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Fourth edition
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Earth-mover tyres and rims —

Part 2: Loads and inflation pressures

Pneumatiques et jantes pour engins de terrassement —

Partie 2: Charges et pressions de gonflage

Reference number
ISO 4250-2:2006(E)

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Foreword

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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 4250-2 was prepared by Technical Committee ISO/TC 31, *Tyres, rims and valves*, Subcommittee SC 6, *Off-the-road tyres and rims*.

This fourth edition cancels and replaces the third edition (ISO 4250-2:1995), which has been technically revised. It also incorporates the Amendment ISO 4250-2:1995/Amd.1:1997.

ISO 4250 consists of the following parts, under the general title *Earth-mover tyres and rims*:

— *Part 1: Tyre designation and dimensions*

— *Part 2: Loads and inflation pressures*

— *Part 3: Rims*

Earth-mover tyres and rims —

Part 2:
Loads and inflation pressures

1 Scope

ISO 4250 consists of three parts (see the Foreword) laying down the technical designation and dimensions of tyres and rims for earth-movers; it also gives load tables for these tyres.

This part of ISO 4250 gives working definitions of masses and load cycles, and specifies tyre loads and reference inflation pressures for narrow and wide base tyres primarily intended for earth-mover machines.

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*

3 Terms and definitions

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

NOTE For a list of equivalent terms, see ISO 3877-1 [1].

3.1 Definitions of masses

3.1.1
maximum load
maximum load of individual tyres determined by manufacturer's rated gross machine mass (GMM) distribution assigned to each axle, divided by the number of tyres for that axle

NOTE 1 The maximum GMM includes masses calculated in 3.1.1.1 to 3.1.1.5 inclusive.

NOTE 2 If tyre ballast is used, this is also included in the determination of GMM.

3.1.1.1
operating mass
net weight (deprecated)
actual mass of the base machine with equipment specified by the manufacturer, operator (75 kg), full fuel tank, and full lubricating, hydraulic and cooling systems

3.1.1.2
optional equipment mass
difference in operating mass between the optional item and standard item replaced (such as engine, brakes, tyres, etc.)

NOTE This includes the operating mass of additional items offered by the manufacturer which are not replacements for standard items (such as cabs, body-liners, sideboards, air-conditioners, etc.)

3.1.1.3
mass of special modifications
difference in the operating mass of the machine due to modifications not previously covered in optional equipment mass (such as additional reinforcements, etc.)

3.1.1.4
payload
total mass of the material being carried

3.1.1.5
field modification
operating mass change due to machine alterations made other than by the original manufacturer (such as modifications for additional capacity, reinforcements, etc.)

3.2 Definitions of operating conditions

3.2.1
maximum speed
peak velocity attained by the machine

3.2.2
earth-moving haulage cycle
cycle where machine self-loads or receives a load from loading equipment, transports it elsewhere and returns unloaded

NOTE 1 Transportation usually occurs over unimproved surfaces at medium speeds, up to 65 km/h, and short distances, up to 4 km one way.

NOTE 2 Machines in this category are mainly haulage trucks (dumpers) and tractor-scrapers.

3.2.3
loader cycle
cycle where the machine is used to pick up material and move it a short distance away

NOTE 1 Tyre loads fluctuate depending on the conditions involved when the equipment picks up the load.

NOTE 2 Transportation speeds are low, up to 10 km/h, and distances are short, usually less than 75 m one way.

3.2.4
load-carry cycle
cycle where the machine, primarily intended for loader service, picks up a load, transports it elsewhere and returns unloaded.

NOTE 1 Transportation usually occurs over unimproved surfaces at low speeds, up to 25 km/h, and short distances, up to 600 m.

NOTE 2 Machines in this category consist mainly of loaders, logstackers and material-handling equipment.

NOTE 3 Tyre manufacturers should be consulted for specific conditions.

3.2.5
dozer (tractor) cycle
condition where a machine is used to move materials (usually earth) by pushing, dragging or grading

NOTE 1 Tyre loads are relatively constant and speeds are low, up to 10 km/h.

NOTE 2 Travel distances vary depending on work situations.

3.2.6
grader cycle
condition where a machine is used in construction and road maintenance

NOTE 1 Tyre loads are relatively constant during the work cycles.

