INTERNATIONAL STANDARD

**ISO 4250-3**

Fifth edition
2020-09

# Earth-mover tyres and rims —

## Part 3: Rims

*Pneumatiques et jantes pour engins de terrassement —*

*Partie 3: Jantes*



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



This fifth edition cancels and replaces the fourth edition (ISO 4250-3:2011), which has been technically revised.

The main changes compared to the previous edition are as follows:

— in Table 1, new codes were added and obsolete codes were removed;

— in Table 2, CR rim width codes were added;

— Table 3 and Figure 3 were added;

— in Table A.1, new sizes were added and obsolete sizes were removed.

A list of all parts in the ISO 4250 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.

# Introduction

ISO 4250 consists of three parts (ISO 4250-1, ISO 4250-2 and this document, i.e. ISO 4250-3) that lay down the technical elements relating to designation and dimensions of tyres and rims for earth-moving machinery. It also provides load tables for these tyres.

# Earth-mover tyres and rims —

# Part 3:
# Rims

## 1 Scope

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

All dimensions in this document are given in millimetres and are applicable to the side of the rim which is in contact with the tyre.

Tyre designations and dimensions, tyre classifications and nomenclature are given in ISO 4250-1, ISO 10571 and ISO 13442.

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

## 2 Normative references



The following referenced documents are indispensable for the application 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*

## 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 Rim identification

**4.1** Codes shall be used to identify:

a) specified rim diameter, *D* (see Table 8);

b) nominal width between flanges;

c) nominal flange height or rim profile designations.

**4.2** 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 disc or the rim base.

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

## 5 Rim contours

Rim contours are given in Figures 1 to 6 and Tables 1 to 6.

## 6 Rim knurling

If rim knurling is required, details can be found in Figure 7 and Table 7.

## 7 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.

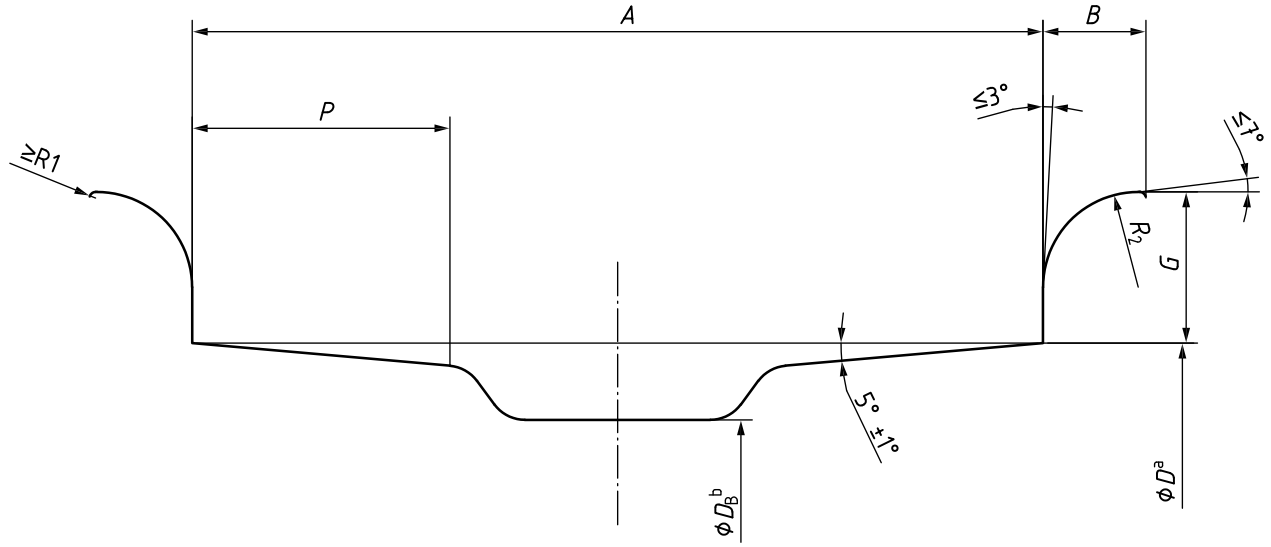
## 8 Rim dimensions



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

Where rim dimensions are not available, consult the rim, wheel or tyre manufacturer.

Dimensions in millimetres




Flange and bead seat shall be removable on one side.

Flange width B includes edge radius.

All flange and bead seat dimensions apply to both sides of the rim contour.

