
**Tyres (ply rating marked series) and rims
for agricultural tractors and machines —**

**Part 1:
Tyre designation and dimensions,
and approved rim contours**

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*Pneumatiques (série à marquage «équivalent nappes») et jantes pour
tracteurs et machines agricoles —*

*Partie 1: Désignation et cotes des pneumatiques et profils de jantes
approuvés*

[ISO 4251-1:2005](https://standards.iteh.ai/catalog/standards/sist/1f7ee749-2ad3-4a96-b8f8-7dda39986b1c/iso-4251-1-2005)

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. 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.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 4251-1 was prepared by Technical Committee ISO/TC 31, *Tyres, rims and valves*, Subcommittee SC 5, *Agricultural tyres and rims*.

This sixth edition cancels and replaces the fifth edition (ISO 4251-1:1998), which has been technically revised.

ISO 4251 consists of the following parts, under the general title *Tyres (ply rating marked series) and rims for agricultural tractors and machines*:

- iTeh STANDARD PREVIEW**
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- ISO 4251-1:2005
<https://standards.iteh.ai/catalog/standards/sist/1f7ce749-2ad3-4a96-b8f8-7dda39986b1c/iso-4251-1-2005>
- *Part 1: Tyre designation and dimensions, and approved rim contours*
 - *Part 2: Tyre load ratings*
 - *Part 3: Rims*
 - *Part 4: Tyre classification and nomenclature*
 - *Part 5: Logging and forestry service tyres*

Tyres (ply rating marked series) and rims for agricultural tractors and machines —

Part 1: Tyre designation and dimensions, and approved rim contours

1 Scope

This part of ISO 4251 establishes the designation in use and the dimensions of the ply rating marked series of tyres for agricultural tractors and machines.

Tyre load ratings, rim dimensions, and tyre classification and nomenclature are given in ISO 4251-2, ISO 4251-3 and ISO 4251-4 respectively.

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 4251-1:2005
<https://standards.iteh.ai/catalog/standards/sist/1f7ee749-2ad3-4a96-b8f8-7da59960819/iso-4251-1-2005>
ISO 4223-1, *Definitions of some terms used in the tyre industry — Part 1: Pneumatic tyres*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 4223-1 apply.

4 Marking

The marking of the ply rating marked series of tyres consists of the designation of tyre size and load rating, and any additional information. See 4.1 to 4.4.

4.1 Tyre size designation

The present size marking for the identification of tyres consists of the nominal tyre width code and the nominal rim diameter code.

EXAMPLE 1

Tyre 13.6 – 28

Tyre 6.50 – 16

For tyres of radial construction, the letter R replaces the dash.

EXAMPLE 2

Tyre 8.3 R 44

For low section height tyres, the letter L is added to the nominal tyre width code.

EXAMPLE 3

Tyre 9.5L – 15

For low section height tractor steering wheel tyres of diagonal construction, an optional marking may be used in the following manner:

Nominal tyre width code/nominal aspect ratio – nominal rim diameter

EXAMPLE 4

Tyre 9.5/85 – 15

4.2 Load rating

The present marking of load rating comprises the ply rating.

EXAMPLE

Tyre 13.6 – 28 8 PR

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4.3 Categories of use

4.3.1 Agricultural drive wheels — Tractor tyres

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The classification code R, as specified in ISO 4251-4, may be optionally marked on the tyre sidewall.

4.3.2 Agricultural steering wheels — Tractor tyres

The classification code F, as specified in ISO 4251-4, may be optionally marked on the tyre sidewall. In addition, the letters “front” or “SL” may be marked after the nominal rim diameter code on the tyre sidewall.

4.3.3 Agricultural implement tyres

The classification code I, as specified in ISO 4251-4, shall be marked on the tyre sidewall, along with an optional marking “IMP” or “IMPLEMENT”.

4.4 Additional information

Tubeless tyres may be marked with the word “TUBELESS”.

Additionally, classification code markings indicating tyre classifications may be used as described in ISO 4251-4, but they are not part of the type size designation of the tyre.

