INTERNATIONAL STANDARD

ISO 18808

First edition
2021-03

Agricultural tyres for construction machines

Pneumatiques pour machines agricoles destinés à des engins de construction

Reference number
ISO 18808:2021(E)

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Published in Switzerland

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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.

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).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

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

This first edition of ISO 18808 cancels and replaces ISO 13442:2004, which has been technically revised.

The main changes to ISO 13442:2004 are as follows:

— dimensions for sizes with metric designation and suffix IND added;

— list of approved rims for sizes with metric designation and suffix IND added;

— load capacities for metric sizes with speed symbol A8 added;

— load capacities for metric sizes with speed symbol D added;

— load variations as a function of speed and type of service added;

— service description for code designated sizes added;

— pictogram for maximum bead seating pressure added;

— SRI values added;

— Bibliography added;

— duplications with other ISO documents deleted;

— "miscellaneous" sizes already included in the ISO 4251 series or ISO 5383[1)] deleted;

— non-agricultural sizes derived from earth-mover tyres deleted.

1) Under preparation. Stage at the time of publication: ISO/DIS 5383:2021.

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.

Agricultural tyres for construction machines

1 Scope

This document specifies the designation, dimensions, approved rim contours, load ratings and reference speeds for agricultural tyres fitted to construction machines (e.g. backhoe loaders, small dumpers, loaders, excavators) operating on building sites under loading and transport conditions.

Tyres conforming to this document are identified by the suffix IND in the tyre size designation; code designated tyres can alternatively, in place of the suffix IND, be identified by the classification code R-4.

NOTE Agricultural tyres without the suffix IND in the tyre size designation or with a classification code differing from "R-4" are not part of this document. Code designated diagonal tyres (ply rating marked series) for agricultural tractors, trailers and machines are part of ISO 4251-1 and ISO 4251-2. Code designated radial tyres for agricultural tractors, trailers and machines are part of ISO 8664. Metric designated tyres for agricultural tractors, trailers and machines are part of ISO 7867-2. Tyres for forestry machines, identified by suffix LS, or classification code LS-x are part of ISO 18807.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 4223-1:2017, *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 and the following 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/

3.1
cyclic haulage service
cycle where a machine self-loads or receives a load from loading equipment, transports it elsewhere and returns unloaded

Note 1 to entry: Transportation speeds remain low (on unimproved surfaces) or medium, and distances are short to medium, usually less than 1 km one way, and out of public roads.

3.2
loading cycle
cycle where a machine picks up material, moves it to deposit it into a haulage vehicle or other equipment (e.g. bin, conveyor) then returns empty

Note 1 to entry: Transportation speeds are low (up to 10 km/h) and distances are short, usually less than 76 m one way.

3.3
load and carry
pick and carry
cycle where a machine picks up material, moves it a short distance to deposit it then returns empty

Note 1 to entry: Transportation speeds are low, up to 10 km/h and distances are short, usually less than 610 m one way over improved or unimproved surfaces.

3.4
drive away
condition where the machine moves from one site to another (e.g. jobsite to jobsite, jobsite to maintenance shop)

Note 1 to entry: The machine is in an empty condition.

4 Tyre designation and marking

4.1 General

The designation of the tyre shall be shown on its sidewall and shall include the details in 4.2 and 4.4. The designation of diagonal code-designated tyres also includes the marking of the ply rating (PR) (see 4.3). Tyre designation may also include those details given in 4.5.

4.2 Tyre size and construction code

4.2.1 General

Agricultural tyres for construction machines are designated by the nominal section width and aspect ratio (if applicable), tyre construction code and nominal rim diameter code. For designation, marking or size examples, see 4.6.

4.2.2 Nominal section width

The nominal section width may be expressed by a code (see details in ISO 4251-1 or ISO 8664) or in millimetres (see details in ISO 7867-1).

Code designated low-section-height tyres are identified by the suffix "L" after the nominal section width.

4.2.3 Nominal aspect ratio

The nominal aspect ratio shall be expressed as a percentage and shall be a multiple of 5.