NOTE This figure applies to rim diameter codes 25, 29, 33, 35, 39, 45, 49, 51, 57 and 63 (see Table 8 for specified rim diameters).



a For rim diameter codes <49, $D$ tolerance is +0,4 −0,8.

For rim diameter codes ≥49, $D$ tolerance is ±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 tape.



b For rim diameter codes ≤49, $D_B = (D - 25{,}5) +0{,}5 -13{,}0$.

For rim diameter codes 51 and 57, $D_B = (D - 51{,}0) +0{,}5 -13{,}0$.

For rim diameter code 63, $D_B = (D - 63{,}5) \pm 13{,}0$.

**Figure 1 — Contours of 5° full tapered bead seat rims with two removable flanges**

**Table 1 — Contours of 5° full tapered bead seat rims with two removable flanges**

Dimensions in millimetres

| Rim width code/ flange height code[a] | $A$ | $G$ | $B$ | $P$ | $R_2$ | |
|---|---|---|---|---|---|---|
| | ±13,0 | ±2,0 | min. | min. | | tol. |
| 11.25/2.0 | 286,0 | 51,0 | 32,5 | 101,0 | 32,0 | ±1,5 |
| 13.00/2.0 | 330,0 | 51,0 | 32,5 | 101,0 | 32,0 | ±1,5 |
| 13.00/2.5 | 330,0 | 63,5 | 45,5 | 101,0 | 38,0 | ±1,5 |
| 13.00/2.75 | 330,0 | 70,0 | 48,0 | 101,0 | 47,5 | ±1,5 |
| 15.00/2.5 | 381,0 | 63,5 | 45,5 | 101,0 | 38,0 | ±1,5 |

a The rim width code and flange height code are applicable to specific tyre sizes. See ISO 4250-1 for approved rim/tyre combinations.

b For rim diameter code 49.

c For tyres less than 32 ply rating.

d For rim diameter code 51.

e For rim diameter code 57.

f For rim diameter code 63.

**Table 1** *(continued)*

| Rim width code/ flange height code[a] | $A$ | $G$ | $B$ | $P$ | $R_2$ | |
|---|---|---|---|---|---|---|
| | ±13,0 | ±2,0 | min. | min. | | tol. |
| 15.00/3.0 | 381,0 | 76,0 | 55,0 | 117,5 | 44,5 | ±1,5 |
| 15.00/3.0[b] | 381,0 | 76,0 | 55,0 | 117,5 | 51,0 | ±2,0 |
| 15.00/3.0[c] | 381,0 | 76,0 | 55,0 | 101,0 | 44,5 | ±1,5 |
| 15.00/3.0[c,b] | 381,0 | 76,0 | 55,0 | 101,0 | 51,0 | ±2,0 |
| 17.00/2.0 | 432,0 | 51,0 | 32,5 | 101,0 | 32,0 | ±1,5 |
| 17.00/3.5 | 432,0 | 89,0 | 58,0 | 139,0 | 51,0 | ±2,0 |
| 19.50/2.0 | 495,5 | 51,0 | 32,5 | 101,0 | 32,0 | ±1,5 |
| 19.50/2.5 | 495,5 | 63,5 | 45,5 | 101,0 | 38,0 | ±1,5 |
| 19.50/4.0 | 495,5 | 101,5 | 66,0 | 139,0 | 57,0 | ±2,0 |
| 20.00/2.0 | 508,0 | 51,0 | 32,5 | 101,0 | 32,0 | ±1,5 |
| 22.00/3.0 | 559,0 | 76,0 | 55,0 | 139,0 | 44,5 | ±1,5 |
| 22.00/4.0 | 559,0 | 101,5 | 66,0 | 139,0 | 57,0 | ±2,0 |
| 22.00/4.5 | 559,0 | 114,5 | 74,0 | 190,5 | 63,5 | ±2,0 |
| 24.00/3.0 | 609,5 | 76,0 | 55,0 | 139,0 | 44,5 | ±1,5 |
| 24.00/3.5 | 609,5 | 89,0 | 58,0 | 139,0 | 51,0 | ±2,0 |
| 24.00/5.0 | 609,5 | 127,0 | 86,5 | 190,5 | 70,0 | ±2,0 |
| 25.00/3.0 | 635,0 | 76,0 | 55,0 | 139,0 | 44,5 | ±1,5 |
| 25.00/3.5 | 635,0 | 89,0 | 58,0 | 139,0 | 51,0 | ±2,0 |
| 26.00/3.5 | 660,5 | 89,0 | 58,0 | 139,0 | 51,0 | ±2,0 |
| 26.00/5.0 | 660,5 | 127,0 | 86,5 | 190,5 | 70,0 | ±2,0 |
| 27.00/3.0 | 686,0 | 76,0 | 55,0 | 139,0 | 44,5 | ±1,5 |
| 27.00/3.5 | 686,0 | 89,0 | 58,0 | 139,0 | 51,0 | ±2,0 |
| 27.00/6.0 | 686,0 | 152,5 | 122,0 | 190,5 | 84,0 | ±2,5 |
| 28.00/3.5 | 711,0 | 89,0 | 58,0 | 139,0 | 51,0 | ±2,0 |
| 28.00/4.0 | 711,0 | 101,5 | 66,0 | 139,0 | 57,0 | ±2,0 |
| 29.00/3.5 | 736,5 | 89,0 | 58,0 | 139,0 | 51,0 | ±2,0 |
| 29.00/6.0 | 736,5 | 152,5 | 122,0 | 190,5 | 84,0 | ±2,5 |
| 31.00/4.0 | 787,5 | 101,5 | 66,0 | 139,0 | 57,0 | ±2,0 |
| 32.00/4.0 | 813,0 | 101,5 | 66,0 | 139,0 | 57,0 | ±2,0 |
| 32.00/4.5 | 813,0 | 114,5 | 74,0 | 139,0 | 63,5 | ±2,0 |
| 32.00/6.0 | 813,0 | 152,5 | 122,0 | 190,5 | 84,0 | ±2,5 |
| 32.00/6.5 | 813,0 | 165,0 | 122.0 | 190,5 | 70,0 | ±2,0 |
| 34.00/5.0 | 863,5 | 127,0 | 86,5 | 190,5 | 70,0 | ±2,0 |
| 34.00/6.0 | 863,5 | 152,5 | 86,5 | 190,5 | 84,0 | ±2,5 |
| 36.00/4.5 | 914,5 | 114,5 | 74,0 | 139,0 | 63,5 | ±2,0 |
| 36.00/5.0 | 914,5 | 127,0 | 139,5 | 190,5 | 70,0 | ±2,0 |

