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Bicycle tyres and rims —

Part 1: Tyre designations and dimensions

Pneumatiques et jantes pour cycles —

Partie 1: Désignation et cotes des pneumatiques

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Foreword

The main changes compared to the previous edition are as follows:

- new definitions have been added for clarification in [Clause 3](#);
- new requirements have been added for clarification in [Clause 4](#);
- the symbols and abbreviated terms have been revised in [Clause 4](#);

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Bicycle tyres and rims —

Part 1: Tyre designations and dimensions

1 Scope

This part of ISO 5775 specifies the designations and dimensions for the following pneumatic bicycle tyres:

- Clincher tyres mounted on straight side or crotchet type rims
 - Tubeless tyres
 - Tubeless-ready tyres
 - Tube-type
- “beaded edge” tyres mounted on hooked bead rims.

Tubular sew-up tyres and non-pneumatic tyres are not covered by this part of ISO 5775.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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 5775-2, *Bicycle tyres and rims — Part 2: Rims*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 4223-1 and ISO 5775-2 and the following apply.

3.1

clincher tyre

tyre that has beads that lock onto the rim bead seat and/or rim hook when the tyre is inflated

3.1.1

tubeless tyre (TL)

clincher tyre (3.1) that is functional without an inner tube or sealant to maintain inflation pressure

3.1.2

tubeless-ready tyre (TLR)

clincher tyre (3.1) that is functional without an inner tube but requires sealant to maintain inflation pressure

3.1.3

tube-type tyre

clincher tyre (3.1) that is only functional with an inner tube to maintain inflation pressure

3.2 tubular sew-up tyre

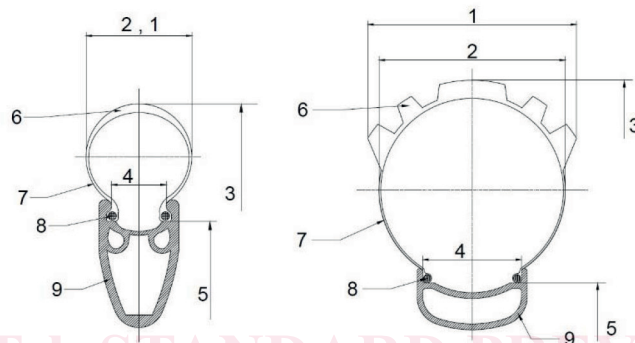
completely enclosed tyre with or without an inner tube that is either glued or taped onto the rim.

Note 1 to entry: All clincher tyre types defined in 3.1.1 to 3.1.3 may also be referred to as “open tubular tyre” if the tread is glued or vulcanized onto a non-vulcanized casing

4 Clincher tyres mounted on straight side or crotchet type rims

4.1 Tyre nomenclature

Tyre nomenclature is shown in Figure 1.



Key

- 1 overall width (W)
- 2 section width (S)
- 3 maximum overall diameter (D_0)
- 4 measuring rim width (R_m)
- 5 specified rim diameter (D)
- 6 tread
- 7 side wall
- 8 bead
- 9 rim

Figure 1 — Sections of a cycle tyre showing components and nomenclature

4.2 Tire size designation and marking

Clincher tyres shall be marked with the nominal size designation pursuant to 4.2.1. The other markings shall comply with 4.2.2. through 4.2.4.

4.2.1 Nominal size designation

The nominal size designation shall be indicated as follows:

Nominal Section Width – Nominal Rim Diameter Code

4.2.1.1 Nominal section width

The nominal section width is the designated inflated section width the tyre is designed to measure on the design rim at maximum pressure. It shall be expressed in millimetres, as an integer number.

4.2.1.2 Nominal rim diameter code

The nominal rim diameter code reflects the nominal bead seat diameter of the rim that the tire is designed for. It shall be expressed in millimetres.

NOTE Nominal rim diameter codes are in Table 2 of ISO 5775-2.

4.2.2 Overall size designation

If the tyre size is characterized by a corresponding overall size designation, the overall size shall be designated as follows:

Overall Diameter Code x Overall Width Code

4.2.2.1 Overall diameter code

The overall diameter shall be expressed as code. Refer to [Table 1](#) for the overall diameter code that corresponds to the nominal rim diameter code of the tyre.

Table 1 — Correspondence of nominal rim diameter code and overall diameter code

Nominal rim diameter code	Overall diameter code
203	12,5
254	14
305	16
349	16
355	18
406	20
507	24
559	26
584	27,5
622	29

4.2.2.2 Overall width code

The overall width shall be expressed as code. Refer to [Table 2](#) for the correspondence of overall width code to the overall width expressed in millimetres.

