



BS AU 50 : Part 1 : Section 2f : 1987

(Superseding BS AU 50 : Part 1 : Section 2e : 1986)

UDC 629.11.012.3/.5 + 629.113.012.5 :

629.11.012.552.556.61 : 629.114.4/.5

© British Standards Institution. No part of this publication may be photocopied or otherwise reproduced without the prior permission in writing of BSI

British Standard Automobile Series

Tyres and wheels

Part 1. Tyres

Section 2f. Specification for sizes, loads, inflation pressures and rims for commercial vehicle tyres

Série automobile. Pneumatiques et roues

Partie 1. Pneumatiques

Section 2f. Dimensions, charges, pressions de gonflage et jantes pour pneumatiques de véhicules utilitaires — Spécifications

Kraftfahrzeugserie. Reifen und Räder

Teil 1. Reifen

Abschnitt 2f. Reifen von Nutzfahrzeugen; Größen, Belastbarkeit, Reifendruck und Felgen

Contents

	Page		Page
Foreword	2	2.12 Rims and inflation valves for tyres	5
Committees responsible	Back cover	2.13 Dimensions for tyres and dual spacing	5
Specification		Tables	
2.1 Scope	3	2/1 Load index (LI)	4
2.2 Definitions	3	2/2 Speed symbols	5
2.3 Tyre markings	3	2/3 Maximum axle loads for tyres fitted to goods vehicles operating in normal highway service	6
2.4 Load capacities and inflation pressures	3	2/4 Maximum axle loads for low platform trailers (maximum speed 65 km/h (40 mile/h))	11
2.5 Tyres fitted to goods vehicles	3	2/5 Axle load and inflation pressure factors and operating limitations for commercial vehicle tyres fitted to battery electric vehicles	11
2.6 Tyres fitted to municipal and local delivery vehicles	3	2/6 Axle load and inflation pressure factors for commercial vehicle tyres fitted to mobile cranes	12
2.7 Tyres fitted to battery electric vehicles	3	2/7 Rim, inflation valve and dimensions, including dual spacing, for radial and cross ply tyres	13
2.8 Tyres fitted to buses	3		
2.9 Commercial vehicle tyres fitted to mobile cranes	3		
2.10 'C' type tyres fitted to caravans and passenger car trailers	5		
2.11 Tyres fitted to low platform trailers	5		

British Standards Institution

Foreword

This Section of BS AU 50 : Part 1 has been prepared under the direction of the Automobile Standards Committee. The standard was first published in 1964, was revised in 1976 and was last amended in 1986 as Section 2e.

This edition supersedes BS AU 50 : Part 1 : Section 2e : 1986, which is withdrawn.

This revision of this Section of BS AU 50 : Part 1 basically brings the data in line with current practice in industry and incorporates load index (LI) marked tyres and the associated loads.

NOTE. Information on SI units is given in BS 3763 and BS 350. Tyre, wheel, rim and valve requirements are given in the following Parts and Sections of BS AU 50 : Tyres and wheels:

Part 1. Tyres

- Section 0. General
 - Section 1. Car tyres
 - Section 2. Specification for sizes, loads, inflation pressures and rims for commercial vehicle tyres
 - Section 3. Off-the-road tyres
 - Section 4. Agricultural vehicle tyres
 - Section 5. Industrial vehicle tyres
 - Section 6. Motor cycles and scooter tyres
- ### Part 2. Wheels and rims
- Section 0. General (including terms and definitions, and construction and workmanship)
 - Section 1. Rim profiles and dimensions (including openings for valves)
 - Section 2. Specification for dimensions of wheel naves and hub centres for commercial vehicles
 - Section 3. Not published
 - Section 4. Not published
 - Section 5. Road wheels manufactured wholly or partly of cast light alloy for passenger cars

Section 6. Specification for road wheels manufactured wholly or partly of light alloy for mopeds and motor cycles

Section 7. Code of practice for the selection and care of wheels for commercial vehicles