[a] The rim width code and flange height code are applicable to specific tyre sizes. See ISO 4250-1 for approved rim/tyre combinations.

[b] For rim diameter code 49.

[c] For tyres less than 32 ply rating.

[d] For rim diameter code 51.

[e] For rim diameter code 57.

[f] For rim diameter code 63.

**Table 1** *(continued)*

| Rim width code/ flange height code[a] | $A$ | $G$ | $B$ | $P$ | $R_2$ | |
|---|---|---|---|---|---|---|
| | ±13,0 | ±2,0 | min. | min. | | tol. |
| 36.00/6.0 | 914,5 | 152,5 | 122,0 | 190,5 | 84,0 | ±2,5 |
| 38.00/5.0 | 965,0 | 127,0 | 139,5 | 190,5 | 70,0 | ±2,0 |
| 40.00/4.5 | 1 016,0 | 114,5 | 74,0 | 190,5 | 63,5 | ±2,0 |
| 41.00/5.0 | 1 041,5 | 127,0 | 139,5 | 190,5 | 70,0 | ±2,0 |
| 44.00/5.0[d] | 1 117,5 | 127,0 | 86,5 | 190,5 | 70,0 | ±2,0 |
| 44.00/5.0[e] | 1 117,5 | 127,0 | 127,0 | 190,5 | 76,0 | ±2,5 |
| 44.00/5.0[f] | 1 117,5 | 127,0 | 139,5 | 190,5 | 70,0 | ±2,0 |
| 44.00/6.0 | 1 117,5 | 152,5 | 122,0 | 190,5 | 84,0 | ±2,5 |
| 47.00/6.0 | 1 194,0 | 152,5 | 122,0 | 190,5 | 84,0 | ±2,5 |
| 52.00/5.5 | 1 321,0 | 139,5 | 90,0 | 190,5 | 76,0 | ±2,0 |
| 52.00/6.0 | 1 321,0 | 152,5 | 127,0 | 254,0 | 84,0 | ±2,5 |
| 60.00/6.0 | 1 524,0 | 152,5 | 122,0 | 254,0 | 84,0 | ±2,5 |

[a] The rim width code and flange height code are applicable to specific tyre sizes. See ISO 4250-1 for approved rim/tyre combinations.

[b] For rim diameter code 49.

[c] For tyres less than 32 ply rating.

[d] For rim diameter code 51.

[e] For rim diameter code 57.

[f] For rim diameter code 63.