



## **Vehicle Standard (Australian Design Rule 23/00 – Passenger Car Tyres) 2006**

I, JAMES ERIC LLOYD, Minister for Local Government, Territories and Roads,  
determine this vehicle standard under subsection 7 (1) of the *Motor Vehicle Standards  
Act 1989*.

Dated            10 August 2006

[SIGNED]

James Eric Lloyd

Minister for Local Government, Territories and Roads

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**23.0. LEGISLATIVE PROVISIONS****23.0.1. NAME OF STANDARD**

23.0.1.1. This Standard is the Vehicle Standard (Australian Design Rule 23/00 – Passenger Car Tyres) 2006.

23.0.1.2. This Standard may also be cited as Australian Design Rule 23/00 — Passenger Car Tyres.

**23.0.2. COMMENCEMENT**

23.0.2.1. This Standard commences on the day after it is registered.

**23.0.3. REPEAL**

23.0.3.1. This Standard repeals each vehicle standard with the name Australian Design Rule 23/00 — Passenger Car Tyres that is:

- (a) made under section 7 of the Motor Vehicle Standards Act 1989; and
- (b) in force at the commencement of this Standard.

23.0.3.2. This Standard also repeals each instrument made under section 7 of the Motor Vehicle Standards Act 1989 that creates a vehicle standard with the name Australian Design Rule 23/00 — Passenger Car Tyres, if there are no other vehicle standards created by that instrument, or amendments to vehicle standards made by that instrument, that are still in force at the commencement of this Standard.

**PURPOSE AND SCOPE**

This Australian Design Rule (ADR) is part of the Australian motor vehicle standards system and is a national standard for the purposes of the Motor Vehicle Standards Act 1989.

The function of this Australian Design Rule is to specify requirements of strength, construction and standard pressure/load relationships for passenger car tyres of particular size designations.

**APPLICABILITY**

This ADR applies to tyres fitted to vehicles as set out in the table hereunder.

All vehicles specified below, except for vehicles of category other than passenger car (MA) which have tyres labelled as suitable for light trucks by the designation 'LT.' or similar, shall be fitted with tyres complying with the relevant requirements of this Rule.

Vehicle Category	ADR Category Code *	UNECE Category Code *	Manufactured on or After	Acceptable Prior Rules
Moped 2 wheels	LA	L1	Not Applicable	
Moped 3 wheels	LB	L2	Not Applicable	
Motor cycle	LC	L3	Not Applicable	
Motor cycle and sidecar	LD	L4	Not Applicable	
Motor tricycle	LE	L5	Not Applicable	
Passenger car	MA	M1	1 July 1988	Nil
Forward-control passenger vehicle	MB	M1	1 July 1988	Nil
Off-road passenger vehicle	MC	M1	1 July 1988	Nil
Light omnibus	MD	M2		
up to 3.5 tonnes 'GVM' and up to 12 seats	MD1		1 July 1988	Nil
up to 3.5 tonnes 'GVM' and more than 12 seats	MD2		Not Applicable	
over 3.5 tonnes and up to 4.5 tonnes 'GVM'	MD3		Not Applicable	
over 4.5 tonnes and up to 5 tonnes 'GVM'	MD4		Not Applicable	
Heavy omnibus	ME	M3	Not Applicable	
Light goods vehicle	NA	N1	Not Applicable	
Medium goods vehicle	NB	N2		
over 3.5 tonnes up to 4.5 tonnes 'GVM'	NB1		Not Applicable	
over 4.5 tonnes up to 12 tonnes 'GVM'	NB2		Not Applicable	
Heavy goods vehicle	NC	N3	Not Applicable	
Very light trailer	TA	O1	Not Applicable	
Light trailer	TB	O2	Not Applicable	
Medium trailer	TC	O3	Not Applicable	
Heavy trailer	TD	O4	Not Applicable	

### 23.1. DEFINITIONS

- 23.1.1. Refer to Vehicle Standard (Australian Design Rule Definitions and Vehicle Categories) 2005.
- 23.1.2. '*Asymmetrical Tyre*' - a tyre which, through '*Tread*' pattern or construction, is required to be fitted to a vehicle such that one particular '*Sidewall*' faces outwards.
- 23.1.3. '*Bead*' - that part of the tyre usually made of steel wires, wrapped or reinforced by '*Ply*' '*Cords*', that is shaped to fit the '*Rims*'

\* The category code may also be in the format L<sub>1</sub>, L<sub>A</sub> etc.

