

International Standard



5751/2

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Motorcycle tyres and rims (metric series) — Part 2: Tyre series 80, 90 and 100

Pneumatiques et jantes pour motocycles (séries millimétriques) — Partie 2: Pneumatiques des séries 80, 90 et 100

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Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 5751/2 was developed by Technical Committee ISO/TC 31, *Tyres, rims and valves*, and was circulated to the member bodies in December 1981.

It has been approved by the member bodies of the following countries:

Austria	Israel	Romania
Belgium	Italy	South Africa, Rep. of
Bulgaria	Japan	Spain
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The member body of the following country expressed disapproval of the document on technical grounds:

United Kingdom

Motorcycle tyres and rims (metric series) — Part 2: Tyre series 80, 90 and 100

1 Scope and field of application

This part of ISO 5751 specifies the designation, dimensions, load rating and rim requirements of metric series 80, 90 and 100 motorcycle tyres to be mounted on code designated rims.

This part of ISO 5751 applies to motorcycle tyres with reduced height/width ratio (low profile — 100, 90 and 80).

2 Reference

ISO 4223/1, *Definition of some terms used in the tyre industry — Part 1: Tyres.*

3 Definitions

For definitions of terms relating to tyres, see ISO 4223/1.

Section one : Tyre designation and dimensions

4 Tyre designation

The tyre size designations are shown in table 1. The designation should be completed by the addition of the "service condition characteristics", i.e. load index and speed symbol, e.g. 100/90-18 56 P, see table 2.

5 Tyre dimensions

Table 1 [a), b) and c)] shows:

- a) the tyre designation as indicated in clause 5;
- b) the measuring rim width code;
- c) the design new tyre dimensions, i.e. section width and overall diameter;
- d) the maximum tyre dimensions in service, i.e. overall width and overall diameter, for the various types of "tread configurations" to be considered by vehicle manufacturers in designing for tyre clearances.

NOTES

- 1 Tread type A corresponds to highway service tyres manufactured in speed symbols P, S and H.

2 Tread type B corresponds to highway service tyres (for high performance vehicles) manufactured in speed symbols S and H.

3 Tread type C corresponds to tyres for on-and-off-the-road service manufactured in speed symbols M and P.

4 Tread type D corresponds to tyres for exclusive off-the-road service manufactured in speed symbol M.

6 Method of measurement of tyre dimensions

Before measuring, the tyre shall be mounted on the measuring rim ready for tyre fitment and inflated to:

a) for standard load tyres

- 225 kPa for speed symbol M
- 225 kPa for speed symbol P
- 250 kPa for speed symbol S
- 280 kPa for speed symbol H

b) for extra load tyres

- 280 kPa for speed symbols M and P

and allowed to stand for 24 h at normal room temperature, after which the inflation pressure shall be readjusted to the values shown above.

Table 1 a) — 80 series — Tyre dimensions

Tyre size designation	Measuring rim width code	Design new tyre		In service, mm				
		Section width (S) mm	Overall diameter (D _o) mm	Maximum overall width W _{max}			Maximum overall diameter D _{o max}	
				Tread type A	Tread types B and C	Tread type D	Tread types A and B	Tread types C and D
70/80-18	1.60	69	569	75	79	90	579	585
80/80-18	1.85	80	585	86	92	104	595	601
90/80-18	2.15	90	601	97	104	117	611	619
100/80-18	2.50	101	617	109	116	131	627	637
110/80-18	2.50	109	633	118	125	142	643	655
120/80-18	2.75	119	649	129	137	155	661	673
130/80-18	3.00	129	665	139	148	168	677	689

