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Earth-mover tyres and rims —

Part 3: Rims

*Pneumatiques et jantes pour engins de terrassement —
Partie 3: Jantes*



Reference number
ISO 4250-3:1997(E)

Foreword

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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 4250-3 was prepared by Technical Committee ISO/TC 31, *Tyres, rims and valves*, Subcommittee SC 6, *Off-the-road tyres and rims*.

This second edition cancels and replaces the first edition (ISO 4250-3:1987), of which it constitutes a technical revision.

ISO 4250 consists of the following parts, under the general title *Earth-mover tyres and rims*:

- *Part 1: Tyres designations and dimensions*
- *Part 2: Loads and inflation pressures*
- *Part 3: Rims*

Annex A of this part of ISO 4250 is for information only.

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Earth-mover tyres and rims —

Part 3: Rims

1 Scope

ISO 4250 consists of three parts (see the Foreword) laying down the technical elements relating to designation and dimensions of tyres and rims for earth-moving machinery: it also gives load tables for these tyres.

This part of ISO 4250 sets out the designation, contours and dimensions for rims for narrow and wide base off-road tyres primarily intended for earth-moving machinery.

Annex A gives details of sealing ring grooves and O-rings for earth-mover rims.

NOTE — Terms used are in accordance with ISO 3911:1977, *Wheels/rims — Nomenclature, designation, marking and units of measurement*.

2 Rim identification

2.1 Codes shall be used to identify:

- a) specified rim diameter, D (see table 6);
- b) nominal width between flanges;
- c) nominal flange height or rim profile designations.

2.2 The rim marking shall consist of codes for:

- a) specified rim diameter, D ;
- b) nominal width between flanges.

The markings shall be on the weather side of the rim and visible when the tyre is mounted on the rim

Where a disk is fitted by the rim/wheel manufacturer, the marking shall appear on either the disk or rim base.

Loose flanges shall be marked on an externally visible surface. The marking shall indicate nominal height and nominal diameter.

3 Rim contours

Rim contours are given in figures 1 to 5 and tables 1 to 5.

4 Rim knurling

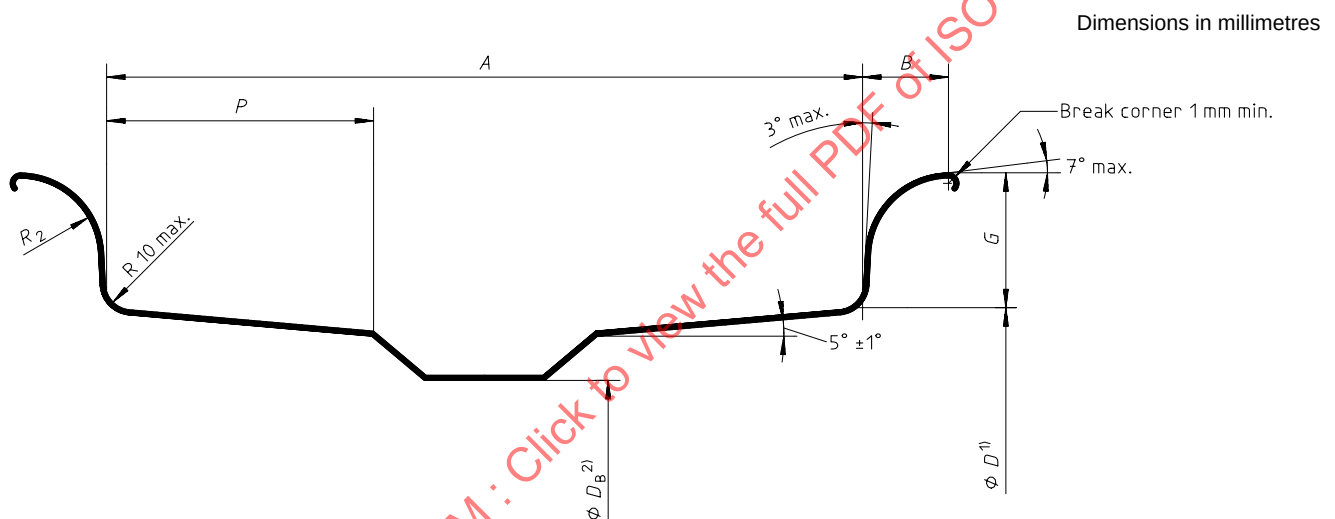
Rim knurling details are given in figure 6 and table 6.