NOTE 2 Grader speeds are slower during working periods, with typical transportation speeds reaching about 40 km/h.

NOTE 3 Travel distances vary depending on the work situations.

3.2.7
creep
movement of equipment at a very low speed (commonly not over 120 m in 60 min)

NOTE 1 During creep motion, loads on the tyres are usually very high and consideration needs to be given to the type of surface over which the equipment is travelling.

NOTE 2 Tyre manufacturers should be consulted for specific conditions.

3.2.8
drive-away
movement of a machine from one location to another under non-working conditions

NOTE 1 This movement occurs during transportation of a machine from site to site.

NOTE 2 Tyre manufacturers should be consulted for specific conditions.

NOTE 3 Load/speed/distance tables in this part of ISO 4250 do not apply to drive-away conditions.

3.3 Definition of vehicle type

3.3.1
industrial vehicle
vehicle including counterbalanced lift trucks, container handlers, straddle carriers, aircraft tow tractors, mobile crushers, logstackers

4 Special conditions

For longer hauls and/or speeds in excess of those indicated in the tables, the tyre manufacturers should be consulted for instructions regarding permissible loads and the required inflation pressures.

5 Selection of tyres for new machine design

Selection of size and strength index of the tyre used on each axle shall be based on the highest individual wheel load as determined by Gross Machine Mass (GMM) distribution, including load transfer and the machine application.

Maximum load per tyre shall not be greater than specified in the applicable tables.

The performance of machines fitted with earth-mover tyres depends on the operating conditions, and more particularly on the specific ground pressure which is governed by the inflation pressure. It is therefore advisable to select tyre size on the basis of low inflation pressure.

6 Inflation pressures – General

6.1 Tyres covered by this part of ISO 4250 shall not exceed a cold inflation pressure of 1 000 kPa. Rim and wheel manufacturers shall be consulted to determine if the rim and wheel are of sufficient strength for the intended service conditions.

6.2 Inflation pressures shown in the load/inflation tables are reference pressures and do not include any pressure build-up due to vehicle operation.

6.3 In agreement with tyre manufacturers, inflation pressures may be adjusted to compensate for extremes of atmospheric temperature or special operating conditions.

7 Load/inflation tables

Load/inflation relations for diagonal ply rating tyres are given in Tables 1 to 8; those for symbol-marked radial tyres are given in Tables 9 to 16.

8 Load capacities for earth-mover tyres on industrial vehicles

Load capacities for earth-mover tyres on industrial vehicles are given in Table 17.

Table 1 — Diagonal ply rating marked narrow base tyres for earth-moving slow speed service, reference speed of 10 km/h (loaded conditions)

Tyre size designation	Ply rating	Load[a, b] kg	Inflation pressure[b] kPa
12.00 — 20	14	5 000	600
	16	5 450	700
12.00 — 24 and 12.00 — 25	8	4 000	325
	14	5 600	575
	16	6 150	675
	18	6 500	750
	20	6 900	825
13.00 — 24 and 13.00 — 25	8	4 375	300
	12	5 600	450
	18	7 100	675
	20	7 500	750
	22	8 000	825
14.00 — 24 and 14.00 — 25	8	4 875	275
	10	5 600	350
	12	6 300	425
	16	7 300	550
	20	8 500	700
	24	9 500	850
	28	10 000	925
16.00 — 24 and 16.00 — 25	12	7 100	325
	16	8 250	425
	20	9 750	550
	24	10 600	650
	28	11 500	750
	32	12 500	875
	36	13 600	975
18.00 — 24 and 18.00 — 25	12	8 250	275
	16	10 000	375
	20	11 500	475
	24	12 500	550
	28	13 600	650
	32	15 000	750
	36	16 000	850
	40	17 000	950
18.00 — 33	28	16 000	650
	32	17 500	750
	36	18 500	850
18.00 — 49	24	18 500	550
	28	20 000	650
	32	21 800	750
21.00 — 24 and 21.00 — 25	16	11 800	325
	20	13 200	400
	24	15 000	500
	28	16 500	575

Table 1 (*continued*)

