

Specification for

Tyres and wheels —

Part 2: Wheels and rims —

Section 1: Rim profiles and
dimensions (including openings for
valves)

UDC 629.113.012.3.012.61

Foreword

British Standard BS AU 50-2 “*Wheels and rims*” was first published in 1964. It was revised in 1973 as BS AU 50-2a “*Wheels and rims — Dimensions*”. BS AU 50-2.1 was issued as a separate Section as a revision in 1980 replacing section 3 of BS AU 50-2a:1973. Additional and replacement drop centre rim details were added by amendments in 1981 as BS AU 50-2.1a:1980 and in 1983 as BS AU 50-2.1b:1980.

To assist cross-referencing between tyre standards and the corresponding rim profile and dimension standards, a new Part to BS AU 50, Part 4, is being published.

The Parts of BS AU 50 are:

- *Part 1: Tyres;*
- *Part 2: Wheels and rims;*
- *Part 3: Valves;*
- *Part 4: Rim profiles and dimensions.*

As revision takes place the clauses of BS AU 50-2.1c:1980 will be superseded by separate Subsections of BS AU 50-4 and will be deleted.

The separate Sections of Part 4 will be as follows:

- *Section 0: General;*
- *Section 1: Car rims;*
- *Section 2: Commercial vehicle rims;*
- *Section 3: Off-the-road rims;*
- *Section 4: Agricultural tractor and machine rims;*
- *Section 5: Industrial vehicle rims;*
- *Section 6: Motorcycle rims;*
- *Section 7: Moped rims.*

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 24 and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

Amendments issued since publication

Amd. No.	Date of issue	Comments
3807	December 1981	
4212	March 1983	
6965	January 1992	Indicated by a sideline in the margin

This British Standard, having been prepared under the direction of the Automobile Standards Committee, was published under the authority of the Executive Board and comes into effect on 28 November 1980

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The following BSI references relate to the work on this standard:
Committee reference AUE/4
Draft for comment 79/72946 DC

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1.1 Scope

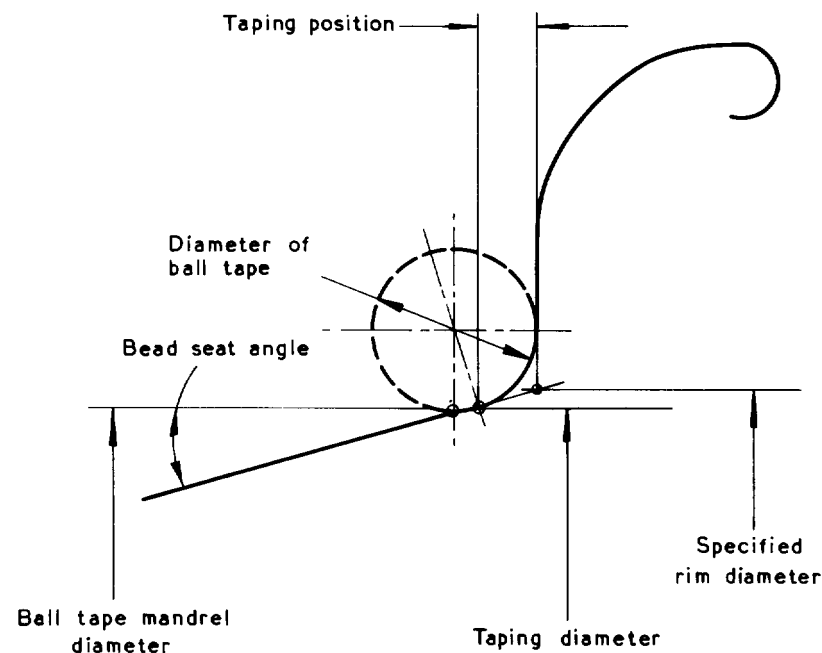
This Section specifies the profiles and dimensions for the wheel rims and valve apertures associated with the tyre sizes in Part 1 of this British Standard.

1.2 Dimensions

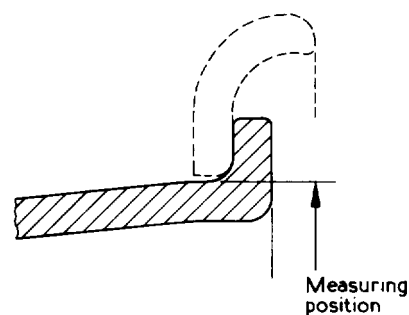
The dimensions of the profiles for wheel rims and for the valve apertures shall be as specified in 1.4 to 1.12.

