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Truck and bus tyres and rims (metric series) —

Part 2: Rims

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

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

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

This fifth edition cancels and replaces the fourth edition (ISO 4209-2:2012), which has been technically revised.

The main change compared to the previous edition is as follows: figures and 5.2, Note have been corrected.

A list of all parts in the ISO 4209 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

This corrected version of ISO 4209-2:2020 incorporates the following correction: the arrow position of the *H* dimension in Figure 5 has been corrected to start from the rim contour line to the well configuration.

Truck and bus tyres and rims (metric series) —

Part 2:
Rims

1 Scope

This document 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 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3911, *Wheels and rims for pneumatic tyres — Vocabulary, designation and marking*

ISO 4000-2, *Passenger car tyres and rims — Part 2: Rims*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 3911 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

4 Designation and marking

The rim shall be designated by its nominal rim diameter code and nominal rim width code (e.g. 17.5 × 5.25), and rim flange type when specified (for example: 16 × 6 K).

5 5° tapered (drop-centre) rims

5.1 Rim flange

Recommended rim flange contours for K rims are given in Table 1.

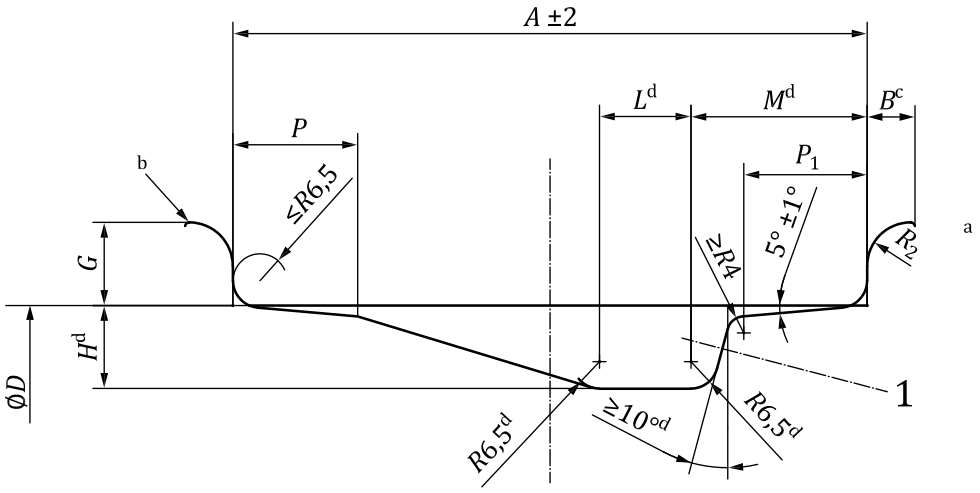
Refer to ISO 4000-2 for B and J contour rims.

5.2 Rim contours

The dimensions and tolerances of the rims shall be as given in Figure 1 and Tables 1, 2, and 4.

Optional bead seat contours and their dimensions are given in Figure 2 and Table 3 and 4.

Dimensions in millimetres



Key

1 valve hole (see 5.4)

a Tyre-mounting side.

b The break corner is equivalent to a radius *R* of minimum 0,5 mm.

c Flange width includes edge radius. The portion of a flange beyond the minimum width shall not be higher than the highest point of the flange.

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

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

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

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

Dimensions in millimetres

Nominal rim diameter code	Nominal rim width code and flange type	*B* min.	*G* ±1,0	*P* min.	P_1 min.	*H*[a] gauge	*L* gauge	*M* max.	R_2 min.
16	6 K and wider	11,5	20	19,5	19,5	20	22	47	10,5
[a] Minimum dimensions for the well depth, *H*, and the well angle are required for tyre-mounting. Larger values can be required to ensure sufficient space for tubeless tyre valve seating.									

Table 2 — Nominal rim width code

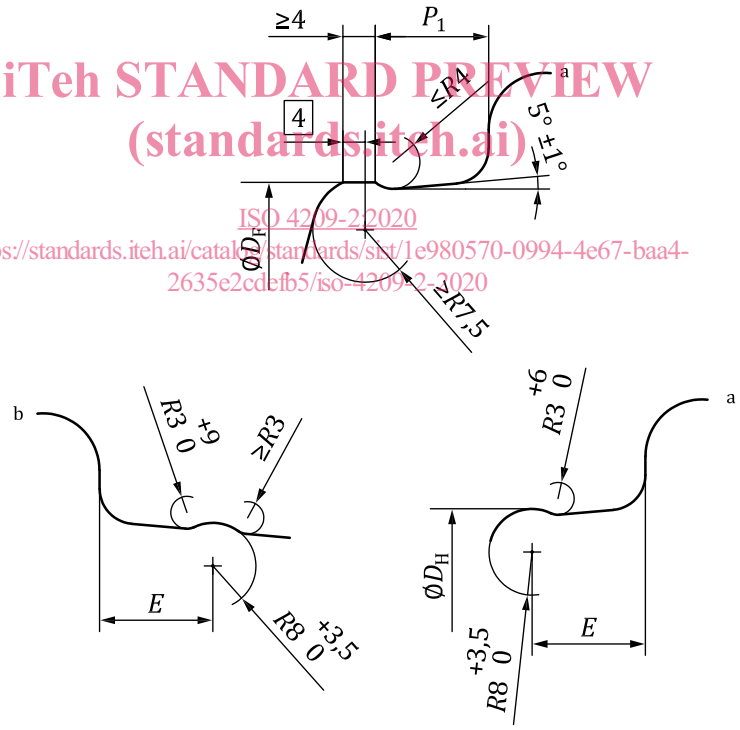
Nominal rim width code[a]	*A* mm
6	152,5
6 1/2	165
7	178
7 1/2	190,5
8	203
[a] In case of exceeding the nominal rim width code 15, dimension "*A*" follows the next formula. *A* = nominal rim width code × 25,4 (rounded to 0,5 mm) (increments of code = 0,5).	