Tyre size designation	Ply rating	Load[a, b] kg	Inflation pressure[b] kPa
21.00 — 35	28	19 500	575
	32	21 200	650
	36	23 000	750
	40	24 300	825
21.00 — 49	28	23 600	575
	32	25 000	650
	36	27 250	750
	40	29 000	825
24.00 — 25	24	18 000	425
	30	20 000	525
24.00 — 29	24	19 000	425
	30	21 800	525
24.00 — 35	36	26 500	650
	42	29 000	750
	48	31 500	850
24.00 — 43	36	30 000	650
	42	32 500	750
	48	34 500	850
24.00 — 49	36	32 500	650
	42	34 500	750
	48	37 500	850
27.00 — 33	24	22 400	350
	30	25 750	450
	36	29 000	550
27.00 — 49	36	36 500	575
	42	40 000	675
	48	43 750	775
30.00 — 51	40	45 000	575
	46	48 750	650
	52	53 000	750
33.00 — 51	42	51 500	550
	50	56 000	650
	58	61 500	750
36.00 — 51	42	58 000	500
	50	65 000	600
	58	71 000	675
40.00 — 57	52	80 000	550
	60	87 500	650
	68	92 500	725

[a] For stationary service conditions, the loads in this table may be increased up to 60 % with no increase in inflation pressure.

[b] For special equipment with a high centre of gravity, consult the tyre manufacturer.

Table 2 — Diagonal ply rating marked narrow base tyres for earth-moving service for relatively short hauls, reference speed 50 km/h

Tyre size designation	Ply rating	Load[a] kg	Inflation pressure kPa
12.00 — 20 and 12.00 — 21	14	2 800	425
	16	3 000	475
12.00 — 24 and 12.00 — 25	8	2 180	225
	14	3 000	375
	16	3 250	450
	18	3 550	500
	20	3 750	550
13.00 — 24 and 13.00 — 25	8	2 360	200
	12	3 000	300
	18	3 875	450
	20	4 000	500
	22	4 250	550
14.00 — 24 and 14.00 — 25	8	2 575	175
	10	3 000	225
	12	3 350	275
	16	4 000	375
	20	4 625	475
	24	5 150	575
	28	5 600	650
16.00 — 24 and 16.00 — 25	12	3 875	225
	16	4 875	325
	20	5 450	400
	24	6 000	475
	28	6 700	575
	32	7 300	650
	36	7 750	725
18.00 — 24 and 18.00 — 25	12	4 750	200
	16	5 600	275
	20	6 500	350
	24	7 300	425
	28	8 000	500
	32	8 750	575
	36	9 250	625
	40	9 750	700
18.00 — 33	24	8 500	425
	28	9 250	500
	32	10 000	575
	36	10 600	625
18.00 — 49	24	10 600	425
	28	11 800	500
	32	12 850	575
21.00 — 24 and 21.00 — 25	16	6 900	250
	20	7 750	300
	24	8 750	375
	28	9 500	425

Table 2 (*continued*)

Tyre size designation	Ply rating	Load[a] kg	Inflation pressure kPa
21.00 — 35	28	11 200	425
	32	12 150	500
	36	12 850	550
	40	14 000	625
	44	14 500	675
21.00 — 49	28	13 600	425
	32	15 000	500
	36	15 500	550
	40	17 000	625
	44	17 500	675
24.00 — 25	24	10 300	325
	30	11 800	400
24.00 — 29	24	11 200	325
	30	12 500	400
24.00 — 35	36	15 500	475
	42	16 500	550
	48	18 500	650
	54	19 500	725
24.00 — 43	36	17 000	475
	42	19 000	575
	48	20 600	650
24.00 — 49	36	18 500	475
	42	20 000	550
	48	21 800	650
27.00 — 33	24	13 200	275
	30	15 500	350
	36	16 500	400
27.00 — 49	36	21 200	425
	42	23 000	500
	48	25 000	575
30.00 — 33	28	16 000	275
	34	18 500	350
	40	21 200	425
30.00 — 51	40	25 750	425
	46	29 000	500
	52	30 000	550
33.00 — 51	42	30 000	425
	50	33 500	500
	58	35 500	575
36.00 — 51	42	34 500	375
	50	37 500	450
	58	41 250	525
40.00 — 57	52	46 250	425
	60	50 000	475
	68	54 500	550

[a] Load adjustment for maximum speed 65 km/h: load × 0,85.
Load adjustment for maximum speed 15 km/h: load × 1,12.
Values so calculated to be rounded off to the nearest:
— 25 kg for loads up to 4 999 kg;
— 50 kg for loads from 5 000 kg to 9 999 kg;
— 100 kg for loads equal to or above 10 000 kg.

