

Comments from India on the GTR for Passenger Vehicle Tyres under formulation by the Working Group on Tyres

Giving below our comments in **yellow highlights** on the previous reference document specifically on the subjects of Tyre Markings and Test Methods pertaining to Tyres under various categories for Harmonized High Speed and Low Pressure Tests.

**A. Scope of the GTR:**

***Proposal:***

The simplification proposal of the working group was to have only radial tyres and tubeless type of tyres included in the scope of the GTR.

**Comments / Justification:**

The scope of the GTR needs to be clarified, because the definition of GTR shall have bearing on the tyres falling under various categories, like passenger and LT. As emphasized in our previous document no. GRRF-62-38 (Item D & E) , testing criterion in certain sizes in LT category do not get appropriately addressed by proposed Harmonized High Speed & Low pressure endurance tests. This is due the fact that these tyres are meant for carrying 'load' and do not support 'speed' application at the same time. In our opinion, the Scope of the GTR must clearly define "**Category**" of tyres and not necessarily **vehicles** because the testing norms pertain to **types of the tyre and/or application.**

**B. Tyre Sidewall Markings (size designation, service description, tyre identification number, type approval markings, etc.)**

***Proposal:***

The simplification proposal of the working group (reference to TYREgtr-03-05e, item no-5) is to remove 'radial' marking and use 'bias' marking only when necessary and removal of 'tubeless' marking and use 'tube type' only when necessary---

**Comments / Justification:**

In view of the request made during previous GTR session we have adopted a flexible approach on the issue of Sidewall Marking. In this connection we agree to removal of word "**Radial**" on tyre sidewall. However we would like to continue to have mandatory mention of "**Tubeless**" words for such category of tyres. This is essential in a market like India where "Tube Type" usage is still of the order of 80%. The transition phase calls for the awareness and education to end users by having "**Tubeless**" engraved on tyre sidewall in view of safety concern also.

#### **D. Harmonized High Speed Test**

##### **Background (ref. previous meetings of September 2007 and February 2008):**

The representative of ETRTO reported on the activities of the sub-group since the last meeting. At the last meeting 3 different options were discussed. One of the options considered was to use the FMVSS 139 high speed test for tyres with a speed rating equivalent to symbol of "S" and below, and Regulation No. 30 for speeds above "S". At that meeting there was a general consensus by the CP'S that due to the limited time scale this proposal could be considered as a starting point, but it would require significant further work (ref. TYREgtr 02-01, par. 8.4).

ETRTO presented a theoretical method to find, for each speed symbol the test which is the most severe and to validate that the equivalence point between the 2 tests is reached at a specific speed symbol (maybe S or T according to very preliminary studies). See more details in working document TYREgtr 03-04.

##### **India's Proposal:**

FMVSS 139 Hi-Speed test (1.70 m drum) is having following steps for testing the tyres

120' @ 80 km/h (Break-in & cool-down)  
30' @ 140 km/h  
30' @ 150 km/h  
30' @ 160 km/h

Based on the existing running sizes in India, there is a group of sizes which have speed ratings from "L" to "Q" (Which is 120 km/h to 160 km/h). This group has max. load capacity of less than 1250 kg , hence does qualify under category of tyres being covered under GTR. Examples of such tyres are

- a) 7.00 R 16 12 PR LT, load capacity 1215 kg , speed rating M
- b) 7.00 R 15 10 PR LT, load capacity 1050 kg , speed rating M or Q
- c) 185/85 R16 8 PR LT, load capacity 925 kg , speed rating Q
- d) 185 R 14 8 PR LT, load capacity 850 kg , speed rating Q

This group by virtue of its speed rating range cannot be tested as per FMVSS 139.

The tests applicable to such types of LT tyres to be clearly defined & addressed . For example such tyres may not need a high speed test but can have step load test like ECE Regulation No. 54.

