

INTERNATIONAL
STANDARD

ISO
4000-2

Second edition
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Passenger car tyres and rims —

Part 2:

Rims

Pneumatiques et jantes pour voitures particulières —

Partie 2: Jantes



Reference number
ISO 4000-2:1994(E)

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 voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 4000-2 was prepared by Technical Committee ISO/TC 31, *Tyres, rims and valves*, Subcommittee SC 3, *Passenger car tyres and rims*.

This second edition cancels and replaces the first edition (ISO 4000-1:1987), of which it constitutes a technical revision.

ISO 4000 consists of the following parts, under the general title *Passenger car tyres and rims*:

- Part 1: *Tyres (metric series)*
- Part 2: *Rims*

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Passenger car tyres and rims —

Part 2: Rims

1 Scope

This part of ISO 4000 specifies the designation, contour and dimensions of 5° tapered (drop-centre) rims primarily intended for passenger cars.

The designation, dimensions and load ratings of tyres (metric series) are given in ISO 4000-1.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this part of ISO 4000. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this part of ISO 4000 are encouraged to investigate the possibility of applying the most recent edition of the standard 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.*

3 Definitions

For the purposes of this part of ISO 4000, the definitions given in ISO 3911 apply.

4 Designation and marking

The rim shall be designated by its nominal rim diameter code, nominal rim width code and rim flange type (for example, 15 × 6J or 13 × 5.50B).

5 5° tapered (drop-centre) rims

5.1 Rim flanges

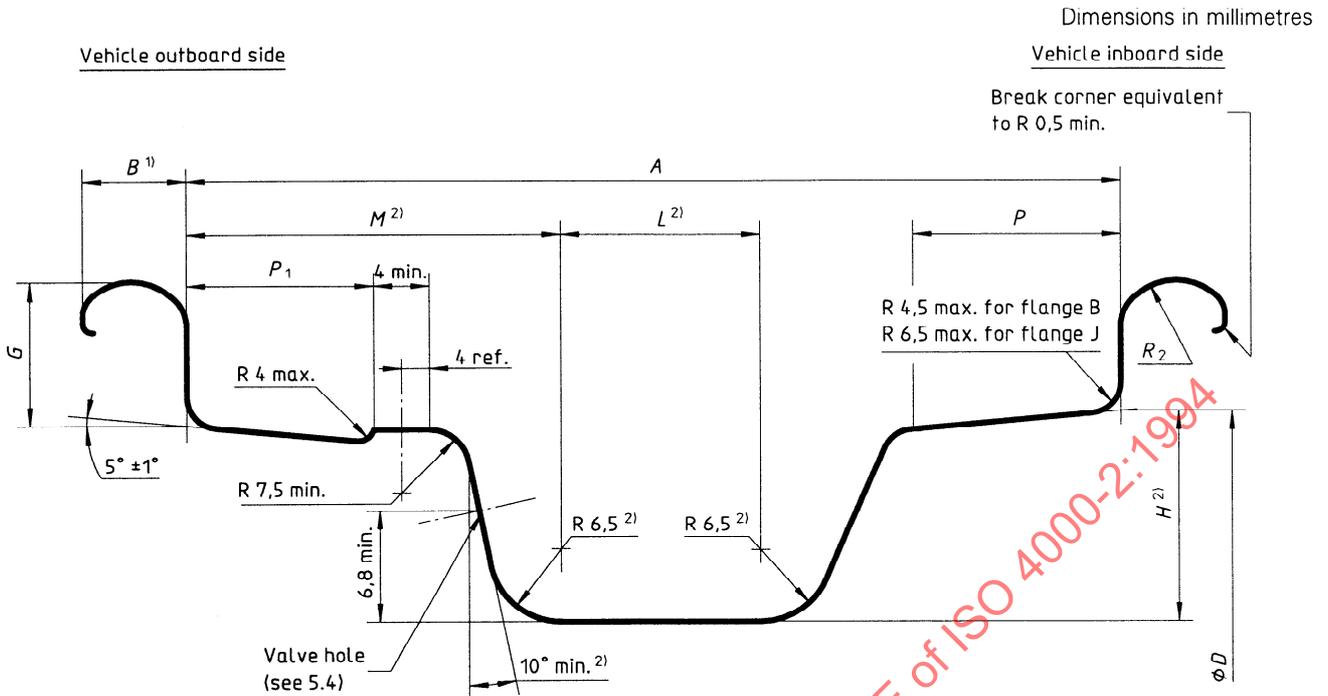
Recommended rim flanges are given in table 1 for the appropriate nominal rim diameter code.

