INTERNATIONAL STANDARD

ISO 8664

First edition
1992-12-15

Agricultural tractor drive-wheel tyres — Service description (load index — speed symbol) marked tyres

Pneumatiques pour roues motrices de tracteurs agricoles — Pneumatiques marqués de leurs caractéristiques d'utilisation (indice de charge et code de vitesse)

Reference number
ISO 8664:1992(E)

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.

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

Annex A forms an integral part of this International Standard. Annex B is for information only.

International Organization for Standardization
Case Postale 56 • CH-1211 Genève 20 • Switzerland

Printed in Switzerland

Agricultural tractor drive-wheel tyres — Service description (load index — speed symbol) marked 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) and 40 km/h (speed symbol A8).

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 4223-1:1989, *Definitions of some terms used in the tyre industry — Part 1: Pneumatic tyres.*

ISO 4251-1:1992, *Tyres (ply rating marked series) and rims for agricultural tractors and machines — Part 1: Tyre designation and dimensions.*

ISO 4251-3:1985, *Tyres and rims (existing series) for agricultural tractors and machines — Part 3: Rims.*

3 Definitions

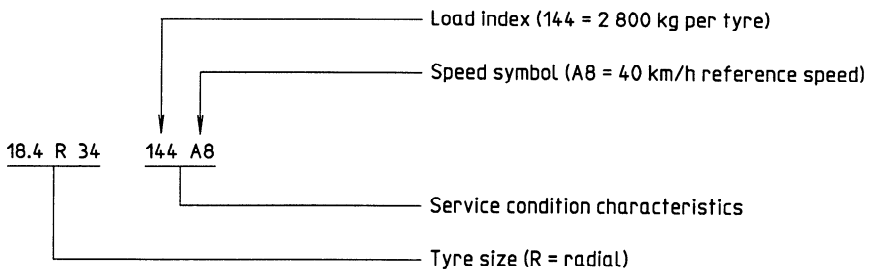
For the purposes of this International Standard, the definitions given in ISO 4223-1 and the following definition apply.

3.1 cyclic loading application: 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) 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 annexes A and B.

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 1 — Standard sizes, measurement rims, and dimensions

Dimensions in millimetres

Tyre size	Measurement rim width code[1]	Design tyre		In service	
		Section width	Overall diameter	Maximum overall width	Maximum overall diameter[2]
a) Normal section height tyres					
11.2 R 20 11.2 R 24 11.2 R 28 11.2 R 36 11.2 R 38	10	284	995 1 095 1 200 1 400 1 455	307	1 015 1 115 1 220 1 420 1 475
12.4 R 20 12.4 R 24 12.4 R 28 12.4 R 32 12.4 R 36 12.4 R 38	11	315	1 045 1 145 1 250 1 350 1 450 1 500	340	1 070 1 170 1 275 1 375 1 475 1 525
13.6 R 24 13.6 R 28 13.6 R 36 13.6 R 38	12	345	1 190 1 295 1 500 1 550	373	1 215 1 320 1 525 1 575
14.9 R 24 14.9 R 26 14.9 R 28 14.9 R 30 14.9 R 38	13	378	1 245 1 295 1 350 1 400 1 600	408	1 275 1 325 1 380 1 425 1 630

Tyre size	Measurement rim width code[1]	Design tyre		In service	
		Section width	Overall diameter	Maximum overall width	Maximum overall diameter[2]
16.9 R 24 16.9 R 26 16.9 R 28 16.9 R 30 16.9 R 34 16.9 R 38 16.9 R 42	15	429	1 320 1 370 1 420 1 475 1 575 1 675 1 775	463	1 350 1 400 1 450 1 505 1 605 1 705 1 805
18.4 R 24 18.4 R 26 18.4 R 28 18.4 R 30 18.4 R 34 18.4 R 38 18.4 R 42	16	467	1 395 1 440 1 490 1 545 1 645 1 750 1 850	504	1 425 1 475 1 520 1 575 1 680 1 780 1 880
20.8 R 34 20.8 R 38 20.8 R 42	18	528	1 735 1 835 1 935	570	1 770 1 870 1 970
23.1 R 26 23.1 R 30 23.1 R 34	20	587	1 605 1 700 1 800	637	1 645 1 740 1 840
24.5 R 32	21	622	1 800	672	1840
b) Low section height tyres					
30.5 LR 32	27	775	1 820	837	1 860

1) 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.

