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Economic Commission for Europe**Inland Transport Committee****World Forum for Harmonization of Vehicle Regulations****Working Party on Noise and Tyres****Eightieth session**

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Item 6 (d) of the provisional agenda

Tyres: UN Regulation No. 124 (Replacement Wheels for Passenger Cars)**Proposal for a Supplement to UN Regulation No. 124****Submitted by the expert from Russian Federation***

The text reproduced below was prepared by the expert from the Russian Federation in order to clarify certain provisions of UN Regulation No. 124. It is based on informal document GRBP-79-32 and further GRBP experts' comments. The modifications to the current text of the UN Regulation are marked bold for added text and strikethrough for deleted text.

* In accordance with the programme of work of the Inland Transport Committee for 2024 as outlined in proposed programme budget for 2024 (A/78/6 (Sect. 20), table 20.5), the World Forum will develop, harmonize and update UN Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.



I. Proposal

Annex 4,

Table, amend to read (deletion of test (b) for the case of aluminum alloy and magnesium alloy wheels):

“

Material	Tests
Aluminium alloy	a, b , c, e
Magnesium alloy	a, b , c, e
Steel	a, b, d

“

Annex 6,

Paragraph 4, at the end (before the picture), add a new indent to read:

“A suitable technical test method to detect technical cracks shall be applied.”

Annex 8,

Paragraph 3, table, row “Acceptance criteria”, amend to read:

“

Acceptance criteria	<p>The test shall be considered satisfactory if there is not any visible fracture penetrating through the wheel surface and if there is not total loss of inflation pressure due to tyre depressurization through a leak in the wheel within one minute of completing the test. Fractures and indentations caused by the direct contact with the falling weight are acceptable.</p> <p>In the case of wheels with demountable rims or other components that can be dismantled, if threaded fastenings that are close to the spoke or ventilation holes fail the wheel is to be considered as having failed the test.</p>
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Paragraph 5, amend to read:

"5. Failure criteria

The wheel will not pass the test if one of the following criteria applies:

- (a) visible incipient crack in a zone of the wheel disc of wheel assembly;
- (b) the centre member separates from the rim;
- (c) ~~total loss of pressure within one minute.~~ **total loss of inflation pressure within one minute due to deformation of the wheel or a leak in the wheel.**

The wheel is not considered to have failed the test by deformation of the wheel assembly or by fractures in the area of a rim section struck by the face plate of the striker."

II. Justification

1. This proposal was prepared in response to requests for clarification of certain provisions of UN Regulation No. 124 received from national testing laboratories engaged in testing in accordance with this UN Regulation.

Annex 4, Table

2. Test (b) is deleted for the case of aluminum-alloy and magnesium-alloy wheels, since the existing experience of testing confirms that the mechanical properties of the raw materials are not comparable with the mechanical properties of the end product (wheels). In this regard, it is proposed not to verify the raw material mechanical characteristics per subparagraph (b)

for aluminum-alloy and magnesium-alloy wheels. Verification of such characteristics of the end product is considered to be sufficient, as the light-alloy raw material requirements are not necessarily the objective of UN Regulation No. 124.

Annex 6, paragraph 4

3. A recommendation is added to identify cracks occurred as a result of the test by using a suitable test method, e.g., penetrating paints, allowing to identify small technical cracks (1-5 mm), which could not be seen at visual inspection.

Annex 7, paragraph 3, table and Annex 8, paragraph 3, table and paragraph 5

4. As the air leakage is indicated in the tables of Annex 7 and Annex 8 as the acceptance criteria, the intention of the proposal is to clarify that the air leakage caused by the tyre damage during the test shall not be taken into consideration when assessing the test results for the wheel. The proposal is intended to eliminate uncertainty in the interpretation of the test results. For that, it is necessary to determine the cause of the tyre pressure drop. If the pressure drop in the tyre was caused by its damage, this shall not affect the acceptance of the wheel.
