

GUYANA

No. 22 of 2003 103

ORDER**Made Under****THE GUYANA NATIONAL BUREAU OF STANDARDS
ACT 1984****(Act 11 of 1984)**

IN EXERCISE OF THE POWERS CONFERRED UPON ME BY SECTION 20 OF THE NATIONAL BUREAU OF STANDARDS ACT 1984, I HEREBY MAKE THE FOLLOWING ORDER:-

1. This Order may be cited as the Guyana National Bureau of Standards (Compulsory Standard Specification) (Pneumatic Tyres for Highway Commercial Vehicles) Order 2003. Citation.
2. The Specification for Pneumatic Tyres for Highway Commercial Vehicles specified in the Schedule is hereby declared compulsory. Standard
specification
declared
compulsory.

SCHEDULE

GYS 194:2000

**Specification
for
Pneumatic Tyres for Highway
Commercial Vehicles**

1 Scope

This standard specifies physical dimensions, performance and marking requirements for new and used pneumatic tyres for highway commercial vehicles. Test methods for determining conformity to the performance requirements are also included.

2 Definitions

For the purpose of this standard, the following definitions shall apply:

- 2.1 commercial vehicle tyre:** A tyre for use on vehicles which carry ten or more persons and/or with a Maximum Gross Weight (MGW) in excess of 3000 kg, as well as light trucks.
- 2.2 light truck:** A self-propelled vehicle which is designed primarily to transport property or special purpose equipment and has a maximum gross weight of 3000 kg or less.

3 Tyre designation

- 3.1** The designation of the tyre shall be shown on its sidewall in the manner described in **9.0** of this standard and shall include the following markings, to be shown close to each other:
- (1) Size and construction characteristics;
 - (2) Service condition characteristics.
- 3.2** These characteristics shall be indicated in the form given below or as contained in the relevant publication of at least one of the organisations listed in **5.1.1**.

GYS 194:2000**3.3 Dimensional and constructional characteristics**

3.3.1 The characteristics shall be indicated as follows:

nominal section width	nominal aspect ratio	tyre construction code	nominal rim diameter code
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or

nominal section width	tyre construction code	nominal rim diameter
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Note: The sequence from left to right shall be maintained.

3.3.2 Nominal section width

3.3.2.1 The nominal section width shall be expressed in millimetres for tyres fitted to 5° taper rims and 15° taper rims (code-designated).

3.3.3 **Nominal aspect ratio:** See GYS 66:1997, "Definition of terms used in the pneumatic tyre industry".

3.3.4 Tyre construction code

3.3.4.1 The tyre construction code shall be as follows:

R for radial ply tyres

For tyres of bias-belted or diagonal construction, the type shall be clearly marked on the sidewall, using markings in accordance with 10.0 of this standard.

Note: The use of another code letter (for example, in the case of a new construction type) shall first be remitted to the Guyana National Bureau of Standards (GNBS) for acceptance and inclusion in this list.

GYS 194:2000**3.3.5 Nominal rim diameter**

3.3.5.1 The nominal rim diameter shall be expressed by a code of 5⁰ tapered bead seat rims and 15⁰ tapered bead seat (drop centre) rims (**See Table 4 for code correlations**).

3.3.5.2 However, it shall be expressed in millimetres for new and future concepts where the use of existing tyres on new concept rims or of new concept tyres on existing rims would be incompatible.

3.4 Service condition characteristics

3.4.1 The characteristics shall be indicated as follows:

3.4.1.1 Load index single/ load index dual speed symbol - The tyre load capacity corresponding to the service conditions specified by the tyre manufacturer shall be indicated by a load index taken from **Table 5**. This indication is understood to be for a single/dual mounting. The load capacity of the tyre/tyres should meet or exceed the designed GVW of the vehicle on which it is mounted. Example, For minibuses, the tyre must be a commercial 6 ply or, load range C or have a load index greater than 100.

