INTERNATIONAL STANDARD

**ISO
4249-3**

Third edition
1990-02-15

Motorcycle tyres and rims (Code-designated series) —

Part 3:
Rims

Pneumatiques et jantes pour motocycles (Séries dont les dimensions sont désignées par des codes) —

Partie 3: Jantes

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 4249-3 was prepared by Technical Committee ISO/TC 31, *Tyres, rims and valves.*

This third edition cancels and replaces the second edition (ISO 4249-3 : 1986), tables 3, 5, 6 and A.1 of which have been technically revised (in Draft Amendment 1).

ISO 4249 consists of the following parts, under the general title *Motorcycle tyres and rims (Code-designated series)*:

— *Part 1: Tyres*

— *Part 2: Tyre load ratings*

— *Part 3: Rims*

Annex A of this part of ISO 4249 is for information only.

Motorcycle tyres and rims (Code-designated series) —

Part 3:
Rims

1 Scope

This part of ISO 4249 lays down rim dimensions for a selection of rims for an inch code-designated series of motorcycle tyres. It sets only those rim contour dimensions necessary for tyre mounting, and for fitting the tyre to the rim.

NOTE — The tyres covered in ISO 4249-1 are designated by the nominal section width and nominal rim diameter in the inch code. This designation indicates the origin of these tyres and does not indicate a preference for a unit not included in the SI system of units; it is merely a convenient designation for a series of motorcycle tyres which has been in existence for a long period of time.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 4249. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 4249 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 3911 : 1977, *Wheels/rims — Nomenclature, designation, marking, and units of measurement.*

ISO 4249-1 : 1985, *Motorcycle tyres and rims (Code-designated series) — Part 1: Tyres.*

3 Finish

3.1 Rim contour

The rim on the side of the tyre shall be smoothly contoured and free of sharp edges.

3.2 Rim valve hole

The rim valve hole shall be centred on the bottom of the rim well. On the tyre side, the edges shall be rounded or chamfered. On the hub side, the edges shall be free of burrs, which could damage the valve.

4 Designation

The rim shall be designated by its diameter code and nominal rim width (for example, 18 × 1.85). (See also ISO 3911.)

5 Cylindrical bead seat

5.1 Rim contours

Dimensions and tolerances of the cylindrical bead seat rims are given in figure 1 and table 1.

5.2 Rim diameters

Nominal rim diameter code, specified diameters and circumferences are given in table 2.

6 Tapered bead seat rims (MT type)

6.1 Rim contours

Dimensions and tolerances of tapered bead seat rims are given in figure 2 and table 3.

Optional well contours are given in figures 3 and 4, and table 5.

6.2 Bead seat contours

Bead seat contours for MT 1.85 and MT 2.15 rims without hump are given in figure 5 and table 4.

6.3 Rim diameter and hump circumference

The nominal rim diameter code, the specified rim diameter and the hump circumference are given in table 6.

Annex A provides information concerning the measuring rim diameter and the measuring rim circumference when an 8 mm ball tape is used for checking MT rims.

7 Permitted rim widths

Permitted rim widths for the existing series of motorcycle tyres are given in table 7.
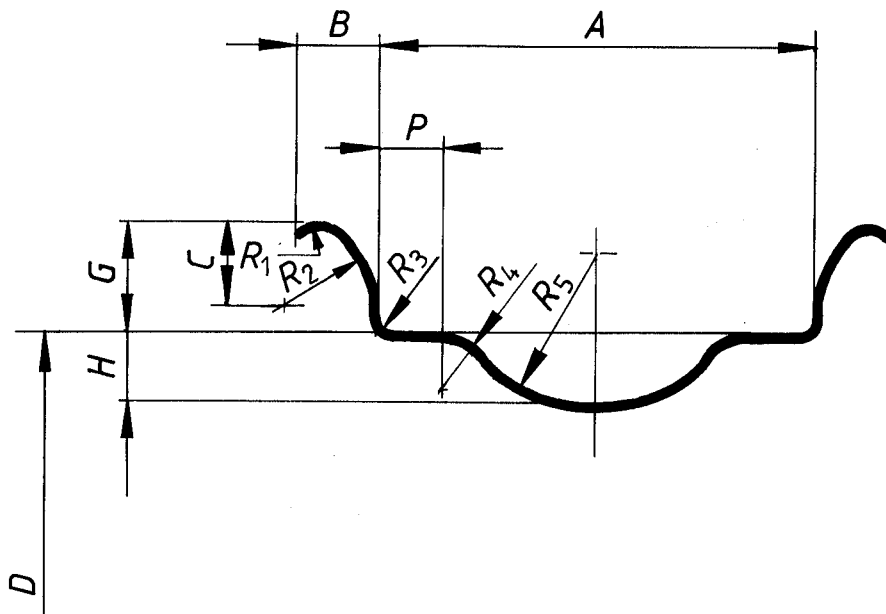
Figure 1 — Cylindrical bead seat rims