4.2.4 Tyre construction code

The tyre construction code shall be as follows:

— a dash (–) or "D" for diagonal or bias construction;

— "B" for bias belted construction;

— "R" for radial construction; in addition, the word "RADIAL" may also appear on the tyre.

4.2.5 Nominal rim diameter code

For tyres mounted on 5° tapered rims, the nominal rim diameter shall be expressed by a code comprising two digits (e.g. 24). For tyres mounted on 15° tapered rims, the nominal rim diameter shall be expressed by a code ending in ".5" (e.g. 22.5).

For details, refer to ISO 4223-1 and ISO 18804.

4.2.6 Tyre size suffix IND

The suffix IND in the size designation differentiates agricultural tyres intended for construction applications from tyres intended for other agricultural application as described in other ISO documents.

EXAMPLE 440/80–24 IND.

Code designated tyres may alternatively, in place of the suffix IND, be identified by the classification code R-4.

4.2.7 Tyre classification code

A classification code is optional (except if required by 4.2.6) and is not part of the tyre size designation.

Code R-4 clearly indicates the intended construction application for agricultural tyres.

When used, the code shall be clearly separated from the tyre size designation, see ISO 18805 and 4.2.6.

4.3 Index of strength

The index of tyre strength is part of diagonal or bias code designated tyre markings and is expressed by a numerical code in conjunction with the letters “PR”.

EXAMPLES 18.4-24 12PR

19.5L-24 10PR.

4.4 Service description

4.4.1 General

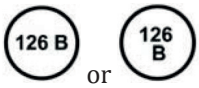
The service condition characteristics shall consist of the service description (load index and speed symbol).

EXAMPLE

Load index	Speed symbol
134	A8

4.4.2 Supplementary service description

Agricultural tyres for construction application may also be marked with an additional service description, marked within a circle, to identify a special type of service (load index and speed symbol) to which the tyre size is also allowed in addition to the applicable load variation with speed (see Table 3).

EXAMPLE 

or

Table 3 is not applicable to the supplementary service description.

4.4.3 Load index

The load index is a numerical code associated with the maximum load a tyre can carry at the speed indicated by its speed symbol under service conditions specified by the tyre manufacturer.

The correlation between load indices and tyre load-carrying capacities shall be as given in ISO 4223-1:2017, Table A.1.

4.4.4 Speed symbol

The speed category symbol is a symbol indicating the speed at which the tyre can carry the load corresponding to its load index under service conditions specified by the tyre manufacturer.

The speed symbols in Table 1 apply for agricultural tyres for construction machines.

Table 1 — Correlation between speed symbol and reference speed

Speed symbol	Reference speed km/h
A8	40
B	50
D	65

4.5 Other service characteristics

4.5.1 Tubeless

In the case of tubeless tyres, the marking "TUBELESS" shall be shown on the tyre.

4.5.2 Preferred direction of rotation

The preferred direction of rotation may be indicated by an arrow or another clear indicator.

4.6 Examples for designation and marking of agricultural tyres for construction machines

See examples in Table 2.

Table 2 — Designation and marking

Tyre construction	Tyre size designation	Service description
Radial	14.9R24[a]	142 A8
	17.5LR24[a]	146 A8
	340/80R18 IND	136 B
Bias belted	520/70B34 IND	171 A8
Diagonal	16.9-28[a]	(10PR) 148 A8[b]
	650/45-22.5 IND	175 A8

[a] These tyres are identified either by suffix "IND", placed after the tyre size designation (e.g. 14.9-24 IND), or by the following marking added to the tyre sidewalls: "R – 4".

[b] The marking of the PR is optional.

4.7 Tyre dimensions and approved rim contours

Tyre dimensional data and approved rim contours shall be as indicated in Tables A.1, A.2 and A.3.

For details on rim contours see ISO 18804

When the tyre is mounted on an alternative or approved rim, the design section width and the maximum overall width in service change as follows:

$$W_A = W + 10\ (R_A - R_M)$$

where

W_A is the design new tyre section width (or the maximum overall tyre width in service) on the alternative or approved rim;

W is the design new tyre section width S (or the maximum overall tyre width in service W_{max}) on the design rim width code as shown in Annex A;

R_A is the rim width code of the alternative or approved rim;

R_M is the design rim width code as shown in Annex A.