3.4.1.2 Speed symbol - The speed symbol shall be indicated by a letter taken from **Table 6** corresponding to the speed category. The speed category shall meet or exceed the maximum speed of the vehicle in which it is mounted.

3.4.2 Other service characteristics

3.4.2.1 The word "TUBELESS" shall be used to characterise tyres that can be used without a tube.

3.4.2.2 The maximum permissible inflation pressure which shall be indicated in kPa. The air pressure in the tyre shall not exceed maximum air pressure designated on the tyre side wall.

3.4.2.3 Specific indications, if required, may be added to indicate:

1. The type of vehicle for which the tyre is primarily designed, by using a symbol C;
2. The temporary use of certain spare tyres using indications such as TEMPORARY USE and/or symbol T;
3. The direction of mounting;
4. The direction of rotation;
5. The type of tread pattern; and
- (6) Other characteristics.

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- 3.4.2.4** Tyre shall be mounted on the approved type and size of rim as designated by the tyre manufacturer.

Note: Where any one of these optional markings is used it shall be so positioned that confusion shall not result from its proximity to any other service condition marking.

4 Inspection and selection of used tyres

4.1 Inspection

- 4.1.1** Used tyre inspection shall be made by trained, certified inspector. Each used tyre shall be cleaned and inspected outside then inside in order to detect all evident damages or injuries. The inspection shall include placing the used tyre on a mechanical spreader under adequate lighting (3200 lux), and distortion of the natural contour sufficient for visual inspection.

- 4.1.2** Each inspected tyre shall be certified to indicate whether it is acceptable or not acceptable for use on motor vehicles.

Note 1: The qualifications of the Inspector of used tyres shall be submitted to the Guyana National Bureau of Standards.

Note 2: The Guyana National Bureau of Standards recommends the use of electronic, ultrasonic and holographic casing inspection equipment which can aid in determining used tyre integrity.

4.2 Selection criteria for used tyres

- 4.2.1** A used tyre shall not be acceptable for motor vehicle use unless it has a minimum tread depth as categorised below:

Minibus/Van	-	6 mm
Light truck	-	8 mm
Heavy truck	-	10 mm

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A used tyre shall bear the following, permanently moulded on it at the time of the original manufacture:

- (1) A U.S. D.O.T./E.U. code, specifying date, year of manufacture and country of manufacture shall be present on at least one side wall of the tyre indicating that the tyre was originally manufactured to comply with FMVSS 109 - New pneumatic tyres or other recognised international bodies or practices.

N.B. This is necessary, since there are no testing facilities available in Guyana for the said tyres.

- (2) The size designation of the tyre;
- (3) The load range or maximum permissible load;
- (4) Sufficient information to allow the tyre to be identified as bias, bias belted or radial ply.

4.2.2 A used tyre containing any of the following weaknesses or injuries shall not be accepted for motor vehicle use:

- (1) Exposed cords due to tread wear or sidewall scuffing;
- (2) Radial or groove cracks extending to the cords;
- (3) Tread separation;
- (4) Weather cracking extending to cords;
- (5) Broken, damaged, kinked or exposed bead wires;
- (6) Any visual evidence of belt damage;
- (7) Ply separation;
- (8) Porous liners or defective or open splices in liners extending to the cords;
- (9) Loose cords on the inner ply;
- (10) Damage to the inner or bead sealing areas on tyres identified as tubeless;

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- (11) Evidence of having been run under-inflated or overloaded;
- (12) Casing break-up (flex break);
- (13) Generally weakened condition due to age, moisture, or exposure to oil or other chemical attack;
- (14) Injuries to the plies in the bead area;
- (15) Sidewall separation; or
- (16) Nail hole or other injuries of sufficient sizes and numbers that cannot be repaired using acceptable commercial practice.