Table 1 b) — 90 series — Tyre dimensions

Tyre size designation	Measuring rim width code	Design new tyre		In service, mm				
		Section width (S) mm	Overall diameter (D _o) mm	Maximum overall width W _{max}			Maximum overall diameter D _{o max}	
				Tread type A	Tread types B and C	Tread type D	Tread types A and B	Tread types C and D
70/90-17 70/90-18 70/90-19	1.60	69	558 583 609	75	79	90	568 593 619	574 599 625
80/90-17 80/90-18 80/90-19	1.85	80	576 601 627	86	92	104	586 611 637	594 619 645
90/90-17 90/90-18 90/90-19	2.15	90	594 619 645	97	104	117	604 629 655	614 639 665
100/90-16 100/90-17 100/90-18 100/90-19	2.50	101	586 612 637 663	109	116	131	596 622 647 673	608 634 659 685
110/90-16 110/90-17 110/90-18 110/90-19	2.50	109	604 630 655 681	118	125	142	616 642 667 693	628 654 679 705
120/90-16 120/90-17 120/90-18 120/90-19	2.75	119	622 648 673 699	129	137	155	634 660 685 711	648 674 699 725
130/90-16 130/90-17 130/90-18 130/90-19	3.00	129	640 666 691 717	139	148	168	654 680 705 731	668 694 719 745
140/90-16	3.50	142	658	153	163	185	674	688

Table 1 c) – 100 series – Tyre dimensions

Tyre size designation	Measuring rim width code	Design new tyre		In service, mm				
		Section width (S) mm	Overall diameter (D _o) mm	Maximum overall width W _{max}			Maximum overall diameter D _{o max}	
				Tread type A	Tread types B and C	Tread type D	Tread types A and B	Tread types C and D
70/100-17 70/100-18 70/100-19	1.60	69	572 597 623	75	79	90	582 607 633	588 613 639
80/100-17 80/100-18 80/100-19	1.85	80	592 617 643	86	92	104	602 627 653	612 637 663
90/100-17 90/100-18 90/100-19	2.15	90	612 637 663	97	104	117	622 647 673	634 659 685
100/100-17 100/100-18 100/100-19	2.50	101	632 657 683	109	116	131	644 669 695	656 681 707
110/100-17 110/100-18 110/100-19	2.50	109	652 677 703	118	125	142	666 691 717	678 703 729
120/100-17 120/100-18 120/100-19	2.75	119	672 697 723	129	137	155	686 711 737	700 725 751
130/100-16 130/100-17 130/100-18 130/100-19	3.00	129	666 692 717 743	139	148	168	682 708 733 759	698 724 749 775
140/100-16	3.50	142	686	153	163	185	702	720

Section two : Load ratings

7 Maximum load ratings

Table 2 shows the maximum tyre load ratings for "standard" and "extra load" versions of tyres in speed symbols M and P.

Table 3 shows the maximum tyre load rating for tyres in speed symbols S and H.

8 Inflation pressures

The inflation pressures shown in tables 2 and 3 are given as a guide only. The inflation pressures used in practice are subject

to agreement between the tyre and vehicle manufacturers and should take into account not only the load, but also the tyre construction, road holding, maximum speed, the location of the tyre, the operating conditions and the mechanical characteristics of the vehicle.

9 Load at reduced speeds

The load at reduced speeds is under study.

Table 2 a) — 80 series — Nominal rim diameter code 18

Tyre designation ¹⁾	Maximum load capacity kg	Inflation pressure kPa ²⁾
70/80-18 36 P	125	225
70/80-18 41 P ³⁾	145	280
80/80-18 42 P	150	225
80/80-18 48 P ³⁾	180	280
90/80-18 47 P	175	225
90/80-18 54 P ³⁾	212	280
100/80-18 53 P	206	225
100/80-18 59 P ³⁾	243	280
110/80-18 58 P	236	225
110/80-18 64 P ³⁾	280	280
120/80-18 62 P	265	225
120/80-18 68 P ³⁾	315	280
130/80-18 66 P	300	225
130/80-18 72 P ³⁾	355	280

1) The speed symbol P is shown in the tyre designation, however, it should be replaced by:

M for tyres with maximum speed up to 130 km/h.

2) 1 kPa = 10^{-2} bar

3) Extra load version.

