
Specification for Pneumatic Tyres for Non Passenger Vehicles



SAINT LUCIA NATIONAL STANDARD

SLNS 42: 2005

SPECIFICATION FOR PNEUMATIC TYRES FOR NON-PASSENGER VEHICLES

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GENERAL STATEMENT

The Saint Lucia Bureau of Standards was established under the Standards Act No.14 of 1990 and started operations on 01 April 1991. A broad-based 15-member Standards Council directs the affairs of the Bureau.

The Standards Act gives the Bureau the responsibility to develop and promote standards and codes of practice for products and services for the protection of the health and safety of consumers and the environment as well as for industrial development in order to promote the enhancement of the economy of St. Lucia. The Bureau develops standards through consultations with relevant interest groups. In accordance with the provisions of the Standards Act, public comment is invited on all draft standards before they are declared as Saint Lucia National Standards.

The Bureau also administers the Metrology Act No. 17 of 2000. This legislation gives the Bureau the responsibility to regulate all weights and measures and to manage and co-ordinate the metrication of Saint Lucia.

The Bureau operates a Product Certification Scheme applicable to all products for which national standards exist. If a product satisfies all the requirements for certification, a licence to carry the **Saint Lucia Standard Mark** is issued to the manufacturer of the product. The presence of the mark on a product indicates that it conforms to all the requirements of a specific national standard and assures consistent quality to the consumer.

The Bureau is a member body of the International Organization for Standardization (ISO), an affiliate member of the International Electrochemical Commission (IEC) and a member of the CARICOM Regional Organization for Standards and Quality (CROSQ) and the Pan American Standards Commission (COPANT). The Bureau is the local agent for several foreign standards bodies such as the British Standards Institution (BSI) and the American Standards for Testing and Measurement (ASTM). The Bureau also serves as the enquiry point for the World Trade Organization (WTO) on matters pertaining to the Technical Barriers to Trade (TBT) Agreement.

In accordance with good practice for the adoption and application of standards, Saint Lucia National Standards are subject to review every three years. Suggestions for improvements are always welcomed.

**SPECIFICATION FOR PNEUMATIC TYRES FOR NON-PASSENGER
VEHICLES****AMENDMENTS ISSUED SINCE LAST PUBLICATION**

Amendment no.	Date of issue	Text(s) affected

ATTACHMENT PAGE FOR SLBS AMENDMENT SHEET

SAINT LUCIA NATIONAL STANDARD

SLNS 42: 2005

SPECIFICATION FOR PNEUMATIC TYRES FOR NON-PASSENGER VEHICLES

SPECIAL TECHNICAL COMMITTEE FOR TYRES

The following persons comprised the Special Technical Committee which was responsible for the formulation of the standard:

Members	Representing
Egbert L. Louis (Chairman)	Association of Professional Engineers of Saint Lucia
Fulgence St. Prix (Technical Secretary)	St Lucia Bureau of Standards
Martin Renee	Renee's Construction
Linus St. Clair	National Council on Public Transportation
Mr. Ince Rambally	Rambally Automotive Service Company
Mr. Shoan Aubertin	National Taxi Union
Mr. Randall Bain	Northwest Ltd.
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Foreword

The standard was prepared to provide adequate information to tyre dealers/manufacturers and purchasers/consumers for the safe operational performance of pneumatic tyres used on non-passenger vehicles. Tyre dealers/manufacturers will be guided by the full range of tyre specifications outlined in this standard. The information provided to purchasers/consumers will permit proper selection and use of these tyres.

In the formulation of this standard, considerable assistance was derived from the following documents:

- a) International Standard ISO 4209-1: 2001 E. Truck and Bus Tyres and Rims (metric series) – Part 1: Tyres;
- b) Trinidad and Tobago Standard TTS 536: 1997. Specification for new pneumatic tyres for highway commercial vehicles;
- c) Jamaican Standard JS 269: 1995. Jamaican Standard Specification for Pneumatic Tyres for Vehicles other than Passenger Cars.

This standard is closely related to SLNS 41: 2001 Standard for pneumatic tyres for passenger cars.