Table 1 — Recommended rim flanges

Nominal rim diameter code	Rim flange
10	B
12	
13	
14	J
15	
16	
17	
18	
19	

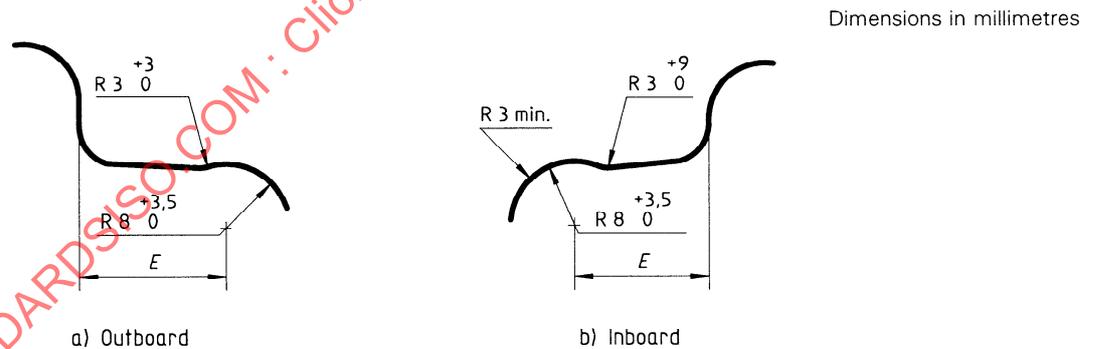
5.2 Rim contours

Dimensions and tolerances of the rims shall be as given in figure 1 and table 2. Optional bead seat contours and their dimensions are given in figure 2.



- 1) Flange width includes edge radius. The portion of the flange beyond the minimum width shall be lower than the highest point of the flange.
- 2) These dimensions comprise the minimum well envelope for tyre-mounting purposes, at M max. or less except for localized area at weld or valve hole.

Figure 1 — Contour of 5° tapered (drop-centre) rims



Rim width code	E mm
3.00	16,5 $^{+1}_0$
3.50 or 3 1/2	19,5 $^{+1,5}_0$
4.00 or 4, and wider	21 $^{+2}_0$ 1)

1) 19,5 mm permitted on some existing rims only.

Figure 2 — Optional bead seat contours

Table 2 — Dimensions of 5° tapered (drop-centre) rim contours

Dimensions in millimetres

Rim size designation	A ± 2	B min.	G ± 1	P min.	P_1 min.	H 1) min.	L min.	M max.	R_2 min.
10 × 3.00 B 12 × 3.00 B	76	10	14,5	13	15	15	16	28	7,5
10 × 3.50 B 12 × 3.50 B 13 × 3.50 B	89			15	17		19	34	
10 × 4.00 B 12 × 4.00 B 13 × 4.00 B	101,5			19,5	19,5		22	45	
10 × 4.50 B 12 × 4.50 B 13 × 4.50 B	114,5								
10 × 5.00 B 12 × 5.00 B 13 × 5.00 B	127								
10 × 5.50 B 12 × 5.50 B 13 × 5.50 B	139,5								
12 × 6.00 B 13 × 6.00 B	152,5								
14 × 3 1/2 J 15 × 3 1/2 J	89	11	17,5	15	17	17,3 2)	19	34	9,5
14 × 4 J 15 × 4 J 16 × 4 J	101,5			19,5	19,5		22	45 2)	
14 × 4 1/2 J 15 × 4 1/2 J 16 × 4 1/2 J	114,5								
14 × 5 J 15 × 5 J 16 × 5 J	127								
14 × 5 1/2 J 15 × 5 1/2 J 16 × 5 1/2 J	139,5								
14 × 6 J 15 × 6 J 16 × 6 J	152,5								
14 × 6 1/2 J 15 × 6 1/2 J 16 × 6 1/2 J	165								
14 × 7 J 15 × 7 J 16 × 7 J	178								
14 × 8 J 15 × 8 J 16 × 8 J	203								
14 × 9 J 15 × 9 J 16 × 9 J	228,5								
14 × 10 J 15 × 10 J 16 × 10 J	254								

1) Minimum dimensions for wall depth (H) and wall angle are required for tyre mounting. Larger values may be required to ensure sufficient space for tubeless tyre valve seating.