5 Rim loads and inflation pressures

The load and inflation pressure imposed on the rim and wheel shall not exceed the rim and wheel manufacturer's recommendations, even though the tyre may be approved for a higher load or inflation pressure. Consult the rim and wheel manufacturer to determine if rim and wheel capacities are adequate for the intended service.

6 Rim dimensions

Rim dimensions are standardized for size and contour only, and for particular tyre and rim combinations designated to ensure proper mounting and fit of the tyre to the rim.



- 1) For codes < 49, D tolerance: $\begin{matrix} +0,4 \\ -0,8 \end{matrix}$

For codes ≥ 49 , D tolerance: $\pm 0,8$

The tolerance given for the specified rim diameter, D , is for tyre design purposes only. The actual rim measurement by circumference is established by using a mandrel and a type.

- 2) For codes ≤ 49 , $D_B = (D - 25,5) \begin{matrix} +0,5 \\ -13 \end{matrix}$

For codes ≥ 51 , $D_B = (D - 51) \begin{matrix} +0,5 \\ -0,3 \end{matrix}$

NOTES

- The figure applies to rim diameter codes 25, 29, 33, 35, 39, 43, 45, 49, 51 and 57. (See table 7 for specified rim diameters.)
- Flange and bead seat shall be removable on one side.

Figure 1 — Contours of 5° full tapered bead seat rims

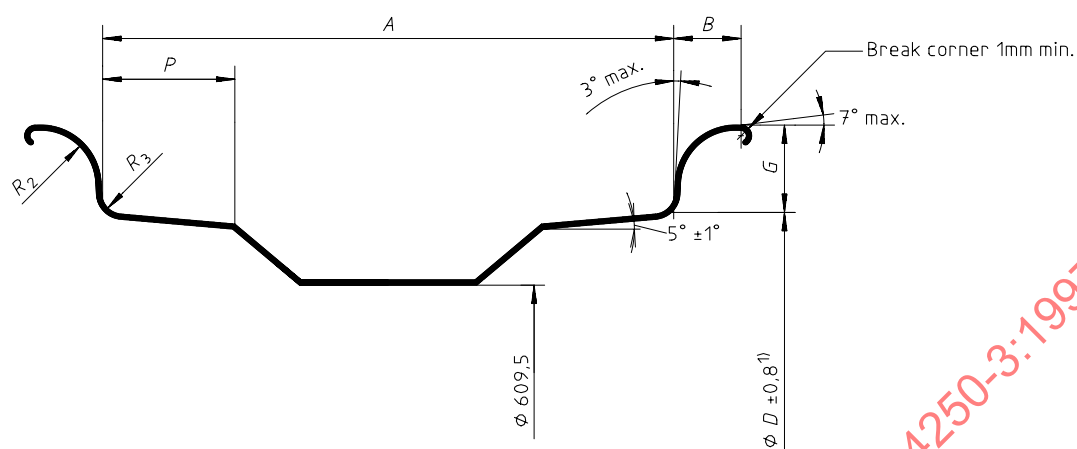
Table 1 — Contours of 5° full tapered bead seat rims