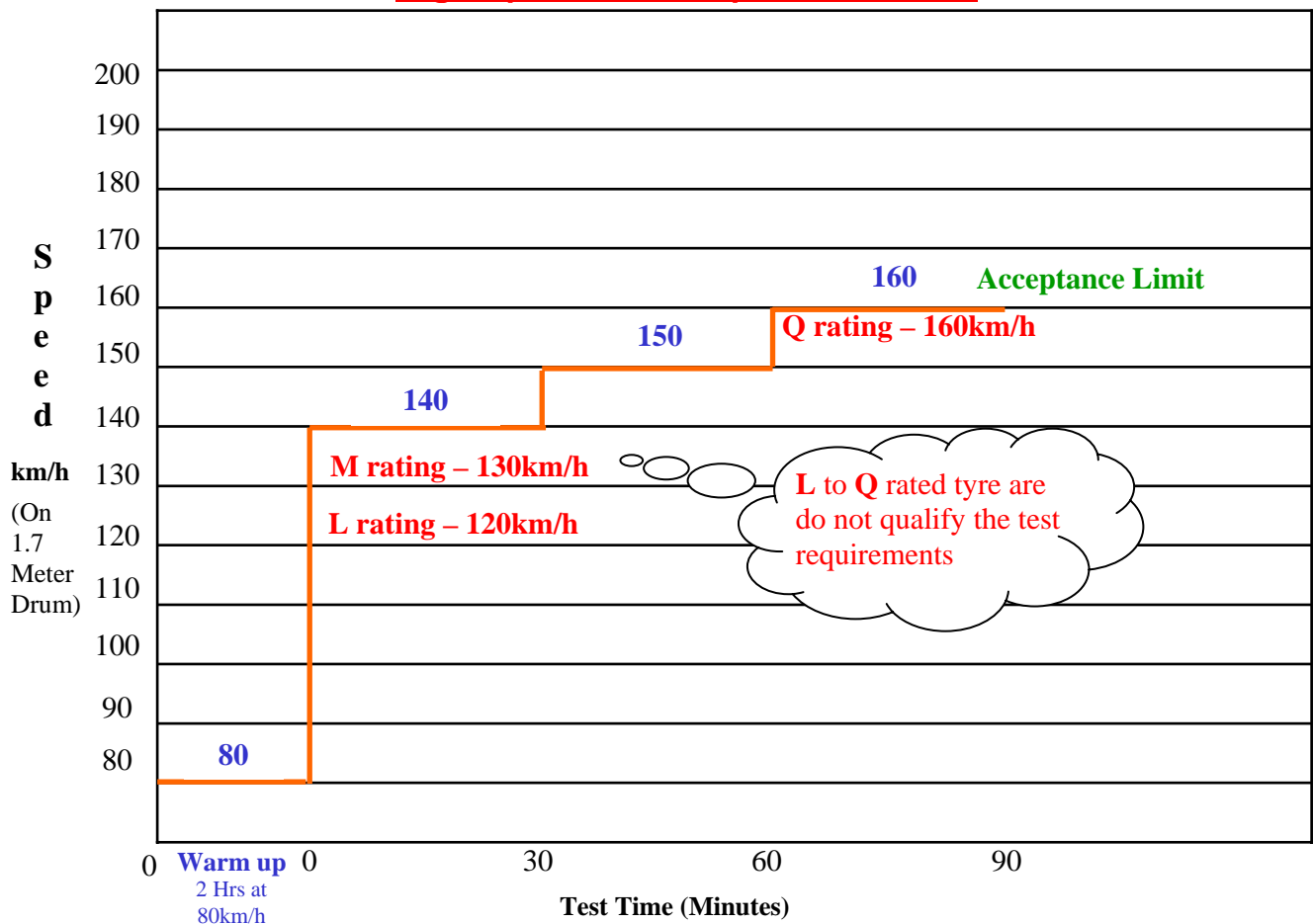
##### **Comments / Justification:**

Assuming the current definition of GTR (Vehicles carrying upto 10,000 lbs), we would like to propose methods for harmonized high speed and low pressure endurance tests. These shall clearly specify the tyres falling in various speed categories and will be able to address the deviations in terms of passenger and LT groups.

