INTERNATIONAL STANDARD

ISO 4209-2

Third edition
2001-12-01

Truck and bus tyres and rims (metric series) —

Part 2: **Rims**

Pneumatiques et jantes (séries millimétriques) pour camions et autobus — Partie 2: Jantes

Reference number
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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

The main task of technical committees is to prepare International Standards. 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.

Attention is drawn to the possibility that some of the elements of this part of ISO 4209 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 4209-2 was prepared by Technical Committee ISO/TC 31, *Tyres, rims and valves*, Subcommittee SC 4, *Truck and bus tyres and rims*.

This third edition cancels and replaces the second edition (ISO 4209:1993), which have been technically revised.

ISO 4209 consists of the following parts, under the general title *Truck and bus tyres and rims (metric series)*:

— *Part 1: Tyres*

— *Part 2: Rims*

Truck and bus tyres and rims (metric series) —

Part 2:
Rims

1 Scope

This part of ISO 4209 specifies the designations, contours and dimensions of drop-centre (one-piece) rims for use on trucks and buses.

The rim dimensions are those rim contour dimensions necessary for mounting and fitment of the tyre to the rim.

Tyre designations, dimensions and load ratings are given in ISO 4209-1.

2 Designation and marking

The rim shall be designated by its nominal rim diameter code and nominal rim width (e.g. 17.5 × 5.25), and rim flange when specified (for example: 15 × 6 J:13 × 5.50 B).

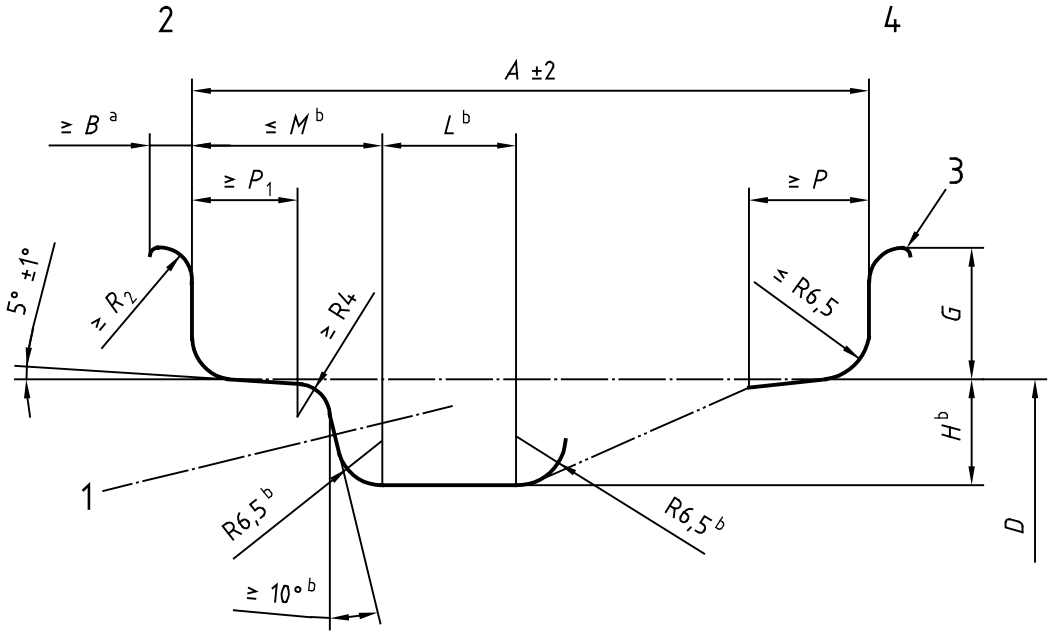
3 5° tapered (drop-centre) rims

3.1 Rim flange

Rim flange designations and the dimensions and the tolerances of the rims shall be as given in Figure 1 and Tables 1 and 2.

Optional bead seat contours and their dimensions are given in Figure 2 and Table 3.

