INTERNATIONAL STANDARD

ISO 10499

First edition
1991-09-15

Industrial tyres and rims — Solid tyres (metric series) for pneumatic tyre rims — Designation, dimensions and marking

Pneumatiques et jantes pour matériel de manutention — Bandages pleins (série millimétrique) pour jantes de pneumatiques — Désignation, cotes et marquage

Reference number
ISO 10499:1991(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 10499 was prepared by Technical Committee ISO/TC 31, *Tyres, rims and valves*, Sub-Committee SC 7, *Industrial tyres and rims*.

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

Printed in Switzerland

Industrial tyres and rims — Solid tyres (metric series) for pneumatic tyre rims — Designation, dimensions and marking

1 Scope

This International Standard specifies the main requirements, including designations, dimensions and markings, of the metric series of rubber solid tyres for pneumatic tyre rims primarily intended for industrial machines for use on prepared surfaces.

Rim contours fitting these tyres will be specified in a future part of ISO 3739.

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 3739-1:—[1], *Industrial tyres and rims — Part 1: Pneumatic tyres (metric series) on 5 degrees tapered or flat base rims — Designation, dimensions and marking.*

ISO 3877-4:1984, *Tyres, valves and tubes — List of equivalent terms — Part 4: Solid tyres.*

ISO 4223-2:1991, *Definitions of some terms used in the tyre industry — Part 2: Solid tyres.*

3 Definitions

For definitions of terms relating to solid tyres, see ISO 4223-2; equivalent terms are given in ISO 3877-4.

1) To be published.

4 Tyre designations

The dimensional and constructional characteristics shall be indicated as follows:

Nominal section width / Nominal aspect ratio – Nominal rim diameter code / Nominal rim width code

4.1 Nominal section width

The nominal section width of the tyre shall be indicated in millimetres, ending either in 0 or 5.

4.2 Nominal aspect ratio

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

4.3 Nominal rim diameter code

For tyres mounted on existing rims, the code shall be as given in table 1.

Table 1 — Nominal rim diameter code

Nominal rim diameter code	Nominal rim diameter, D_r mm
4	102
6	152
8	203
9	229
10	254
12	305
15	381

4.4 Nominal rim width code

For tyres mounted on existing rims, the code shall be as given in table 2.

Table 2 — Nominal rim width code

Nominal rim width code
2.5
3.25
4.0
5.0
6.5
8.0
10.0

5 Marking

The marking shall consist of the four-part designation specified in clause 4.

The location of the marking of the rim width code may be distinct but shall be in close proximity to the marking of the other dimensional characteristics.

EXAMPLE

225/75 - 15/6.5

The characteristics of a tyre with the above markings would be as follows:

225: nominal section width equal to 225 mm;

75: nominal aspect ratio equal to 75;

15: nominal rim diameter code, corresponding to 381 mm;

6.5: nominal rim width code.

6 Tyre dimensions

The specified dimensional data for solid tyres for pneumatic tyre rims are maximum dimensions and shall satisfy the requirements in 6.1 and 6.2.

6.1 The tyre section width shall not exceed the values of design section width for pneumatic tyres of the same size designation as specified in ISO 3739-1.

The effective tyre section width of the solid tyres may be substantially less than the specified design section width.

6.2 The tyre section height shall not exceed the values of design section height for pneumatic tyres of the same size designation as specified in ISO 3739-1.

The tyre overall diameter is the sum of the nominal rim diameter, D_r, plus twice the tyre section height.

7 Tyre size range

The relevant size range for the recommended metric series of solid tyres for pneumatic tyre rims and their specified maximum dimensions are shown in table 3.

Table 3 — Recommended size range and dimensions for solid tyres for pneumatic tyre rims

Nominal tyre section width	Nominal rim diameter code	Rim width code	Maximum tyre section width	Maximum overall diameter mm				
				Nominal aspect ratio				
mm			mm	85 %	80 %	75 %	70 %	65 %
100	4	2.5	98	272	262	252	242	232
110	4	3.25	112	290	278	268	256	246
125	4	3.25	123	314	302	290	278	264
140	4	4.0	141	340	326	312	298	284
160	4	4.0	156	374	358	342	326	310
180	4	5.0	180	408	390	372	354	336
200	4	5.0	195	442	422	402	382	362
100	6	2.5	98	322	312	302	292	282
110	6	3.25	112	340	328	318	306	296
125	6	3.25	123	364	352	340	328	314
140	6	4.0	141	390	376	362	348	334
160	6	4.0	156	424	408	392	376	360
180	6	5.0	180	458	440	422	404	386
200	6	5.0	195	492	472	452	432	412
100	8	2.5	98	373	363	353	343	333
110	8	3.25	112	391	379	369	357	347
125	8	3.25	123	415	403	391	379	365
140	8	4.0	141	441	427	413	399	385
160	8	4.0	156	475	459	443	427	411
180	8	5.0	180	509	491	473	455	437
200	8	5.0	195	543	523	503	483	463
225	8	6.5	228	585	563	541	519	495
125	9	3.25	123	441	429	417	405	391
140	9	4.0	141	467	453	439	425	411
160	9	4.0	156	501	485	469	453	437
180	9	5.0	180	535	517	499	481	463
200	9	5.0	195	569	549	529	509	489
225	9	6.5	228	611	589	567	545	521
160	10	4.0	156	526	510	494	478	462
180	10	5.0	180	560	542	524	506	488
200	10	5.0	193	594	574	554	534	514
225	10	6.5	228	636	614	592	570	546
250	10	6.5	246	680	654	630	604	580
280	10	8.0	283	730	702	674	646	618
160	12	4.0	156	577	561	545	529	513
180	12	5.0	180	611	593	575	557	539
200	12	5.0	195	645	625	605	585	565
225	12	6.5	228	687	665	643	621	597
250	12	6.5	246	731	705	681	655	631
280	12	8.0	283	781	753	725	697	669
315	12	8.0	308	841	809	777	747	715
160	15	4.0	156	653	637	621	605	589
180	15	5.0	180	687	669	651	633	615
200	15	5.0	195	721	701	681	661	641
225	15	6.5	228	763	741	719	697	673
250	15	6.5	246	807	781	757	731	707
280	15	8.0	283	857	829	801	773	745
315	15	8.0	308	917	885	853	823	791
355	15	10.0	357	985	949	913	879	843

UDC 629.11.012.53:62-182.3

Descriptors: machinery, machine components, tyres, rims, specifications, dimensions, designation, marking.

Price based on 3 pages