

## Proposal for a new supplement to UN Regulation No. 13

The text below was prepared by the experts from the Netherlands. The modifications to the existing text of the Regulation are marked in **bold** for new or ~~striketrough~~ for deleted characters.

### I. Proposal

*Paragraph 4.5 of Annex 15.*, amend to read:

- “4.5. Type II test (downhill behaviour test):
- 4.5.1. This test is required only if, on the vehicle-type in question, the friction brakes are used for the Type-II test **as required by Annex 4 paragraph 1.6 (i.e. with a 6% slope) or 1.8.2.5 (b) (i.e. with a 7% slope).**
- 4.5.2. Brake linings for power-driven vehicles of Category M<sub>3</sub> (except for those vehicles required to undergo a Type-IIA test according to paragraph 1.6.4. of Annex 4 to this Regulation) and Category N<sub>3</sub>, and trailers of Category O<sub>4</sub> shall be tested according to the procedure set out in paragraph 1.6.1. of Annex 4 to this Regulation.

***Brake linings for power-driven vehicles of Category M<sub>3</sub> and Category N<sub>3</sub> required to undergo a Type-IIA test according to paragraph 1.6.4. of Annex 4 to this Regulation and only complying with this requirement by application of provisions of paragraph 1.8.2.5 of Annex 4 to this Regulation, shall be tested according to the procedure set out in paragraph 1.8.2.5 (b) of Annex 4 to this Regulation.”***

### II. Justification

1. This amendment is to clarify the need to apply, when relevant, the Type II test as required by Annex 4 paragraph 1.8.2.5 (b) in Annex 15 for alternative brake lining purposes.
2. During the September 2020 GRVA session document ECE/TRANS/WP.29/GRVA/2020/36 as modified by informal document GRVA-07-73/Rev.1 was adopted, essentially reflecting the possibility to use, in case of vehicles with electric regenerative braking possibilities, the Type II endurance test as required by Annex 4 paragraph 1.8.2.5 (b) as alternative to a regular endurance brake as required by Annex 1.6. In this case, the friction brake is used when storing energy in the traction battery is not possible only because the maximum state of charge of the battery has been reached.
3. At the time, the procedure and requirements of Annex 15 on alternative brake lining have not been amended and refer only to the Type 0, I, II as requested by Annex 4 paragraph 1.6 and the Type III test.
4. In case of a manufacturer making use of the above standing Type II test as required by Annex 4 paragraph 1.8.2.5 (b), applying a certain (‘standard’) brake lining and this manufacturer later on wants to apply an alternative brake lining, it can make use of the existing procedure as described in Annex 15. However, this Annex does not refer to the Type II test as required by Annex 4 paragraph 1.8.2.5 (b).

Based on paragraph 1.3 of the same Annex 15 it is possible to demand additional tests according to Annex 4 – so also the Type II test as required by Annex 4 paragraph 1.8.2.5 (b) - however in such case the test needs to be executed twice so with and standard an alternative brake lining which is double work:

*1.3. The Technical Service responsible for conducting approval tests may at its discretion require comparison of the performance of the brake linings to be carried out in accordance with the relevant provisions contained in Annex 4 to this Regulation.*

5. To overcome such double work and to ensure a level playing field, it is proposed to clarify the need to use, when relevant, the Type II test as required by Annex 4 paragraph 1.8.2.5 (b) in Annex 15.