Section 8. Code of practice for the selection and care of wheels for passenger cars (including caravans and light trailers)

Part 3. Valves

Section 1a. Specification for valve dimensions

Section 2. Tyre valve threads 5V1, 5V2, 6V1 and 8V1

Section 3. Tyre valve threads 9V1, 10V2, 12V1 and 13V1

Section 4. Tyre valve threads 8V2, 10V1, 11V1, 13V2, 15V1, 16V1, 17V1, 17V2, 17V3, 19V1 and 20V1

Section 5. Dimensions for ISO core chamber No. 1 for tyre inflation valves

Section 6. Dimensions for ISO core chamber No. 2 for tyre inflation valves

Section 7. Code of practice for the selection and care of tyre inflation valves for passenger cars (including caravans and light trailers)

Section 8. Code of practice for the selection and care of tyre inflation valves for commercial vehicles

WARNING NOTE. Attention is drawn to note 4 to 0.1 of BS AU 50 : Part 1 : Section 0c which has the following text:

'Tyres of one size designation may be made in more than one design to suit various service applications. These designs may have differing speed capabilities. The tyre user should ascertain that the particular tyre he intends to employ is suitable for the intended use.'

Compliance with a British Standard does not of itself confer immunity from legal obligations.

2.1 Scope

This Section of BS AU 50 : Part 1 specifies sizes, loads, inflation pressures and rims for commercial vehicle tyres, for use with the associated wheel rim contours given in BS AU 50 : Part 2. Marking requirements are included and suitable inflation valve details are also given.

NOTE. The titles of the publications referred to in this standard are listed on the inside back cover.

2.2 Definitions

For the purposes of this Section of BS AU 50 : Part 1 the following definitions apply.

2.2.1 recommended rim. The rim(s) that gives the best fitment of the tyre for all conditions and types of service.

2.2.2 permitted rim. Any rim, in addition to the recommended rim, whose fitment is permitted.

2.2.3 basic pressure. The inflation pressure related to the load that would, under optimum conditions, produce the most economical tyre life.

2.2.4 service description. The combination of a tyre's load index or load indices (see 2.2.5 and table 2/1) and its speed symbol (see 2.2.6 and table 2/2).

2.2.5 load index (LI). A numerical code associated with the maximum load a tyre can carry in the single or dual application at the speed indicated by its speed symbol under the specified service conditions (see table 2/1).

2.2.6 speed symbol. An alphabetical code indicating the speed at which the tyre can carry the load corresponding to its load index or indices (see 2.2.5) under the specified service conditions (see table 2/2).

2.2.7 normal highway service. Operation on all roads and motorways up to the statutory speed limits.

2.3 Tyre markings

2.3.1 All tyre markings given in this Section of BS AU 50 : Part 1 shall be permanently and legibly marked on both sidewalls. Tyres shall be marked with the tyre size plus one of the following:

- (a) ply rating;
- (b) service description (see tables 2/1 and 2/2);
- (c) ply rating and service description.

2.3.2 Radial ply tyres shall be indicated by the letter 'R' between the tyre section marking or code marking and the rim diameter (e.g. 11.00 R 20) and/or the word 'RADIAL' elsewhere on the sidewalls.

2.3.3 Tyres of tubeless construction shall be clearly indicated.

2.4 Load capacities and inflation pressures

The inflation pressures given in tables 2/3 and 2/4 shall be basic pressures relating to the specified loads.

NOTE. The pressure used in practice on the vehicle may be fixed by agreement between the tyre manufacturer, the vehicle manufacturer and/or the user. In which case the road holding, the maximum speed, the position of the tyre, the operating conditions and the mechanical characteristics of the vehicle should be taken into account, in addition to the load.

2.5 Tyres fitted to goods vehicles

Tyres fitted to goods vehicles operating in normal highway service shall be in accordance with table 2/3.

2.6 Tyres fitted to municipal and local delivery vehicles

Tyres fitted to municipal and local delivery vehicles shall be in accordance with table 2/3, except that the maximum axle loads given in table 2/3 may be multiplied by a factor of 1.15 provided a speed of 65 km/h (40 mile/h) is not exceeded.