5 Requirements**5.1 Physical dimensions, rims, and maximum load ratings**

5.1.1 Each tyre shall comply with the requirements of the relevant publication of at least one of the following organisations with respect to physical dimensions, alternative rim fitments that may be used with each type of tyre, and maximum load rating.

- (1) The Tire and Rim Association, Incorporation (USA);
- (2) The Japan Automobile Tire Manufactures' Association Incorporation (Japan);
- (3) The European Tyre and Rim Technical Organisation (Belgium);
- (4) British Standards Institution (United Kingdom);
- (5) Deutsches Institut für Normung (Germany);
- (6) Scandinavian Tyre and Rim Organisation (Scandinavia); and
- (7) The Tyre and Rim Association of Australia.

5.1.2 The requirements of this standard shall relate to the edition of the relevant publication current at the date of manufacture of the tyre.

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5.2 Maximum load rating

5.2.1 If the maximum load rating for a particular tyre size is shown in one or more of the publications referred to in 5.1.1, each tyre of that size designation shall have a maximum load rating that is not less than the published maximum load rating, or if there are differing published ratings for the same tyre designation, not less than the lowest published maximum load rating for the size designation.

5.3 Performance requirements

5.3.1 Each tyre shall be capable of meeting any of the applicable requirements set out in 5.3.4 and 5.3.5, when mounted on a test rim assembly corresponding to any rim designated by the tyre manufacturer for use with the tyre in accordance with 5.1.1.

5.3.2 A particular tyre need not meet further requirements after having been subjected to and having met any one of the tests given below.

5.3.3 Prior to testing the tyre shall exhibit no visual evidence of tread, sidewall, ply, cord, innerliner or bead separation, chunking, broken cord, cracking or open splices.

5.3.4 The following service condition characteristics shall be specifically emphasised as follow:

- (1) The load capacity of the tyre/tyres should meet or exceed the designed GVW of the vehicle on which it is mounted;
- (2) The speed category shall meet or exceed the maximum speed of the vehicle in which it is mounted;
- (3) The tyre shall be counted on the approved type and size of rim as designated on the tyre side wall.
- (4) The air pressure in the tyre shall not exceed maximum air pressure designated on the tyre side wall.

Example: For minibuses the tyre must be a commercial 6 ply or, load range C or have a load index greater than 100.

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6 Test equipment**6.1 Test drum**

6.1.1 The test drum shall be a cylindrical driven flywheel (drum) having a diameter of 1.7 m \pm 1% or 2 m \pm 1%.

6.1.2 The surface of the drum shall be smooth steel. The width of the test surface shall be equal to or exceed the overall width of the test tyre.

6.1.3 For the test drum, the loading device may be dead-weight cantilevered system with a hydraulic system or with any other equivalent system. The loading capacity shall be adequate for the requirements of the test procedure and the accuracy shall be within \pm 1.5% of the full scale.

6.1.4 For the test drum, the speed capability of the equipment shall be adequate for the requirements of the test methods. The accuracy of the test drum speed shall be within \pm 0 km/h at the full scale.

6.2 Plunger

6.2.1 A cylindrical steel plunger of sufficient length with a hemispherical end and a diameter as shown in **Table 1** with reference to tyre load index shall be used.

6.2.2 For the plunger equipment, the loading device shall be of hydraulic type of equivalent system with a maximum load capacity adequate for the requirements of the test methods and shall permit gradual application of the force. Indicators of displacement and of force shall be provided with an accuracy within \pm 1% of full scale.

6.2.3 For the plunger equipment, the speed of displacement shall be controlled with an accuracy within \pm 3% of full scale.

6.3 Inflation pressure gauges

6.3.1 Inflation pressure gauges shall have a maximum scale value of 1000 kPa with an accuracy of \pm 20 kPa.

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7 Tyre procedures**7.1 Tyre strength**

7.1.1 Preparation of tyre - Mount the tyre on a test rim and inflate it to the pressure specified for the maximum load rating in single formation, or maximum dual load, where they differ.

