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Passenger car tyres and rims —

Part 2:
Rims

Pneumatiques et jantes pour voitures particulières —

Partie 2: Jantes

ICS: 43.040.50

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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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 on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 31, *Tyres, rims and valves*, Subcommittee SC 3, *Passenger car tyres and rims*.

This fifth edition cancels and replaces the fourth edition (ISO 4000-2:2007), which has been technically revised.

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

— *Part 1: Tyres (metric series)*

— *Part 2: Rims*

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.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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 9413, *Tyre valves — Dimensions and designation*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 3911 and ISO 9413 apply.

4 Designation and marking

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

5 5° tapered (drop-centre) rims

5.1 Rim flanges

Recommended rim flange contours are given in Table 1 for the nominal rim diameter codes.

Table 1 — Recommended rim flanges

Nominal rim-diameter code	Rim flange
10 12 13	B

Table 1 *(continued)*

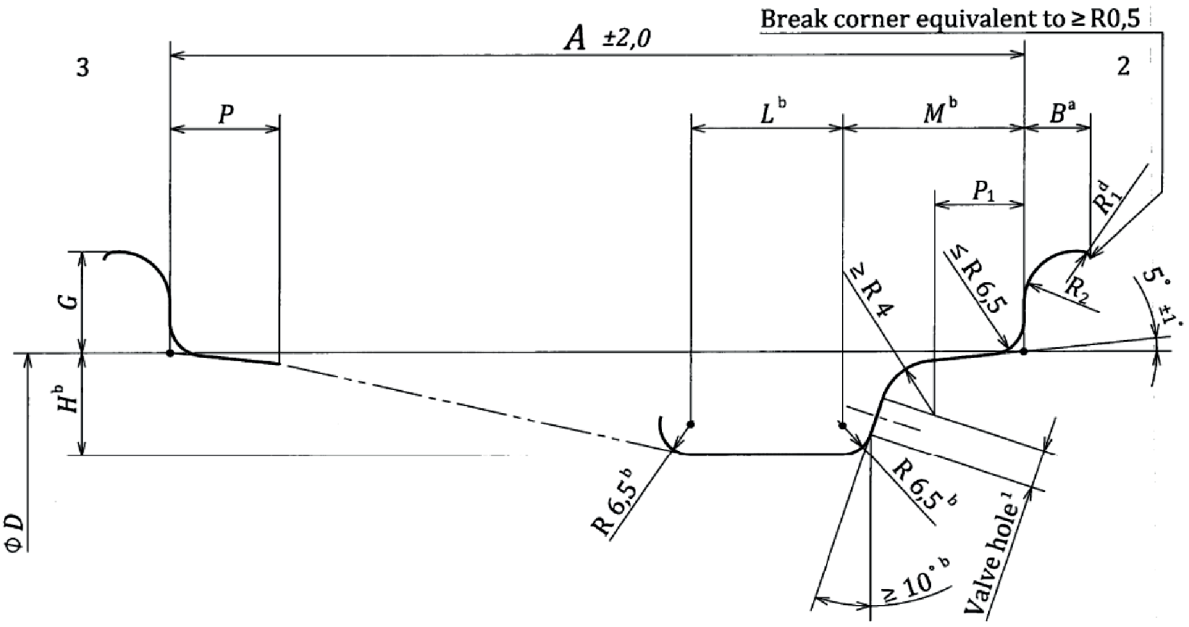
Nominal rim-diameter code	Rim flange
14	
15	
16	
17	
18	
19	
20	
21	J
22	
23	
24	
25	
26	
28	
30	

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 and Table 3.

The rim contour shall be rotational symmetric except for the valve hole area.

Dimensions in millimetres



Key

1 valve hole (see Clause 6)

2 tyre mounting side

3 tyre non-mounting side

a 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. Flange dimensions apply to both sides of the rim contour.

b these dimensions comprise the minimum well envelope for tyre mounting purposes at *M* max. or less, except for localized areas at the weld or valve hole

c optional groove in rim flange for wheel weight retention is permissible

d depending on the actual values for flange curl and flange width, but max. equal to R_2.