NOTE. For the definition of municipal and local delivery vehicles see Regulation 25 of the Road Vehicles (Construction and Use) Regulations 1986.

2.7 Tyres fitted to battery electric vehicles

Tyres fitted to battery electric vehicles shall be in accordance with table 2/3, except that the axle loads and inflation pressures given in table 2/3 may be multiplied by the factors for the appropriate vehicle speed category given in table 2/5.

2.8 Tyres fitted to buses

Tyres fitted to buses shall be in accordance with table 2/3, except that the axle loads given in table 2/3 may be increased by 10 % in local service provided a speed of 80 km/h (50 mile/h) is not exceeded.

2.9 Commercial vehicle tyres fitted to mobile cranes

Commercial vehicle tyres fitted to mobile cranes shall be in accordance with table 2/3, except that the axle loads and inflation pressures given in table 2/3 may be multiplied by the factors for the appropriate vehicle speed category given in table 2/6.

BS AU 50 : Part 1 : Section 2f : 1987

Table 2/1. Load index (LI)

LI	kg	LI	kg	LI	kg	LI	kg	LI	kg	LI	kg	LI	kg
0	45	40	140	80	450	120	1400	160	4 500	200	14 000	240	45 000
1	46.2	41	145	81	462	121	1450	161	4 625	201	14 500	241	46 250
2	47.5	42	150	82	475	122	1500	162	4 750	202	15 000	242	47 500
3	48.7	43	155	83	487	123	1550	163	4 875	203	15 500	243	48 750
4	50	44	160	84	500	124	1600	164	5 000	204	16 000	244	50 000
5	51.5	45	165	85	515	125	1650	165	5 150	205	16 500	245	51 500
6	53	46	170	86	530	126	1700	166	5 300	206	17 000	246	53 000
7	54.5	47	175	87	545	127	1750	167	5 450	207	17 500	247	54 500
8	56	48	180	88	560	128	1800	168	5 600	208	18 000	248	56 000
9	58	49	185	89	580	129	1850	169	5 800	209	18 500	249	58 000
10	60	50	190	90	600	130	1900	170	6 000	210	19 000	250	60 000
11	61.5	51	195	91	615	131	1950	171	6 150	211	19 500	251	61 500
12	63	52	200	92	630	132	2000	172	6 300	212	20 000	252	63 000
13	65	53	206	93	650	133	2060	173	6 500	213	20 600	253	65 000
14	67	54	212	94	670	134	2120	174	6 700	214	21 200	254	67 000
15	69	55	218	95	690	135	2180	175	6 900	215	21 800	255	69 000
16	71	56	224	96	710	136	2240	176	7 100	216	22 400	256	71 000
17	73	57	230	97	730	137	2300	177	7 300	217	23 000	257	73 000
18	75	58	236	98	750	138	2360	178	7 500	218	23 600	258	75 000
19	77.5	59	243	99	775	139	2430	179	7 750	219	24 300	259	77 500
20	80	60	250	100	800	140	2500	180	8 000	220	25 000	260	80 000
21	82.5	61	257	101	825	141	2575	181	8 250	221	25 750	261	82 500
22	85	62	265	102	850	142	2650	182	8 500	222	26 500	262	85 000
23	87.5	63	272	103	875	143	2725	183	8 750	223	27 250	263	87 500
24	90	64	280	104	900	144	2800	184	9 000	224	28 000	264	90 000
25	92.5	65	290	105	925	145	2900	185	9 250	225	29 000	265	92 500
26	95	66	300	106	950	146	3000	186	9 500	226	30 000	266	95 000
27	97.5	67	307	107	975	147	3075	187	9 750	227	30 750	267	97 500
28	100	68	315	108	1000	148	3150	188	10 000	228	31 500	268	100 000
29	103	69	325	109	1030	149	3250	189	10 300	229	32 500	269	103 000
30	106	70	335	110	1060	150	3350	190	10 600	230	33 500	270	106 000
31	109	71	345	111	1090	151	3450	191	10 900	231	34 500	271	109 000
32	112	72	355	112	1120	152	3550	192	11 200	232	35 500	272	112 000
33	115	73	365	113	1150	153	3650	193	11 500	233	36 500	273	115 000
34	118	74	375	114	1180	154	3750	194	11 800	234	37 500	274	118 000
35	121	75	387	115	1215	155	3875	195	12 150	235	38 750	275	121 000
36	125	76	400	116	1250	156	4000	196	12 500	236	40 000	276	125 000
37	128	77	412	117	1285	157	4125	197	12 850	237	41 250	277	128 500
38	132	78	425	118	1320	158	4250	198	13 200	238	42 500	278	132 000
39	136	79	437	119	1360	159	4375	199	13 600	239	43 750	279	136 000