7.1.1.1 Maintain the assembly at a test room temperature of not less than 21⁰ C for at least 3 hours.

7.1.1.2 Immediately before testing, re-adjust the inflation pressure to the pressure specified in 7.1.1.

7.1.2 Test procedure - Position the plunger as near to the centre line as possible, avoiding penetration into the tread grooves, and force the plunger perpendicularly into the tread at a rate of 50 mm/minute \pm 2.5 mm/minute.

7.1.2.1 Record the force and distance of penetration just before the tyre breaks (**See Note 1**) at each of five test points approximately equally spaced around the circumference of the tyre. In case of tyres mounted on rim diameter codes 10 and smaller test the tyre at three approximately equally spaced points. Check the pressure before moving to the next test point.

7.1.2.2 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 tyre is deemed to have passed at that point.

7.1.2.3 Compute the breaking energy, W, in joules for each test point except those considered by 7.1.2.2, by means of the following formula:

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

Where:

F is the force, in newtons; and

P is the penetration, in millimetres.

7.1.2.4 Determine the breaking energy value for the tyre by computing the average of the values obtained.

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Note 1: When an appropriate device which automatically evaluates the value of the energy *W* is available, the penetration can be stopped shortly after having achieved the prescribed value.

2: In the case of tubeless tyres, means may be provided to ensure the retention of the inflation pressure for the duration of the test.

7.2 Tyre endurance

7.2.1 Preparation of tyre - Mount the tyre on a test rim and inflate to the pressure corresponding to the maximum load rating marked on the tyre. Where a tyre is marked with single and dual load ratings, inflate to inflation pressure corresponding to the single maximum load rating.

7.2.1.1 Maintain the tyre and rim assembly at ambient temperature, which shall be at least 20° C, for at least 3 hours.

7.2.1.2 Immediately before testing re-adjust the tyre pressure to the pressure specified in 7.2.1.

7.2.2 Test procedure - Mount the tyre and rim assembly on a test axle so that the tyre may be pressed radially against the outer face of the test drum.

7.2.2.1 During the test, the ambient temperature shall be maintained at between 20° C and 30° C, at or a higher temperature if the tyre manufacturer agrees.

7.2.2.2 Conduct each successive phase of the test, without interruptions, at the test speed with loads and test periods as shown in:

(1) **Table 3a** for tyres with load index (single) up to 121 inclusive and speed symbol up to P;

(2) **7.2.3** for tyres with load index (single) up to 121 inclusive and speed symbols Q and above.

(3) **Table 3b** for tyres with load index (single) 122 and above.

7.2.2.3 Throughout the test, for all types of tyres, the inflation pressure shall not be corrected and the test loads shall be maintained constant.

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- 7.2.2.4** Immediately after the respective tyre has run the required time, measure the inflation pressure.
- 7.2.2.5** Remove the tyre from the test rim and inspect it.
- 7.2.3** Specific conditions for tyres with speed symbol Q and above.
- 7.2.3.1** The load applied shall be:
- (1) 90% of the maximum load rating on 1.7 m drum diameter;
 - (2) 92% of the maximum load rating on 2 m drum diameter.
- 7.2.3.2** Initial test speed shall be equal to the tyre's speed category minus 20 km/h.
- 7.2.3.3** Operate the equipment to bring the test drum speed up to the initial test speed over a period of 10 minutes.
- 7.2.3.4** Operate the equipment with the test drum speed at the initial test speed for 10 minutes then at the initial test speed plus 10 km/h for at least 10 minutes.
- 7.2.3.5** Finally, operate the equipment for 30 minutes at the tyres speed category.
- 7.2.3.6** The total duration of the test is 1 hour.