Dimensions in millimetres



Key

1 Valve hole (see 3.3)

2 Vehicle outboard side

3 Break corner equivalent to 0,5 minimum R

4 Vehicle inboard side

NOTE For use with tubeless tyres, humps are necessary on the outboard side and preferred on the inboard side.

a Flange width includes edge radius. The portion of a flange beyond the minimum width shall be lower than the highest point of the flange.

b These dimensions comprise the minimum well envelope for tyre mounting purposes, except for localized areas at weld or valve hole.

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

Table 1 — Dimensions of 5° (drop-centre) rim contours

Dimensions in millimetres

Diameter code	Width code	B min.	G ±1,0	P min.	P_1 min.	H [a] gauge	L gauge	M max.	R_2 min.
10 12 13	3.00 B	10	14,5	13	15	15	16	28	7,5
	3.50 B	10	14,5	15	17	15	19	34	7,5
	4.00 B	10	14,5	15	17	15	19	45	7,5
	4.50 B and wider	10	14,5	19,5	19.5	15	22	45	7,5
14 and greater	3 ½ J	11	17,5	15	17	17,3 [b]	19	34	9,5
	4 J	11	17,5	15	17	17,3 [b]	19	45	9,5
	4 ½ J and wider	11	17,5	19,5	19,5	17,3 [b]	22	45	9,5
16	6 K and wider	11,5	20	19,5	19,5	20	22	47	10,5

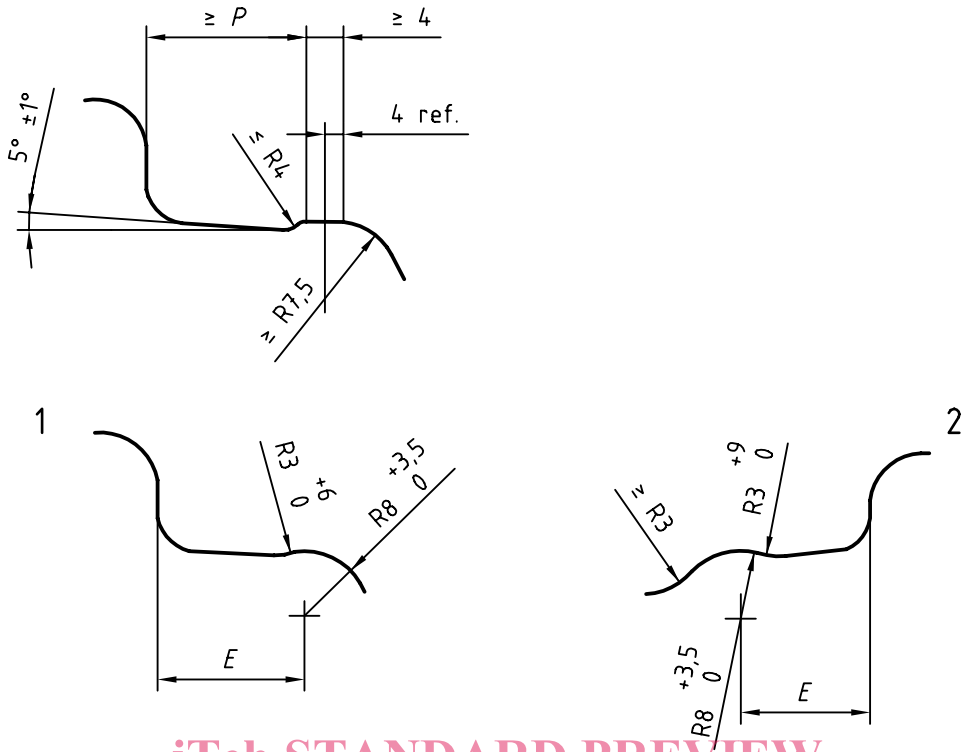
a Minimum dimensions for well depth (H) and well angle are required for tyre mounting. Larger values may be required to ensure sufficient space for tubeless tyre valve seating.

b For J type rims, a deviation to H gauge of 17 mm is permitted with a corresponding M max. of 43 mm.