- 23.1.4. *'Bead Separation'* - a breakdown of bond between components in the *'Bead'* area.
- 23.1.5. *'Belt'* - a layer or layers of *'Cord'* or other reinforcement under the *'Tread'* to stiffen the tyre structure.
- 23.1.6. *'Belt Separation'* - a parting of rubber compound between *'Belt'* layers or between *'Belts'* and *'Plies'*.
- 23.1.7. *'Chunking'* - the breaking away of pieces of the *'Tread'*
- 23.1.8. *'Cord Separation'* - *'Cord'* parting away from adjacent rubber compounds.
- 23.1.9. *'Measuring Rim'* - any *'Rim'* with a width as specified for the design or measuring rim for a particular tyre size designation, and with the *'Bead'* seat and flange dimensions for that *'Rim'*, as shown in one or more of the following documents or in case of obsolete sizes no longer listed, in any edition of the following documents prior to the dates listed
- 23.1.9.1. the Tyre and Rim Standards Manual of the Tyre and Rim Association of Australia, 1985 Edition:
- 23.1.9.2. the 1985 Tyre and Rim Association Inc. Year Book
- 23.1.9.3. the Japan Automobile Tyre Manufacturers Association Year Book 1986 Edition
- 23.1.9.4. the Japanese Industrial Standards (JIS - D4202) dated 1977 Dimension of Tyres, and (JIS - D4218) dated 1981 Contours of Rims.
- 23.1.9.5. the European Tyre and Rim Technical Organisation (ETRTO) Data Book dated 1986.
- 23.1.10. *'Overall Tyre Width'* - the linear distance between the exteriors of the *'Sidewalls'* of an inflated tyre, including elevations due to labelling, decorations, or protective bands or rib.
- 23.1.11. *'Ply Separator'* - a parting of rubber compound between adjacent *'Plies'*.
- 23.1.12. *'Section Width'* - the linear distance between the exteriors of the *'Sidewalls'* of an inflated tyre, excluding elevations due to labelling, decoration, or protective bands.
- 23.1.13. *'Service Description'* - the combination of *'Load Index'* and *'Speed Category'* symbol.
- 23.1.14. *'Sidewall'* - that portion of a tyre between the *'Tread'* and the *'Bead'*.
- 23.1.15. *'Size Factor'* - the sum of the *'Section Width'* and the outer diameter of a tyre determined on the *'Measuring Rim'*.
- 23.1.16. *'Specified Design Section Width'* - the width specified in the *'Nominated Standard'* for a new tyre of that size designation and type when inflated on its *'Measuring Rim'*.
- 23.1.17. *'Test Rim'* - any *'Rim'* conforming to the dimensions of the *'Measuring Rim'* for the particular tyre size designation and type.
- 23.1.18. *'Test Wheel Speed'* - the peripheral speed of the steel test wheel

- 23.1.19. *'Tread Separation'* - pulling away of the *'Tread'* from the tyre *'Carcass'*.
- 23.1.20. *'Treadwear Indicator'* an indicator incorporated into the *'Tread'* of a tyre which gives visual indication when the *'Tread'* has worn down to leave a pie-determined minimum *'Groove'* depth.
- 23.1.21. *'Tyre Carcass Construction Symbol'* - relates to the type of *'Carcass'* construction used in the manufacture of the tyre, viz:
- D - Diagonal Ply
- B - Bias-Belted
- R - Radial Ply.