Dimensions in millimetres

Rim width code/ flange height code	A	G	B	P	R ₂	
	± 13	± 2	min.	min.		tol.
11.25/2.0	286	51	32,5	101	32	± 1,5
13.00/2.5	330	63,5	45,5	101	38	± 1,5
13.00/2.75 ¹⁾	330	70	48,5	101	47,5	± 1,5
15.00/3.00	381	76	55	117,5	44,5	± 1,5
15.00/3.0-49	381	76	55	117,5	51	± 2
17.00/2.0	432	51	32,5	101	32	± 1,5
17.00/3.5	432	89	58	139	51	± 2
19.50/2.0	495,5	51	32,5	101	32	± 1,5
19.50/2.5	495,5	63,5	45,5	101	38	± 1,5
19.50/4.0	495,5	101,5	66	139	57	± 2
20.00/2.0	508	51	32,5	101	32	± 1,5
22.00/3.0	559	76	55	139	44,5	± 1,5
22.00/4.0	559	101,5	66	139	57	± 2
22.00/4.5	559	114,5	74	139	63,5	± 2
22.00/4.5-51	559	114	74	190,5	63,5	± 2
24.00/3.0	609,5	76	55	139	44,5	± 1,5
24.00/5.0	609,5	127	86,5	190,5	70	± 2
25.00/3.5	635	89	58	139	51	± 2
26.00/5.0-51	660,5	127	86,5	190,5	70	± 2
27.00/3.5	686	89	58	139	51	± 2
27.00/6.0	686	152,5	97,5	190,5	84	± 2,5
28.00/3.5	711	89	58	139	51	± 2
28.00/4.0	711	101,5	66	139	57	± 2
29.00/6.0	736,5	152,5	97,5	190,5	84	± 2,5
31.00/4.0	787,5	101,5	66	139	57	± 2
32.00/4.0	813	101,5	66	139	57	± 2
32.00/4.5	813	114,5	74	139	63,5	± 2
36.00/4.5	914,5	114,5	74	139	63,5	± 2
40.00/4.5	1 016	114,5	74	139	63,5	± 2

1) For rim diameter code > 49.

Dimensions in millimetres



1) The tolerance given for the specified rim diameter, D , is for tyre design purposes only. The actual measurement by circumference is established by using a mandrel and a tape.

2) For rims 8.50/1.3 and 10.00/1.5, tolerance $\begin{matrix} +0,5 \\ -6,5 \end{matrix}$

For larger rims, tolerance $\begin{matrix} +0,5 \\ -13 \end{matrix}$

NOTES

- 1 This figure applies to rim diameter code 25 (see table 7 for specified rim diameters).
- 2 Flange and bead seat shall be removable on one side.

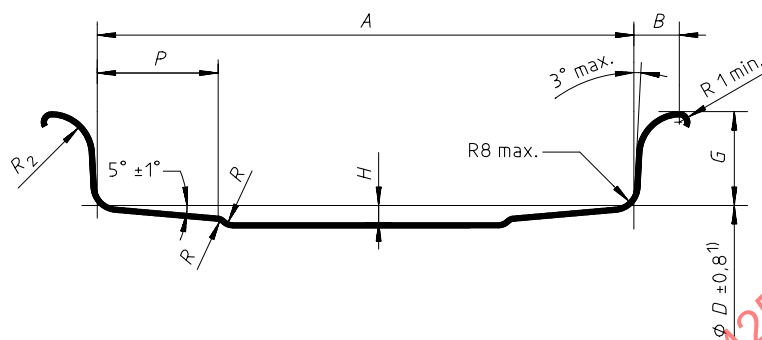
Figure 2 — Contours of 5° full tapered bead seat rims

Table 2 — Contours of 5° full tapered bead seat rims

Dimensions in millimetres

Rim width code/ flange height code	A		G		B	P	R ₂	R ₃
		tol.		tol	min.	min.	± 1,5	max.
8.50/1.3	216	± 5	33	± 1,5	25,5	50	23	8
10.00/1.5	254	± 5	38	± 1,5	28	59	25,5	8
12.00/1.3	305	± 6,5	33	± 1,5	25,5	47	23	10
14.00/1.5	355,5	± 6,5	38	± 1,5	28	59	25,5	10
17.00/1.7	432	± 13	43	± 2	25,5	60	23	8

Dimensions in millimetres



- 1) The tolerance given for the specified rim diameter, D , is for tyre design purposes only. The actual rim measurement by circumference is established by using a mandrel and a tape.