8 Sampling and testing to determine conformity

8.1 Sample size

- 8.1.1** For the purpose of testing to determine conformity with this standard, the size of the sample for testing shall be representative of the lot under consideration and shall be selected in accordance with **GYS 183: 1999 (ISO 2859-1: 1989)**, "Sampling procedures for inspection by attributes - Part 1: Sampling schemes indexed by acceptable quality level (AQL) for lot-by-lot inspection or **GYS 184: 1999 (ISO 3951: 1989)**" Sampling procedures and charts for inspection by variables for percent nonconformity.

GYS 194:2000**8.2 Test sample**

8.2.1 Two tyres with identical characteristics, for examples, size designation and service description or maximum load rating and speed capability, shall comprise a test sample:

- (1) One tyre shall be used for the measurement of strength;
- (2) A second for the endurance test.

8.2.2 The pressures, loads and speeds shall be as specified for each test method.

8.2.3 Each test sample shall conform to the requirements specified in **5.3.4** and **5.3.5**.

8.3 Conformity

8.3.1 Where the samples taken in accordance with **8.1.1** and tested in accordance with **5.0** and satisfy all other requirements of this standard, the lot shall be deemed to conform with this standard.

9 Storage

9.1 New tyres shall be stored in accordance with **GCP 4: 1997, Code of Practice for the storage of tyres, inner tubes and flaps.**

10 Labelling requirements

10.1 Each tyre shall have permanently moulded on each sidewall, except as specified in (10), the following information in letters not less than 4.0 mm high and of a depth not less than 0.25 mm if below the background surface or not less than 0.40 mm if above the background surface:

- (1) The designation of dimensional and constructional characteristics;
- (2) The designation of load and speed characteristics;
- (3) The designation of other service characteristics;
- (4) The maximum load rating(s) for the tyre, marked unambiguously in one of the following forms:

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(a) Tyres rated for single load only:

“MAXIMUM LOAD _____ KILOGRAMS AT _____ kPa COLD”.

(b) Tyres rated for both single and dual loads:

“MAXIMUM LOAD SINGLE _____ KILOGRAMS AT _____
kPa COLD.

MAXIMUM LOAD.

DUAL _____ KILOGRAMS AT _____ kPa COLD”.

(c) A load index symbol(s) as shown in **Table 5**, adjacent to the size designation as part of the service description.

(5) Identification of the manufacturer by either name or brand name;

(6) The word “TUBELESS” if applicable;

(7) The word “RADIAL” if applicable;

(8) The word “REGROOVABLE” or the symbol “PT”, or the international regroovable symbol not smaller than 20 mm in a diameter, on tyres designed for regrooving. The international symbol for a regroovable tyre is shown in **Appendix A**;

(9) A.U.S.D.O.T/E.U code, specifying date, year of manufacture and country of manufacture.

Note: Where applicable, internationally accepted symbols corresponding to or having the same meaning as any of the above requirements may be used .

Example:

A tyre having:

(1) A size and construction of:

- nominal section width 275 mm;
- nominal aspect ratio 70%;

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- radial construction;
 - nominal rim diameter code 22.5.
- (2) Service condition characteristics:
- single load 2500kg
 - dual load 2300 kg
 - reference speed 130 km/h
- (3) Other service characteristics:

- tubeless
- special thread

shall be marked.

275/70 R 22.5

140/137 M

TUBELESS ET

- 10.1.1** On at least one sidewall, the information shall be positioned in an area between the maximum section width and bead of the tyre. However, in no case shall the information be positioned on the tyre so that it is obstructed by the flange of any rim designated for use with that tyre in this standard.
- 10.1.2** The location of the marking of the load and speed characteristics shall be distinct but in the vicinity of the marking of dimensional and constructional characteristics.
- 10.1.3** No location is specified for the marking related to other service characteristics.
- 10.1.4** The maximum inflation pressure of a tyre shall be permanently moulded into or on both sidewalls, in numerals not less than 12.0 mm high.