4.8 Tyre load carrying capacities (TLCC)

Tyre load carrying capacities (kg) and the corresponding reference inflation pressures (kPa), shall be as indicated in Annex B, Tables B.1 to B.6.

4.9 Tyre applications at service speeds others than the reference speed

For applications with low torque, including road transport, the variation of load-carrying capacity (per cent) depending on the vehicle maximum speed and the type of service is given in Table 3.

The rim or wheel manufacturer shall be consulted for confirmation of the suitability of the rim or wheel for the intended service.

Table 3 — Variation of load-carrying capacity (per cent) for tyres marked with speed category symbols A8 or D

Speed km/h	Variation of load-carrying capacity %			
	Speed category symbol A8		Speed category symbol D	
	Constant load[a]	Cyclic applications[b]	Constant load[a]	Cyclic applications[b]
Static	+130	+130	+164	+164
5	+45	+67[c]	+67	+92[c]
10	+25	+50[d]	+44	+73[d]
15	+13	+34	+30	+54
20	+9	+23	+26	+42
25	+6	+11	+22	+28
30	+4	+7	+20	+23
35	+2	+3	+18	+19
40	[0]	[0]	+15	+15
45	−4	–	+12	–
50	−9	–	+8	–

[a] Includes road transport and drive away.

[b] Cyclic means applications where tyres are used one way laden and return unladen (e.g. loaders, log stackers). It refers to cyclic haulage service, loading cycle and load and carry.

[c] One-way distance 150 m, fully loaded.

[d] One-way distance 600 m, fully loaded.

Table 3 *(continued)*

Speed km/h	Variation of load-carrying capacity %			
	Speed category symbol A8		Speed category symbol D	
	Constant load[a]	Cyclic applications[b]	Constant load[a]	Cyclic applications[b]
55	–	–	+5	–
60	–	–	+3	–
65	–	–	[0]	–
70	–	–	−9	–

[a] Includes road transport and drive away.

[b] Cyclic means applications where tyres are used one way laden and return unladen (e.g. loaders, log stackers). It refers to cyclic haulage service, loading cycle and load and carry.

[c] One-way distance 150 m, fully loaded.

[d] One-way distance 600 m, fully loaded.

5 Maximum pressure for tyre bead seating

Maximum pressure for tyre bead seating shall be marked with the following inscription: "XXX kPa MAX" or “XXX bar MAX” inside the pictogram, indicating the maximum inflation pressure that shall not be exceeded for bead seating during tyre mounting. The value of the tyre bead seating pressure is determined by the tyre manufacturer.

The marking of the pictogram on the tyre sidewall is optional but can be required for compliance with some regional regulations.

An example of the pictogram to be marked on both sidewalls of the tyre is given in Figure 1.

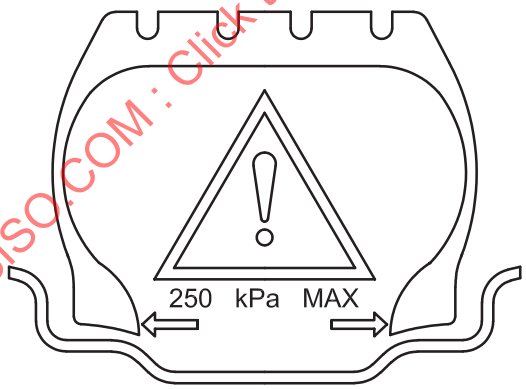


Figure 1 — Example of pictogram of maximum inflation pressure for bead seating

6 Tyre parameters for vehicle speed reference

The speed radius index (SRI) is a parameter used exclusively for the determination of the vehicle characteristics during homologation procedures (see ISO 3965 and ISO 11795).

Values of SRI are given in Annex C, Table C.1.