Table 2/2. Speed symbols

Speed symbol	Speed
	km/h
F	80
G	90
J	100
K	110
L	120
M	130
N	140
P	150
Q	160

NOTE. The speeds given are the maximum speeds for which the use of the tyre is rated at the load corresponding to its load index or load indices.

2.10 'C' type tyres fitted to caravans and passenger car trailers

'C' type tyres fitted to caravans and passenger car trailers shall be in accordance with table 2/3, except that the axle loads given in table 2/3 may be multiplied by a factor of 1.05 provided a speed of 100 km/h (62 mile/h) is not exceeded.

2.11 Tyres fitted to low platform trailers

Tyres fitted to low platform trailers shall be in accordance with table 2/4. The maximum speed shall not exceed 65 km/h (40 mile/h).

NOTE. For the definition of low platform trailer see Regulation 25 of the Road Vehicles (Construction and Use) Regulations 1986.

2.12 Rims and inflation valves for tyres

Rims and inflation valves for radial and cross ply tyres shall be in accordance with table 2/7. For details of inflation valves see BS AU 50 : Part 3.

2.13 Dimensions for tyres and dual spacing

The maximum cross section and overall diameter of the tyre and the minimum dual spacing shall be in accordance with table 2/7.

Table 2/3. Maximum axle loads for tyres fitted to goods vehicles operating in normal highway service

Tyre size and ply rating	Load index (LI)		Axle load		Rims			Inflation pressure	
	Single tyres	Dual tyres	Single tyres	Dual tyres	Recommended	Permitted		Diagonal ply	Radial ply
			kg	kg				kPa	kPa
Super balloon sizes on 5° rims									
6.70-13 C6	94	93	1340	2600	5J	4½J	5½J	375	375
6.70-13 C8	99	98	1550	3000	5J	4½J	5½J	450	450
6.70-14 C8	101	99	1650	3100	5J	4½J	5½J	450	450
6.70-15 C6	98	96	1500	2840	5J	4½J	5½J	325	—
6.70-15 C8	103	102	1750	3400	5J	4½J	5½J	425	450
6.70-15 C10	108	107	2000	3900	5J	4½J	5½J	—	525
Low section inch code sizes on 5° rims									
5.50-12 C6	78	76	850	1600	4.00B	3.50B	4.50B	325	—
6.00-12 C6	83	81	974	1848	4.50B	4.00B	5.00B	325	—
6.00-14 C8	92	90	1260	2400	4½J	4J	5J	425	—
6.50-14 C6	93	91	1300	2460	5J	4½J	5½J	350	350
7.00-14 C6	94	93	1340	2600	5J	4½J	5½J	325	—
7.50-14 C6	98	96	1500	2840	5½J	5J	6J	325	—
7.50-14 C8	102	101	1700	3300	5½J	5J	6J	425	—
Millimetric sizes on 5° DC (drop centre) and SDC (semi drop centre) rims									
145-12 C6	81	79	924	1748	4.00B	3½J	3.50B	—	350
						4J	4.00C		
						4.50B	4.50C		
						4½J			
145-12 C8	86	84	1060	2000	4.00B	3½J	3.50B	—	450
						4J	4.00C		
						4.50B	4.50C		
						4½J			
155-12 C6	83	81	974	1848	4.50B	4.00B	5.00B	—	350
145-13 C6	83	81	974	1848	4J	3½J	4½J	—	350
145-13 C8	88	86	1120	2120	4J	3½J	4½J	—	450
165-14 C6	93	91	1300	2460	4½J	4J	5J	—	375
165-14 C8	97	95	1460	2760	4½J	4J	5J	—	450
175-14 C6	96	94	1420	2680	5J	4½J	5½J	—	375
175-14 C8	99	98	1550	3000	5J	4½J	5½J	—	450
185-14 C6	99	97	1550	2920	5½J	5J	6J	—	375
185-14 C8	102	100	1700	3200	5½J	5J	6J	—	450
195-14 C6	102	100	1700	3200	5½J	5J	6J	375	375
195-14 C8	106	104	1900	3600	5½J	5J	6J	450	450
205-14 C6	105	103	1850	3500	6J	5½J	6½J	—	375
205-14 C8	109	107	2060	3900	6J	5½J	6½J	—	450
215-14 C8	112	110	2240	4240	6J	5½J	6½J	—	450
145-15 C8	91	89	1230	2320	4J	3½J	4½J	—	450
185-15 C8	103	102	1750	3400	5½J	5J	6J	—	450