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Table 1
Plunger diameter

Load index in single formation	Plunger diameter ± 0.5 - mm
≤ 121	19
122 - 134	32
≥ 135	38

Table 2
Minimum breaking energy

Inflation pressure corresponding to maximum load rating kPa	Breaking energy min J	
(a) Tyres with load index (single) ≤ 121		
	Norminal rim diameter code < 13	Nominal rim diameter code ≥ 13
up to 250	136	294
251 to 350	203	362
351 to 450	271	514
451 to 550	-	576
551 to 650	-	644
over 650	-	712
(b) Tyres with load index (single) ≥ 122		
up to 550	972	
551 to 650	1412	
651 to 750	1695	
751 to 850	2090	
851 to 950	2203	

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Table 3
Endurance test parameters

Speed symbol	Test drum speed ¹ r/minute		Load as percentage of maximum load rating		
	Radial tyres	Diagonal tyres	Duration		
			7 h (period 1)	16 h (period 2)	24 h (period 3)
(a) Tyres with load index (single) ≤ 121					
F	100	100	66	84	101
G	125	125			
J	150	150			
K	175	175			
L	200	175	70	88	106
M	250	200	75 ²	97 ²	114
N	275	-			
P	300	-			
(b) Tyres with load index (single) ≥ 122					
F	100	100	66	84	101
G	125	100			
J	150	125			
K	175	150			
L	200	-			
M	225	-			
¹ Special tread tyres shall be tested at a speed equal to 85% of the speed prescribed for equivalent normal tyres.					
² The load application times for periods 1 and 2 are 4 h and 6 h respectively.					

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Table 4
Nominal rim diameter code

Code		Nominal rim diameter, dr, mm
5° tapered rims		15° tapered (drop-centre) rims
10	-	254
12	-	305
13	-	330
14	-	356
-	14.5	368
15	-	381
16	-	406
17	-	432
-	17.5	445
18	-	457
-	19.5	495
20	-	508
-	20.5	521
22	-	559
-	22.5	572
24	-	610
-	24.5	622

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Table 5
Correlation between load index and tyre load - carrying capacity (TLCC)

Load Index (U)	TLCC Kg	Load Index (U)	TLCC Kg	Load Index (U)	TLCC Kg	Load Index (U)	TLCC Kg	Load Index (U)	TLCC Kg	Load Index (U)	TLCC Kg	Load Index (U)	TLCC Kg	Load Index (U)	TLCC Kg	Load Index (U)	TLCC Kg	Load Index (U)	TLCC Kg
0	46	40	140	80	450	120	1400	160	4500	200	14000	240	45000						
1	46.2	41	145	81	462	121	1450	161	4625	201	14500	241	46250						
2	47.5	42	150	82	475	122	1500	162	4750	202	15000	242	47500						
3	48.7	43	155	83	487	123	1550	163	4875	203	15500	243	48750						
4	50	44	160	84	500	124	1600	164	5000	204	16000	244	50000						
5	51.5	45	165	85	515	125	1650	165	5150	205	16500	245	51500						
6	53	46	170	86	530	126	1700	166	5300	206	17000	246	53000						
7	54.5	47	175	87	545	127	1750	167	5450	207	17500	247	54500						
8	56	48	180	88	560	128	1800	168	5600	208	18000	248	56000						
9	58	49	185	89	580	129	1850	169	5800	209	18500	249	58000						
10	60	50	190	90	600	130	1900	170	6000	210	19000	250	60000						
11	61.5	51	195	91	615	131	1950	171	6150	211	19500	251	61500						
12	63	52	200	92	630	132	2000	172	6300	212	20000	252	63000						
13	65	53	206	93	650	133	2060	173	6500	213	20600	253	65000						
14	67	54	212	94	670	134	2120	174	6700	214	21200	254	67000						
15	69	55	218	95	690	135	2180	175	6900	215	21800	255	69000						
16	71	56	224	96	710	136	2240	176	7100	216	22400	256	71000						
17	73	57	230	97	730	137	2300	177	7300	217	23000	257	73000						
18	75	58	236	98	750	138	2360	178	7500	218	23600	258	75000						
19	77.5	59	243	99	775	139	2430	179	7550	219	24300	259	77500						