Table 1 — Dimensions of cylindrical bead seat rims

Dimensions in millimetres

Nominal rim width in	A +1 −0,5	B min.	G ± 0,5	H +1 −0,5	P min.	C	R_2	R_1 min.	R_3 max.	R_4 min.	R_5 min.
1.10	28,0	5,0	7,0	7,0	3,0	5,0	5,5	1,5	1,5	5,0	7,0
1.20	30,5	5,5	9,0				5,5	6,0				
1.35	34,0	6,5	10,0	7,5	3,5	6,0	6,5	2,0			7,0
1.40	36,0											10,0
1.50	38,0	7,5	10,5	8,0	4,0	6,5	7,0		2,0	5,5	11,5
1.60	40,5		12,0		4,5	7,5	8,0				13,0
1.85	47,0	8,5	14,0	9,0	5,0	10,5	12,5			6,0	15,0
2.15	55,0				7,5					7,0	18,5
2.50	63,5	9,5							3,0		19,0
2.75	70,0	10,5		12,0	11,0			3,0			

Table 2 — Specified rim diameters and circumferences

Dimensions in millimetres

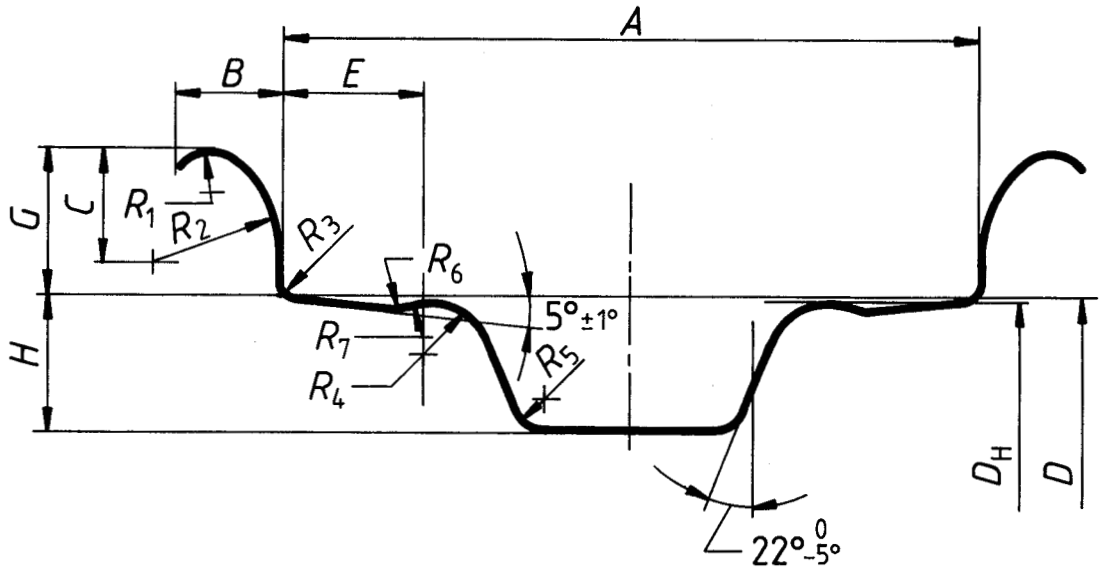| Nominal rim diameter code	Specified rim diameter D	Specified rim circumference πD +2 −0,5
14	357,1	1 121,9
15	382,5	1 201,7
16	405,6	1 274,2
17	433,3	1 361,2
18	458,7	1 441,0
19	484,1	1 520,8
20	509,5	1 600,6
21	534,9	1 680,4
22	558,8	1 755,5
23	584,2	1 835,3