5 Dimensions and tolerances

5.1 Agricultural drive wheels — Tractor tyres

Tyre size designations, measurement rims, design dimensions of new tyres, and maximum tyre dimensions in service are given in

- a) Table 1 for tyres of diagonal construction with normal section height;
- b) Table 2 for tyres of diagonal construction with low section height;
- c) Table 3 for tyres of diagonal construction for special cultivation work;
- d) Table 4 for tyres of radial construction for special cultivation work.

5.2 Agricultural steering wheels — Tractor tyres

Tyre size designations, measurement rims, design dimensions of new tyres, and maximum tyre dimensions in service are given in

- a) Table 5 for tyres of diagonal construction with normal section height;
- b) Table 6 for tyres of diagonal construction with low section height.

5.3 Agricultural implement tyres

Tyre size designations, measurement rims, design dimensions of new tyres, and maximum tyre dimensions in service are given in

- a) Table 8 for tyres of diagonal construction with normal section height;
- b) Table 9 for tyres of diagonal construction with low section height.

6 Radius index

Radius indices are parameters which are used exclusively for the calculation of forward ground speed during homologation procedures (see for further information ISO 3965).

Values are given in Table 7 for tyres of diagonal and radial constructions with normal section height and for agricultural tractor drive wheel tyres of diagonal construction with low section height.

They apply to tyres inflated to the recommended inflation pressures given in ISO 4251-2 and having a load per tyre corresponding to 50 % of the maximum values at 30 km/h.

7 Tyre and rim coordination

Approved rim contours are given in

- a) Table 10 for agricultural drive wheel tractor tyres;
- b) Table 11 for agricultural steering wheel tractor tyres;
- c) Table 12 for agricultural implement tyres with normal section height;
- d) Table 13 for agricultural implement tyres with low section height.

8 Tubes

Whenever a tube is required, it should be identified by the same designation as the tyre size in which it is to be mounted.

Table 1 — Agricultural drive wheels — Tractor tyres (diagonal construction, normal section height) — Tyre size designations, measurement rims and dimensions

Dimensions in millimetres

Tyre size designation	Measurement rim width code	Design dimensions of new tyres		Dimensions in service	
		Section width	Overall diameter ^a	Maximum overall width	Maximum overall diameter ^b
8.3 – 16 8.3 – 24	7.00	211	790 995	228	813 1 019
9.5 – 16 9.5 – 24 9.5 – 32 9.5 – 36	8.00	241	845 1 050 1 250 1 355	260	871 1 076 1 276 1 381
11.2 – 24 11.2 – 28 11.2 – 36 11.2 – 38	10.00	284	1 105 1 205 1 410 1 460	307	1 135 1 235 1 438 1 488
12.4 – 16 12.4 – 24 12.4 – 28 12.4 – 32 12.4 – 36 12.4 – 38 12.4 – 42	11.00	315	955 1 160 1 260 1 360 1 465 1 515 1 616	340	988 1 192 1 292 1 392 1 497 1 547 1 649
13.6 – 16 13.6 – 24 13.6 – 28 13.6 – 36 13.6 – 38 13.6 – 46	12.00	345	1 005 1 210 1 310 1 515 1 565 1 770	373	1 042 1 246 1 346 1 551 1 601 1 804
14.9 – 24 14.9 – 26 14.9 – 28 14.9 – 30 14.9 – 38	13.00	378	1 265 1 315 1 365 1 415 1 615	408	1 305 1 355 1 405 1 455 1 655
15.5 – 38	14.00	394	1 570	426	1 606

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Table 1 (continued)

Dimensions in millimetres

Tyre size designation	Measurement rim width code	Design dimensions of new tyres		Dimensions in service	
		Section width	Overall diameter ^a	Maximum overall width	Maximum overall diameter ^b
16.9 – 24	15.00	429	1 335	463	1 379
16.9 – 26			1 385		1 429
16.9 – 28			1 435		1 479
16.9 – 30			1 485		1 529
16.9 – 34			1 585		1 629
16.9 – 38			1 690		1 734
18.4 – 24	16.00	467	1 400	504	1 447
18.4 – 26			1 450		1 498
18.4 – 28			1 500		1 548
18.4 – 30			1 550		1 598
18.4 – 34			1 650		1 698
18.4 – 38			1 750		1 798
18.4 – 42			1 850		1 898
20.8 – 34	18.00	528	1 735	570	1 787
20.8 – 38			1 835		1 887
20.8 – 42			1 935		1 987
23.1 – 26	20.00	587	1 605	634	1 661
23.1 – 30			1 705		1 761
23.1 – 34			1 805		1 861
24.5 – 32	21.00	622	1 805	672	1 865

^a Minimum new tyre overall diameter shall be calculated on the basis of a tolerance of –3 % on design section height.