Table 3 — Diagonal ply rating marked wide base tyres for earth-moving slow speed service, reference speed 10 km/h (loaded conditions)

Tyre size designation	Ply rating	Load[a, b] kg	Inflation pressure[b] kPa
15.5 — 25	8	4 250	250
	10	4 875	325
	12	5 600	400
17.5 — 25	8	4 750	225
	12	6 150	350
	16	7 300	475
	20	8 250	575
20.5 — 25	12	6 700	250
	16	8 250	350
	20	9 500	450
	24	10 300	525
	28	11 500	625
23.5 — 25	12	8 000	225
	16	9 500	300
	20	10 900	375
	24	12 500	475
	28	13 600	550
26.5 — 25	16	11 500	275
	20	13 200	350
	24	14 000	400
	26	15 000	450
	28	15 500	475
	32	17 000	550
26.5 — 29	18	12 850	300
	22	14 500	375
	26	16 000	450
	30	17 500	525
29.5 — 25	16	12 850	250
	22	15 000	325
	28	17 500	425
29.5 — 29	16	14 000	250
	22	16 000	325
	28	19 000	425
	34	21 200	525
	40	23 600	625
29.5 — 35	22	10 500	325
	28	20 600	425
	34	23 000	525
33.25 — 29	26	20 600	350
	32	23 600	450
	38	25 750	525
33.25 — 35	26	22 400	350
	32	25 750	450
	38	28 000	550
33.5 — 33	26	22 400	350
	32	25 750	425
	38	29 000	525
33.5 — 39	26	24 300	350
	32	27 250	425
	38	30 750	525

Table 3 (*continued*)

Tyre size designation	Ply rating	Load[a, b] kg	Inflation pressure[b] kPa
37.25 — 35	30	28 000	375
	36	30 750	450
	42	33 500	525
37.5 — 33	30	28 000	375
	36	31 500	450
	42	34 500	525
37.5 — 39	28	29 000	350
	36	33 500	450
	44	37 500	550
37.5 — 51	28	33 500	350
	36	38 750	450
	44	42 500	525
40.5/75 — 39	30	31 500	325
	38	37 500	425
	46	42 500	525

[a] For stationary service conditions, the loads in this table may be increased up to 60 % with no increase in inflation pressure.

[b] For special equipment with a high centre of gravity, consult the tyre manufacturer.

Table 4 — Diagonal ply rating marked wide base and 75 series tyres for earth-moving service for relatively short hauls, reference speed 50 km/h

Tyre size designation	Ply rating	Load[a] kg	Inflation pressure kPa
15.5 — 25	8	2 575	175
	10	3 000	225
	12	3 250	250
17.5 — 25	8	2 800	150
	12	3 650	225
	16	4 250	300
	20	5 000	400
20.5 — 25	12	4 500	200
	16	5 450	275
	20	6 000	325
	24	6 700	400
	28	7 500	475
23.5 — 25	12	5 300	175
	16	6 150	225
	20	7 300	300
	24	8 000	350
	28	8 750	400
26.5 — 25	16	7 300	200
	20	8 250	250
	24	9 250	300
	26	9 500	325
	28	10 000	350
	32	11 200	425

Table 4 (*continued*)

Tyre size designation	Ply rating	Load[a] kg	Inflation pressure kPa
26.5 — 29	18	8 250	225
	22	9 250	275
	26	10 300	325
	30	11 200	375
29.5 — 25	16	80 00	175
	22	10 000	250
	28	11 500	325
29.5 — 29	16	8 500	175
	22	10 600	250
	28	12 150	325
	34	14 000	400
	40	15 000	475
29.5 — 35	22	11 500	250
	28	13 600	325
	34	15 000	400
33.25 — 29	26	13 600	275
	32	15 000	325
	38	17 000	400
33.25 — 35	26	14 500	275
	32	16 000	325
	38	18 000	400
33.5 — 33	20	12 500	200
	26	15 000	275
	32	16 500	325
	38	18 500	400
33.5 — 39	26	16 000	275
	32	18 000	325
	38	20 000	400
37.25 — 35	30	17 500	275
	36	19 500	325
	42	21 800	400
37.5 — 33	30	18 000	275
	36	20 000	325
	42	22 400	400
37.5 — 39	28	18 500	250
	36	21 200	325
	44	24 300	400
	52	26 500	475
37.5 — 51	28	20 600	250
	36	24 300	325
	44	27 250	400
40.5/75 — 39	30	20 600	250
	38	24 300	325
	46	27 250	400