1 Scope

This standard establishes the physical dimensions, performance and marking requirements for pneumatic tyres for use on multipurpose vehicles, trucks, buses, trailers and motorcycles.

Test methods for determining conformity to the performance requirements are also included.

2 Terms and Definitions

For the purpose of this Saint Lucia National Standard, the terms and definitions used in SLNS 41: 2001 Specification for pneumatic tyres for passenger cars shall apply along with the following:

2.1 commercial vehicle tyre

a tyre for use on vehicles which carry ten (10) or more persons and/or with a Maximum Gross Weight (MGW) in excess of 3000 kg (6500 lb), as well as light trucks.

2.1 light truck

a self-propelled vehicle which is designed primarily to transport property or special purpose equipment and has a Maximum Gross Weight (MGW) of 3000 kg (6500 lb) or less.

2.2 model rim assembly

a test device that:

- a) includes a rim which conforms to the published dimensions of a commercially available rim;

- b) includes an air valve assembly when used for testing tubeless tyres or an inner tube and flap (as required) when used for testing tube tyres; and
- c) undergoes no permanent rim deformation and allows no loss of air through the portion that comprises of the tyre-rim pressure chamber when a tyre is properly mounted on the assembly and subjected to the requirements of this standard.

3 Tyre designation

3.1 Content

The designation of the tyre shall be shown on its sidewall and shall include the following markings to be shown close to each other:

- a) size and construction;
- b) service condition characteristics.

3.2 Size and construction

3.2.1 Marking

3.2.1.1 The size and construction characteristics shall be indicated as follows:

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

NOTE: The sequence from left to right shall be maintained.

3.2.2 Nominal section width

3.2.2.1 The nominal section width shall be expressed in millimeters.

3.2.2.2 For tyres fitted to 5° taper rims and 15° taper rims, (code-designated) the nominal tyre section width shall end in 5.

3.2.3 Nominal aspect ratio

3.2.3.1 The nominal aspect ratio shall be expressed as a percentage and shall be a multiple of 5.

3.2.4 Tyre construction code

3.2.4.1 The tyre construction code shall be as follows:

- a) B for bias-belted construction;
- b) D, or -, for diagonal/bias construction;
- c) R for radial ply tyres.

NOTE The use of another code letter (for example, in the case of a new construction type) shall first be remitted to the Saint Lucia Bureau of Standards (SLBS) for acceptance and inclusion in this list.

3.2.5 Nominal rim diameter

The nominal rim diameter for 5° tapered bead set rims and for 18° tapered bead set (drop center) rims shall be expressed by a code (see Table 1 for code correlations).

NOTE 15° tapered rims are to be used only for tyres with load index 122 and longer.

Table 1 - Nominal rim diameter code

Code		Nominal rim diameter, D _r (mm)
5° tapered rims	15° tapered (drop-centre) rims	
10	--	254
12	--	305
12	--	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

3.3 Service condition characteristics

3.3.1 Marking

The characteristics shall be indicated as follows:

Load index single/Load index dual speed symbol.

3.3.2 Load index

3.3.2.1 The load index is a numerical code associated with the maximum load a tyre can carry at the speed indicated by its speed symbol under the service conditions specified by the manufacturer (See Table 2).

