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**1998 Agreement – Consideration and vote by AC.3 of draft gtrs
and/or draft amendments to established gtrs**

Proposal for amendments to global technical regulation on tyres

Submitted by the Working Party on Brakes and Running Gear*

The text reproduced below was adopted by the Working Party on Brakes and Running Gear (GRRF) at its seventy-seventh session (ECE/TRANS/WP.29/GRRF/77, para. 27). It is based on Annex II to the report and lists the adopted amendments to original text of the global technical regulation on tyres (ECE/TRANS/WP.29/2013/63). It is submitted to the World Forum for Harmonization of Vehicle Regulations (WP.29) and to the Executive Committee of the 1998 Agreement (AC.3) for consideration.

* In accordance with the programme of work of the Inland Transport Committee for 2012–2016 (ECE/TRANS/224, para. 94 and ECE/TRANS/2012/12, programme activity 02.4), the World Forum will develop, harmonize and update Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.

In Chapter 1, Part A, insert a new paragraph 4., to read:

"4. Additional technical evaluation is necessary to assess whether consideration should be given for certain tyre types typical in the North American market in relation to the specifications in paragraph 3.12. (referring to the Test for Adhesion Performance on Wet Surfaces). Government and industry in the United States of America are coordinating to conduct this evaluation."

Paragraph 3.12.2.1.1.1., amend to read:

"3.12.2.1.1.1. Standard reference test tyre (SRTT) method

When tested using the SRTT and the method given in paragraph 3.12.3.1. the average peak brake force coefficient (pbfc) shall be between 0.6 and 0.8. The measured values shall be corrected for the effects of temperature as follows:

$$\text{pbfc} = \text{pbfc (measured)} + 0.0035 (t - 20)$$

Where "t" is the wetted track surface temperature in degrees Celsius.

The test shall be conducted using the lanes and length of the track to be used for the wet grip test;"

Paragraph 3.12.2.3., amend to read:

"3.12.2.3. Wetting conditions

The surface may be wetted from the track-side or by a wetting system incorporated into the test vehicle or the trailer.

If a track-side system is used, the test surface shall be wetted for at least half an hour prior to testing in order to equalize the surface temperature and water temperature. It is recommended that track-side wetting be continuously applied throughout testing.

For either wetting method, the water depth shall be between 0.5 mm and 1.5 mm."

Paragraph 3.12.3.1.1.5., amend to read:

"3.12.3.1.1.5. In the case of vehicles that incorporate a track wetting system, the water delivery nozzle(s) shall be such that the resulting water film is of uniform section extending at least 25 mm beyond the width of the tyre contact patch. The nozzle(s) shall be directed downwards at an angle of 20° to 30° with the water contacting the track surface between 250 mm and 450 mm in front of the centre of the tyre contact patch. The height of the nozzle(s) shall be 25 mm or the minimum to avoid any obstacles on the track surface without exceeding a maximum of 100 mm. Water delivery rate shall ensure a water depth of 0.5 mm to 1.5 mm and shall be consistent throughout the test to within ± 10 per cent. Note that a typical rate for testing at 65 km/h will be 18 litres per second per metre of wetted track surface width."

Paragraph 3.12.3.1.2.3., amend to read:

"3.12.3.1.2.3. The tyre shall be conditioned for a minimum of two hours such that it is stabilized at the ambient temperature of the test track area. The tyre(s) shall not be exposed to direct sunshine during conditioning."

Paragraph 3.12.3.1.2.5., amend to read:

"3.12.3.1.2.5. Before testing, the track shall be conditioned e.g. by carrying out at least ten braking tests on the part of the track to be used for the performance test programme but using a tyre not involved in that programme."

Paragraph 3.12.3.1.2.10., amend to read:

"3.12.3.1.2.10. In the case of a new tyre, at least two test runs shall be carried out to condition the tyre. These tests may be used to check the operation of the recording equipment but the results shall not be taken into account in the performance assessment."

Paragraph 3.12.3.1.2.13., amend to read:

"3.12.3.1.2.13. The average value of peak brake force coefficient (pbfc) shall be calculated over at least six valid results. For results to be considered to be valid, the coefficient of variation as determined by the standard deviation divided by the average result, expressed as a percentage, shall be within 5 per cent. If this cannot be achieved with the repeat testing of the SRTT, the evaluation of the candidate tyre(s) shall be discarded and the entire order of testing shall be repeated. However, if only the candidate tyre(s) test is invalid, the entire test series need not be deemed invalid."