Annex A
(normative)

Tyre dimensions and approved rim contours

Table A.1 — Tyre dimensions and approved rim contours for diagonal tyres

Tyre size designation	Design rim width code	Design new tyre		In service		Approved rim contours
		Section width mm	Overall diameter mm	Maximum overall width mm	Maximum overall diameter mm	
Code designated tyres[a]						
9.5–20	8.00	241	922	260	947	W7, W8
12.4–16	11.00	315	931	340	963	10LB, W10L
14.9–24	13.00	378	1241	408	1279	DW11, DW12, DW13, W13, W12, W11
14.9–28	13.00	378	1343	408	1380	W13, W12, W11
16.9–24	15.00	429	1310	463	1355	DW14L, DW15L, W15L, W14L
16.9–28	15.00	429	1410	463	1455	DW14L, DW15L, W15L, W14L
16.9–30	15.00	429	1461	463	1503	W15L, W14L
18.4–24	16.00	467	1375	504	1421	W16L, W15L
18.4–26	16.00	467	1425	504	1470	DW15L, DW16L, W16L, W15L
18.4–28	16.00	467	1477	504	1523	DW15L, DW16L, W16L, W15L
18.4–30	16.00	467	1525	504	1578	DW15L, DW16L
23.1–26	20.00	587	1580	634	1644	DW20B
17.5L–24	15.00	445	1241	481	1278	DW14L, DW15L, W15L, W14L
19.5L–24	17.00	495	1314	535	1356	DW16L, W16L, W17L
21L–24	18.00	533	1378	576	1424	DW18L, W18L
21L–28	18.00	533	1479	576	1526	W18L, DW18L
Metric designated tyres on 5° DC rims						
400/70–20 IND	13.00	404	1068	436	1108	12(SDC), 13(SDC), 13, 14, W13, W12
400/70–24 IND	13.00	404	1170	436	1210	DW12, DW13, 13(SDC), 13, DW14L
440/70–24 IND	14.00	441	1226	476	1270	DW14L, DW15L
460/70–24 IND	14.00	455	1254	491	1300	DW14L, DW15L, DW16L
500/70–24 IND	16.00	503	1 310	543	1 360	DW15L, DW16L, DW18L

[a] These tyres are identified either by suffix "IND", placed after the tyre size designation (e.g. 14.9–24 IND), or by the following marking added to the tyre sidewalls: "R – 4".

NOTE 1 For dimensions and approved rim contours of additional metric sizes see ISO 7867-1.

NOTE 2 Consult tyre manufacturers for the use of W rim contours. Where DW rims are shown TW rims are also approved.

Table A.1 *(continued)*

Tyre size designation	Design rim width code	Design new tyre		In service		Approved rim contours
		Section width mm	Overall diameter mm	Maximum overall width mm	Maximum overall diameter mm	
540/70–24 IND	17.00	540	1 366	580	1 418	DW16L, DW18L
280/80–18 IND	9.00	282	905	305	937	W8, W9, W10
280/80–20 IND	9.00	282	956	305	988	W8, W9, W10
300/80–18 IND	11.00	316	937	341	971	W11
300/80–20 IND	11.00	316	988	341	1 022	W11
320/80–18 IND	11.00	329	1 020	355	1 056	11(SDC), 11, W11
320/80–20 IND	11.00	329	1 122	355	1 158	W11
340/80–18 IND	11.00	343	1 001	370	1 039	11(SDC), 11, 12(SDC), 12, W11, W10
340/80–20 IND	11.00	343	1 052	370	1 090	11(SDC), 11, 12(SDC), 12, W11, W10
400/80–24 IND	13.00	404	1 250	436	1 294	DW12, DW13, DW14L, W13, W12
420/80–30 IND	13.00	418	1 434	451	1 482	DW13, DW14L, DW15L
440/80–24 IND	14.00	441	1 314	476	1 364	DW13, DW14L, DW15L
440/80–28 IND	14.00	441	1 415	476	1 465	DW13, DW14L, DW15L, W14L, W15L
480/80–26 IND	15.00	479	1 428	517	1 482	DW15L, DW16L, W15L, W16L,
380/85–24 IND	12.00	380	1 256	410	1 302	DW11, DW12, DW13
Metric designated tyres on 15° DC rims						
710/40–22.5 IND	22.00	706	1 140	762	1 180	AG20.00, 20.00, 22.00, AG24.00
650/45–22.5 IND	20.00	645	1 158	697	1 200	19.00, AG20.00, 20.00, 22.00, AG24.00
600/50–22.5 IND	19.00	601	1 172	649	1 214	19.00, AG20.00, 20.00, 22.00

[a] These tyres are identified either by suffix "IND", placed after the tyre size designation (e.g. 14.9–24 IND), or by the following marking added to the tyre sidewalls: "R – 4".