1.3 Method of measuring rim circumference

The method recommended for measuring the wheel rim circumference is given in Figure 1 and is applicable to all taper bead seat rim profiles. Figure 1(a) illustrates all rims except five-piece off-the-road rims which are illustrated in Figure 1(b).



(a) General



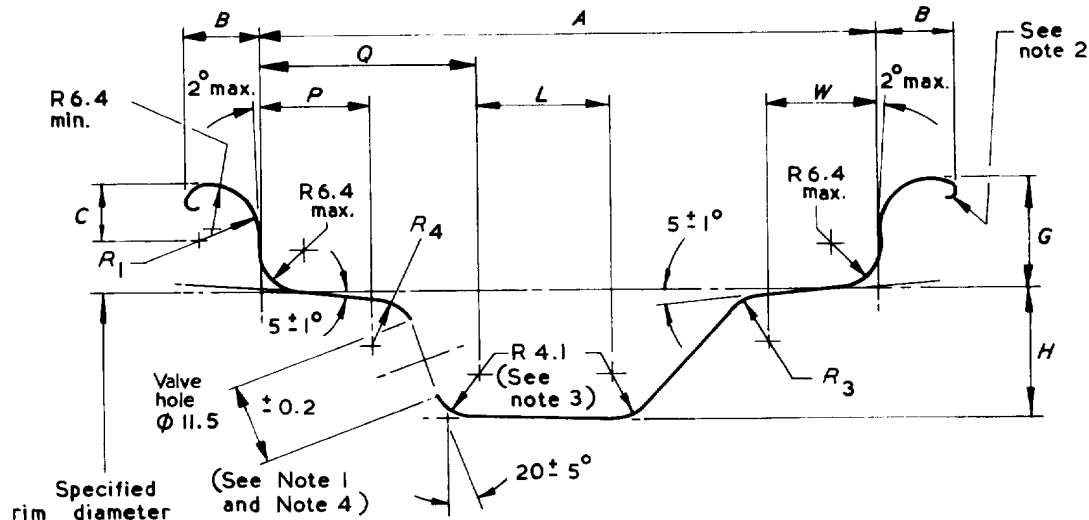
(b) Five-piece off-the-road rims

Figure 1 — Method of measuring wheel rim circumference

1.4 Text deleted

1.5 Passenger car rims and rim profiles

1.5.1 Drop centre rims



All dimensions are in millimetres.

Dimensions

Rim width size code	A ± 1.5	B min.	G +1.2 -0.4	P min.	W min.	H min.	L min.	Q max.	C	R ₁	R ₃	R ₄
3.00B	76.2	10.0	14.0	14.2	14.2	17.5	19.0	30.0	7.5	7.5	6.4	6.4
3.50B	88.9	10.0	14.0	15.0	15.0	17.5	19.0	35.0	7.5	7.5	6.4	6.4
4.50B	114.3	10.0	14.0	19.8	19.8	16.5	19.0	45.0	7.5	7.5	19.0	9.5
3.00D	76.2	11.0	17.3	14.2	14.2	19.0	20.0	30.0	12.4	13.0	6.4	6.4
3.50D	88.9	11.0	17.3	15.7	15.7	19.0	20.0	35.0	12.4	13.0	8.0	8.0
3.50C	88.9	11.0	15.9	15.7	15.7	16.8	19.0	35.0	9.1	9.7	9.7	6.6
3½J	88.9	11.0	17.3	15.7	15.7	19.0	19.0	35.0	9.1	9.7	7.9	7.9
4J	101.6	11.0	17.3	19.8	19.8	17.8	19.0	40.0	9.1	9.7	9.7	9.5
4½J	114.3	11.0	17.3	19.8	19.8	17.8	19.0	45.0	9.1	9.7	19.0	9.5
5J	127.0	11.0	17.3	19.8	19.8	17.8	25.4	45.0	9.1	9.7	19.0	9.7
5½J	139.7	11.0	17.3	19.8	19.8	17.8	25.4	45.0	9.1	9.7	19.0	9.7
5K	127.0	13.0	19.6	19.8	19.8	20.1	25.4	45.0	10.2	10.7	19.0	9.7
5½K	139.7	13.0	19.6	19.8	19.8	20.1	25.4	45.0	10.2	10.7	19.0	9.7
6JK	152.4	12.2	18.0	25.4	25.4	19.3	25.4	45.0	10.2	10.7	19.0	9.7
6½JK	165.1	12.2	18.0	25.4	25.4	20.3	31.8	45.0	10.2	10.7	19.0	9.7
6L	152.4	13.0	21.6	25.4	25.4	28.5	31.8	45.0	11.0	11.9	19.0	9.7
6½L	165.1	13.0	21.6	25.4	25.4	28.5	31.8	45.0	11.0	11.9	19.0	9.7
7L	177.8	13.0	21.6	25.4	25.4	25.4	38.1	45.0	11.0	11.9	19.0	9.7

NOTE 1 The valve hole shall be positioned at the centre of the well wall.