Table 2 b) — 90 series — Nominal rim diameter codes 17 and 16

Tyre designation ¹⁾	Maximum load capacity kg	Inflation pressure kPa ²⁾
70/90-17 38 P	132	225
70/90-17 43 P ³⁾	155	280
80/90-17 44 P	160	225
80/90-17 50 P ³⁾	190	280
90/90-17 49 P	185	225
90/90-17 56 P ³⁾	224	280
100/90-16 54 P	212	225
100/90-17 55 P	218	225
100/90-17 61 P ³⁾	257	280
110/90-16 59 P	243	225
110/90-17 60 P	250	225
110/90-17 66 P ³⁾	300	280
120/90-16 63 P	272	225
120/90-17 64 P	280	225
120/90-17 70 P ³⁾	335	280
130/90-17 68 P	315	225
130/90-17 74 P ³⁾	375	280

130/90-16 67 P	307	225
130/90-16 73 P ³⁾	365	280
140/90-16 71 P	345	225
140/90-16 77 P ³⁾	412	280

1) The speed symbol P is shown in the tyre designation, however, it should be replaced by:

M for tyres with maximum speed up to 130 km/h.

2) 1 kPa = 10^{-2} bar

3) Extra load version.

Table 2 c) — 90 series — Nominal rim diameter code 18

Tyre designation ¹⁾	Maximum load capacity kg	Inflation pressure kPa ²⁾
70/90-18 39 P	136	225
70/90-18 44 P ³⁾	160	280
80/90-18 45 P ³⁾	165	225
80/90-18 51 P ³⁾	195	280
90/90-18 51 P	195	225
90/90-18 57 P ³⁾	230	280
100/90-18 56 P	224	225
100/90-18 62 P ³⁾	265	280
110/90-18 61 P	257	225
110/90-18 67 P ³⁾	307	280
120/90-18 65 P	290	225
120/90-18 71 P ³⁾	345	280
130/90-18 69 P	325	225
130/90-18 75 P ³⁾	387	280

1) The speed symbol P is shown in the tyre designation, however, it should be replaced by:

M for tyres with maximum speed up to 130 km/h.

2) 1 kPa = 10^{-2} bar

3) Extra load version.

Table 2 e) — 100 series — Nominal rim diameter codes 17 and 16

Tyre designation ¹⁾	Maximum load capacity kg	Inflation pressure kPa ²⁾
70/100-17 40 P	140	225
70/100-17 46 P ³⁾	170	280
80/100-17 46 P	170	225
80/100-17 53 P ³⁾	206	280
90/100-17 53 P	206	225
90/100-17 59 P ³⁾	243	280
100/100-17 58 P	236	225
100/100-17 64 P ³⁾	280	280
110/100-17 63 P	272	225
110/100-17 69 P ³⁾	325	280
120/100-17 67 P	307	225
120/100-17 73 P ³⁾	365	280
130/100-17 71 P	345	225
130/100-17 77 P ³⁾	412	280

130/100-16 70 P	335	225
130/100-16 76 P ³⁾	400	280
140/100-16 74 P	375	225
140/100-16 80 P ³⁾	450	280

1) The speed symbol P is shown in the tyre designation, however, it should be replaced by:

M for tyres with maximum speed up to 130 km/h.

2) 1 kPa = 10^{-2} bar

3) Extra load version.

Table 2 d) — 90 series — Nominal rim diameter code 19

Tyre designation ¹⁾	Maximum load capacity kg	Inflation pressure kPa ²⁾
70/90-19 40 P	140	225
70/90-19 45 P ³⁾	165	280
80/90-19 46 P	170	225
80/90-19 52 P ³⁾	200	280
90/90-19 52 P	200	225
90/90-19 58 P ³⁾	236	280
100/90-19 57 P	230	225
100/90-19 63 P ³⁾	272	280
110/90-19 62 P	265	225
110/90-19 68 P ³⁾	315	280
120/90-19 66 P	300	225
120/90-19 72 P ³⁾	355	280
130/90-19 70 P	335	225
130/90-19 76 P ³⁾	400	280

1) The speed symbol P is shown in the tyre designation, however, it should be replaced by:

M for tyres with maximum speed up to 130 km/h.