NOTE 1 For dimensions and approved rim contours of additional metric sizes see ISO 7867-1.

NOTE 2 Consult tyre manufacturers for the use of W rim contours. Where DW rims are shown TW rims are also approved.

Table A.2 — Tyre dimensions and approved rim contours for bias belted tyres

Tyre size designation	Design rim width code	Design new tyre		In service		Approved rim contours
		Section width mm	Overall diameter mm	Maximum overall width mm	Maximum overall diameter mm	
620/60B30 IND	20.00	625	1 506	675	1 558	DW20B
620/60B34 IND	20.00	625	1 608	675	1 660	DW20B
580/65B30 IND	18.00	577	1 516	623	1 568	DW18L
580/65B34 IND	18.00	577	1 618	623	1 670	DW18L
NOTE 1 For dimensions and approved rim contours of additional metric sizes see ISO 7867-1.						
NOTE 2 Where DW rims are shown TW rims are also approved.						

Table A.3 — Tyre dimensions and approved rim contours for radial tyres

Tyre size designation	Design rim width code	Design new tyre		In service		Approved rim contours
		Section width mm	Overall diameter mm	Maximum overall width mm	Maximum overall diameter mm	
Code designated tyres [a]						
11LR16 IND	8.00	290	850	313	868	W8, W10
14.9R24	13.00	378	1 245	408	1 275	W12, W13
14.9R28	13.00	378	1 350	408	1 380	W12, W13
16.9R24	15.00	429	1 320	463	1 350	W15L
16.9R28	15.00	429	1 420	463	1 450	W15L, W14L
16.9R30	15.00	429	1 475	463	1 505	W15L, DW15L, W14L
18.4R24	16.00	467	1 395	504	1 425	W16L, W15L
18.4R26	16.00	467	1 440	504	1 475	DW16L, W15L
18.4R28	16.00	467	1 490	504	1 520	DW16L, W15L
17.5LR24	15.00	445	1 250	481	1 275	W15L
19.5LR24	17.00	495	1 320	535	1 345	DW16L, W15L
21LR24	18.00	533	1 395	576	1 425	W18L, DW18L
Metric designated tyres						
420/65R24 IND	13.00	418	1 156	439	1 178	DW12, DW13, DW14L, DW15L, W12, W13, W14L
460/65R24 IND	14.00	455	1 208	478	1 232	DW14L, DW15L, DW16L, W15L, W16L
480/65R28 IND	15.00	479	1 335	503	1 399	DW14L, DW15L, DW16L
540/65R24 IND	17.00	540	1 312	567	1 340	DW16L, DW18L
540/65R28 IND	17.00	540	1 413	567	1 441	DW16L, DW18L
540/65R30 IND	17.00	540	1 464	567	1 492	DW16L, DW18L
600/65R38 IND	19.00	601	1 745	631	1 777	DW18L, DW20B
650/65R38 IND	20.00	645	1 811	677	1 845	DW18L, DW20B, DW23B
650/65R42 IND	20.00	645	1 913	677	1 947	DW18L, DW20B, DW23B
210/70R15 IND	7.00	214	675	225	687	7.00I
360/70R18 IND	11.00	357	961	375	981	W10, W11, 11, 11(SDC), 12, 12(SDC)
360/70R20 IND	11.00	357	1 012	375	1 032	W10, W11, W12
400/70R18 IND	13.00	404	1 017	424	1 039	12, 12(SDC), 13, 13.00, W12, W13
400/70R20 IND	13.00	404	1 068	424	1 090	12(SDC), 13(SDC), 13, 14, W12, W13
400/70R24 IND	13.00	404	1 170	424	1 192	DW12, 13, 13(SDC), DW13, DW13L, DW14L, W12, W13, W14L
420/70R20 IND	13.00	418	1 096	439	1 120	12(SDC), 12, 13, 13(SDC), 14
440/70R24 IND	14.00	441	1 226	463	1 250	DW14L, DW15L, W14L, W15L
460/70R24 IND	14.00	455	1 254	478	1 280	DW14L, DW15L, DW16L, W14L, W15L
500/70R24 IND	16.00	503	1 310	528	1 338	DW15L, DW16L, DW18L, W16L, W15L
500/70R28 IND	16.00	503	1 411	528	1 439	DW15L, DW16L, W15L, W16L, W18L
540/70R24 IND	17.00	540	1 366	567	1 396	DW16L, DW18L, W18L, W16L
380/75R20 IND	12.00	380	1 078	399	1 100	12, 13, W11, W12, W13, 12(SDC), 13(SDC)
420/75R20 IND	13.00	418	1 138	439	1 164	W14L, 12 (SDC), 12, 13, 13 (SDC), 14
250/80R16 IND	8.00	251	806	264	822	W7, W8, W9
280/80R18 IND	9.00	282	905	296	923	W8, W9, W10