Table 2 - Correlation between load index (u) 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)
0	46	40	140	80	450	120	1400	160	4500	200	14000	240	45000
1	46,2	41	154	81	462	121	1450	161	4625	201	14500	241	46250
2	47,5	42	150	82	475	122	1500	162	4750	202	15000	242	47750
3	48,7	43	155	83	487	123	1550	163	4875	203	15550	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	5250	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	6000
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	225	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	7750	219	24600	259	77500
20	80	60	250	100	800	140	2500	180	8000	220	25000	260	80000
21	82,5	61	257	101	825	141	2575	181	8250	221	25750	261	83500
22	85	62	265	102	250	142	2650	182	8500	222	26500	262	85000
23	87,5	63	272	103	275	143	2725	183	8750	223	27250	263	87000
24	90	64	280	104	900	144	2800	184	9000	224	28000	264	90000
25	92,5	65	290	105	925	145	2900	185	9250	225	29000	265	92500
26	95	66	300	106	950	146	3000	186	9500	226	30000	266	95000
27	97,5	67	307	107	975	147	3075	187	9750	228	30750	267	97500
28	100	68	315	108	1000	148	3150	188	10000	229	31500	268	10000
29	103	69	325	109	1030	149	3250	189	10300	230	32500	269	10300
30	106	70	335	110	1060	150	3350	190	10600	230	33500	270	106000
31	109	71	345	111	1090	151	3450	191	10900	231	34500	271	109000
32	112	72	355	112	1120	152	3550	192	11200	232	35500	272	112000
33	115	73	365	113	1150	153	3650	193	11500	233	36500	273	115000
34	118	74	376	114	1180	154	3750	194	11800	234	37500	274	118000
35	121	75	387	115	1215	155	3875	195	12150	235	38750	275	121000
36	125	76	400	116	1250	156	4000	196	12500	236	40000	276	125000
37	128	77	412	117	1285	157	4125	197	12850	237	41250	277	128500
38	132	78	425	118	1320	158	4250	198	13200	238	42500	278	132000
39	136	79	437	119	1360	159	4375	199	13600	239	43750	279	136000

3.3.2.2 Speed symbol

The speed symbol indicates the speed at which the tyre can carry the load corresponding to its load index under the service conditions specified by the tyre manufacturer (See Table 3).

Table 3 - Correlation between speed symbol and speed category

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

3.4 Other service characteristics

3.4.1 In the case of tubeless tyres, the marking 'Tubeless' shall be shown on the tyre.

3.4.2 In the case of a preferred direction of rotation of the tyre, an arrow shall be used to indicate the direction.

3.4.3 In the case of special tread tyres, the symbol 'ET' shall be shown on the tyre.

3.5 Example

A tyre having:

- a) a size and construction of:
 - a. nominal section width 275 mm;
 - b. nominal aspect ratio 70%;
 - c. radial construction;
 - d. nominal rim diameter code 22.5;
- b) Service condition characteristics of:
 - a. single load 2500 kg;
 - b. dual load 2300 kg;
 - c. reference speed 130 km/h
- c) Other service characteristics:
 - a. tubeless
 - b. special tread

d) shall be marked:

275/70 R 22.5

140/137/M

Tubeless ET

3.6 Uniform tyre quality grade labelling

3.6.1 The Uniform Tyre Quality Grading System (UTQGS) is a tyre information system that provides buyers with information on three categories – treadwear, traction and temperature. Each tyre manufacturer shall perform its own tests in these areas following prescribed test procedures. Each manufacturer shall then assign grades that are branded on the tyre. This is known as Uniform Tyre Quality Grade Labelling (UTQGL).

3.6.2 Treadwear

Treadwear grades typically range from 60 to over 600 in twenty-point increments. The actual life of any tyre is determined by the road surface quality, driving habits, inflation, wheel alignment and rotation it experiences.

3.6.3 Traction

Traction grades indicate the measurement of a tyre’s ability to stop a car in straight-ahead motion on a wet test surface pavement. They do not measure straight-ahead acceleration. Traction grades range from AA, A, B and C with AA being the highest attainable grade.

3.6.4 Temperature

Temperature grades also range from A to C with A being the highest. Temperature grades represent a properly maintained tyre’s ability to dissipate heat under controlled indoor test wheel conditions. A tyre is graded ‘C’ if it meets the minimum performance required by Department of Transportation, and grades of ‘B’ and ‘A’ represent higher levels of performance than the minimum required by DOT.

Example Treadwear 300 Traction AA Temperature A

3.7 DOT

DOT signifies that the tyre complies with the United States Department of Transportation tyre safety standards and is approved for highway use.

DOT M5H3 459X 0605 ◀

The first two letters following DOT designate the tyre’s manufacturer and plant code. The third and fourth characters denote the tyre size. The fifth, sixth, seventh and eighth (optional) characters identify the brand and other significant characteristics of the tyre. The ninth and tenth characters denote the week the tyre was produced. The final two numbers signify the year in which the tyre was manufactured.