2) 1 kPa = 10^{-2} bar

3) Extra load version.

Table 2 f) — 100 series — Nominal rim diameter code 19

Tyre designation ¹⁾	Maximum load capacity kg	Inflation pressure kPa ²⁾
70/100-19 42 P	150	225
70/100-19 48 P ³⁾	180	280
80/100-19 49 P	185	225
80/100-19 55 P ³⁾	218	280
90/100-19 55 P	218	225
90/100-19 61 P ³⁾	257	280
100/100-19 60 P	250	225
100/100-19 66 P ³⁾	300	280
110/100-19 65 P	290	225
110/100-19 71 P ³⁾	345	280
120/100-19 69 P	325	225
120/100-19 75 P ³⁾	387	280
130/100-19 73 P	365	225
130/100-19 79 P ³⁾	437	280

1) The speed symbol P is shown in the tyre designation, however, it should be replaced by:

M for tyres with maximum speed up to 130 km/h.

2) 1 kPa = 10^{-2} bar

3) Extra load version.

Table 3 a) — 80 series — Maximum load capacities — Speed symbols S and H

Tyre designation ¹⁾	Maximum load capacity ²⁾ kg
80/80-18 42 S	150
90/80-18 47 S	175
100/80-18 53 S	206
110/80-18 58 S	236
120/80-18 62 S	265
130/80-18 66 S	300

1) The speed symbol S is shown in the tyre designation, however, it will be replaced by relevant symbols for higher speeds.

2) The maximum load capacity is related to 250 kPa for speed symbol S and to 280 kPa for speed symbol H.

Table 3 b) — 90 series — Maximum load capacities — Speed symbols S and H

Tyre designation ¹⁾	Maximum load capacity ²⁾ kg
80/90-17 44 S	160
80/90-18 45 S	165
80/90-19 46 S	170
90/90-17 49 S	185
90/90-18 51 S	195
90/90-19 52 S	200
100/90-16 54 S	212
100/90-17 55 S	218
100/90-18 56 S	224
100/90-19 57 S	230
110/90-16 59 S	243
110/90-17 60 S	250
110/90-18 61 S	257
110/90-19 62 S	265
120/90-16 63 S	272
120/90-17 64 S	280
120/90-18 65 S	290
120/90-19 66 S	300
130/90-16 67 S	307
130/90-17 68 S	315
130/90-18 69 S	325
130/90-19 70 S	335
140/90-16 71 S	345

1) The speed symbol S is shown in the tyre designation, however, it will be replaced by relevant symbols for higher speeds.

2) The maximum load capacity is related to 250 kPa for speed symbol S and to 280 kPa for speed symbol H.

Table 3 c) — 100 series — Maximum load capacities — "Standard" and "extra load" versions — Speed symbols M and P — Nominal rim diameter code 18

Tyre designation ¹⁾	Maximum load capacity kg	Inflation pressure kPa ²⁾
70/100-18 41 P	145	225
70/100-18 47 P ³⁾	175	280
80/100-18 47 P	175	225
80/100-18 54 P ³⁾	212	280
90/100-18 54 P	212	225
90/100-18 60 P ³⁾	250	280
100/100-18 59 P	243	225
100/100-18 65 P ³⁾	290	280
110/100-18 64 P	280	225
110/100-18 70 P ³⁾	335	280
120/100-18 68 P	315	225
120/100-18 74 P ³⁾	375	280
130/100-18 72 P	355	225
130/100-18 78 P ³⁾	425	280

1) The speed symbol P is shown in the tyre designation, however, it should be replaced by:

M for tyres with maximum speed up to 130 km/h.

2) 1 kPa = 10^{-2} bar

3) Extra load version.