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

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

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

Dimensions in millimetres

Diameter code	Rim width code and flange type [c]	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	10,0	14,5	13,0	15,0	15,0	16,0	28,0	7,5
	3,50 B	10,0	14,5	15,0	17,0	15,0	19,0	34,0	7,5
	4,00 B	10,0	14,5	15,0	17,0	15,0	19,0	45,0	7,5
	4,50 B and wider	10,0	14,5	19,5	19,5	15,0	22,0	45,0	7,5
14 through 21	3J	11,0	17,5	13,0	13,0	17,3 [b]	16,0	28,0	9,5
	3 1/2 J	11,0	17,5	15,0	17,0	17,3 [b]	19,0	34,0	9,5
	4 J	11,0	17,5	15,0	17,0	17,3 [b]	19,0	45,0	9,5
	4 1/2 J and wider	11,0	17,5	19,5	19,5	17,3 [b]	22,0	45,0	9,5
22 and greater	4 1/2 J and wider	11,0	17,5	19,5	19,5	22,0 [d]	22,0	45,0	9,5

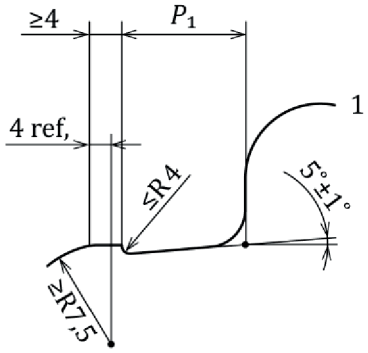
[a] Minimum dimensions for well depth (H) and well angle are required for tyre mounting. Larger values may be required to ensure sufficient space for tubeless tyre valve seating.

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

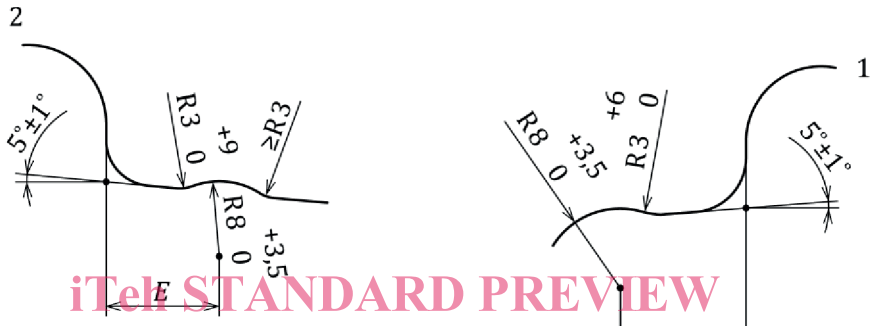
[c] Dimension A = rim width code × 25,4 (rounded to the nearest 0,5 mm) (increments of code = 0.5).

[d] Some existing designs may follow minimum value of 17,3 well depth.

Dimensions in millimetres



Flat Hump (FH)



Round Hump (RH)

Key

1 tyre mounting side

2 tyre non-mounting side

Figure 2 — Optional bead seat contours

Table 3 — *E* dimension for round humps (see Figure 2)

Dimensions in millimetres

Rim width code and flange type	*E*
3.00 B and 3 J	13 min.
3.50 B, 3 1/2 J, 4.00 B, 4 J	16 min.
4.50 B, 4 1/2 J and wider	$21{,}0^{+2{,}0}_{0}$ [a]
[a] $19{,}5^{+2{,}0}_{0}$ mm permitted for rim widths 4,50 B (4 1/2 J) to 7,00 B (7 J).	

5.3 Rim diameter and hump circumference

The specified rim diameter, *D*, for nominal rim-diameter codes and hump circumferences is given in Table 4.