Figure 2 — 5° Tapered bead seat rim contours (MT type)

Table 3 — Dimensions of tapered bead seat rims

Dimensions in millimetres

Nominal rim width code	A	tol.	B min.	C	E[1] min.	G	tol.	H min.	R_1 min.	R_2	R_3 max.	R_4 ± 0,5	R_5[2] min.	R_6 ± 0,5	R_7 ± 0,5
MT 1.85	47,0	+ 1,0 − 0,5			13,0		± 0,5	9,0				3			
MT 2.15	55,0														
MT 2.50[2]	63,5							12,0							
MT 2.75	70,0				14,0										
MT 3.0	76,0		9,0	10,5	15,0	14,0			3	12,5	2,5		3	3	2,5
MT 3.5	89,0	+ 1,5 − 1,0					+ 1,0 − 0,5					5,5			
MT 4.0	101,5							13,0							
MT 4.5	114,5				16,0										
MT 5.0	127,0														
MT 5.5	140,0														

1) E = Hump location.

2) For MT 2.50 and larger rims, the well contour may be a rounded shape with R = full radius. (See option 2, figure 4.)

3
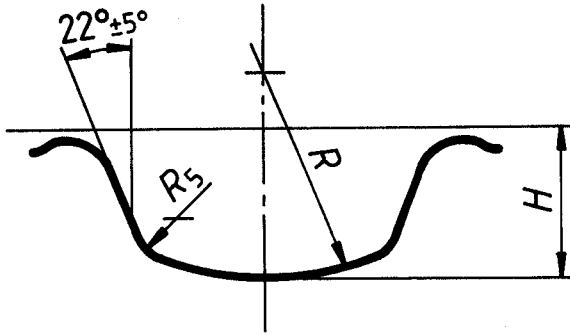
Figure 3 — Well contour — Option 1

Table 5 — Optional well contour

Dimensions in millimetres

Nominal rim width code	R_5[1] min.	R min.
MT 1.85		20,0
MT 2.15		20,0
MT 2.50		30,0
MT 2.75		30,0
MT 3.0	3,0	
MT 3.5		
MT 4.0		40,0
MT 4.5		40,0
MT 5.0		
MT 5.5		

1) For MT 2.50 and larger rims, the well contour may be a rounded shape with R = full radius. (See option 2, figure 4.)
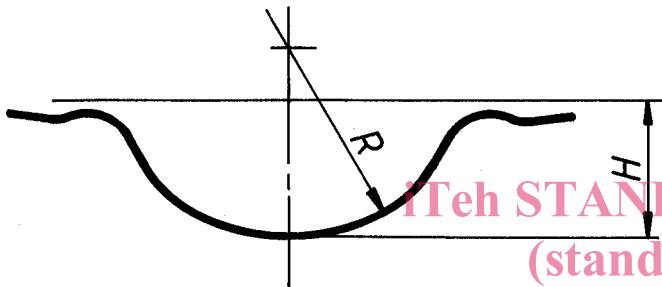

Figure 4 — Well contour — Option 2

Table 6 — Specified rim diameters and hump circumferences

Dimensions in millimetres

Nominal rim diameter code	Specified rim diameter[1] D	Hump circumference πD_H $^{+2}_{-1}$
13	329,4	1 032,7
13 M/C	332,2	1 041,5
14 M/C[2]	357,6	1 121,1
14 M/C[2]	357,6	1 121,3
15 M/C[2]	383,0	1 201,2
16	406,0[3]	1 273,4
17	433,8	1 360,7
18	459,2	1 440,5
19	484,6	1 520,3
20	510,0	1 600,1
21	535,4	1 679,9
23	584,7	1 837,8

1) The tolerance on the bead seat periphery is $^{+1,5}_{-0,5}$ mm.

2) These rims are of the same nominal diameter but are different from those specified in ISO 4000-2. To prevent confusion, the present 14 and 15 rims and tyres are to be identified by the suffix "M/C".
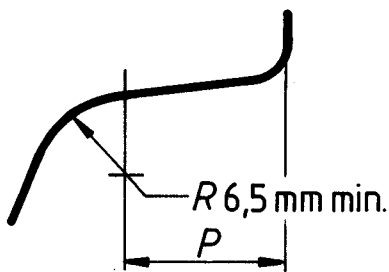
3) For code 16, the tolerance is ± 1,0 mm.