## **23.2. REQUIREMENTS**

### 23.2.1. Size and Construction

- 23.2.1.1. The tyre manufacturer shall specify the *'Nominated Standard'* with which the tyre design complies in respect to *'Maximum Load Rating'*, inflated dimensions, design or *'Measuring Rim'* and alternative *'Rim'* fitments.
- 23.2.1.2. The *'Administrator'* may accept a tyre, *'Rim'* or tyre and *'Rim'* combination incorporated in a *'Nominated Standard'* referred in Clause 23.1.16.

### 23.2.2. Performance Requirements

#### 23.2.2.1. General

Each new tyre shall conform to each of the following:

- 23.2.2.1.1. It shall meet the requirements specified in arm 23.2.2.2 for its size designation, type, *'Maximum Load Rating'*, *'Speed Category'* or *'Service Description'*.
- 23.2.2.1.2. It shall incorporate at least 4 *'Treadwear Indicators'* approximately equally spaced, each of which provides for a visual indication when the *'Tread'* in the vicinity of the indicator has a *'Groove'* depth of  $1.60 + 0.40, - 0.25$  mm.

#### 23.2.2.2. Test requirements

##### 23.2.2.2.1. Test sample selection

Three new tyres having identical characteristics when described according to requirements of Clause 23.2.3 shall comprise a test sample:

- 23.2.2.2.1.1. one tyre shall be used for physical dimensions, resistance to *'Bead'* unseating, and strength, in sequence;
- 23.2.2.2.1.2. a second tyre shall be used for tyre endurance; and
- 23.2.2.2.1.3. a third tyre for high speed performance

##### 23.2.2.2.2. In the tests, pressures shall be established within 10 kPa or one psi (as appropriate) of the values specified for each test

##### 23.2.2.2.3. Physical dimensions requirements

Each tyre shall conform to each of the following when measured in

accordance with Clause 23.3.1:

- 23.2.2.2.3.1. its actual '*Section Width*' and '*Overall Tyre Width*' shall not exceed by more than 7 percent the '*Section Width*' specified in the '*Nominated Standard*' for its size designation and type.
- 23.2.2.2.3.2. its '*Size Factor*' shall be at least as large as the minimum '*Size Factor*' specified in the '*Nominated Standard*' for its size designation and type. If the '*Nominated Standard*' does not specify a minimum '*Size Factor*', this shall be calculated as:

$$\text{Minimum 'Size Factor'} = 0.97 (SW + 2SH) + DR$$

where:

SW = specified '*Section Width*'<sup>##</sup>

SH = 1/2 of (specified outer diameter nominal rim diameter)

DR = nominal 'Rim' diameter

- 23.2.2.2.4. Resistance to '*Bead*' unseating requirements (for tubeless tyres only)
- When tested in accordance with Clause 23.3.2 the applied force required to unseat the tyre '*Bead*' at the point of contact shall not be less than:
- 23.2.2.2.4.1. 6,670 N for tyres with a '*Specified Design Section Width*' of less than 6.3 inches, or 160 mm;
- 23.2.2.2.4.2. 8,890 N for tyres with a '*Specified Design Section Width*' of 6.3 inches or 160 mm or more but less than 8 inches or 205 mm; or
- 23.2.2.2.4.3. 11,120 N for tyres with a '*Specified Design Section Width*' of 8 inches or 205 mm or more.
- 23.2.2.2.5. Tyre strength requirements
- Each tyre shall meet the requirements for minimum breaking energy specified in Table 3 when tested in accordance with Clause 23.3.3.
- 23.2.2.2.6. Tyre endurance requirements
- After completion of the laboratory test wheel endurance test specified in Clause 23.3.4 no tyre shall have '*Tread Separation*', '*Ply Separation*', '*Cord Separation*', '*Belt Separation*' or '*Bead Separation*', '*Chunking*', or '*Broken Cords*'.
- 23.2.2.2.7. High speed test requirements
- After completion of the high speed test specified in Clause 23.3.5 no tyre shall have '*Tread Separation*', '*Ply Separation*', '*Cord Separation*', '*Belt Separation*' or '*Bead Separation*', '*Chunking*' or '*Broken Cords*'.
- 23.2.3. Labelling Requirements.
- Each tyre shall be conspicuously labelled on both '*Sidewalls*' in the case of symmetrical tyres and at least on the outer '*Sidewalls*' in the case of '*Asymmetrical Tyres*' with each of the following permanently moulded in letters and figures at least 3.8 mm high and depth at least 0.25 mm if below the background surface or 0.4 mm if above the background