[a] Load adjustment for maximum speed 65 km/h: load × 0,83.

Load adjustment for maximum speed 15 km/h: load × 1,12.

Values so calculated to be rounded off to the nearest:

— 25 kg for loads up to 4 999 kg;

— 50 kg for loads from 5 000 kg to 9 999 kg;

— 100 kg for loads equal to or above 10 000 kg.

Table 5 — Diagonal ply rating marked 65 series and 70 series tyres for earth-moving service

Tyre size designation	Ply rating	Earth-moving service for relatively short hauls, reference speed 50 km/h		Earth-moving slow speed service, reference speed 10 km/h (loaded conditions)	
		Load	Inflation pressure	Load	Inflation pressure
		kg	kPa	kg	kPa
25/65 — 25	12	4 375	175	7 300	250
	16	5 150	225	8 500	325
	20	5 800	275	9 750	400
30/65 — 25	16	6 700	200	10 900	275
	20	7 500	250	12 500	350
30/65 — 29	16	7 100	200	11 500	275
	20	8 250	250	13 200	350
	24	9 000	300	15 000	425
35/65 — 33	24	11 500	250	19 000	350
	30	12 850	300	21 200	425
	36	14 500	375	23 600	525
40/65 — 39	30	–	–	27 250	375
	36	–	–	30 000	450
41.25/70 — 39	34	–	–	32 500	375
	42	–	–	37 500	475
45/65 — 45	38	–	–	38 750	425
	46	–	–	43 750	525
	50	–	–	46 250	575
	58	–	–	50 000	675

Table 6 — Diagonal ply rating marked tyres in grader service, reference speed 40 km/h

Tyre size designation[a]	Ply rating	Load kg	Inflation pressure kPa
10.00 — 24 TG	8	1 700	250
12.00 — 24 TG	6	1 600	150
	8	1 900	225
	12	2 430	325
13.00 — 24 TG	8	2 060	200
	10	2 360	250
	12	2 725	300
	14	3 000	350
14.00 — 24 TG	8	2 500	175
	10	2 800	225
	12	3 075	275
	14	3 450	325
	16	3 650	375
16.00 — 24 TG	12	3 650	225
	14	4 000	275
	16	4 500	325
18.00 — 25	12	4 125	200
	16	5 000	275
17.5 — 25	8	2 120	125
	12	2 900	200
	14	3 000	225
	16	3 350	275
	20	3 650	325
20.5 — 25	12	3 550	175
	16	4 000	225
	20	4 500	275
23.5 — 25	12	4 000	150
	16	4 750	200
	20	5 450	250
25/65 — 25	12	3 350	125
	16	4 125	175

[a] "TG" is a designation to be used to identify tyres mounted on SDC rims.

Table 7 — Diagonal ply rating marked tyres, reference speed 10 km/h

Tyre size designation[a]	Ply rating	Load index	Speed symbol	Load kg	Inflation pressure kPa
12.00 — 24 TG	8	156	A2	4 000	325
	10	160		4 500	400
	12	165		5 150	500
13.00 — 24 TG	8	159	A2	4 375	300
	10	164		5 000	375
	12	168		5 600	450
	14	171		6 150	525
	16	173		6 500	600
14.00 — 24 TG	8	163	A2	4 875	275
	10	168		5 600	350
	12	172		6 300	425
	16	177		7 300	550
16.00 — 24 TG	12	176	A2	7 100	325
	16	181		8 250	425

[a] "TG" is a designation to be used to identify tyres mounted on SDC rims.

