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Tyres for agricultural tractors and machines — Code-designated and service-description marked radial drive-wheel tyres

Pneumatiques pour tracteurs agricoles et machines agricoles — Désignation code et description marquées sur les pneumatiques radiaux pour roues motrices

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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 8664 was prepared by Technical Committee ISO/TC 31, *Tyres, rims and valves*, Subcommittee SC 5, *Agricultural tyres and rims*.

This second edition cancels and replaces the first edition (ISO 8664:1992), which has been technically revised.

Tyres for agricultural tractors and machines — Code-designated and service-description marked radial drive-wheel tyres

1 Scope

This International Standard specifies the marking, dimensions, load ratings and reference speeds for existing series of agricultural tractor drive-wheel tyres with service description (load index and speed symbol).

It applies to tyres of radial construction in the speed categories 30 km/h (speed symbol A6), 40 km/h (speed symbol A8), and 50 km/h (speed symbol B).

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 4223-1, *Definitions of some terms used in the tyre industry — Part 1: Pneumatic tyres*

ISO 4251-1, *Tyres (ply rating marked series) and rims for agricultural tractors and machines — Part 1: Tyre designation and dimensions, and approved rim contours*

ISO 4251-3, *Tyres (ply rating marked series) and rims for agricultural tractors and machines — Part 3: Rims*

3 Terms and definitions

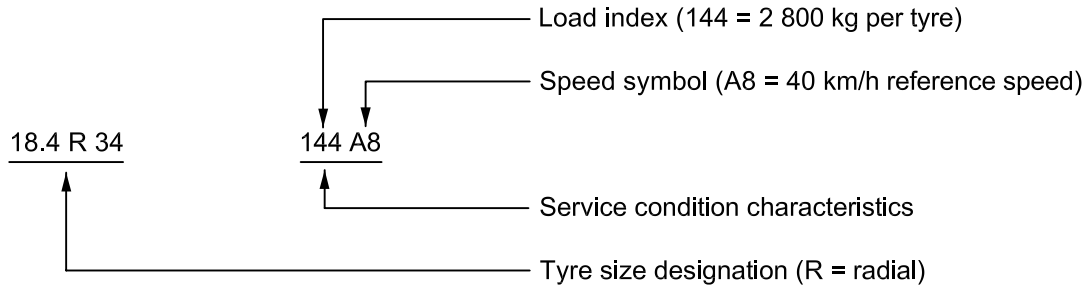
For the purposes of this document, the terms and definitions given in ISO 4223-1 and the following apply.

3.1
cycling loading conditions
gradual increase of payload to maximum allowable load with unloading before off-field transport

4 Tyre marking

The tyre marking shall consist of the designation of the dimensional and constructional characteristics (tyre size designation) and the service condition characteristics (load index and speed symbol).

EXAMPLE



5 Tyre dimensions

Standard sizes, measurement rims, tyre design dimensions and maximum tyre dimensions in service are given in Table 1.

6 Tyre load ratings

Load indices and tyre loads for the speed indicated by the speed symbol (reference speed) and reference inflation pressures for the tyres of Table 1 are given in Annex A.

When used as dual tyres, the load per tyre shall be reduced to 88 % of the single tyre load.

Table 1 — Standard sizes, measurement rims and dimensions

Dimensions in millimetres

Tyre size designation	Measurement rim width code [a]	Design tyre		In service	
		Section width	Overall diameter	Maximum overall width	Maximum overall diameter [b]
a) Normal section height tyres					
8.3 R 24	7.00	211	985	228	1 000
9.5 R 24	8.00	241	1 040	260	1 080
9.5 R 28			1 140		1 155
11.2 R 20	10.00	284	995	307	1 015
11.2 R 24			1 095		1 115
11.2 R 28			1 200		1 220
11.2 R 36			1 400		1 420
11.2 R 38			1 455		1 475
12.4 R 20	11.00	315	1 045	340	1 070
12.4 R 24			1 145		1 170
12.4 R 28			1 250		1 275
12.4 R 32			1 350		1 375
12.4 R 36			1 450		1 475
12.4 R 38			1 500		1 525
12.4 R 54			1 921		1 943