4 Requirements

4.1 Physical dimensions, rims and maximum load ratings

4.1.1 Each manufacturer of tyres shall ensure that a listing of the rims that may be used with each tyre that is produced is provided to the public. A listing compiled in accordance with **4.1.1** (a) need not include dimensional specifications or a diagram if the rim dimensional specifications and diagrams are contained in each listing published in accordance with **4.1.1** (b). The listing shall be in one of the following forms:

- a) listed by manufacturer, name or brand name in a document furnished to dealers of the manufacturer's tyres to any person upon request, and to the Saint Lucia Bureau of Standards;
- b) contained in the publication, current at the date of manufacture of the tyre or any later date; of at least one of the following organizations:
 - i) The Tyre and Rim Association Inc (U.S.A);
 - ii) The European Tyre and Rim Technical Organization (Belgium);
 - iii) Japan Automobile Tyre Manufacturers' Association, Incorporated;
 - iv) Deutsches Institute für Normung (German Institute for Standardization)
 - v) British Standards Institution (United Kingdom); and
 - vi) Scandinavian Tyre and Rim Organization (Scandinavia)

4.1.2 Information contained in the publications given in **4.1.1** (b) which list general categories of tyres and rims by size designation, type of construction and/or intended use shall be considered to be the manufacturer's information pursuant to **4.1.1** for the listed tyres and rims, unless the publication itself or specification provided according to **4.1.1** (a) indicates otherwise.

4.2 Maximum load rating

If the maximum load rating for a particular tyre size is shown in one or more of the publications referred to in **4.1.1** (b), 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, it shall not be less than the lowest published maximum load rating for the size.

4.3 Performance requirements

4.3.1 Each tyre shall meet any of the applicable requirements given in **4.3.4** to **4.3.5**, when mounted on a model rim assembly corresponding to any rim designated by the tyre manufacturer for use with the tyre in accordance with clause **4.1.1** (b).

4.3.2 However, a particular tyre need not meet further requirements after having been subjected to and meets the endurance test (see **4.3.4**) the strength test (see **4.3.5**) or the high speed performance test (**4.3.6**).

4.3.3 Prior to testing, a tyre shall exhibit no visual evidence of tread, sidewall, ply, cord, inner liner, or bead separation, chunking, broken cords, cracking or open slices.

4.3.4 Tyre endurance

4.3.4.1 Upon completion of the test specified in 5.2:

- a) there shall be no visual evidence of tread, sidewall, ply, cord, inner liner or bead separation, chunking, broken cord, cracking, or open slices; and
- b) the tyre pressure at the end of the test shall be not less than the initial pressures specified in 5.2 (a).

4.3.5 Tyre strength

When tested in accordance with the requirements of 5.3, a tyre's average breaking energy value shall not be less than the values specified in Table 4 for that tyre's size and load range.

Table 4 - Minimum static breaking energy (Nm)

Load range		All 305 mm or smaller rim size	Light trucks 444 mm or smaller rim tubeless	Tube type	Tubeless	Tube type	Tubeless
Tyre characteristics	Motor-cycle						
Plunger diameter (mm)		8.0	19.0	31.5		37.5	
A	17	68	227				
B	34	136	295				
C	45	201	363	770	578		
D		272	516	782	737		
E		340	578	123	975		
F		408	646	1564	1237		
G			714			2289	1700
H			770			2607	2097
J						2833	2210
L						3060	
M						3230	
N						3400	

NOTE For rayon cord tyres, applicable energy values are 60% of those available

4.3.6 High speed performance

When tested in accordance with the requirements of 5.4, a tyre shall meet the requirements given in 4.3.4.1 (a) and (b).

4.3.6.1 However, this requirement applies only to motorcycle tyres and to non-speed-restricted tyres of 368 mm nominal diameter or less, marked load range A, B, C or D as given in Table 5.

Table 5 - Endurance test schedule

Description	Load range	Test wheel speed (rpm)	Test load: percent of maximum load rating			Total revolutions (thousands)
			Hours			
			Phase 1 7	Phase 2 16	Phase 3 24	
Speed restricted service (km/h)						
55	All	125	66	84	101	352.0
50	C,D E,F,G,H,J,L	150	75	97	114	423.0
		100	66	84	101	282.5
35	All	75	66	84	101	211.0
Motorcycle	A1	250	100*	108 ⁺	117	510.0
All other	A,B,C,D, E F G H,J,L,N	250	75*	97 ⁺	114	--
		200	70	84	106	564.0
		200	66	84	101	564.0
		175	66	84	101	493.5
		150	66		101	423.5
*4 hours for tyre sizes subject to high speed requirements (see 5.3).						
⁺ 6 hours for tyre sizes subject to high speed requirements (see 5.3).						