<sup>##</sup> as given in the '*Nominated Standard*'.

- 23.2.3.1. tyre size designation, which includes the '*Speed Category*' symbol as determined from Table 4 either within the size designation or adjacent to the size designation as part of the '*Service Description*', and '*Tyre Carcass Construction Symbol*' for '*Radial Ply Tyres*' or '*Bias-belted Tyres*' and optionally, in the case of '*Diagonal Ply*';;
- 23.2.3.2. the '*Maximum Load Rating*' for the tyre expressed in kilograms followed by the word "kilograms" or the abbreviation 'kg' or the '*Maximum Load Rating*' for the tyre expressed in pounds followed by the word "pounds" or the abbreviation "lbs" or the '*Load Index*' symbol (from Table 2) adjacent to the size designation as part of the '*Service Description*'. Tyres shall be labelled unambiguously in respect to '*Maximum Load Rating*' or '*Load Index*';
- 23.2.3.3. identification of manufacturer by:
- 23.2.3.3.1. Name; or
- 23.2.3.3.2. Brand Name and an '*Approved*' code mark;
- 23.2.3.4. the word "TUBELESS" if applicable;
- 23.2.3.5. the word "RADIAL" if applicable;
- 23.2.3.6. the words 'BIAS-BELTED' if applicable;
- 23.2.3.7. a date code consisting of 3 digit, the first 2 nominating the week of the year and the third digit the year of manufacture on at least one '*Sidewall*' of the tyre; and
- 23.2.3.8. in the case of '*Asymmetrical Tyres*', a clear indication which side of the tyre is to face outwards when fitted to the vehicle.

### **23.3. TEST PROCEDURES**

- 23.3.1. Physical Dimensions Test
- 23.3.1.1. Determine tyre's physical dimensions under uniform ambient conditions as follows.
- 23.3.1.1.1. Mount the tyre on a '*Test Rim*' and inflate it to the pressure specified for measurement in the '*Nominated Standard*'.
- 23.3.1.1.2. If no pressure is specified for measurement, mount the tyre on a '*Test Rim*' and inflate it to the pressure designated for its '*Maximum Load Rating*' in the '*Nominated Standard*' reduced by 60 kPa (or 8 psi as appropriate).
- 23.3.1.2. Condition it at ambient room temperature for at least 24 hours.
- 23.3.1.3. Readjust pressure to that specified in Clauses 23.3.1.1.1 or 23.3.1.1.2 as appropriate.
- 23.3.1.4. Caliper the '*Section Width*' and '*Overall Tyre Width*' at 6 points approximately equally spaced around the tyre circumference.
- 23.3.1.5. Record the average of these measurements as the '*Section Width*' and '*Overall Tyre Width*', respectively.