Table 1 — (*continued*)

Tyre size designation	Measurement rim width code [a]	Design tyre		In service	
		Section width	Overall diameter	Maximum overall width	Maximum overall diameter [b]
13.6 R 24	12.00	345	1 190	373	1 215
13.6 R 28			1 295		1 320
13.6 R 36			1 500		1 525
13.6 R 38			1 550		1 575
14.9 R 24	13.00	378	1 245	408	1 275
14.9 R 26			1 295		1 325
14.9 R 28			1 350		1 380
14.9 R 30			1 400		1 425
14.9 R 34			1 519		1545
14.9 R 38			1 600		1 630
14.9 R 46			1 824		1 851
15.5 R 38	14.00	394	1 570	426	1 595
16.9 R 24	15.00	429	1 320	463	1 350
16.9 R 26			1 370		1 400
16.9 R 28			1 420		1 450
16.9 R 30			1 475		1 505
16.9 R 34			1 575		1 605
16.9 R 38			1 675		1 705
16.9 R 42			1 775		1 805
18.4 R 24	16.00	467	1 395	504	1 425
18.4 R 26			1 440		1 475
18.4 R 28			1 490		1 520
18.4 R 30			1 545		1 575
18.4 R 34			1 645		1 680
18.4 R 38			1 750		1 780
18.4 R 42			1 850		1 880
18.4 R 46			1 958		1 990
20.8 R 34	18.00	528	1 735	570	1 770
20.8 R 38			1 835		1 870
20.8 R 42			1 935		1 970
23.1 R 26	20.00	587	1 605	637	1 645
23.1 R 30			1 700		1 740
23.1 R 34			1 800		1 840
24.5 R 32	21.00	622	1 800	672	1 840
b) Low section height tyres					
28 LR 26	25.00	719	1 607	777	1 645
30.5 LR 32	27.00	775	1 820	837	1 860

[a] For approved rim contours see ISO 4251-1 and ISO 4251-3.

The rim/wheel manufacturer shall be consulted for confirmation of the strength of the rim/wheel for the intended service.

[b] Figures are based on regular service tyres. The tyre manufacturer shall be consulted if tyres with deviating profiles are used.

7 Tyre applications other than at reference speed

For applications without high and sustained torques, including road transport, the load/speed relationship is given in Table 2.

The tyre manufacturer concerned shall be consulted for the actual pressure to be used when applying the load/speed relationship given in Table 2.

The rim/wheel manufacturer shall be consulted for confirmation of the strength of the rim/wheel for the intended service.

Table 2 — Load/speed relationship

Speed symbol	Service speed [a] km/h	Maximum tyre load [b] %		
		Speed symbol		
		A6	A8	B
A6	10	140	150	150
	15	130	134	134
	20	120	123	123
	25	107	111	111
	30	100	107	107
A8	35	90	103	103
	40	80	100	100
B	45		96	100
	50		91	100

[a] Reference speeds are given in bold characters.

[b] Expressed as a percentage of the basic tyre loads given in Table A.1.

8 Tyre application on combine harvesters

On combine harvesters in cyclic loading application, except hillside combines, a load of up to 170 % of the basic tyre loads given in Table A.1 is permitted for speeds up to 10 km/h with an inflation pressure increase of approximately 30 % (consult the tyre manufacturer). This load increase shall include all possible field and user modifications that increase the vehicle mass and shall apply only to load increases which occur during the harvesting process.

When not in cyclic application (e.g. grain tanks are empty during transport), the loads in Table 2 apply.

For hillside operations over 11° (22 %) slope, only the basic tyre loads are permitted.

The rim and wheel manufacturer shall be consulted concerning the strength of the wheels.

