

Proposal for additional amendments to UN Regulation No. 51 with introduction of indoor test methods (ECE/TRANS/WP.29/GRB/2018/3)

This proposal is made in addition to that introduced in the document ECE/TRANS/WP.29/GRB/2018/3 in order to indicate in the main text of the UN Regulation No. 51 the possibility for the both outdoor and indoor test methods to be deemed equivalent. The proposed amendments to the current Regulation are marked in bold for new or strikethrough for deleted characters.

I. Proposal

A. In the main text of the UN Regulation No. 51:

Paragraph 6.2.1.1., amend to read:

“6.2.1.1. The sound made by the vehicle type submitted for approval shall be measured **either indoor or outdoor** by the methods described in Annex 3 to this Regulation. ~~for the vehicle in motion~~ **The specific conditions for indoor testing are provided in Annex 8 to this Regulation. The results of the outdoor and indoor tests are deemed equivalent.**

For each specific test condition for vehicles, the manufacturer can select to test the vehicle either indoor or outdoor. The Type Approval Authority shall always have the option to mandate an outdoor test for verification. The option of the type approval authority to mandate an outdoor test shall apply to any test specified in this regulation, including conformity of production testing.

In addition, the sound shall be measured on the stationary³ vehicle; in the case of a vehicle where an internal combustion engine cannot operate when the vehicle is stationary, the emitted sound shall only be measured in motion. In the case of a hybrid electrical vehicle of category M1 where an internal combustion engine cannot operate when the vehicle is stationary, the emitted sound shall be measured according to Annex 3, paragraph 4.

...”

B. In ECE/TRANS/WP.29/GRB/2018/3:

Annex 3, Paragraph 3., amend to read:

"3. Methods of testing

~~For each specific test condition for vehicles, the manufacturer can select to test the vehicle either indoor or outdoor. The Type Approval Authority shall always have the option to mandate an outdoor test for verification.~~

For outdoor, tests shall be performed according to paragraph 3.1.

For indoor, tests shall be performed according to paragraph 3.1. using the specifications of ISO 362-3:2016, variant A. For indoor application, the manufacturer shall provide to the technical service documentation according to Annex 8, paragraph 1. Variant A is a combination of indoor testing (power train sound) and outdoor testing (tyre/road sound).

...”

II. Justification

Indoor testing is an important option for measurements of sound level. A possibility for such option should be recognized already in the main text of the UN Regulation No. 51 with the following statements:

- Indoor and outdoor test results are deemed equivalent;
- A manufacturer can choose any option;
- A Type Approval Authority in any case may mandate an outdoor test for verification.

Those statements are brought to the paragraph 6.2.1.1.