NOTES

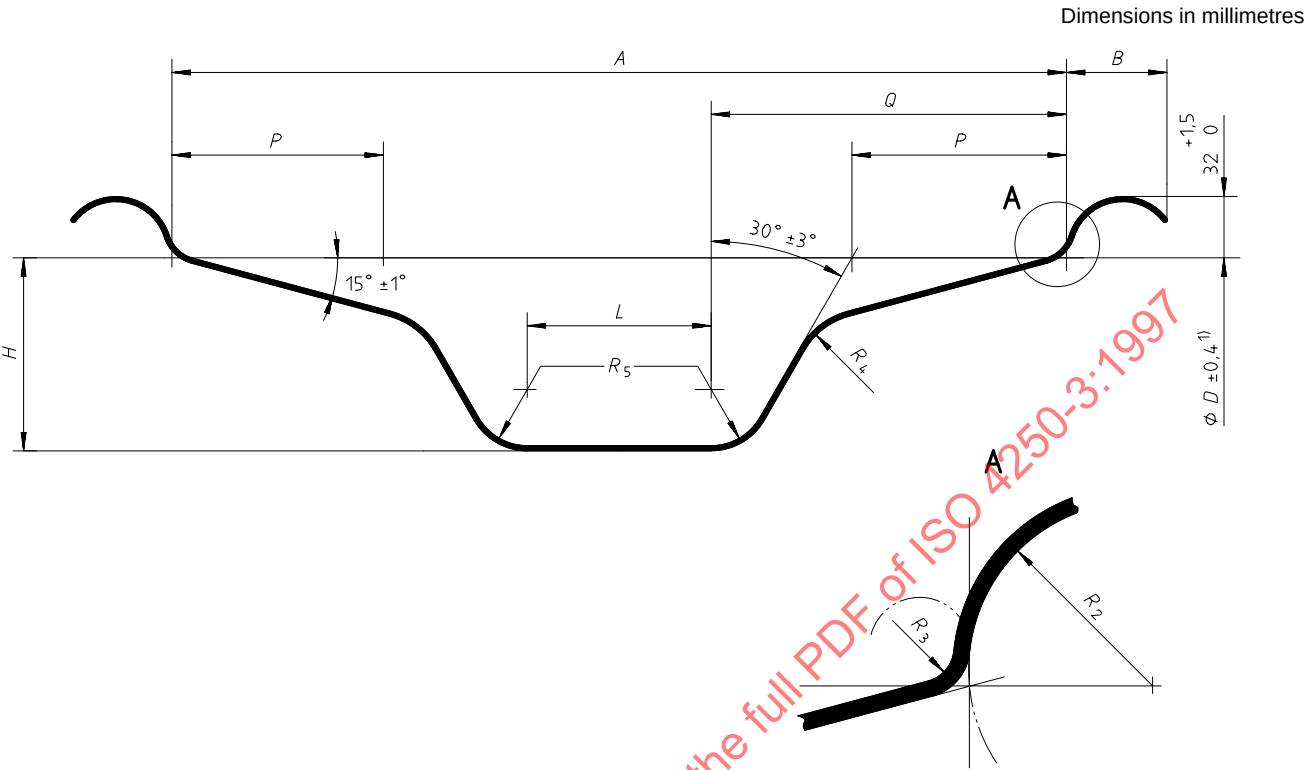
- 1 This figure applies to rim diameter codes 24 and 25 (see table 7 for specified rim diameters).
 2 Flange and bead seat shall be removable on one side

Figure 3 — Contours of semi-drop-centre rims

Table 3 — Contours of semi-drop-centre rims

Dimensions in millimetres

Rim width code/ flange height code	A		G	B	P	H	R ₂	Rim diameter code
		tol.	± 1,5	min.	min.	min.	± 1,5	
8.00 TG SDC	203	± 3,5	35,5	17,5	47	6,5	16,5	24
10.00 VA SDC	254	± 5	43	25,5	59	11	23	24
12.00/1.3 SDC	305	± 6,5	33	25,5	47	7	23	25
14.00/1.3 SDC	355,5	± 6,5	33	25,5	47	7	23	25



1) The tolerance given for the specified rim diameter, D , is for tyre design purposes only. The actual rim measurement by circumference is established by using a mandrel and a tape.