Table 2 — Rim width code

Nominal width code		A mm
3.00	3	76
3.50	3 ½	89
4.00	4	101,5
4.50	4 ½	114,5
5.00	5	127
5.50	5 ½	139,5
6.00	6	152,5
6.50	6 ½	165
7.00	7	178
7.50	7 ½	190,5
8.00	8	203
8.50	8 ½	216
9.00	9	228,5
9.50	9 ½	241,5
10.00	10	254
10.50	10 ½	266,5
11.00	11	279,5
12.00	12	305
13.00	13	330
14.00	14	355,5
15.00	15	381

Dimensions in millimetres



Key

1 Outboard
2 Inboard

Figure 2 — Optional bead seat contours

Table 3 — "E" dimension for round humps

Dimensions in millimetres

Rim width code	E
3.00	13 min.
3.50 (3 ½) and 4.00 (4)	16 min.
4.50 (4 ½) and larger	21^{+2}_{0} [a]

[a] 19,5 permitted for rim width codes 4.50 (4 ½) to 7.00 (7) and rim flange type K.

3.2 Rim diameter and hump circumference

The specified rim diameter, D, for the appropriate nominal rim diameter code and the hump circumferences are given in Table 4.

3.3 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. To provide for adequate sealing, an unbroken smooth inside surface having at least 0,75 mm or 25 % of rim thickness, whichever is greater, shall be maintained. Suitable valves shall be used. Valve hole details for snap-in valves shall be as shown in Figures 3 and 4 for rims with 17,3 mm minimum well depth. Holes for other valves are under consideration.

Table 4 — Specified rim diameter and hump circumference of 5° tapered (drop-centre) rims

Dimensions in millimetres

Nominal rim diameter code	Specified rim diameter	Circumference	
	$D\ ^{0}_{-0,4}$ a	Flat hump $^{0}_{-3}$	Hump $^{0}_{-3}$ b
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
20	512,8	1 611	1 613,2

a Tolerance is for tyre design purposes only. The rim measurement is by a circumference-measuring tape related to a mandrel.

b A tolerance of $^{0}_{-5}$ is permitted on the inboard side only.

Dimensions in millimetres

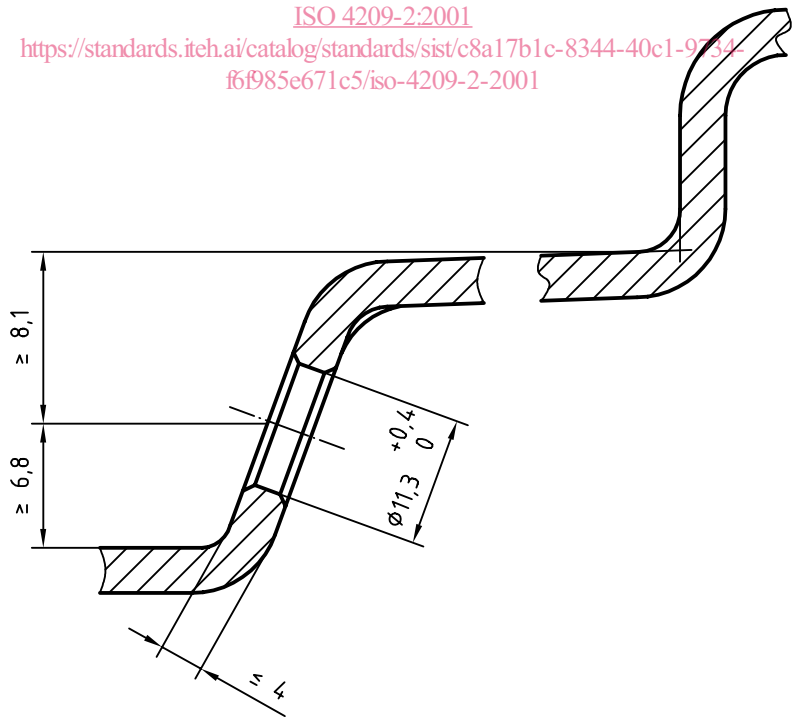


Figure 3 — Valve hole dimensions