Proposal for Draft Amendment to Regulation No. 117

Presentation to GRRF and GRB

European Commission
Enterprise and Industry
Draft Amendment to Regulation No. 117
ECE/TRANS/WP.29/GRB/2010/3

3 Meetings of Informal Working Group on Tyre Definitions:
- 23 July 2009
- 31 August 2009
- 16 November 2009
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- Tyre definitions (R30, 54, 117)
- Rolling resistance test methods (R117)
- New noise limit values (R117)
Tyre Definitions

- To cover snow tyres, traction tyres, special use tyres, extra load tyres and professional off-road tyres
- Definitions to be precise and based on physical and / or performance requirements
- Definitions agreed for Reg. No. 117 should also be transferred into Regulations No. 30 and No. 54
Rolling Resistance Test Methods

- Use of ISO standards
- Need to be repeatable and reproducible for use in a type-approval environment
New noise limit values

• New ‘Stage 2’ values need to be compatible with values in GSR

• Accept that some Contracting Parties may wish to stay with Stage 1 for the time being – Regulation should allow for this
New definitions (1):
"Reinforced tyre" or "extra load tyre" of Class C1 means a pneumatic-tyre structure designed to carry more load at a higher inflation pressure than the load carried by the corresponding standard version tyre at the standard inflation pressure as specified in ISO 4000-1[:2009].
New definitions (2):
"Traction tyre" means a tyre in class C2 or C3 bearing the inscription TRACTION and intended to be fitted primarily to the drive axle(s) of a vehicle to maximize force transmission in various circumstances.
New definitions (2):

6.5. In order to be classified as a 'traction tyre', a tyre is required to meet at least one of the conditions of paragraph 6.5.1. or 6.5.2. below.

6.5.1. The tyre shall have a tread pattern with minimum two circumferential ribs, each containing a minimum of 30 block-like elements, separated by grooves and/or sipe elements the depth of which has to be minimum $\frac{1}{2}$ of the tread depth, or

6.5.2. The tyre shall have an increased performance compared to a Standard Reference Test Tyre.

Note: will only apply at a later time when appropriate test methods and limit values are available]
New definitions (3):
"Snow tyre" means a tyre whose tread pattern, tread compound or structure are primarily designed to achieve in snow conditions a performance better than that of a normal tyre with regard to its ability to initiate, maintain or stop vehicle motion.
New definitions (3):

In order to be classified in the category of use 'snow tyre', a tyre is required to meet performance requirements based on a test method (Annex 7) by which:

(a) the mean fully developed deceleration ("mfdd") in a braking test,
(b) or alternatively a maximum or average traction force in a traction test,
(c) or alternatively the mean fully developed acceleration in an acceleration test of a candidate tyre is compared to that of a standard reference tyre. The relative performance shall be indicated by a snow index.
New definitions (4):
"Special use tyre" means a tyre intended for mixed use both on- and off-road or for other special duty. These tyres are primarily designed to initiate and maintain the vehicle in motion in off-road conditions.
New definitions (4):
In order to be classified as a 'special use tyre' a tyre shall have a block tread pattern in which the blocks are larger and more widely spaced than for normal tyres and have the following characteristics:
For C1 tyres: a tread depth $\geq 11$ mm and void to fill ratio $\geq 35$ per cent
For C2 tyres: [a tread depth $\geq 11$ mm] [or][and] void to fill ratio $\geq 35$ per cent
For C3 tyres: [a tread depth $\geq 16$ mm] [or][and] void to fill ratio $\geq 35$ per cent
New definitions (5):

"Professional off-road tyre" is a special use tyre primarily used for service in severe off-road conditions.
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New definitions (5):
In order to be classified as a 'professional off-road tyre', a tyre shall have all of the following characteristics:
(a) For C1 and C2 tyres:
   i) A tread depth $\geq 11$ mm
   ii) A void-to-fill ratio $\geq 35$ per cent
   iii) A maximum speed rating of $\leq Q$
(b) For C3 tyres:
   i) A tread depth $\geq 16$ mm
   ii) A void-to-fill ratio $\geq 35$ per cent
   iii) A maximum speed rating of $\leq K$
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Rolling Sound Emission Limits:

- **C1 tyres**: limit depending on width, Stages 1 + 2, allowances for extra load and reinforced tyres, special use tyres (stage 1), snow tyres (stage 2)

- **C2 and C3 tyres**: different limits for normal, snow and special use tyres, Stages 1 + 2, allowance for traction tyres
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Rolling Resistance Coefficient Limits:
Stages 1 and 2, different values for tyre classes C1, C2 and C3, additional allowance for snow tyres (1 N/kN)
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Annexes:
1 Communication form for type-approval
2 Examples for approval marks
3 Method for measuring tyre noise
4 Specifications for test site
5 Method for measuring wet grip
6 Method for measuring rolling resistance
7 Procedures for snow performance testing
8 Inter-laboratory comparison for rolling resistance
9 Alignment of measurement machines and monitoring requirements
• Annexes 8 and 9 refer to inter-laboratory calibration method
• In draft document both Annexes are informative
• Rolling resistance measurement for type-approval and tyre labelling
• For labelling high precision required
• Request to make both Annexes mandatory
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Proposed Timetable

- Agreement in February sessions of GRRF and GRB
- Adoption at June 2010 WP29 session
- Amended Regulation No. 117 applicable March 2011
- 1 ½ year lead time until requirements in GSR become mandatory
THANK YOU
for your attention