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(Fifty-sixth session 20-22 September 2004,
agenda item 6.3.)

PROPOSAL FOR DRAFT AMENDMENT TO REGULATION No. 30

(Pneumatic tyres)

Transmitted by the experts from the European Tyre and Rim Technical Organization (ETRTO)

Note: The text reproduced below has been prepared by the experts from ETRTO in order to add to Regulation No. 30 the possibility to type approve "Run-Flat Tyres" based on a standardized protocol (based on a draft ISO 16992) for the testing of "Run-Flat Tyres" when operating in the "Flat tyre running mode".

Note: This document is distributed to the Experts on Brakes and Running Gear only.

A. PROPOSAL

Paragraph 2.1.4., amend to read:

"....., radial ply or run flat tyre;"

Insert a new paragraph 2.3.7., to read:

"2.3.7. "Run flat tyre" or "Self supporting tyre" describes a pneumatic tyre structure provided with any technical solutions (for example, reinforced sidewalls, etc.) allowing the pneumatic tyre, mounted on the appropriated wheel and in the absence of any supplementary component, to supply the vehicle with the basic tyre functions at a specified speed and distance when operating in flat tyre running mode."

Insert new paragraphs 2.32. to 2.35., to read:

"2.32. "Flat tyre running mode" describes the state of the tyre, essentially maintaining its structural integrity, while operating at an inflation pressure between 0 and 70 kPa.

2.33. "Run flat system" or "Extended mobility system" describes an assembly of specified functionally dependant components, including a tyre, which together provide the specified performance granting the vehicle with the basic tyre functions at a specified speed and distance when operating in flat tyre running mode.

2.34. "Basic tyre functions" describe the normal capability of an inflated tyre in supporting a given load up to a given speed and transmitting the driving, the steering and the braking forces to the ground on which it runs.

2.35. "Deflected section height" is the distance between the contact surface of the tyre and the top of the rim flange."

Insert a new paragraph 3.1.3.5., to read:

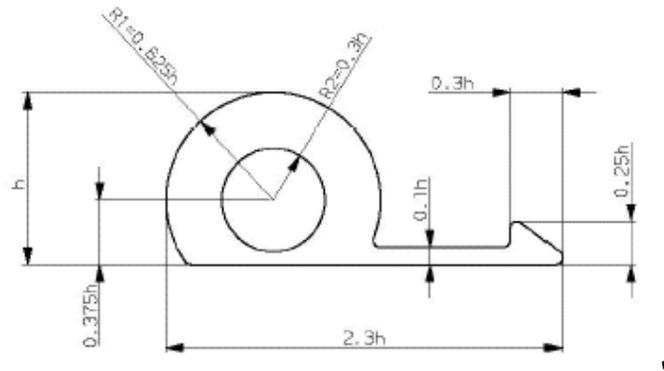
"3.1.3.5. on "run flat" or "self supporting" tyres the letters "RF" placed in front of the tyre structure."

Paragraph 3.1.4.1., amend to read:

"3.1.4.1. On tyres suitable for speed in excess of 300 km/h, the letter identifying the tyre structure placed in front of the rim diameter code marking shall be preceded by the letter "Z" and ... load index. The service description ... "(95)".

Insert a new paragraph 3.1.12., to read:

"3.1.12. The symbol below if the tyre is a "run flat tyre", where "h" is at least 12 mm.



Paragraph 4.1.4., amend to read:

"4.1.4. "Structure: diagonal (bias ply), bias belted, radial or runflat tyre."

Insert a new paragraph 4.1.16., to read:

"4.1.16. the identification of the bead retention rim contours specific for the "flat tyre running mode" of "run flat tyres".

Paragraph 6.1.4.2.2., amend to read:

"6.1.4.2.2. in radial ply tyres and in run flat tyres 4 per cent."

Paragraph 6.1.5.3.2., amend the word "Radial" to read "Radial and Run flat".

Insert new paragraph 6.2.1.2., to read:

"6.2.1.2. Where application is made for the type approval of "run flat" or "self supporting" tyres (see paragraphs 2.3.7. and 3.1.3.5.) the above load speed test is carried out on one tyre, inflated as per paragraph 1.2. of annex 7, at the load and speed conditions marked on the tyre (see paragraph 3.1.4.1.). Another load/speed test must be carried out on a second sample of the same tyre type at zero pressure as specified in paragraph 3. of annex 7. The second test may be carried out on the same sample if the manufacturer agrees."

Insert a new paragraph 6.2.2.2., to read:

"6.2.2.2. However a "run flat" or "self-supporting" tyre which, after undergoing the test at zero pressure (see annex 7, paragraph 3.), does not exhibit a change in the deflected section height, compared to the deflected section height at the start of the test, higher than 20 per cent and retains the tread connected to the two sidewalls is deemed to have passed the test."

Annex 1.

Item 5.3., amend to read:

"5.3. Structure: diagonal/bias-belted/radial/run flat tyres 2".

Annex 7,

Paragraph 1.2., the table, amend the words "Radial tyres" to read "Radial/Run-flat tyres".

Insert a new paragraph 3., to read:

- "3. Procedure to assess the "flat tyre running mode" of "run flat" or "self supporting" tyres
- 3.1. Mount a new tyre on the test rim specified by the manufacturer pursuant to paragraphs 4.1.12. and 4.1.15. of this Regulation.
- 3.1.1. Proceed as per paragraphs 1.2. through 1.5. above
- 3.2. Remove the valve insert and allow the tyre to deflate completely.
- 3.3. Mount the tyre-and-wheel assembly normal to a test axle and press it against the outer surface of a smooth wheel $1.70\text{ m} \pm 1\%$ or $2.0\text{ m} \pm 1\%$ in diameter
- 3.4. Apply to the test axle a load equal to 65 per cent of the maximum load rating corresponding to the load capacity index of the tyre
- 3.4.1. measure the deflected section height (Z1)
- 3.5. During the test the temperature of the test room must be maintained at $38^{\circ}\text{C} \pm 3^{\circ}\text{C}$.
- 3.6. Carry the test trough, without interruption in conformity with the following particulars:
- 3.6.1. time taken to pass from zero speed to constant test speed: 5 minutes
- 3.6.2. test speed: 80 km/h
- 3.6.3. duration of test at the test speed: 60 minutes
- 3.7. At the end of the test, measure the deflected section height (Z2)
- 3.7.1. calculate the change in % of the deflected section height compared to the deflection section height at the start of the test as $((Z1 - Z2) / Z1) * 100$."

Paragraph 3. (former), renumber as paragraph 4. and amend to read:

"4. Equivalent test methods

..... described in paragraphs 2. and/or 3. above"

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B. JUSTIFICATION

The proposal aims to incorporate in Regulation No. 30 the possibility to type approve "Run-Flat Tyres" based on a standardized protocol (based on a draft ISO 16992) for the testing of "Run-Flat Tyres" when operating in the "Flat tyre running mode".