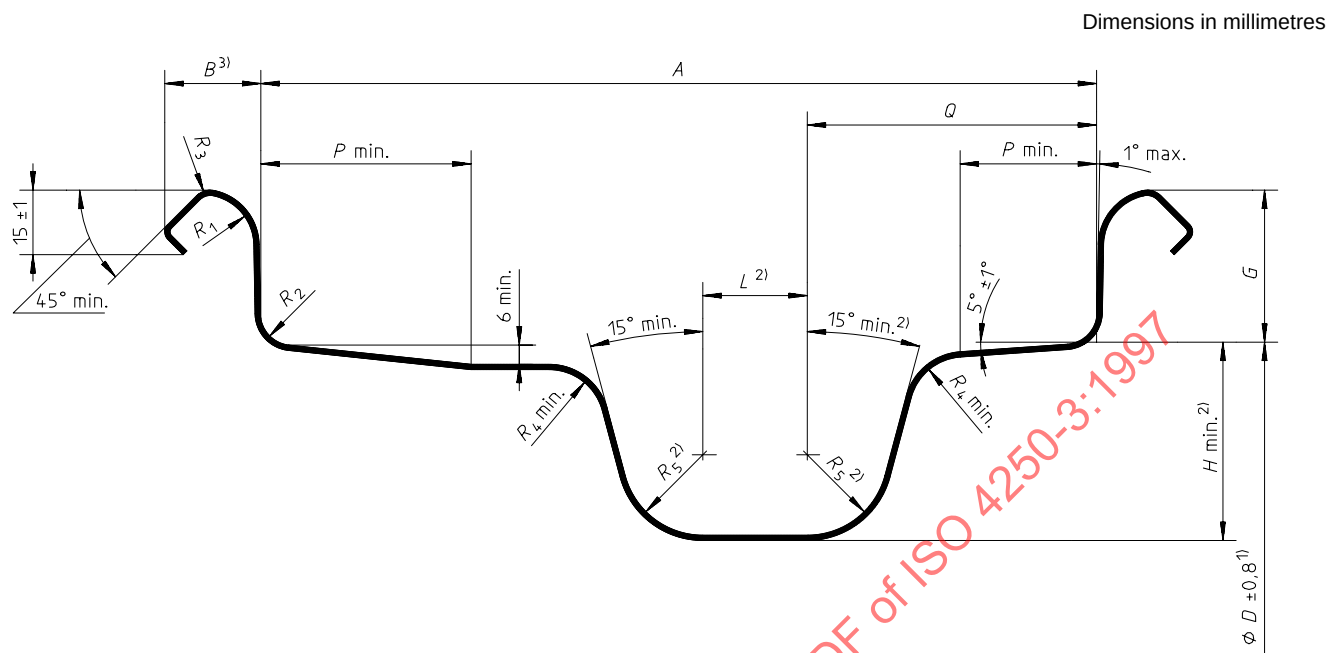
NOTE — This figure applies to rim diameter codes 56,5 and 59,5 (see table 7 for specified rim diameters).

Figure 4 — Contours of 15° drop-centre rims

Table 4 — Contours of 15° drop-centre rims

Rim width code	Dimensions in millimetres									
	A ± 10	B min.	H ¹⁾	L ¹⁾	Q max.	P min.	R_2	R_3 max.	R_4 max.	R_5 ¹⁾
20.0	508	57	109,5	106	201,5	120,5	32	19,5	44,5	32
22.0	559	57	109,5	157	201,5	120,5	32	19,5	44,5	32
23.5	597	66,5	131,5	111	248	152	41	25,5	48	38,5
27.0	686	66,5	131,5	200	248	152	41	25,5	48	38,5

1) These dimensions comprise the minimum well envelope for tyre mounting purposes of dimension Q .



- 1) The tolerance given for the specified rim diameter, D , is for tyre design purposes only. The actual rim measurement by circumference is established by using a mandrel and a tape.
- 2) These dimensions comprise the minimum well envelope for tyre mounting purposes.
- 3) Flange within B includes edge radius of 1 min.