- 23.3.1.6. Determine tyre outer diameter by measuring the maximum circumference of the tyre and dividing this dimension by Pi.
- 23.3.2. Resistance to `Bead' Unseating Test (for tubeless tyres only)
  - 23.3.2.1. Preparation of tyre `Test Rim' assembly
    - 23.3.2.1.1.1. Wash the tyre, dry it at the `Beads', and mount it without lubrication or adhesive on a clean painted test `Rim'.
    - 23.3.2.1.1.2. Adjust the pressure to the applicable pressure specified in Clause 23.3.1.1.2 at ambient room temperature.
    - 23.3.2.1.1.3. Mount the tyre and `Test Rim' in the fixture shown in Figure 1, and force: either of the standard blocks shown in Figure 2 against the tyre `Sidewalls' as required by the geometry of the fixture, or by any other `Approved' test procedure.
  - 23.3.2.2. Test procedure
    - 23.3.2.2.1. Apply a load through the block to the tyre's outer `Sidewall' at a distance no less than that specified in Figure 1 for the applicable `Rim' at a rate of  $50 \pm 10$  mm per minute, with the load arm substantially parallel to the tyre and `Rim' assembly at time of engagement
    - 23.3.2.2.2. Increase the load until the `Bead' unseats or the applicable value specified in Clause 23.2.2.4 is reached
    - 23.3.2.2.3. This test shall be repeated at least 4 times at locations approximately equally spaced around the tyre circumference.
- 23.3.3. Tyre Strength (Breaking Energy) Test
  - 23.3.3.1. Preparation of tyre
    - 23.3.3.1.1. Mount the tyre on a `Test Rim' and inflate it to the applicable pressure specified in Clause 23.3.1.1.2
    - 23.3.3.1.2. Condition it at test room temperature for at least 3 hours.
    - 23.3.3.1.3. Readjust its pressure to that specified Clause 23.3.1.1.2
  - 23.3.3.2. Test procedure
    - 23.3.3.2.1. Force a cylindrical steel plunger with a hemispherical end and a diameter of  $19 \pm 1.6$  mm perpendicularly into the `Tread' as near to the centreline as possible, avoiding penetration into my `Tread' `Groove', at the rate of  $50 \pm 10$  mm per minute.
    - 23.3.3.2.2. Record the force and penetration at the moment of breaking at each of 5 test points approximately equally spaced around the circumference of the tyre. If the tyre fails to break before the plunger is stopped on reaching the `Rim', and the required minimum breaking energy is not achieved, then the required minimum breaking energy is deemed to have been achieved at that point
    - 23.3.3.2.3. Compute the breaking energy for each test point by means of the following formula:

$$W = \frac{F \times P}{2000}$$

Where W = Energy, Joules

F = Force, Newtons

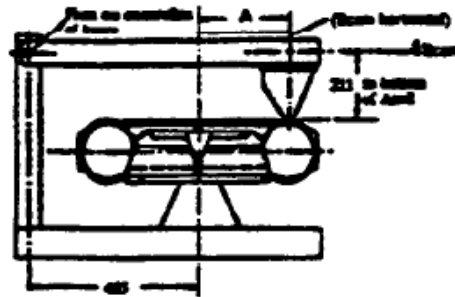
P = Penetration, mm

- 23.3.3.2.4. Determine the breaking energy value for the tyre by computing the average of the 5 values obtained in accordance with Clause 23.3.3.2.3.

<b>'Test Rim'</b>	
<b>Nominal Diameter</b>	<b>Dimension A</b>
<b>inches</b>	<b>mm</b>
17	305
16	292
15	279
14	267
13	254
12	241
11	229
10	216
<b>mm</b>	<b>mm</b>
290	229
315	241
340	254
365	267
390	279
415	292

**Note - Dimensions in mm**

**Figure 1 - 'Bead' Unseating Fixture**



- 23.3.4. Tyre Endurance Test
- 23.3.4.1. Preparation of tyre
- 23.3.4.1.1. Mount a new tyre on a 'Test Rim' and inflate it to the applicable pressure specified in Clause 23.3.1.1.2
- 23.3.4.1.2. Condition the tyre assembly at a temperature not less than 35 degrees Celsius for at least 3 hours.
- 23.3.4.1.3. Readjust tyre pressure to that specified in Clause 23.3.1.1.2 immediately before testing.
- 23.3.4.2. Test procedure
- 23.3.4.2.1. Mount the tyre and 'Test Rim' assembly on a test axle and press it against a flat-faced steel test wheel of an outside diameter not greater than 1.71 metres and at least as wide as the 'Section Width' of the tyre to be tested, or an 'Approved' equivalent test wheel.
- 23.3.4.2.2. During the test the ambient temperature at a distance of not less than 150 mm and not more than one metre from the tyre shall be at least 35 degrees Celsius. No provision shall be made for cooling the tyre during the test.