Table 2 *(continued)*

Nominal rim width code[a]	*A* mm
8 1/2	216
9	228,5
9 1/2	241,5
10	254
10 1/2	266,5
11	279,5
12	305
13	330
14	355,5
15	381

[a] In case of exceeding the nominal rim width code 15, dimension "*A*" follows the next formula. *A* = nominal rim width code × 25,4 (rounded to 0,5 mm) (increments of code = 0,5).

Dimensions in millimetres



[a] Tyre-mounting side.

[b] Tyre non-mounting side.

Figure 2 — Optional bead seat contours

Table 3 — *E* dimension for round humps

Nominal rim width code and flange type	*E* mm
6 K and wider	$21^{+2,0}_{0}$
For *E*, $19,5^{+2,0}_{0}$ is also permitted.	

5.3 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.

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

Dimensions in millimetres

Nominal rim diameter code	Specified rim diameter[a]	Hump circumference	
		Flat hump	Round hump[b]
	D ± 0,4	0 −3,5	0 −3,0
16	405,6	1 274,2	1 276,4

[a] The tolerance for the specified rim diameter is for tyre design purposes only. The rim measurement is by a circumference-measuring tape related to a mandrel.

[b] For round humps on the vehicle inboard side only, a tolerance of $^{0}_{-5,0}$ is also permitted.

5.4 Valve holes

5.4.1 Valve hole edges on the tyre side of rim shall be rounded or chamfered.

5.4.2 Valve hole edges on the weather (external) side of the rim shall be free from any burrs that could damage the valve.

5.4.3 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.

5.4.4 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.

Dimensions in millimetres

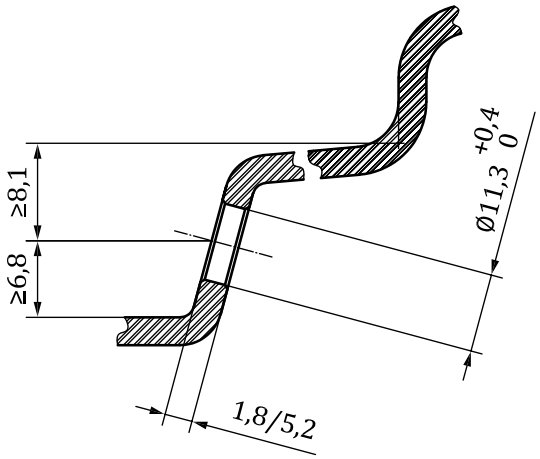
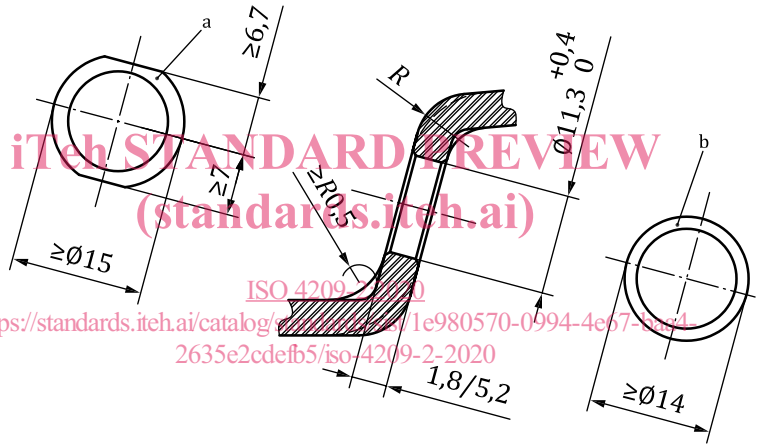


Figure 3 — Valve hole dimensions

Dimensions in millimetres



a Flat surface with no radial striations.

b Flat surface for clamp-in valves.

Figure 4 — Optional flat surface around valve hole

6 15° tapered (drop-centre) rims

6.1 Rim contours

The dimensions and tolerances of rims shall be as given in Figure 5 and Tables 5 and 6.