2) A reduction of H to 17 mm is permitted with a corresponding M max. of 43 mm.

5.3 Rim diameter and hump circumference

The specified rim diameter, *D*, for the appropriate nominal rim diameter code and the hump circumference are given in table 3.

5.4 Valve holes

Valve hole edges on the tyre side of rims shall be rounded or chamfered; valve hole edges on the weather side of rims shall be free from burrs that could damage the valve stem. Suitable valves shall be used. Valve hole details for snap-in valves shall be as shown in figure 3 or 4. Holes for other valves are under consideration.

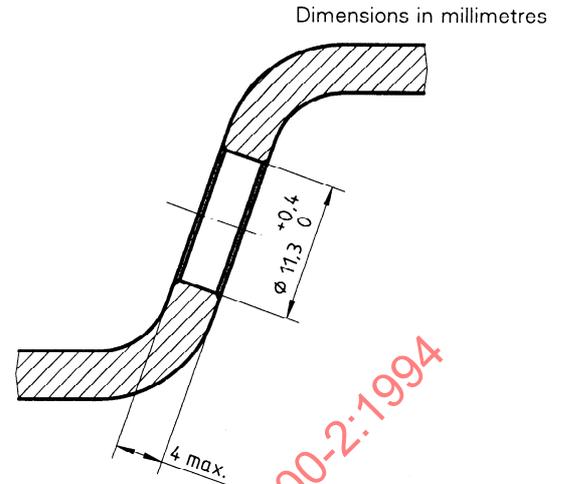


Figure 3 — Valve hole dimensions

Table 3 — Nominal rim diameter code, specified rim diameter and hump circumference of 5° tapered (drop-centre) rims

Dimensions in millimetres

Nominal rim diameter code	Specified rim diameter <i>D</i> 1)	Circumference	
		Flat hump	Hump ²⁾
	± 0,4	$\begin{matrix} 0 \\ -3 \end{matrix}$	$\begin{matrix} 0 \\ -3 \end{matrix}$
10	253,2	795,4	797,6
12	304	955	957,6
13	329,4	1 034,8	1 037
14	354,8	1 114,6	1 116,8
15	380,2	1 194,4	1 196,6
16	405,6	1 274,2	1 276,4
17	436,6	1 371,6	1 373,8
18	462	1 451,4	1 453,6
19	487,4	1 531,2	1 533,4

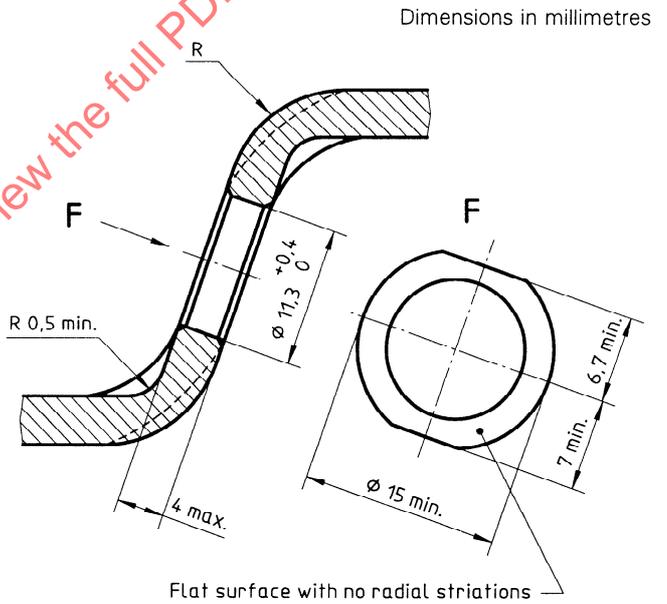


Figure 4 — Optional flat surface around valve hole

1) Tolerance is for tyre design purpose only. The rim measurement is made by a circumference-measuring tape related to a mandrel.

2) A tolerance of $\begin{matrix} 0 \\ -5 \end{matrix}$ mm is permitted on the inboard side only.