Annex A
(normative)

Load index and basic tyre load with reference inflation pressures 120 kPa, 160 kPa, 210 kPa and 250 kPa

Tyre loads for the speed indicated by the speed symbol (reference speed — see Table 2) for tyres with reference inflation pressures of 120 kPa, 160 kPa, 210 kPa and 250 kPa are given in Table A.1. The inflation pressure is a minimum reference value for the loads given in the table.

The tyre manufacturer concerned shall be consulted about the actual pressures to be used in practice.

When used as dual tyres, the load per tyre must be reduced to 88% of the single tyre load.

Table A.1 — Load per tyre at reference speed and inflation pressure

Tyre size designation	Reference inflation pressure 120 kPa		Reference inflation pressure 160 kPa		Reference inflation pressure 210 kPa		Reference inflation pressure 250 kPa	
	Load index	Basic tyre load kg	Load index	Basic tyre load kg	Load index	Basic tyre load kg	Load index	Basic tyre load kg
8.3 R 24			104	900				
9.5 R 24			107	975				
9.5 R 28			109	1 030				
11.2 R 20			111	1 090				
11.2 R 24			114	1 180				
11.2 R 28			116	1 250				
11.2 R 36			120	1 400				
11.2 R 38			121	1 450				
12.4 R 20			116	1 250				
12.4 R 24			119	1 360				
12.4 R 28			121	1 450				
12.4 R 32			122	1 500				
12.4 R 36			124	1 600				
12.4 R 38			125	1 650				
12.4 R 54	123	1 550	128	1 800	133	2 060	137	2 300
13.6 R 24			121	1 450				
13.6 R 28	117	1 285	123	1 550	126	1 700		
13.6 R 36			127	1 750				
13.6 R 38			128	1 800				
14.9 R 24			126	1 700				
14.9 R 26	121	1 450	127	1 750	132	2000		
14.9 R 28	122	1 500	128	1 800	133	2060		

Table A.1 — (*continued*)

Tyre size designaton	Reference inflation pressure 120 kPa		Reference inflation pressure 160 kPa		Reference inflation pressure 210 kPa		Reference inflation pressure 250 kPa	
	Load index	Basic tyre load kg	Load index	Basic tyre load kg	Load index	Basic tyre load kg	Load index	Basic tyre load kg
14.9 R 30	123	1 550	129	1 850	134	2 120		
14.9 R 34					136	2 240	140	2 500
14.9 R 38			133	2060				
14.9 R 46					142	2 650	145	2 900
15.5 R 38	125	1 650	131	1 950	136	2 240		
16.9 R 24	126	1 700	134	2 120	137	2 300		
16.9 R 26	128	1 800	135	2 180	139	2 430		
16.9 R 28	129	1 850	136	2 240	140	2 500		
16.9 R 30	130	1 900	137	2 300	141	2 575	144	2 800
16.9 R 34			139	2 430				
16.9 R 38	134	2 120	141	2 575	145	2 900		
16.9 R 42			143	2 725				
18.4 R 24			139	2 430				
18.4 R 26	134	2 120	140	2 500	145	2 900		
18.4 R 28			141	2 575				
18.4 R 30			142	2 650				
18.4 R 34	139	2 430	144	2 800	149	3 250		
18.4 R 38	141	2 575	146	3 000	151	3 450		
18.4 R 42	143	2 725	148	3 150	153	3 650		
18.4 R 46	144	2 800			155	3 875		
20.8 R 34	145	2 900	151	3 450	156	4 000		
20.8 R 38	147	3 075	153	3 650	157	4 125		
20.8 R 42	149	3 250	155	3 875	159	4 375		
23.1 R 26			153	3 650				
23.1 R 30			155	3 875				
23.1 R 34	151	3 450	157	4 125	161	4 625		
24.5 R 32	154	3 750	159	4 375	164	5000		
28 LR 26	152	3 550	157	4 125	162	4 750	165	5 150
30.5 LR 32	159	4 375	166	5 300	170	6000		

ICS 83.160.30

Price based on 6 pages