# NEW Proposed Method differentiating Tyres in TWO categories

High speed test for tyres having speed capability "S" and above

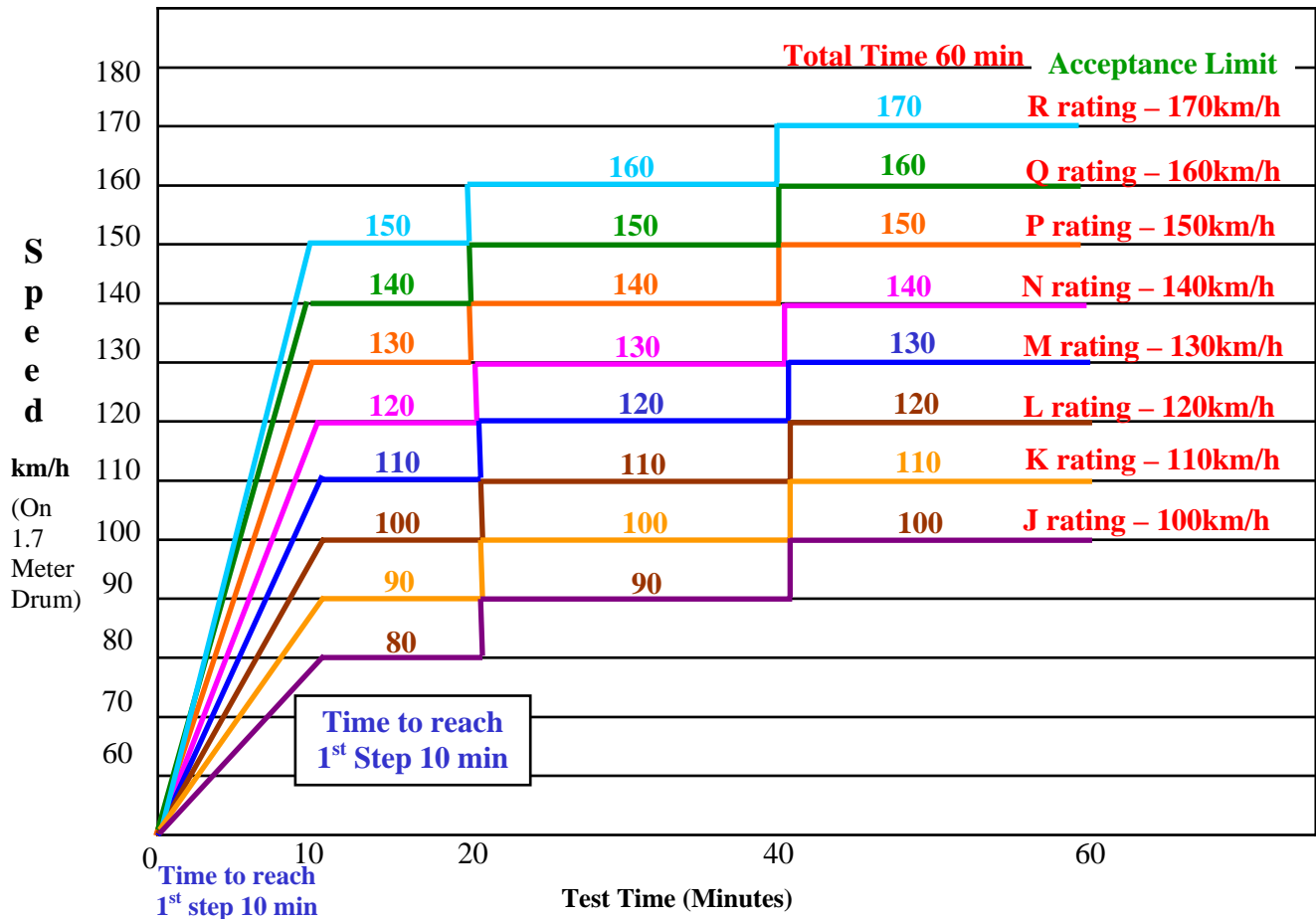
## High Speed Test as per FMVSS139



**India's Proposal:**

**High speed test for tyres having speed capability below "S"**

**Harmonized High Speed Test  
for speed rating Below "S"**



**Steps for Hi-Speed test (1.70 m drum) for tyres having speed capability below "S"**

Initial Test Speed : Speed corresponding to speed category symbol minus 20 kmph

Time to reach initial test speed - 10 min  
Duration of 1<sup>st</sup> Step - 10 min.

Second Test Speed: Speed corresponding to speed category symbol minus 10 kmph  
Duration of 2<sup>nd</sup> Step - 20 min.

Final Test Speed : Speed corresponding to speed category symbol  
Duration of Final Step - 20 min.

Total Test Duration is 1 hr.

**Matrix showing Hi-Speed test standard comparison covering various speed rating**

Speed rating	FMVSS 139	ECE 30 for Pass. version	ECE 54 for LT version	BIS
S & Above	✓	✓		✓
R		✓	✓	✓
Q		✓	✓	✓
P		✓		✓
N		✓		✓
M		✓		✓
L		✓		✓
K				✓

**E. Endurance / Low Pressure Test**

**Earlier Proposal:**

RMA reviewed the background of the test and its recent developments through the FMVSS 139 (See details in working documents TYREgr 02-06 and TYREgr 03-02). The Expert from RMA explained that FMVSS 139 doesn't take into consideration the flat-curve drum surface correction factor (as considered by UNECE Regulation No. 30) and that research and investigation are being performed by ASTM (USA) to establish a correlation between the drum test curved surface and road flat surface and to consider other influencing parameters like airflow around the tyre (see details in TYREgr 03-01). The reason is that the failure modes during the FMVSS 139 test are not properly representing the real world failure modes. The work is in progress and results are expected by July 2007.