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Table 5 (Cont'd)

Load Index (U)	TLCC Kg	Load Index (U)	TLCC Kg	Load Index (U)	TLCC Kg	Load Index (U)	TLCC Kg	Load Index (U)	TLCC Kg	Load Index (U)	TLCC Kg	Load Index (U)	TLCC Kg	Load Index (U)	TLCC Kg
20	80	60	250	140	2 500	180	8 000	220	25 000	260	80 000				
21	82.5	61	257	141	2 575	181	8 250	221	25 750	261	83 500				
22	85	62	265	142	2 650	182	8 500	222	26 500	262	85 000				
23	87.5	63	272	143	2 725	183	8 750	223	27 250	263	87 000				
24	90	64	280	144	2 800	184	9 000	224	28 000	264	90 000				
25	92.5	65	290	145	1 900	185	9 250	225	29 000	265	92 500				
26	95	66	300	146	3 000	186	9 500	226	30 000	266	95 000				
27	97.5	67	307	147	3 075	187	9 750	227	30 750	267	97 500				
28	100	68	315	148	3 150	188	10 000	228	31 500	268	100 000				
29	103	69	325	149	3 250	189	10 300	229	32 500	269	103 000				
30	106	70	335	150	3 350	190	10 600	230	33 500	270	106 000				
31	109	71	345	151	3 450	191	10 900	231	34 500	271	109 000				
32	112	72	355	152	3 550	192	11 200	232	35 500	272	112 000				
33	115	73	365	153	3 650	193	11 500	233	36 500	273	115 000				
34	118	74	376	154	3 750	194	11 800	234	37 500	274	118 000				
35	121	75	387	155	3 875	195	12 150	235	38 750	275	121 000				
36	125	76	400	156	4 000	196	12 500	236	40 000	276	125 000				
37	128	77	412	157	4 125	197	12 850	237	41 250	277	128 500				
38	132	78	425	158	4 250	198	13 200	238	42 500	278	132 000				
39	136	79	437	159	4 375	199	13 600	239	43 750	279	136 000				

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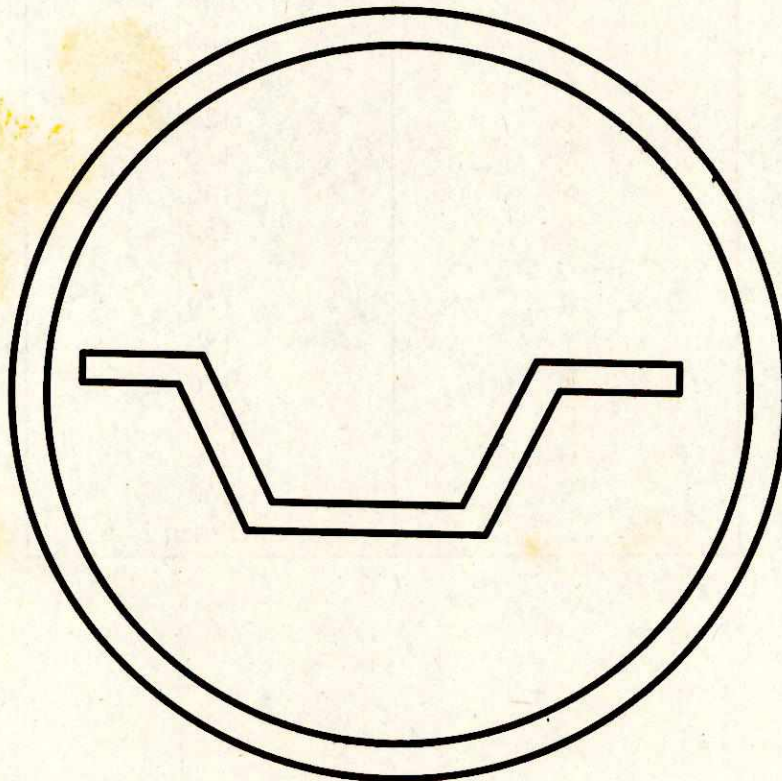
Table 6**Correlation between speed symbol and speed category**