[a] These tyres are identified either by the suffix "IND", placed after the tyre size designation (e.g. 14.9–24 IND), or by the following marking added to the tyre sidewalls: "R – 4".

NOTE 1 For dimensions of additional metric sizes see ISO 7867-1.

NOTE 2 Consult tyre manufacturers for the use of W rim contours. Where DW rims are shown TW rims are also approved.

Table A.3 *(continued)*

Tyre size designation	Design rim width code	Design new tyre		In service		Approved rim contours
		Section width mm	Overall diameter mm	Maximum overall width mm	Maximum overall diameter mm	
280/80R20 IND	9.00	282	956	296	974	W8, W9, W10
300/80R24 IND	9.00	295	1 090	310	1 110	W9, W10, W11, DW10, DW11
320/80R18 IND	10.00	319	969	335	989	9, W9, 11, W10, W11
340/80R18 IND	11.00	343	1 001	360	1 023	11, W10, W11, 12
340/80R20 IND	11.00	343	1 052	360	1 074	W10, W11, 11(SDC), 11, 12(SDC), 12
340/80R24 IND	11.00	343	1 154	360	1 176	W10, W11, W12, DW10, DW11, DW12
360/80R20 IND	11.00	357	1 084	375	1 108	W10, W11, 11(SDC), 11, W12, 12(SDC), 12
360/80R24 IND	11.00	357	1 186	375	1 210	W10, W11, W12, W13, DW10, DW11, DW12
360/80R28 IND	11.00	357	1 287	375	1 311	W11, W12, W13, DW11, DW12, DW13
400/80R24 IND	13.00	404	1 250	424	1 276	W12, W13, W14, DW12, DW13, DW14L
400/80R28 IND	13.00	404	1 351	424	1 377	W12, W13, W14, DW12, DW13, DW14L
440/80R24 IND	14.00	441	1 314	463	1 342	W14L, W15L, DW13, DW14L, DW15L
440/80R28 IND	14.00	441	1 415	463	1 443	W14L, W15L, DW13, DW14L, DW15L
440/80R30 IND	14.00	441	1 466	463	1 494	DW14L, DW15L, DW16L
440/80R34 IND	14.00	441	1 568	463	1 596	DW14L, DW15L, DW16L
480/80R26 IND	15.00	479	1 428	503	1 458	W15L, W16L, DW15L, DW16L
480/80R30 IND	15.00	479	1 530	503	1 560	DW15L, DW16L, DW18L
480/80R34 IND	15.00	479	1 632	503	1 662	DW15L, DW16L, DW18L
480/80R38 IND	15.00	479	1 733	503	1 763	DW15L, DW16L, DW18L
540/80R38 IND	17.00	540	1 820	567	1 863	DW16L, DW18L
620/80R42 IND	20.00	625	2 059	656	2 099	DW20B, DW21B
Tyres on 15°DC rims						
460/65R19.5 IND	14.00	455	1 093	478	1 117	13.00, 14.00
260/70R16.5 IND	8.25	261	783	274	797	8.25
300/70R16.5 IND	9.75	303	839	318	855	9.75
360/70R17.5 IND	10.50	351	949	369	969	10.50

[a] These tyres are identified either by the suffix "IND", placed after the tyre size designation (e.g. 14.9–24 IND), or by the following marking added to the tyre sidewalls: "R – 4".