23.3.4.2.3. Conduct the test at not less than 80 km/h test speed with loads and test periods not less than those shown in the following schedule:-

Test Periods	(1) for 4 hours	(2) for 6 hours	(3) for 24 hours
Test Loads as Percentage of <i>'Maximum Load Rating'</i>	85.0 percent	90.0 percent	100 percent

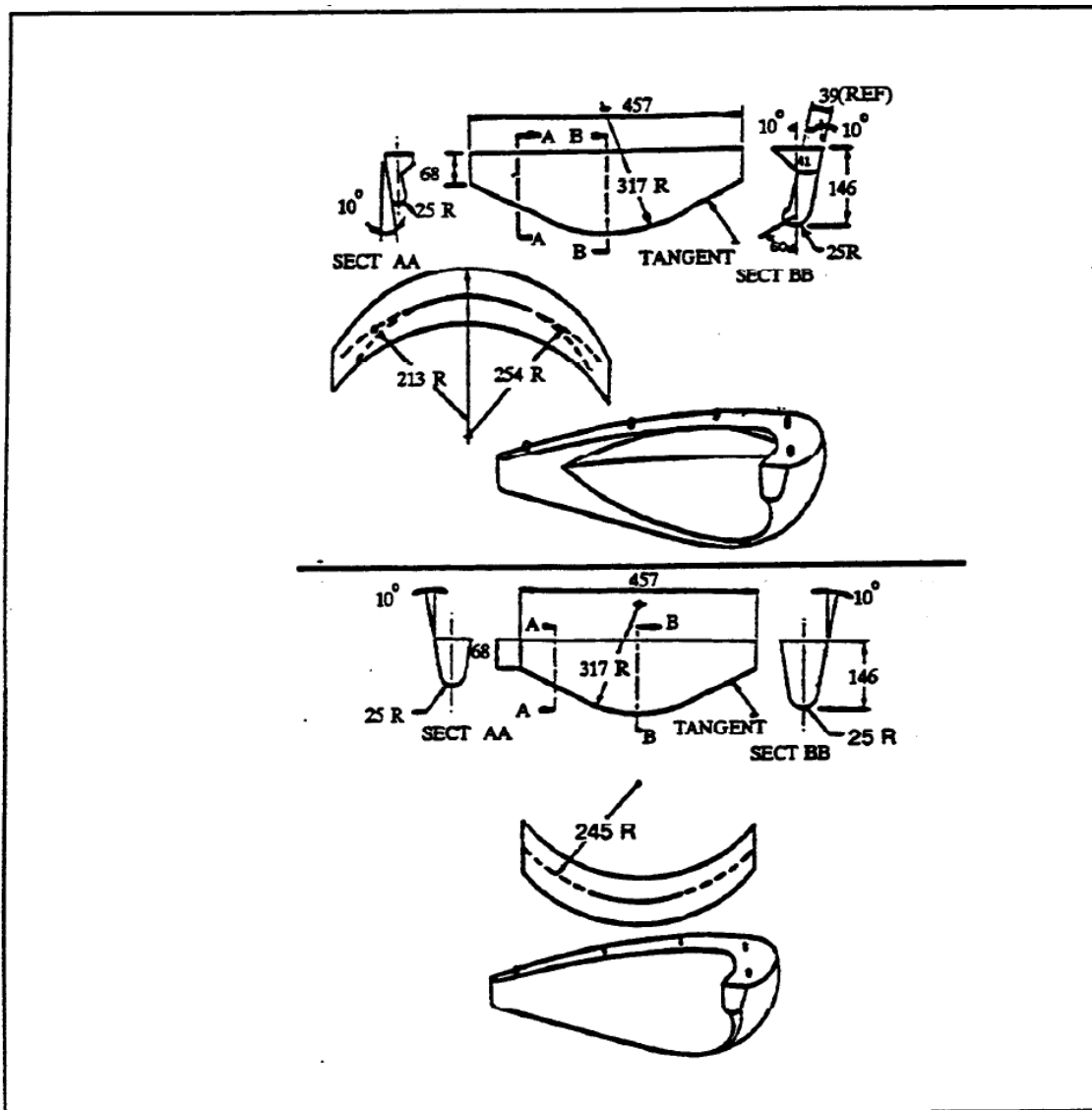


Figure 2 - Diagrams of 'Bead' Unseating Blocks (dimensions in mm)  
 (Material: Aluminium 355  
 T-6 Condition  
 Finish - 1.25 micrometre; or  
 other 'Approved' material

- 23.3.5. High Speed Test
- 23.3.5.1. Preparation of tyre
- 23.3.5.1.1. Mount the tyre on a *'Test Rim'* and inflate it to a pressure equal to the pressure specified in the *'Nominated Standard'* for its *'Maximum Load Rating'* plus an increase no greater than that specified in Table 1 for its *'Speed Category'*.
- 23.3.5.1.2. Condition the tyre assembly at a temperature not less than 35 degrees Celsius for at least 3 hours.
- 23.3.5.1.3. Readjust the tyre pressure to that specified in Clause 23.3.5.1.1 immediately before testing.
- 23.3.5.2. Test procedure
- 23.3.5.2.1. Mount the tyre and *'Test Rim'* assembly on a test axle and press it against a flat-faced, steel test wheel of an outside diameter not greater than 1.71 metres, and at least as wide as the *'Section Width'* of the wheel to be tested (or an *'Approved'* equivalent test wheel) with a load not less than 80 percent of the *'Maximum Load Rating'* of the tyre,