Speed symbol	Speed category (km/h)
B	50
C	60
D	65
E	70
F	80
G	90
J	100
K	110
L	120
M	130
N	140
P	150
Q	160
R	170
S	180
T	190
U	200
H	210
V	240
Z	greater than 240

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Appendix A

The international symbol for a regroovable tyre



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Appendix B
(Informative)**Test conditions for tyres with non-standard marking**

For tyres not marked with a load index, but with a "load range" or equivalent ply rating "PR", marking Tables 7, 8 and 9 apply in place of Tables 1, 2 and 3 as appropriate.

Table 7
Plunger diameter

Tyre type	Plunger diameter $\pm 0.5\text{mm}$
Tyres marked "LT"; Tyres with rim diameter code ≤ 12 ; Tyres with rim diameter code ≤ 17.5 ; and marked "Tubeless"	19
Other than above:	
— Tyres marked Load range F (or 12 PR) and below.	32
— Tyres marked Load range G (or 14 PR) and over.	38

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Table 8

Minimum breaking energy

Load range	PR	Breaking energy (min.) J				
		Rim diameter code ≤12	Rim diameter code 13 and 14. Tube type marked "LT"	Other tyres marked "LT". Tubeless with rim diameter code 13 to 17.5 inclusive	Other tyres	
					Tube type	Tubeless
A	2	68	-	226	-	-
B	4	136	192	294	-	-
C	6	203	271	362	768	576
D	8	271	384	514	893	734
E	10	339	-	576	1412	972
F	12	407	-	644	1785	1412
G	14	-	-	712	2282	1695
H	16	-	-	768	2599	2090
J	18	-	-	-	2825	2203
L	20	-	-	-	3051	-
M	22	-	-	-	3220	-
N	24	-	-	-	3390	-

Note: For rayon cord tyres, the applicable energy values are 60 percent of those shown in table.

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Table 9
Endurance test

Marking of speed restricted service	Load range	PR	Test drum speed r/minute	Percentage of maximum load rating		
				Duration		
				7 h (period 1)	16 h (period 2)	24 h (period 3)
50 mile/h	all	all	125	66	84	101
50 mile/h	C, D E to L	6, 8 10 to 20	150	75	97	114
			100	66	84	101
35 mile/h	all	all	75	66	84	101
(No markings)	A to D	2 to 8	250	75 ¹⁾	97 ²⁾	114
	E	10	200	70	88	106
	F	12	200	66	84	101
	G	14	175	66	84	101
	H to N	16 to 24	150	66	84	101

1. 4 h for tyres with rim diameter code 14.5 or less.

2. 6 h for tyres with rim diameter code 14.5 or less.

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Table 9
Endurance test

Marking of speed restricted service	Load range	PR	Test drum speed r/minute	Percentage of maximum load rating		
				Duration		
				7 h (period 1)	16 h (period 2)	24 h (period 3)
50 mile/h	all	all	125	66	84	101
50 mile/h	C, D E to L	6, 8 10 to 20	150	75	97	114
			100	66	84	101
35 mile/h	all	all	75	66	84	101
(No markings)	A to D	2 to 8	250	75 ¹⁾	97 ²⁾	114
	E	10	200	70	88	106
	F	12	200	66	84	101
	G	14	175	66	84	101
	H to N	16 to 24	150	66	84	101
1. 4 h for tyres with rim diameter code 14.5 or less.						
2. 6 h for tyres with rim diameter code 14.5 or less.						

Dated this ^{4th} day of June, 2003

(WINE)

George Nader

Minister of Tourism, Industry and Commerce