4.3.7 Tread wear indicators

4.3.7.1 Except as specified, each tyre shall have at least six treadwear indicators spaced equally around the circumference of the tyre that enable a person inspecting the tyre to determine visually whether the tyre has worn to a tread depth of 0.4 mm.

4.3.7.2 Tyres either 305 mm or a smaller rim diameter shall have at least three such indicators.

4.3.7.3 Motorcycle tyres shall have at least three such indicators which permit visual determination that the tyre has been worn to a tread depth of 0.8mm.

5 Test procedures

5.1 General conditions

5.1.1 The tests are performed using an appropriate new tube, tube valve and flap assembly (as required) that allow no loss of air for testing of tube-type tyres in accordance with **5.2**, **5.3** and **5.4** and other tubeless tyres in accordance with **5.3**.

5.1.2 The tyre shall be capable of meeting the requirements of **5.2** and **5.4** when conditioned to a temperature of 35°C for 3 hours before the test is conducted and with an ambient temperature maintained at 35°C during all phases of testing.

5.1.3 The tyre shall be capable of meeting the requirements of **5.3** when conditioned at a temperature of 21°C for 3 hours before the test is conducted.

5.2 Endurance

5.2.1 Mount the tyre on a test rim and inflate it 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 a pressure corresponding to the single maximum load rating.

5.2.2 After conditioning the tyre rim assembly in accordance with **5.1.2** adjust the tyre pressure as specified in **5.2.1** immediately before mounting the tyre-rim assembly.

5.2.3 Mount the tyre rim assembly on a test axle so that the tyre may be pressed radially against the outer face of the test drum.

5.2.4 Apply the test load and rotate the test wheel as in Table 5 for the type of tyre tested, conducting each successive phase of the test without interruption.

5.2.5 Immediately after running the tyre for the required time measure the tyre inflation pressure.

5.2.6 Remove the tyre from the model rim assembly and inspect the tyre.

5.3 Strength

5.3.1 Mount the tyre on a model rim assembly and inflate it to the pressure corresponding to the maximum load rating in single formation or maximum dual load where they differ. If the tyre is tubeless, a tube may be inserted to prevent loss of air during the test in the event of puncture.

5.3.2 After conditioning the tyre-rim assembly in accordance with **5.1.2**, adjust the tyre pressure to that specified in **5.3.1**.

5.3.3 Force a cylindrical steel plunger with the hemispherical end of the diameter specified in Table 6 for the tyre size, perpendicularly into a raised tread element as near as possible to the centerline of the tread at a rate of 50 mm per min until the tyre breaks or the plunger is stopped by the rim.

Table 6 - Strength test plunger diameter

Tyre type	Plunger diameter (mm)
Light truck	19.0
Motor cycle	8.0
Tyres for 305 mm or smaller rims, except motorcycles	19.0
Tyres other than the above types:	
Tubeless:	
445 mm or smaller	19.0
Larger than 305 mm rims:	
Load range F or less	31.5
Load range over F	37.5
Tube type:	
Load range F or less	31.5
Load range over F	37.5

5.3.4 Record the force and the distance of penetrating just before the tyre breaks, or if it fails to break, just before the plunger is stopped by the rim.

5.3.5 Repeat the plunger application at 72° intervals around the circumference of the tyre until five measurements are made. However, in the case of tyres of 305 mm rim diameter or less, repeat the plunger applications at 120° intervals around the circumference of the tyre until three measurements are made.

5.3.6 Compute the breaking energy, W, in joules for each test point by means of the following formula:

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

Where:

W = Breaking energy, (Nm)

F = Force, (N)

P = Penetration, (mm)

5.3.7 Determine the average breaking energy value for the tyre by computing the average of the values obtained in accordance with **5.3.6**.