- 23.3.5.2.2. During the test the ambient temperature at a distance of not less than 150 mm and not more than one metre from the tyre shall be at least 35 degrees Celsius. No provisions shall be made for cooling the tyre during the test.
- 23.3.5.2.3. Operate the equipment to bring the *'Test Wheel Speed'* from zero up to the initial *'Test Wheel Speed'* in a period of at least 10 minutes.
- 23.3.5.2.4. The initial *'Test Wheel Speed'* is equal to the maximum speed shown in Table 1 a corresponding to the tyre's *'Speed Category'* symbol, less 40 km/h.
- 23.3.5.2.5. The initial *'Test Wheel Speed'* for tyres of *'Speed Category'* "V". is 170 km/h.
- 23.3.5.2.6. Operate the equipment with the *'Test Wheel Speed'* not less than the initial *'Test Wheel Speed'* for at least 10 minutes, then at not less than the initial *'Test Wheel Speed'* plus 10 km/h for at least a further 10 minutes, then at not less than the initial *'Test Wheel Speed'* plus 20 km/h for at least a further 10 minutes and finally at not less than the initial *'Test Wheel Speed'* plus 33 km/h for at least a further 20 minutes.

#### **23.4. ALTERNATIVE STANDARDS**

- 23.4.1. The technical requirements specified in Annex 7 of ECE R 30/02 - "Tyres" - shall be deemed to be equivalent to the technical requirements of Clause 23.2.2.2.7 (High Speed Test) of this Rule.