**Comments / Justification:**

**NEW Low pressure endurance test for tyre having speed capability "S" & above**

**FMVSS 139  
Endurance and Low Pressure Tests**

<b>Endurance</b> Ambient (°C)	38
Inflation (kPa) % Max.	75
Load Schedule % Max.	85/90/100
Time Schedule (Hrs)	4/6/24
Speed (kph)	120
<b>Low Pressure</b> Same conditions as above except:	
Inflation (kPa) (%Max.)	58
Load (% Max.)	100
Time (Min)	90
Speed (kph)	120

**Low pressure endurance test for tyre having speed capability below “S”**

<b>Endurance</b>	
Ambient (°C)	38
Inflation (kPa) % Max.	100
Load Schedule % Max.	75/97/114
Time Schedule (Hrs)	4/6/24
Speed (kph)	80
<b>Low Pressure</b>	
Same conditions as above except:	
Inflation (kPa)(%Max.)	58
Load (% Max.)	100
Time (Min)	90
Speed (kph)	80

**F. Tyre / Road Sound Emission Test**

**Proposal :**

No update needed, test already harmonized (reference ISO or UNECE Regulation No. 117)  
The Tyre/Road Sound Emission test being already harmonized at ISO level and adopted into UNECE Regulation No. 117.

**Comments / Justification:**

Indian Tyre Industry would require some more time for establishing the test facilities in India. This test may be made optional in the Tyre GTR.

**G. Tyre Wet Grip Adhesion Test.**

**Proposal:**

No update needed, test already harmonized (reference ISO or UNECE Regulation 117) Tyre Wet Grip Adhesion test being already harmonized at ISO level and adopted into UNECE Regulation No. 117.

**Comments / Justification :**

Indian tyre Industry would require some more time for establishing the test facilities. This test may be made optional in the Tyre GTR.

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