5.4 High speed performance

5.4.1 Perform steps **5.2.1** through **5.2.3** according to the requirements of **5.2**.

5.4.2 Apply force of 88% of the maximum load rating marked on the tyre (use single maximum load value when the tyre is marked with both single and dual maximum loads) and rotate the test wheel at 250 rpm for 2 hours.

5.4.3 Remove the load, apply the tyre to cool to 35°C, and then adjust the pressure to that marked on the tyre for the single use.

5.4.4 Reapply the load, and without interruption or readjustment of inflation pressure, rotate the test wheel at 375 rpm for 30 minutes, then at 425 rpm for 30 minutes.

5.4.5 Immediately after running the tyre for the required time, measure the tyre inflation pressure. Remove the tyre from the model rim assembly and inspect.

6 Sampling and testing to determine conformity

6.1 Sample size

6.1.1 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 ISO 2859-1: 1989 or ISO 3951: 1989.

6.2 Test sample

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

- a. one tyre shall be used for the measurement of strength;
- b. a second for the endurance test.

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

6.2.3 Each test sample shall conform to the requirements specified in **5.2** and **5.3**.

6.3 Conformity

6.3.1 Where the samples taken in accordance with **6.1.1** and tested in accordance with **5.2** and **5.3** satisfy all other requirements of this standard, the lot shall be deemed to conform with this Saint Lucia National Standard.

7 Labelling requirements

7.1 Each tyre shall have permanently moulded on each sidewall, except as specified in (j), the following information in letter sizes and at locations 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:

- a) the designation of dimensional and constructional characteristics;
- b) the designation of load and speed characteristics;
- c) the designation of other service characteristics;

d) the maximum load rating and corresponding inflation pressure of the tyre, shown as follows:

i) (Mark on tyres rated for single and dual load):

‘Max load single _____ kg _____ at _____ kPa cold;
 ‘Max load dual _____ kg _____ at _____ kPa cold;

ii) (Mark on tyres rated only for single load):

Max load _____ kg _____ at _____ kPa cold;

e) the speed restriction of the tyre, if 80 km/h or less, shown as follows:

Max speed _____ km/h;

f) the actual number of plies and the composition of the ply material in the sidewall, and if difficult, in the tread area;

g) the word ‘TUBELESS’ or ‘tube type’ as applicable;

h) the word ‘REGROOVABLE’, if the tyre is designed for regrooving;

i) the word ‘RADIAL’ if a radial tyre;

j) the letter designating the tyre load range;

k) a date code, on at least one sidewall, consisting of three digits, the first two naming the week of manufacture and the third digit the year of manufacture;

l) identification of the manufacturer either by name or brand name;

m) country of manufacture;

n) Uniform Tyre Quality Grade Labelling (Treadwear, Traction and Temperature);

o) DOT marking.

7.1.2 The markings shall be placed between the maximum section width (exclusive of sidewall decorations or curb ribs) and the bead on at least one sidewall, unless the maximum section width of the tyre is located in an area which is not more than one-fourth of the distance from the bead to the shoulder of the tyre. If the maximum section width falls within that area, the markings shall appear between the bead and a point one-half the distance from the bead to the shoulder of the tyre, on at least one sidewall. 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.

7.1.3 The markings shall be in letters less than 2 mm high and raised above or sunk below the tyre surface not less than 0.25 mm, except that the marking depth shall not be less than 0.25 mm in the case of motorcycle tyres.

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7.1.4 Markings may appear on only one sidewall and the entire sidewall area may be used in the case of motorcycle tyres and recreational, boat, baggage and special trailer tyres.

7.1.5 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.

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

8 Additional requirements

8.1 The serial number of the lot of tyres under inspection shall be identified.

8.2 Tyres from the lot shall be randomly selected to assess the following defects:

- a) chunking, cracking, inner liner separation;
- b) splice ply separation, side wall separation;
- c) tread separation, uneven treadwear.

8.3 The certificate shall state the skid depth of each tyre.

8.4 The certificate shall state the section width of each tyre.

8.5 The bead unseating force stated by the manufacturer shall not be reduced by more than 5%.

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