**TABLE 1 - MAXIMUM PRESSURE INCREASE - HIGH SPEED TEST**

'Speed Category'	'Rim' Diameter	'Maximum Vehicle Speed 24/00' km/h	Pressure Increase	
			Diagonal & Bias-Belted kPa	Radial kPa
(-) or unmarked	A	170 (for radial ply only)	refer	30
	L		below	
	L			
L		120	NIL	NIL
M		130	10	NIL
N		140	20	NIL
P	V	150	30	10
Q	A	160	40	20
R	L	170	50	30
S	U	180	60	40
T	E	190	70	50
U	S	200	80	60
H		210	90	70
V		Over 210	90	70
(-) or unmarked	10 inch	120	NIL	-
	12 inch	135	15	-
	≥ 13 inch	150	30	-

TABLE 2

## LIST OF 'LOAD INDEX' SYMBOLS versus 'Maximum Load Rating'

<b>'LOAD INDEX' SYMBOL</b>	<b>'Max. Load Rating' (kg)</b>	<b>'LOAD INDEX' SYMBOL</b>	<b>'Max. Load Rating' (kg)</b>	<b>'LOAD INDEX' SYMBOL</b>	<b>'Max. Load Rating' (kg)</b>
0	45	40	140	80	450
1	46.2	41	145	81	462
2	47.5	42	150	82	475
3	48.7	43	155	83	487
4	50	44	160	84	500
5	51.5	45	165	85	515
6	53	46	170	86	530
7	54.5	47	175	87	545
8	56	48	180	88	560
9	58	49	185	89	580
10	60	50	190	90	600
11	61.5	51	195	91	615
12	63	52	200	92	630
13	65	53	206	93	650
14	67	54	212	94	670
15	69	55	218	95	690
16	71	56	224	96	710
17	73	57	230	97	730
18	75	58	236	98	750
19	77.5	59	243	99	775
20	80	60	250	100	800
21	82.5	61	257	101	825
22	85	62	265	102	850
23	87.5	63	272	103	875
24	90	64	280	104	900
25	92.5	65	290	105	925
26	95	66	300	106	950
27	97.5	67	307	107	975
28	100	68	315	108	1,000
29	103	69	325	109	1,030
30	106	70	335	110	1,060
31	109	71	345	111	1,090
32	112	72	355	112	1,120
33	115	73	365	113	1,150
34	118	74	375	114	1,180
35	121	75	387	115	1,215
36	125	76	400	116	1,250
37	128	77	412	117	1,285
38	132	78	425	118	1,320
39	136	79	437	119	1,360
				120	1,400

**TABLE 3**  
Minimum Breaking Energy Values (Joules)

Test inflation pressure Energy (Joules)	PRESSURES SPECIFIED	PRESSURES SPECIFIED
	IN kPa	IN psi
	180 220 295 585	24 28 32 295 440 585
For tyres with a test inflation pressure other than as specified in the Table, the required minimum breaking energy value is given by the formulae shown opposite.	B.E. (Joules) = 7.35 x (P-140) where: P = test pressure in kPa	B.E. (Joules) = 36.7x(P-16) where: P = test pressure in psi

For rayon 'Diagonal Ply Tyres' or rayon 'Bias-Belted Tyres', the required breaking energy value is to be reduced by 36.5 percent.

For tyres with 'Specified Design Section Width' less than 160 mm (or 6.30 inches) the required breaking energy value is to be reduced (or further reduced) by 25.0 percent.

**TABLE 4 - 'SPEED CATEGORY' FOR TYRE**

'SPEED CATEGORY' SYMBOL	L	M	N	P	Q	R	S	T	U	H	V
'Maximum Vehicle Speed' for which tyre is rated (km/h)	120	130	140	150	160	170	180	190	200	210	over 210

For tyres marked with a "-" or in the absence of any of the above symbols the 'Speed Category' shall be as follows:

		km/h
Diagonal or Bias-Belted	10 inch Rim Diameter	120
	12 inch Rim Diameter	135
	13 inch Rim Diameter & over	150
Radial	All Rim Diameters	170