2) Figures are based on regular service tyres. The tyre manufacturer shall be consulted if tyres with deviating profiles are used.

Table 2 — Load/speed relationship

Speed km/h	Maximum tyre load[1]	
	Tyres with speed symbol A6 (30 km/h reference speed)	Tyres with speed symbol A8 (40 km/h reference speed)
10	150	150
15	134	134
20	123	123
25	111	111
30	100[2]	107[2]
35	95	103
40	90	100
45	—	96
50	—	91

1) Expressed as a percentage of the basic tyre loads given in tables A.1 and B.1.

2) This also applies for all field applications with high and sustained torques.

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 tables A.1 and B.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 tyre load for tyres with reference inflation pressure 160 kPa

Tyre loads for the speed indicated by the speed symbol (reference speed — see table 2) for a range of tyres with a reference inflation pressure of 160 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.

The load for dual tyres equals 1,76 times the load for a single tyre.

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

Tyre size	Load index	Basic tyre load kg
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
13.6 R 24	121	1 450
13.6 R 28	123	1 550
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	127	1 750
14.9 R 28	128	1 800
14.9 R 30	129	1 850
14.9 R 38	133	2 060
16.9 R 24	134	2 120
16.9 R 26	135	2 180
16.9 R 28	136	2 240
16.9 R 30	137	2 300
16.9 R 34	139	2 430
16.9 R 38	141	2 575
16.9 R 42	143	2 725

Tyre size	Load index	Basic tyre load kg
18.4 R 24	139	2 430
18.4 R 26	140	2 500
18.4 R 28	141	2 575
18.4 R 30	142	2 650
18.4 R 34	144	2 800
18.4 R 38	146	3 000
18.4 R 42	148	3 150
20.8 R 34	151	3 450
20.8 R 38	153	3 650
20.8 R 42	155	3 875
23.1 R 26	153	3 650
23.1 R 30	155	3 875
23.1 R 34	157	4 125
24.5 R 32	159	4 375
30.5 LR 32	166	5 300

Annex B
(informative)

Tyres with reference inflation pressures 120 kPa and 210 kPa

Tyre loads for the speed indicated by the speed symbol (reference speed — see table 2) for two ranges of tyres with reference inflation pressures of 120 kPa and 210 kPa are given in table B.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.

The load for dual tyres equals 1,76 times the load for a single tyre.

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

Tyre size	Reference inflation pressure 120 kPa		Reference inflation pressure 210 kPa	
	Load index	Basic tyre load kg	Load index	Basic tyre load kg
13.6 R 28	117	1 285	126	1 700
14.9 R 26	121	1 450	132	2 000
14.9 R 28	122	1 500	133	2 060
14.9 R 30	123	1 550	134	2 120
16.9 R 24	126	1 700	137	2 300
16.9 R 26	128	1 800	139	2 430
16.9 R 28	129	1 850	140	2 500
16.9 R 30	130	1 900	141	2 575
16.9 R 38	134	2 120	145	2 900
18.4 R 26	134	2 120	145	2 900
18.4 R 34	139	2 430	149	3 250
18.4 R 38	141	2 575	151	3 450
18.4 R 42	143	2 725	153	3 650
18.4 R 46	144	2 800	155	3 875
20.8 R 34	145	2 900	156	4 000
20.8 R 38	147	3 075	147	4 125
20.8 R 42	149	3 250	159	4 375
23.1 R 34	151	3 450	161	4 625
24.5 R 32	154	3 750	164	5 000
30.5 LR 32	159	4 375	170	6 000

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