

Proposed Test procedure for Hi-Speed and Low inflation pressure test for the category of tyre below speed rating “S” to be included in the passenger car tyre GTR

Assuming the current definition of GTR (Vehicles carrying upto 10,000 lbs), India proposes methods for harmonized high speed and low pressure endurance tests. These methods shall be able to address the tyres falling below S speed rating category and also addresses the tyres covered under LT & C groups but getting fitted on vehicles carrying loads upto 10,000 Lbs.

A. Harmonized High Speed Test :

1.0 Preparing the Tyre :

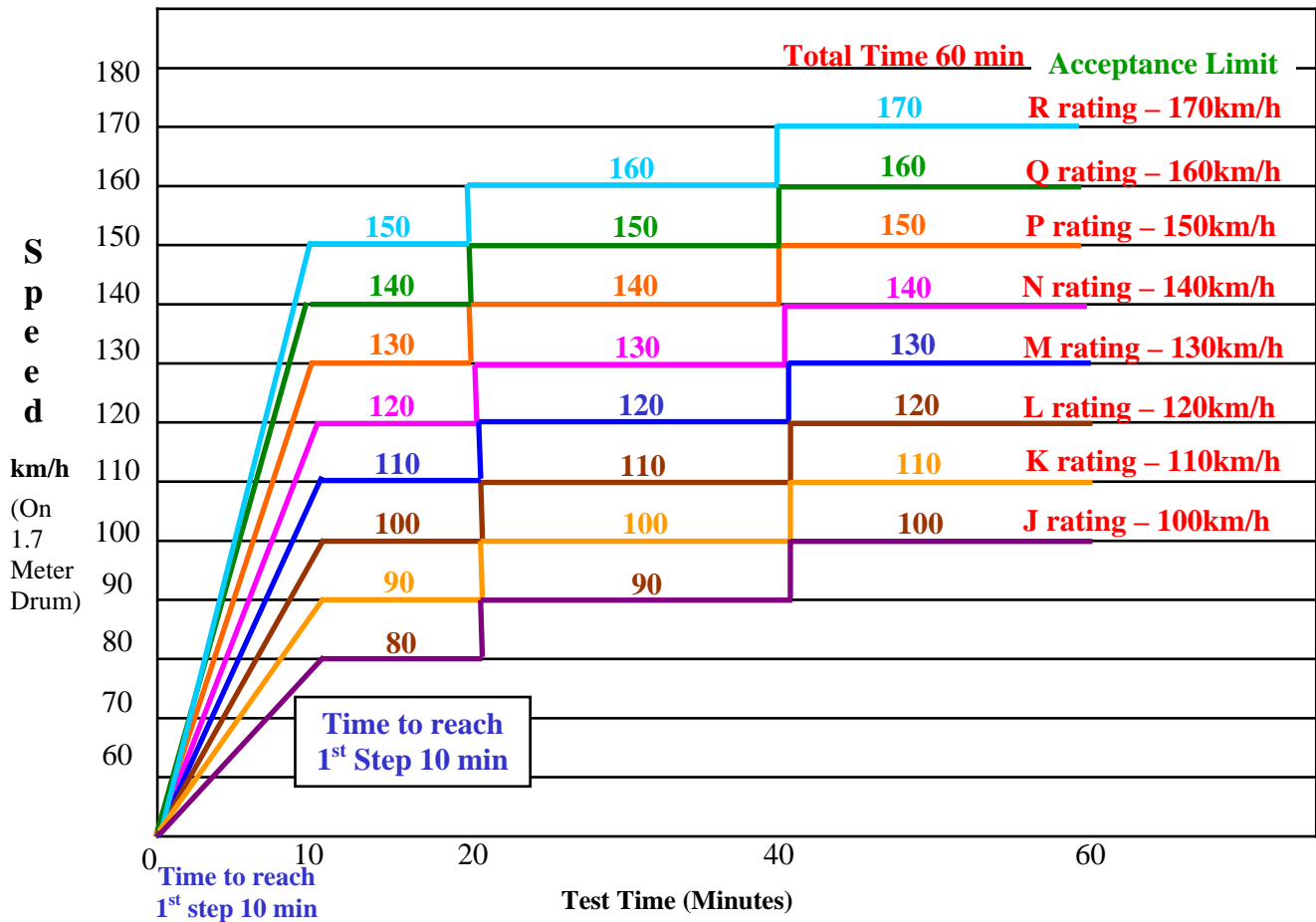
- 1.1 Mount a new tyre on the test rim specified in standard.
- 1.2 Use a new inner tube or combination of inner tube, valve and flap (as required) when testing tyres with inner tubes.
- 1.3 Inflate the tyre to the pressure corresponding to the pressure specified by the manufacturer.
- 1.4 Condition the tyre-and-wheel assembly at test-room temperature for not less than three hours.
- 1.5 Readjust the tyre pressure to that specified in para 1.3 above.

2.0 Test Procedure :

- 2.1 Load placed on the wheel as a percentage of the load corresponding to the load index :
 - 2.1.1 90% when tested on a test drum 1.70 m \pm 1% in diameter;
 - 2.1.2 92% when tested on a test drum 2.0 m \pm 1% in diameter.
- 2.2 Initial test speed: speed corresponding to the speed category symbol less 20km/h;
 - 2.2.1 Time to reach the initial test speed 10 min.
 - 2.2.2 Duration of the first step = 10 min
- 2.3 Second test speed: speed corresponding to the speed category symbols less by 10 km/h;
 - 2.3.1 Duration of the second step = 20 min.
- 2.4 Final test speed: speed corresponding to the speed category symbol (Reference speed).
 - 2.4.1 Duration of the final step = 20 min.
- 2.5 Total test duration: 1 h

A tyre which, after undergoing the test, does not exhibit any tread separation, ply separation, cord separation, chunking or broken cords shall be deemed to have passed the test.

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



B. Endurance / Low Pressure Test

1.0 Requirements

The following requirements shall be met by radial tyres when tested in accordance with the procedure given in paragraph 3 below.

1.1 There shall be no visible evidence of tread, sidewall, ply, cord, inner liner, belt or bead separation, chunking, open splices, cracking or broken cords.

1.2 The tyre pressure, measured no less than 60 minutes after the test, shall not be less than the initial pressure specified in paragraph 2 below.

2.0 Preparation of tyre

This test is conducted following completion of the tyre endurance test using the same tyre and rim assembly tested as mentioned under Endurance heading in below table, than with the tyre deflated to the following pressures show in the table below:

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

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

3.0 Test Procedure

- 3.1 The test is conducted for ninety minutes at the end of the test specified under Endurance section, continuous and uninterrupted, at a speed of 80 km/h.
- 3.2 Press the assembly against the outer face of a test drum with a diameter of 1.7 m +/- 1%.
- 3.3 Apply to the test axle a load equal to 100% of the tyre's maximum load carrying capacity.
- 3.4 Throughout the test, the inflation pressure is not corrected and the test load is maintained at the initial level.
- 3.5 During the test, the ambient temperature, at a distance of not less than 150 mm and not more than 1 m from the tyre, is maintained at not less than 38°C.
- 3.6 Allow the tyre to cool for one hour. Measure its inflation pressure. Then deflate the tyre, remove it from the test rim, and inspect it for the conditions specified in paragraph 1 above.

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