For notes to this table see page 10

Table 2/3 (continued)

Tyre size and ply rating	Load index (LI)		Axle load		Rims		Inflation pressure	
	Single tyres	Dual tyres	Single tyres	Dual tyres	Recommended	Permitted	Diagonal ply	Radial ply
175-16 C6	98	96	kg	kg	5J	4½J 5½J	—	375
175-16 C8	101	99	1500	2840	5J	4½J 5½J	—	450
185-16 C8	104	102	1650	3100	5½J	5J 6J	—	450
195-16 C8	107	105	1800	3400	5½J	5J 6J	—	450
205-16 C6	106	104	1900	3600	6J	5½J 6½J	—	375
205-16 C8	110	108	2120	4000	6J	5½J 6½J	—	450
215-16 C6	110	108	2120	4000	6J	5½J 6½J	—	375
215-16 C8	113	111	2300	4360	6J	5½J 6½J	—	450
Millimetric 75 series on 5° DC and SDC rims								
175/75-14	99	98	1550	3000	5J	4½J 5½J	—	475
185/75-14	102	100	1700	3200	5½J	5J 6J	—	475
195/75-14	106	104	1900	3600	5½J	5J 6J	—	475
205/75-14	109	107	2060	3900	6J	5½J 6½J	—	475
215/75-14	112	110	2240	4240	6J	5½J 6½J	—	475
175/75-16	101	99	1650	3100	5J	4½J 5½J	—	475
185/75-16	104	102	1800	3400	5½J	5J 6J	—	475
195/75-16	104	102	1800	3400	5½J	5J 6J	—	375
195/75-16	107	105	1950	3700	5½J	5J 6J	—	475
205/75-16	110	108	2120	4000	6J	5½J 6½J	—	475
215/75-16	113	111	2300	4360	6J	5½J 6½J	—	475
225/75-16	116	114	2500	4720	6½J	6J 7J	—	475
225/75-16	118	116	2640	5000	6½J	6J 7J	—	525
255/75-15	118	116	2640	5000	7J	6½J, 7½J, 8J	—	375
Inch code sizes on 5° DC or SDC rims								
6.00-16 C6	95	92	1380	2520	4.50E	—	325	—
6.00-16 C10	103	101	1750	3300	4.50E	5.50F	500	500
6.50-16 C6	98	97	1500	2920	5.00F	4.50E	325	—
6.50-16 C8	104	102	1800	3400	5.00F	5.50F	425	—
6.50-16 C10	108	107	2000	3900	5.00F	4.50E	500	500
7.00-16 C6	102	100	1700	3200	5.50F	5.50F	300	—
7.00-16 C8	108	106	2000	3800	5.50F	—	400	—
7.00-16 C10	113	112	2300	4480	5.50F	—	525	—
7.00-16 12	117	116	2570	5000	5.50F	6.00G	600	600
7.50-16 C6	108	106	2000	3800	6.00G	5.50F	350	—
7.50-16 C8	112	110	2240	4240	6.00G	5.50F	400	450
7.50-16 C10	116	114	2500	4720	6.00G	6.50H	475	—
7.50-16 12, A-16	121	120	2900	5600	6.50H	6.00G	650	625
8.25-16 12	125	124	3300	6400	6.50H	—	575	—

