

Proposal for amendments to ECE/TRANS/WP.29/GRVA/2021/15

Proposal for Supplement 12 to the 01 series of amendments and Supplement 7 to the 02 series of amendments to UN Regulation No. 90 (Replacement braking parts)

**Submitted by the expert from the
European Association of Automotive Suppliers (CLEPA)**

ECE/TRANS/WP.29/GRVA/2021/15 was prepared by the expert from the European Association of Automotive Suppliers (CLEPA) to resolve the problem of fulfilling increasingly difficult Conformity of Production (CoP) routine obligations caused by unavailability of the specifically prescribed hardware. This document is based on informal documents GRVA-07-52 and GRVA-09-41 and replaces ECE/TRANS/WP.29/GRVA/2021/15. The modifications to the current text of UN Regulation No. 90 are marked in **bold** for new and strikethrough for deleted characters.

I. Proposal

Annex 9,

Part A,

Insert a new paragraph 3.1.1.1 (after para. 3.1.1), to read:

“3.1.1.1. Alternatively the machine may be equipped with a disc brake and corresponding brake disc having a diameter of 278 ± 2 mm such as to allow a rectangular piece of the friction material with a surface area of $44 \text{ cm}^2 \pm 0.5 \text{ cm}^2$ and a thickness of at least 6 mm to be attached to the backing plates of the disc brake.

In this case the Registered Values of friction to be used for ongoing COP checks shall be established in accordance with the technical service by comparative tests using the same batch of friction material with the test hardware specified in 3.1.1 and the alternative hardware.

The applicant shall provide the values for the friction behavior resulting from the use of alternative test hardware in accordance with Annex 9 paragraph 3.4.1. of this Regulation and the results shall be attached to the type-approval report.”

II. Justification

1. Paragraph 3.1.1. of Annex 9 in UN Regulation No. 90, covering CoP testing for brake lining assemblies and drum brake linings for vehicles of categories M₃, N₂, N₃, O₃, and O₄, currently requires the use of a very specific type and size of brake calliper and brake disc in order for the brake lining manufacturer to be able to demonstrate to the approving authority the consistency of production, batch to batch.

2. This type of brake calliper and corresponding brake rotor were commonly available when the Regulation was first published in the early 1990's but this is no longer the case, with all major brake calliper manufacturers confirming that such brakes are no longer in series production.

3. The consequence is that holders of UN Regulation No. 90 approvals around the world are finding it increasingly difficult to fulfil their routine CoP obligations because they cannot any longer locate and purchase the specifically prescribed hardware in order to conduct the tests. We therefore need to update paragraph 3.1.1. to reflect the current reality and avoid any hardware constraints in future.

4. It is therefore proposed to amend the regulation to allow also the use of alternative forms of brake calliper (e.g. floating types) and brake discs (e.g. vented) but still require the use of the same disc diameter and pad area and thickness, as currently specified, in order to provide consistency with past data.

5. In order to adopt new hardware it will be necessary for the manufacturer, in agreement with the Type Approval Authority, to conduct a new set of baseline tests with the new hardware to “re-establish/re-confirm” CoP values to use as the reference data going forward.