NOTE 1 For dimensions of additional metric sizes see ISO 7867-1.

NOTE 2 Consult tyre manufacturers for the use of W rim contours. Where DW rims are shown TW rims are also approved.

Annex B
(normative)

Tyre load carrying capacities (TLCC) and reference inflation pressures

Table B.1 — Diagonal code designated tyres with speed symbol A8 (40 km/h)

Tyre size designation[a]	Ply rating	Load index	Reference inflation pressure kpa	TLCC[b] kg
14.9–24	6	131	170	1 950
	8	137	210	2 300
	10	141	250	2 575
	12	145	290	2 900
14.9–28	6	134	170	2 120
	8	139	210	2 430
	10	144	250	2 800
16.9–24	6	136	150	2 240
	8	142	190	2 650
	10	145	220	2 900
	12	149	260	3 250
16.9–28	6	138	150	2 360
	8	144	190	2 800
	10	148	220	3 150
	12	152	260	3 550
16.9–30	10	147	220	3 075
16.9–34	14	156	290	4 000
18.4–24	6	140	140	2 500
	8	145	170	2 900
	10	150	210	3 350
	12	154	250	3 750
18.4–26	10	151	210	3 450
	12	156	250	4 000
18.4–28	6	142	140	2 650
	8	147	170	3 075
	10	152	210	3 550
	12	157	250	4 125
18.4–30	12	158	250	4 250
	14	161	320	4 625

[a] These tyres are identified either by the suffix "IND", placed after the tyre size designation (e.g. 14.9–24 IND), or by the following marking added to the tyre sidewalls: "R – 4".

[b] For applications at service speeds other than those indicated the load–speed relationship is given in 4.9.

Table B.1 *(continued)*

Tyre size designation[a]	Ply rating	Load index	Reference inflation pressure kpa	TLCC[b] kg
23.1–26	8	154	140	3 750
	10	158	170	4 250
	12	162	190	4 750
17.5L–24	6	132	140	2 000
	8	139	180	2 430
	10	144	220	2 800
	12	146	250	3 000
19.5L–24	8	143	170	2 725
	10	147	190	3 075
	12	151	230	3 450
21L–24	10	150	180	3 350
	12	155	220	3 875
	16	160	280	4 500
21L–28	14	160	250	4 500
	16	162	280	4 750

[a] These tyres are identified either by the suffix "IND", placed after the tyre size designation (e.g. 14.9–24 IND), or by the following marking added to the tyre sidewalls: "R – 4".

[b] For applications at service speeds other than those indicated the load–speed relationship is given in 4.9.

Table B.2 — Radial code designated tyres with speed symbol A8 (40 km/h)

Tyre size designation[a]	Load index	Reference inflation pressure kpa	TLCC[b] kg
11LR16 IND	122	240	1 500
14.9R24	145	300	2 900
14.9R28	147	300	3 075
16.9R24	148	260	3 150
	151	300	3 450
16.9R28	148	250	3 150
	150	260	3 350
	154	300	3 750
16.9R30	151	260	3 450
	155	300	3 875
18.4R24	157	300	4 125
18.4R26	147	240	3 075
18.4R28	159	300	4 375
17.5LR24	145	250	2 900
	150	300	3 350
19.5LR24	149	250	3 250
	156	300	4 000

[a] These tyres are identified either by the suffix "IND", placed after the tyre size designation (e.g. 14.9R24 IND), or by the following marking added to the tyre sidewalls: "R – 4".

[b] For applications at service speeds other than those indicated, the load–speed relationship is given in 4.9.

Table B.2 *(continued)*

Tyre size designation[a]	Load index	Reference inflation pressure kpa	TLCC[b] kg
21LR24	161	300	4 625
[a] These tyres are identified either by the suffix "IND", placed after the tyre size designation (e.g. 14.9R24 IND), or by the following marking added to the tyre sidewalls: "R – 4". [b] For applications at service speeds other than those indicated, the load–speed relationship is given in 4.9.			

