be withdrawn if the requirements laid down in paragraph 8 above are not complied with, or if any tyre of the *type* of tyres exceeds the limits given in paragraph 8.3. above.

9.2. If a Party to the Agreement, which applies this Regulation, withdraws an approval, it has previously granted, it shall forthwith notify the other Contracting Parties applying this Regulation by means of a copy of the approval form conforming to the model in annex 1 to the Regulation.

10. Production definitely discontinued

If the holder of an approval completely ceases to manufacture a type of pneumatic tyre approved in accordance with this Regulation, he shall so inform the authority which granted the approval. Upon receiving the relevant communication that authority shall inform thereof the other Parties to the 1958 Agreement applying this Regulation by means of a communication form conforming to the model in annex 1 to this Regulation.

11. Names and addresses of Technical Services conducting approval tests and of Administrative Departments

11.1. The Parties to the Agreement which apply this Regulation shall communicate to the United Nations Secretariat, the names and addresses of the technical services conducting approval tests and of the administrative departments which grant approval and to which forms certifying approval or extension of approval or refusal or withdrawal of approval, issued in other countries, are to be sent.

[11.2. Laboratories and proving grounds of tyre manufacturers may be designated by the administrative department granting the approval as technical service.]

[11.3. Where a Party to the Agreement applies paragraph 10.2. above it may, if it so desires, be represented at the tests by one or more persons of its choice.]

**12.**            Interim provisions

- 12.1            Tyres intended for sale as replacement only, belonging to a type the tread pattern of which was originally type approved to either ECE Regulation No. 30 or No. 54 before 1 January 1993 are excluded from the requirements of this Regulation;
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Annex 1

COMMUNICATION

(maximum format: A4 (210 x 297 mm))



Issued by: Name of administration:  
.....  
.....  
.....

concerning: 2/ APPROVAL GRANTED  
APPROVAL EXTENDED  
APPROVAL REFUSED  
APPROVAL WITHDRAWN  
**PRODUCTION DEFINITELY DISCONTINUED**

of a *type* of tyres with regard to rolling sound emission level pursuant to Regulation No. XXX.

Approval No. .... Extension No. ....

1. Manufacturer's name and address(es): . . . . .
2. If applicable, name and address of manufacturer's representative: . . . . .
3. 'Tyre class' and 'category of use' of the *type* of tyres: . . . . .
4. Commercial description(s) of the *type* of tyres: . . . . .
- [5. Technical service and, where appropriate, test laboratory approved for purposes of approval or of verification of conformity tests:..... ]
6. Number of report issued by that service: . . . . .
7. Date of report issued by that service: . . . . .
8. Reason(s) of extension (if applicable): . . . . .
9. Any remarks: . . . . .
10. Place: . . . . . 11.Date: . . . . .
12. Signature: . . . . .
13. Annexed to this communication is a list of documents in the approval file deposited at the Administration services having delivered the approval and which can be obtained upon request.

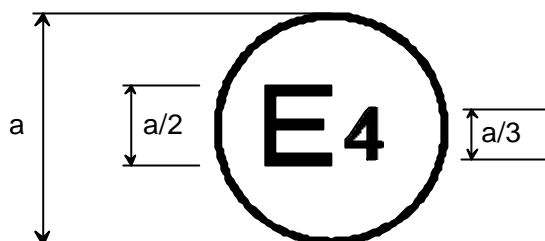
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1/ Distinguishing number of the country which has granted/extended/refused/withdrawn approval (see approval provisions in the Regulation)  
2/ Strike out what does not apply

Annex 2

ARRANGEMENTS OF APPROVAL MARKS

Example 1



$\frac{a}{3}$  XXX R-001234-S

a = 12 mm (min.)

The above approval mark, affixed to a pneumatic tyre shows that the tyre concerned has been approved in the Netherlands (E4) pursuant to Regulation No. XXX (-s) under approval number 001234. The first two digits of the approval number (00) indicate that the approval was granted according to the requirements of this Regulation in its original form.

Example 2



XXX R-001234-S 023637

The above approval mark shows that the tyre concerned has been approved in the Netherlands (E4) pursuant to Regulations No. XXX and 30. The first two digits of the approval numbers indicate that, at the dates when the respective approvals were granted, Regulation No. XXX was still in its original form, but Regulation No. 30 included the 02 series of amendments.

Note: The approval number(s) must be placed close to the circle and either above or below the "E" or on the left or right of that letter. The digits of the approval number must be on the same side of the "E" and face in the same direction. The use of Roman numerals as approval numbers should be avoided so as to prevent any confusion with other symbols.

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Annex 3

Insert the text of Annex 3 to document TRANS/WP.29/GRB/1999/3  
**as amended by document TRANS/WP.29/GRB/29, annex 3**

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Annex 4

Insert the text of Annex 4 to document TRANS/WP.29/GRB/1999/3

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