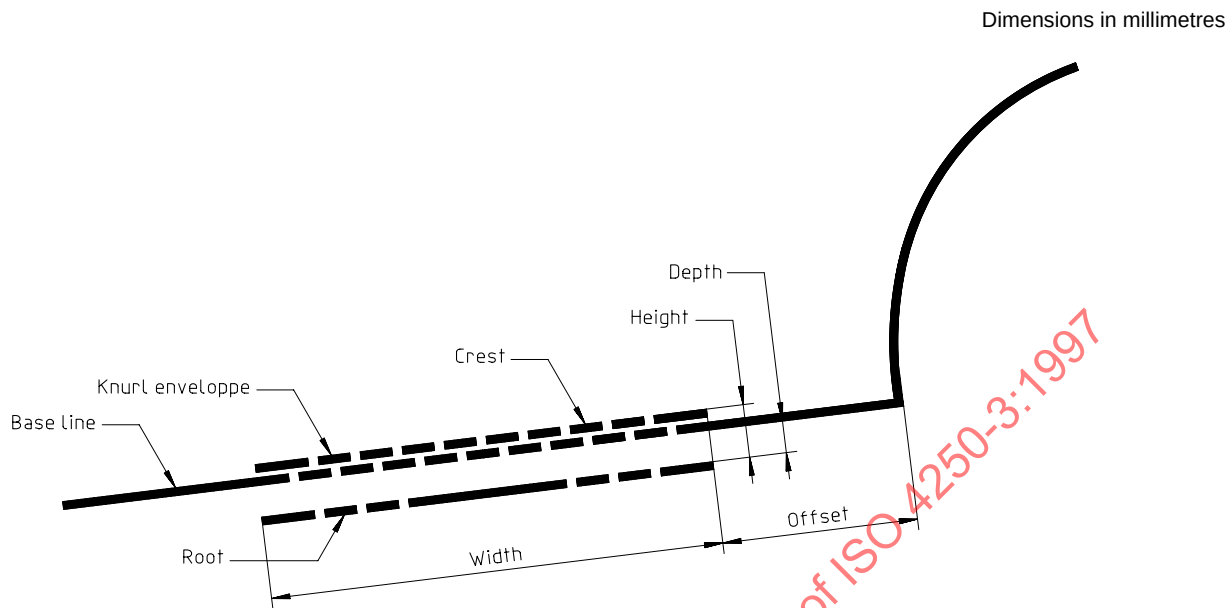
NOTE — The figure applies to rim diameter codes 24 and 25 (see table 7 for specified rim diameters).

Figure 5 — Contours of 5° drop-centre rims

Table 5 — Contours of 5° drop-centre rims

Dimensions in millimetres

Rim width code flange height code	A		G		B		P	H	L	Q	R ₁	R ₂	R ₃	R ₄	R ₅	Rim diameter code
		tol.		tol.	min.	max.	min.	min.	min.	max.		max.	+ 3,0 0	min.		
9.00/1.5	228,5	± 5,0	38	± 1,5	25	36	49	48	25,5	102	19	8	14	22	24 max.	24
10.00/1.3	254	± 6,0	33	± 1,5	25	40	49	45	25,5	102	23	10	12	17	15 min.	24
12.00/1.3	305	± 6,5	33	± 1,5	25	40	40	45	30	90	23	10	12	17	15 min.	25
13.00/1.4	330	± 6,5	36	± 1,5	25	40	40	48	30	102	23	10	12	17	15 min.	25
14.00/1.3	355,5	± 6,5	33	± 1,5	25	40	40	45	30	90	23	10	12	17	15 min.	25
14.00/1.5	355,5	± 6,5	38	± 1,5	27	43	40	52	30	90	25,5	10	12	17	15 min.	25



- Pitch: 1,5 min.
5 max.
- Height from crest to root: 0,5 min.
1 max.
- Knurl; crest to base line: 0,2 min.
- Offset: 9,5 min.
16,0 max.

Figure 6 — Transverse knurling details

Table 6 — Knurling widths for rim

Dimensions in millimetres

Rim width codes	Knurling width	
	Fixed flange side	Removable flange side
a) Rim diameter codes 25 to 49		
11.25 to 15.00	25 min.	51 max. 38 min.
17.00 and above	67 max. 38 min.	67 max. 38 min.
b) Rim diameter codes 51 and larger		
22.00 and above	67 max. 53,5 min.	67 max. 53,5 min.

Table 7 — Earth-mover specified rim diameters

Rim diameter codes	Specified diameter, <i>D</i> mm
24	614,4
25	635,0
29	736,6
33	838,2
35	889,0
39	990,6
43	1 092,2
45	1 143,0
49	1 244,6
51	1 295,4
57	1 447,8
56.5	1 435,1
56.5	1 511,3

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