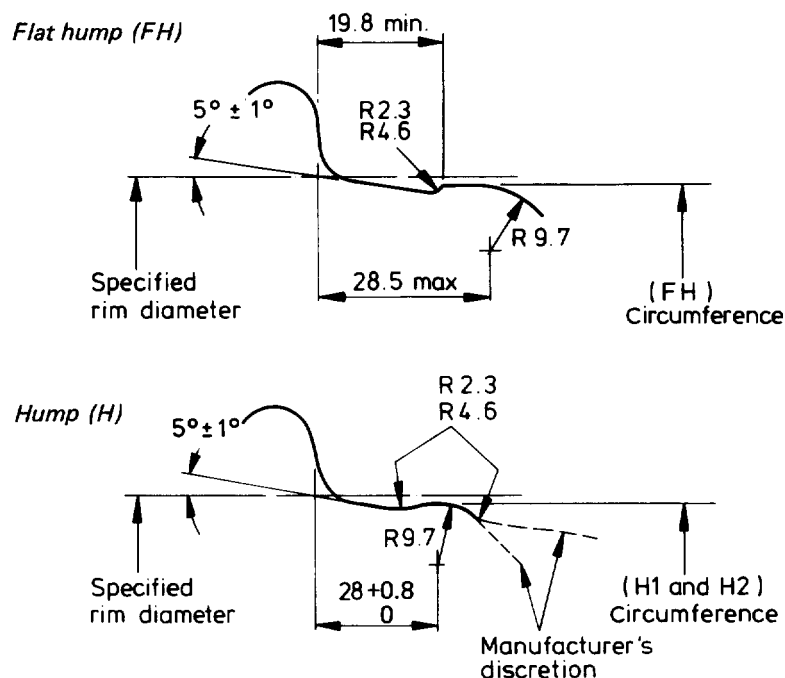
NOTE 2 Starting with the highest point of the rim flange, the shaping of the flange contour towards the outer part of the rim shall be left to the manufacturer, but any increase in width of the rim flanges above the minimum width shall be located lower than the highest point of the flange in order to facilitate tyre mounting. The edge of the flange shall be free from sharp corners.

NOTE 3 May be increased to R 6.4 max. where H is in excess of 16.8 mm, provided this does not interfere with valve fitment.

NOTE 4 For 3.00D, 4J, 4½J, 5K, 5½K and 6½L rims when specified rim diameter is 405.6 mm, valve hole diameter shall be 15.9 ± 0.2 mm.

NOTE 5 For rim usage, see 1.5.4.

1.5.2 Drop centre hump rings (FH), (H1), (H2) and (CH)



All dimensions are in millimetres.