Table 8 — Diagonal ply rating marked tyres for compactor service

Tyre size designation[a]	Ply rating	Load index	Speed symbol	Load kg	Inflation pressure kPa
8.5/90-15K[a]	6	128	A2	1 800	350
7.50 — 15	6	129	A2	1 850	400
	12	142		2 650	750
7.50 — 16	6	130	A2	1 900	400
8.25 — 20	10	149	A2	3 250	600
	12	153		3 650	725
	14	155		3 875	800
9.00 — 20	10	153	A2	3 650	525
	12	156		4 000	625
	14	159		4 375	725
	16	162		4 750	825
10.5/80 — 16	6	130	A2	1 900	300
11.00 — 20	12	162	A2	4 750	550
	14	165		5 150	650
	16	167		5 450	725
	18	169		5 800	825
	20	172		6 300	925
12.00 — 16	10	157	A2	4 125	450
12.00 — 20	14	168	A2	5 600	600
13.00 — 24	18	180	A2	8 000	700

NOTE For site-to-site transfer, consult the tyre/wheel manufacturer.

[a] The suffix "K" shall be used to identify tyres mounted on rims with a rim diameter code of 15, but having a specified diameter, D, of 380,2 mm.

Table 9 — Symbol-marked narrow base radial tyres, reference speed 10 km/h (loaded conditions)

Tyre size designation	Symbol	Load kg	Inflation pressure tol. ± 15 %[a] kPa
12.00 R 24 and 12.00 R 25	★	5 150	550
	★★	6 900	800
	★★★	7 300	950
13.00 R 24 and 13.00 R 25	★★	8 000	800
	★★★	8 500	950
14.00 R 24 and 14.00 R 25	★★	9 500	800
	★★★	10 000	950
16.00 R 24 and 16.00 R 25	★	9 000	550
	★★	12 150	800
18.00 R 24 and 18.00 R 25	★	11 800	550
	★★	16 000	800
18.00 R 33	★★	18 500	800
18.00 R 49	★★	23 000	800
21.00 R 24 and 21.00 R25	★★	20 600	800
21.00 R 35	★★	24 300	800
21.00 R 49	★★	29 000	800
24.00 R 35	★★	30 750	800
24.00 R 43	★★	34 500	800
24.00 R 49	★★	37 500	800
27.00 R 33	★★	37 500	800
27.00 R 49	★★	45 000	800
30.00 R 51	★★	56 000	800
33.00 R 51	★★	65 000	800
36.00 R 51	★★	80 000	800
37.00 R 57	★★	82 500	800
40.00 R 57	★★	100 000	800

[a] The tolerance on inflation pressure is in recognition of the wide variety of service conditions encountered.

Table 10 — Symbol-marked wide base and 75 series radial tyres, reference speed 10 km/h (loaded conditions)

Tyre size designation	Symbol	Load kg	Inflation pressure tol. ± 15 %[a] kPa
15.5 R 25	★	5 800	475
	★★	7 100	600
17.5 R 25	★	7 100	475
	★★	8 500	600
20.5 R 25	★	9 500	475
	★★	11 500	600
23.5 R 25	★	12 150	475
	★★	14 500	600
26.5 R 25	★	15 000	475
	★★	18 500	600
26.5 R 29	★	16 000	475
	★★	19 500	600
29.5 R 25	★	18 000	475
	★★	22 400	600
29.5 R 29	★	19 500	475
	★★	23 600	600
29.5 R 35	★	21 200	475
	★★	25 750	650
33.25 R 29	★	23 600	475
	★★	29 000	650
33.25 R 35	★	25 750	475
	★★	31 500	650
33.5 R 33	★	25 750	475
	★★	31 500	650
33.5 R 39	★	28 000	475
	★★	34 500	650
37.25 R 35	★	31 500	475
	★★	37 500	650
37.5 R 33	★	31 500	475
	★★	37 500	650
37.5 R 39	★	33 500	475
	★★	41 250	650
37.5 R 51	★	37 500	475
	★★	46 250	650
40.5/75 R 39	★	37 500	475
	★★	46 250	650

[a] The tolerance on inflation pressure is in recognition of the wide variety of service conditions encountered.