Figure 5 — Bead seat contours for MT 1.85 and MT 2.15 rims without hump

Table 4 — Bead seat contours for MT 1.85 and MT 2.15 rims without hump

Dimensions in millimetres

Nominal rim width code	P $^{+2,0}_{0}$
MT 1.85	8,0
MT 2.15	11,0

Table 7 — Permitted rim widths

Tyre section	Permitted rim width[1]
2.00	1.10 - 1.20 - 1.35
2.25	1.20 - 1.35 - 1.40 - 1.50 - 1.60
2.50	1.35 - 1.40 - 1.50 - 1.60
2.75	1.40 - 1.50 - 1.60 - 1.85
3.00	1.60 - 1.85 - 2.15
3.25	1.85 - 2.15 - 2.50
3.50	1.85 - 2.15 - 2.50
3.75	1.85 - 2.15 - 2.50
4.00	2.15 - 2.50 - 2.75 - 3.00
4.25	2.15 - 2.50 - 2.75 - 3.00
4.50	2.15 - 2.50 - 2.75 - 3.00
5.00	2.50 - 2.75 - 3.00 - 3.50

1) MT contours may also apply. To obtain the measuring rim width for a given tyre section, see table 3 of ISO 4249-1 : 1985.

Annex A
(informative)

Rim circumference measurement — Tapered bead seat rims (see 6.3)

The bead seat rim circumference measurements shall be made using a tape gauge the length of which is related to a mandrel with the same diameter as that of the specified rim.

The tolerance on the mandrel is $_{-0,15}^{0}$ mm; to ensure accuracy, each bead seat shall be measured separately.

When an 8 mm ball tape is used for checking tapered bead seat rims, the dimensions given in figure A.1 and table A.1 shall apply.
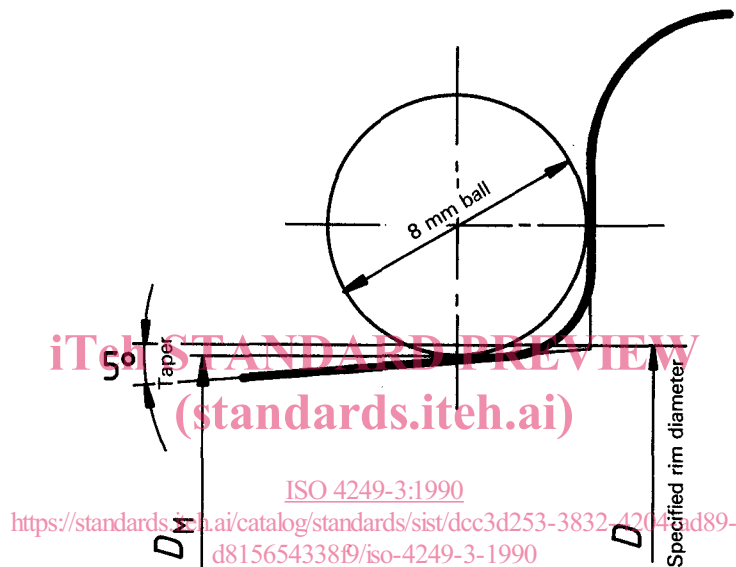

Figure A.1 — Rim circumference measurement

Table A.1 — Rim circumference measurement

Dimensions in millimetres

Nominal rim diameter code	Diameter D_M	Circumference πD_M $_{-0,5}^{+1,5}$
13 M/C	331,53	1 041,5
14 M/C[1]	356,93	1 121,3
15 M/C[1]	382,33	1 201,1
16	405,33	1 273,4[2]
17	433,13	1 360,7
18	458,53	1 440,5
19	483,93	1 520,3
20	509,33	1 600,1
21	534,73	1 679,9
23	584,03	1 834,8

1) These rims are of the same nominal diameter but are different from those specified in ISO 4000-2. To prevent confusion, the present 14 and 15 rims and tyres are to be identified by the suffix "M/C".

2) For code 16, the tolerance on the rim circumference is ± 1,0 mm.

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