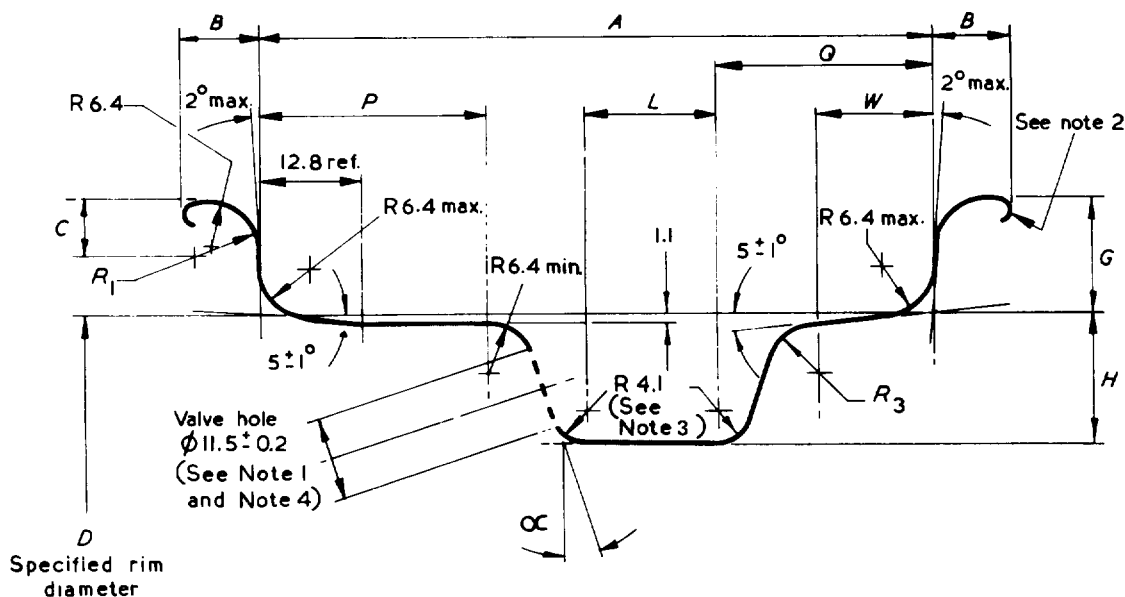
Markings of optional bead seat contours

Designation	Bead seat contour		Marking
	Outboard	Inboard	
Double hump	Hump	Hump	H2
Hump	Hump	Normal	H1
Flat hump	Flat hump	Normal	FH
Combination hump	Flat hump	Hump	CH

Bead seat dimensions

Rim diameter size code	Dimensions, mm		
	Specified rim diameter D	Flat hump (FH)	Hump (H1 and H2)
		Circumference + 0, - 2.9	
10	253.2	794.2	794.2
12	304.0	953.8	953.8
13	329.4	1 033.6	1 033.6
14	354.8	1 113.4	1 113.4
15	380.2	1 193.2	1 193.2
16	405.6	1 273.0	1 273.0

1.5.3 Drop centre special ledge rims (SL)



All dimensions are in millimetres.

Dimensions

Rim width size code	A ± 1.5	B min.	G $+1.2$ -0.4	P min.	W min.	H min.	L min.	Q max.	C	R ₁	R ₃	α $\pm 5^\circ$
3.50B	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
4.00C	88.9	10.0	14.0	30.0	15.0	16.8	19.0	30.0	7.6	7.6	6.4	18°
4.50C	101.6	11.0	15.9	32.5	19.8	16.8	19.0	40.0	9.1	9.7	6.4	15°
4J	114.3	11.0	15.9	30.0	19.8	16.8	19.0	45.0	9.1	9.7	6.4	15°
4½J	101.6	11.0	17.3	32.5	19.8	16.8	19.0	40.0	9.1	9.7	6.4	20°
4½J	114.3	11.0	17.3	32.5	19.8	16.8	19.0	45.0	9.1	9.7	6.4	15°
5J	127.0	11.0	17.3	40.6	19.8	17.8	25.4	45.0	9.1	9.7	19.0	15°
5½J	139.7	11.0	17.3	40.6	19.8	17.8	25.4	45.0	9.1	9.7	19.0	17.5°
6J	152.4	11.0	17.3	40.6	19.8	19.3	25.4	62.0	10.2	10.7	19.0	15°
6JK	152.4	12.2	18.0	40.6	25.4	19.3	25.4	62.0	10.2	10.7	19.0	15°
6½JK	165.1	12.2	18.0	40.6	25.4	20.3	31.8	62.0	10.2	10.7	19.0	10°

NOTE 1 The valve hole shall be positioned at the centre of the well wall.

NOTE 2 Starting with the highest point of the rim flange, the shaping of the flange contour towards the outer part of the rim shall be left to the manufacturer, but any increase in width of the rim flanges above the minimum width shall be located lower than the highest point of the flange in order to facilitate tyre mounting. The edge of the flange shall be free from sharp corners.

NOTE 3 May be increased to R 6.4 max. where H is in excess of 16.8 mm, provided this does not interfere with valve fitment.

NOTE 4 For 4½J rim, when the specified rim diameter is 405.6 mm, the valve hole diameter shall be 15.9 ± 0.2 mm.

NOTE 5 For rim usage see 1.5.4.

1.5.4 Passenger car rim use

Rim width size code and type	Rim diameter size code					
	10	12	13	14	15	16
3.00B	X	X	X			
3.00D	X	X	X	X	X	X
3.50B	X	X				
3.50B SL	X	X				
3.50C		X				
3.50D		X	X	X	X	
3½J			X	X	X	
4.00C SL		X				
4J		X	X	X	X	X
4J SL		X	X	X	X	
4J FH		X	X		X	
4.50C SL		X	X	X		
4.50B FH		X				
4½J			X	X	X	X
4½J SL	X	X	X	X	X	
4½J FH		X	X	X	X	
5J SL			X	X	X	
5J FH			X	X	X	
5K			X	X	X	X
5½J SL		X	X	X	X	
5½J FH			X	X	X	
5½J H2				X		
5½K				X	X	X
6J SL				X		
6J H2				X	X	
6JK SL					X	X
6JK FH			X	X	X	
6L					X	
6L FH					X	
6½JK SL			X	X	X	
6½JK FH			X	X	X	
6½L					X	X
7L FH			X	X		
NOTE For the applicable table of diameters and circumferences, see 1.5.5.						