Table 11 — Symbol-marked narrow base radial tyres, reference speed 50 km/h

Tyre size designation	Symbol	Load[a] kg	Inflation pressure tol. ± 15 %[b] kPa
12.00 R 24	★★	4 000	650
and 12.00 R 25	★★★	4 250	700
13.00 R 24	★★	4 750	650
and 13.00 R 25	★★★	4 875	700
14.00 R 20	★	3 750	450
and 14.00 R 21	★★	5 000	650
14.00 R 24	★★	5 600	650
and 14.00 R 25	★★★	5 800	700
16.00 R 20	★	5 150	450
and 16.00 R 21	★★	6 900	650
16.00 R 24	★	5 450	450
and 16.00 R 25	★★	7 300	650
18.00 R 24	★	7 100	450
and 18.00 R 25	★★	9 250	650
18.00 R 33	★★	10 900	650
18.00 R 49	★★	13 600	650
21.00 R 24 and 21.00 R 25	★★	12 150	650
21.00 R 35	★★	14 500	650
21.00 R 49	★★	17 500	650
24.00 R 35	★★	18 500	650
24.00 R 43	★★	20 600	650
24.00 R 49	★★	21 800	650
27.00 R 33	★★	21 800	650
27.00 R 49	★★	27 250	650
30.00 R 51	★★	33 500	650
33.00 R 51	★★	38 750	650
36.00 R 51	★★	46 250	650
37.00 R 57	★★	53 000	725
40.00 R 57	★★	60 000	725

[a] Load adjustment for maximum speed 65 km/h: load × 0,88.

Load adjustment for maximum speed 15 km/h: load × 1,12.

Values so calculated to be rounded off to the nearest:

— 25 kg for loads up to 4 999 kg;

— 50 kg for loads from 5 000 kg to 9 999 kg;

— 100 kg for loads equal to of above 10 000 kg.

[b] Tolerance on inflation pressure in recognition of the wide variety of service conditions encountered.

Table 12 — Symbol-marked wide base and 75 series radial tyres, reference speed 50 km/h

Tyre size designation	Symbol	Load[a] kg	Inflation pressure tol. ± 15 %[b] kPa
15.5 R 25	★	3 550	350
	★★	4 500	475
17.5 R 25	★	4 125	350
	★★	5 450	475
20.5 R 25	★	5 600	350
	★★	7 300	475
23.5 R 25	★	7 100	350
	★★	9 250	475
26.5 R 25	★	9 000	350
	★★	11 500	475
26.5 R 29	★	9 500	350
	★★	12 500	475
29.5 R 25	★	10 900	350
	★★	14 000	475
29.5 R 29	★	11 500	350
	★★	15 000	475
29.5 R 35	★	12 500	350
	★★	16 000	500
33.25 R 29	★	14 000	350
	★★	18 500	500
33.25 R 35	★	15 500	350
	★★	20 000	500
33.5 R 33	★	15 500	350
	★★	20 000	500
33.5 R 39	★	16 500	350
	★★	21 800	500
37.25 R 35	★	18 500	350
	★★	23 600	500
37.5 R 33	★	18 500	350
	★★	24 300	500
37.5 R 39	★	20 000	350
	★★	25 750	500
37.5 R 51	★	22 400	350
	★★	29 000	500
40.5/75 R 39	★	22 400	350
	★★	29 000	500

[a] Load adjustment for maximum speed 65 km/h: load × 0,88.

Load adjustment for maximum speed 15 km/h: load × 1,12.

Values so calculated to be rounded off to the nearest:

— 25 kg for loads up to 4 999 kg;

— 50 kg for loads from 5 000 kg to 9 999 kg;

— 100 kg for loads equal to of above 10 000 kg.

[b] Tolerance on inflation pressure in recognition of the wide variety of service conditions encountered.

Table 13 — Symbol-marked 80 and 90 series radial tyres, reference speed 50 km/h

Tyre size designation	Symbol	Load[a] kg	Inflation pressure tol. ± 15 %[b] kPa
21/90 R 33	★★	11 500	700
31/80 R 49	★★	29 000	600
31/90 R 49	★★	29 000	700
42/90 R 57	★★	53 000	700
46/90 R 57	★★	63 000	700
50/80 R 57	★★	73 000	600
50/90 R 57	★★	77 500	700
53/80 R 63	★★	82 500	600
55/80 R 63	★★	92 500	600
58/80 R 63	★★	95 000	600
59/80 R 63	★★	100 000	600

[a] Load adjustment for maximum speed 65 km/h: load × 0,88.