For notes to this table see page 10

Table 2/3 (continued)

Tyre size and ply rating	Load index (LI)		Axle load		Rims		Inflation pressure	
	Single tyres	Dual tyres	Single tyres	Dual tyres	Recommended	Permitted	Diagonal ply	Radial ply
8.25-16 14, B-16	128	126	kg 3600	kg 6800	6.50H	—	kPa 650	kPa 675
9.00-16 C6	114	111	2360	4360	6½L	—	300	—
9.00-16 8	119	117	2720	5140	6½L	6.00G 6.50H	350	375
9.00-16 14	134	131	4240	7800	7.00N	6.50H	700	725
11.00-16	133	—	4120	—	6.50H	—	—	550
Inch code sizes on 15° DC rims								
7-17.5 C	108	107	2000	3 900	5.25	—	—	500
8-17.5 C	113	112	2300	4 480	6.00	—	—	525
8-17.5	117	116	2570	5 000	6.00	5.25	—	600
8.5-17.5	121	120	2900	5 600	6.00	5.25	—	625
9-17.5	123	121	3100	5 800	6.75	6.00	—	675
9.5-17.5	126	124	3400	6 400	6.75	6.00	—	675
9.5-17.5	129	127	3700	7 000	6.75	6.00	—	750
10-17.5	130	128	3800	7 200	7.50	6.75	—	700
10-17.5	134	132	4240	8 000	7.50	6.75	—	800
8-19.5	123	122	3100	6 000	6.00	5.25	—	650
9-19.5	130	128	3800	7 200	6.75	6.00	—	675
9.5-19.5	134	131	4240	7 800	6.75	6.00	—	675
8-22.5	128	127	3600	7 000	6.00	5.25	—	675
9-22.5 14, B22.5	133	131	4120	7 800	6.75	6.00	—	675
10-22.5 14, C22.5	140	137	5000	9 200	7.50	6.75	—	725
11-22.5 16, D22.5	146	143	6000	10 900	8.25	7.50	—	800
12-22.5 16, E22.5	149	145	6500	11 600	9.00	8.25	—	800
13-22.5 18	154	149	7500	13 000	9.75	9.00	—	850
Inch code 70 series on 15° DC rims								
10/70-22.5 14	140	137	5000	9 200	7.50	6.75	—	850
11/70-22.5 16	146	143	6000	10 900	8.25	7.50	—	875
12/70-22.5 16	149	145	6500	11 600	9.00	8.25	—	825
13/70-22.5 18	154	149	7500	13 000	9.75	9.00	—	850
Millimetric 70 series on 15° DC rims								
245/70-19.5	133	131	4120	7 800	7.50	6.75	—	725
265/70-19.5	136	134	4480	8 480	7.50	8.25	—	725
285/70-19.5	140	137	5000	9 200	8.25	7.50	—	725
305/70-19.5	146	143	6000	10 900	9.00	8.25	—	825
255/70-22.5	140	137	5000	9 200	7.20	8.25, 6.75	—	800
275/70-22.5	140	137	5000	9 200	8.25	7.50	—	725
275/70-22.5	146	143	6000	10 900	8.25	7.50	—	875
295/70-22.5	146	143	6000	10 900	9.00	8.25	—	775
315/70-22.5	149	145	6500	11 600	9.00	7.50 8.25	—	800

For notes to this table see page 10