^b Figures are based on tyres with classification code R – 1. The tractor manufacturer shall recognize that tyres with deep tread and related increased overall diameter may be used.

Table 2 — Agricultural drive wheels — Tractor tyres (diagonal construction, low section height) — Tyre size designations, measurement rims and dimensions

Dimensions in millimetres

Tyre size designation	Measurement rim width code	Design dimensions of new tyres		Dimensions in service	
		Section width	Overall diameter ^a	Maximum overall width	Maximum overall diameter ^b
17.5L – 24	15.00	445	1 265	480	1 304
19.5L – 24	17.00	495	1 340	535	1 382
21L – 24	18.00	533	1 400	576	1 450
28L – 26 ^c	25.00	714	1 615	771	1 673
30.5L – 32	27.00	775	1 820	837	1 881
VA 35.5L – 32	31.00	902	1 980	974	2 051

^a Minimum new tyre overall diameter shall be calculated on the basis of a tolerance of –3 % on design section height.

^b Figures are based on tyres with classification code R – 1. The tractor manufacturer shall recognize that tyres with deep tread and related increased overall diameter may be used.

^c Optional size designation 28.1 – 26.

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Table 3 — Agricultural drive wheels — Tractor tyres for special cultivation work (diagonal construction) — Tyre size designations, measurement rims and dimensions

ISO 4251-1:2005

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Tyre size designation	Measurement rim width code	Design new tyre dimensions		Dimensions in service	
		Section width	Overall diameter	Maximum overall width	Maximum overall diameter
7.2 – 36	6.00	183	1 250	198	1 270
7.2 – 40			1 350		1 370
8.3 – 36	7.00	211	1 300	228	1 320
8.3 – 38			1 350		1 370
8.3 – 42			1 450		1 475
8.3 – 44			1 500		1 525
9.5 – 36	8.00	241	1 355	260	1 380
9.5 – 38			1 405		1 430
9.5 – 44			1 555		1 580
9.5 – 48			1 655		1 680

Table 4 — Agricultural drive wheels — Tractor tyres for special cultivation work (radial construction) — Tyre size designations, measurement rims and dimensions

Dimensions in millimetres

Tyre size designation	Measurement rim width code	Design dimensions of new tyres		Dimensions in service	
		Section width	Overall diameter	Maximum overall width	Maximum overall diameter
8.3 R 36	7.00	211	1 290	228	1 315
8.3 R 38			1 340		1 365
8.3 R 42			1 440		1 465
8.3 R 44			1 495		1 520
9.5 R 36	8.00	241	1 345	260	1 365
9.5 R 44			1 550		1 575
9.5 R 48			1 650		1 675
11.2 R 42	10.00	284	1 557	307	1 577
12.4 R 46	11.00	315	1 705	340	1 730
13.6 R 48	12.00	345	1 804	373	1 827

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Table 5 — Agricultural steering wheels — Tractor tyres (diagonal construction, normal section height) — Tyre size designations, measurement rims and dimensions

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Dimensions in millimetres

Tyre size designation	Measurement rim width code	Design dimensions of new tyres		Dimensions in service	
		Section width	Overall diameter ^a	Maximum overall width	Maximum overall diameter ^b
4.00 – 12	3.00	112	535	122	553
4.00 – 15			610		628
4.00 – 16			630		641
4.00 – 19			712		723
4.50 – 16	3.00	122	655	133	667
4.50 – 19			736		748
5.00 – 15	4.00	140	655	153	677
5.00 – 16			680		694
5.50 – 16			710		734
6.00 – 14	4.50	165	688	180	715
6.00 – 16			735		761
6.00 – 19			814		830
6.00 – 20			840		857
6.50 – 16		175	760	191	788
6.50 – 20	865		894		