Load adjustment for maximum speed 15 km/h: load × 1,12.

Values so calculated to be rounded off to the nearest:

— 25 kg for loads up to 4 999 kg;

— 50 kg for loads from 5 000 kg to 9 999 kg;

— 100 kg for loads equal to of above 10 000 kg.

[b] Tolerance on inflation pressure in recognition of the wide variety of service conditions encountered.

Table 14 — Symbol-marked 65 series radial tyres for earth-moving service

Tyre size designation	Symbol	Earth-moving service for relatively short hauls, reference speed 50 km/h		Earth-moving slow speed service, reference speed 10 km/h (loaded conditions)	
		Load	Inflation pressure	Load	Inflation pressure
		kg	kPa	kg	kPa
25/65 R 25	★	5 800	325	10 600	475
	★★	7 750	450	12 850	625
30/65 R 25	★	8 000	325	15 000	475
	★★	10 600	450	18 000	625
30/65 R 29	★	8 500	325	16 000	475
	★★	11 500	450	19 000	625
35/65 R 33	★	13 600	350	23 000	500
	★★	17 500	500	27 250	650
40/65 R 39	★	18 500	350	31 500	500
	★★	–	–	37 500	650
45/65 R 39	★	23 600	350	40 000	500
	★★	–	–	–	–
45/65 R 45	★	25 000	350	42 500	500
	★★	–	–	50 000	650
50/65 R 51	★	31 500	350	54 500	500
	★★	–	–	65 000	650

Table 15 — Symbol-marked radial tyres for compactor service — Reference speed 10 km/h (loaded conditions)

Tyre size designation	Load index	Speed symbol	Load	Inflation pressure
			kg	kPa
7.50 R 15	143	A2	2 725	800
8.25 R 15	146	A2	3 000	800
10.00 R 20	166	A2	5 300	950
14.00 R 24	189	A2	10 300	900
11/80 R 20	161	A2	4 625	1 000
13/80 R 20	170	A2	6 000	900
17/80 R 24	195	A2	12 150	850

NOTE For site-to-site transfer, consult the tyre/wheel manufacturer.

Table 16 — Symbol-marked radial tyres in grader service, reference speed 40 km/h

Tyre size designation[a]	Symbol	Load kg	Inflation pressure kPa
10.00 R 24 TG	★	1 950	375
12.00 R 24 TG	★	2 575	375
13.00 R 24 TG	★	3 000	375
14.00 R 24 TG	★	3 650	375
16.00 R 24 TG	★	4 625	375
18.00 R 25	★	5 600	375
15.5 R 25	★	3 000	300
17.5 R 25	★	3 650	300
20.5 R 25	★	4 625	300
23.5 R 25	★	6 000	300
25/65 R 25	★	5 000	300

[a] "TG" is a designation to be used to identify tyres mounted on SDC rims.

Table 17 — Load capacities for earth-mover tyres on industrial vehicles

Maximum speed when loaded[a]	Off-road[b]	Hard improved surfaces[c, d]
Static	+ 60 %	+ 80 %
Creep	+ 30 %	+ 60 %
5 km/h	+ 13 %	+ 45 %
10 km/h	0	+ 35 %
15 km/h	− 7 %	+ 30 %
20 km/h	− 12 %	+ 27 %
25 km/h	− 15 %	+ 25 %

NOTE For intermediate speeds, interpolations are permitted.

[a] For speeds above 10 km/h, consult the tyre manufacturer.

[b] Inflation pressure for off-road service: use 10 km/h reference speed tables.

[c] Inflation pressure for hard improved surfaces: use 10 km/h pressure × 1,2.

[d] For steer-wheel loads on lift trucks, multiply "hard improved surface" load ratings by 0,8.

Bibliography

[1] ISO 3877-1, *Tyres, valves and tubes — List of equivalent terms — Part 1: Tyres*

[2] ISO 4250-1, *Earth-mover tyres and rims — Part 1: Tyre designation and dimensions*

[3] ISO 6165, *Earth-moving machinery — Basic types — Identification and terms and definitions*

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