Table B.3 — Bias belted metric designated tyres with speed symbol A8 (40 km/h)

Tyre size designation	Load index	Reference inflation pressure kPa	TLCC[a] kg
580/65B30 IND	165	320	5 150
580/65B34 IND	167	320	5 450
620/60B30 IND	166	320	5 300
620/60B34 IND	175	400	6 900
[a] For applications at service speeds other than those indicated the load–speed relationship is given in 4.9.			

Table B.4 — Diagonal metric designated tyres with speed symbol A8 (40 km/h)

Tyre size designation	Load index	Reference inflation pressure kPa	TLCC[a] kg
Tyres on 5° DC rims			
400/70–20 IND	134	240	2 120
	144	320	2 800
	149	400	3 250
	155	500	3 875
400/70–24 IND	151	400	3 450
	158	500	4 250
420/70–24 IND	139	240	2 430
	148	320	3 150
	154	400	3 750
440/70–24 IND	150	320	3 350
460/70–24 IND	159	400	4 375
500/70–24 IND	157	320	4 125
	164	400	5 000
540/70–24 IND	168	400	5 600
280/80–18 IND	117	240	1 285
	125	320	1 650
	132	400	2 000
280/80–20 IND	119	240	1 360
	126	320	1 700
	133	400	2 060
[a] For applications at service speeds other than those indicated the load–speed relationship is given in 4.9.			

Table B.4 *(continued)*

Tyre size designation	Load index	Reference inflation pressure kPa	TLCC[a] kg
300/80–18 IND	136	400	2 240
300/80–20 IND	137	400	2 300
320/80–20 IND	141	400	2 575
320/80–24 IND	144	400	2 800
340/80–18 IND	127	240	1 750
	136	320	2 240
	143	400	2 725
340/80–20 IND	129	240	1 850
	138	320	2 360
	144	400	2 800
400/80–24 IND	141	240	2 575
	149	320	3 250
	156	400	4 000
	162	500	4 750
420/80–30 IND	147	240	3 075
	155	320	3 875
440/80–24 IND	146	240	3 000
	154	320	3 750
	161	400	4 625
	168	500	5 600
440/80–28 IND	148	240	3 150
	156	320	4 000
	163	400	4 875
480/80–26 IND	152	240	3 550
	160	320	4 500
	167	400	5 450
380/85–24 IND	148	320	3 150
Tyres on 15°DC rims			
710/40–22.5 IND	163	400	4 875
	173	550	6 500
650/45–22.5 IND	162	400	4 750
	175	600	6 900
600/50–22.5 IND	161	400	4 625
	173	600	6 500

[a] For applications at service speeds other than those indicated the load–speed relationship is given in 4.9.

Table B.5 — Radial metric designated tyres with speed symbol A8 (40 km/h)

Tyre size designation	Load index	Reference inflation pressure kPa	TLCC[a] kg
Tyres on 5°DC rims			
540/65R28 IND	160	320	4 500
650/65R38 IND	175	320	6 900
210/70R15 IND	117	500	1 285
360/70R18 IND	142	400	2 650
400/70R18 IND	132	240	2 000
	141	320	2 575
	147	400	3 075
400/70R20 IND	134	240	2 120
	144	320	2 800
	149	400	3 250
400/70R24 IND	137	240	2 300
	145	320	2 900
	152	400	3 550
	158	500	4 250
420/70R20 IND	145	320	2 900
420/70R24 IND	139	240	2 430
	148	320	3 150
	154	400	3 750
440/70R24 IND	142	240	2 650
	150	320	3 350
460/70R24 IND	144	240	2 800
	152	300	3 550
	159	400	4 375
500/70R24 IND	149	240	3 250
	157	320	4 125
	164	400	5 000
500/70R28 IND	151	240	3 450
	159	300	4 375
540/70R24 IND	153	240	3 650
	161	320	4 625
	168	400	5 600
380/75R20 IND	133	240	2 060
	142	320	2 650
	148	400	3 150
420/75R20 IND	139	240	2 430
	147	320	3 075
	154	400	3 750
	160	500	4 500
250/80R16 IND	124	400	1 600

[a] For applications at service speeds other than those indicated the load–speed relationship is given in 4.9.