Table 2 — Overall width code

Overall width in mm	Overall width code
18	0,70
19	0,75
20	0,80
21	0,85
22	0,85
23	0,90
24	0,95
25	1,00
26	1,00
27	1,05
28	1,10

Table 2 (continued)

Overall width in mm	Overall width code
29	1,15
30	1,20
31	1,20
32	1,25
33	1,30
34	1,35
35	1,40
36	1,40
37	1,45
38	1,50
39	1,55
40	1,55
41	1,60
42	1,65
43	1,70
44	1,75
45	1,75
46	1,80
47	1,85
48	1,90
49	1,95
50	2,00
51	2,00
52	2,00
53	2,10
54	2,10
55	2,20
56	2,20
57	2,20
58	2,30
59	2,30
60	2,40
61	2,40
62	2,40
63	2,50
64	2,50
65	2,60
66	2,60
67	2,60
68	2,70
69	2,70
70	2,80
71	2,80

Table 2 (continued)

Overall width in mm	Overall width code
75	3,00
76	3,00
80	3,10
85	3,30
90	3,50
95	3,70
100	3,90
102	4,00
105	4,10
110	4,30
115	4,50
120	4,70
122	4,80
125	4,90
130	5,10
132	5,20

4.2.3 Old size marking

To help customers in those Countries where other systems of marking were used, the old size marking may be separated by parentheses or "/" before or after the tyre size designation.

It is suggested that characters smaller than those used for the designation specified in 4.2.1 be adopted. See informative [Annex A](#) for correspondence between "tyre size designation" and "old size marking". Sizes not included in [Annex A](#) shall bear the tyre size designation and corresponding nominal size.

4.2.4 Other service characteristics

4.2.4.1 Tubeless marking

Tubeless tyre shall be marked with "TUBELESS" or "TL" on the tyre sidewall.

Tubeless-ready tyre shall be marked with "TUBELESS READY" or "TLR" on the tyre sidewall.

Tube-type tyre may be marked with "TUBE TYPE" on the tyre sidewall.

4.2.4.2 Directional arrow

In the case of a preferred direction of rotation of the tyre, an arrow may be shown on the tyre sidewall to indicate that direction.

4.2.4.3 Marking of tyres designed for crotchet-type rims only

Tyres designed for crotchet-type rims only may be marked with "MOUNT ONLY ON HOOKED RIMS" or "MOUNT ONLY ON CROTCHET-TYPE RIMS".

4.2.4.4 Pressure designation

The maximum inflation pressure shall be marked in kilopascals in multiples of 10. It may be marked in addition in bars and PSI where the PSI value shall be calculated by multiplying the kilopascal value by 0,145 and rounding the result down to the closest integer.

An additional maximum pressure for use on straight side type rims (SS/TSS) may be indicated. See [Table 3](#) for recommended maximum pressures for straight side type rims.

Table 3 — Maximum pressure for straight side type rims (SS/TSS)

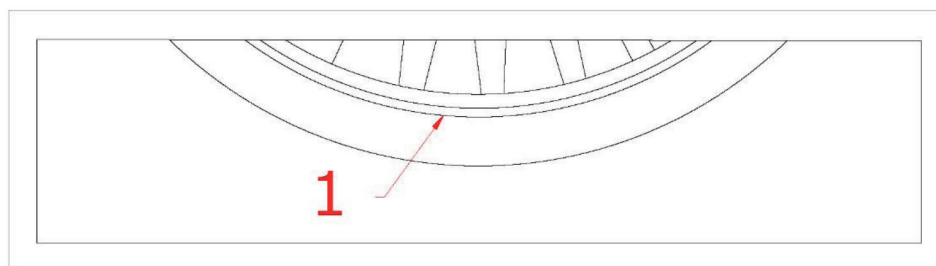
Tyre Nominal section width S_N (mm)	Straight side type rim maximum pressure in service (kPa)
18 - 24	550
25 - 29	500
30 - 34	450
35 - 39	400
40 - 44	350
45 - 54	300
55 - 64	250
65 - 74	200
75 - 84	150

It is recommended that the deflection of the tyre in use not exceed 30 % of the tyre section height at the minimum inflation pressure, if it is specified on the tyre.

See example in [4.2.5](#).

4.2.4.5 Rim line

The rim line is an indicator that may be visible and concentric above the rim sidewall when the beads are fully seated (see [Figure 2](#)). If the rim line is not concentric with the rim edge, the bead is not fully seated.



Key

1 rim line

Figure 2 — Rim line

4.2.4.6 Additional indications

Other markings may be added to indicate the following:

- Minimum inflation pressure
- Recommended inflation pressure

- c) Design rim
- d) Recommended rim width range
- e) Other characteristics

4.2.5 Examples

A tyre with the tyre size designation 25-622 and a maximum inflation pressure of 850 kPa may be marked

25-622 max. 850 kPa

Optionally, an alternative size marking and/or alternative inflation pressure indications may be added, for example

25-622 max. 850 kPa / 8,5 bar / 123 PSI

A tyre with the size designation 60-622 and a maximum inflation pressure of 300 kPa may be marked

60-622 max. 300 kPa

Alternative markings:

60-622 (29 x 2,40) max. 300 kPa / 3,0 bar / 43 PSI

25-622 max. 850 kPa (C/TC); max. 500 kPa (SS/TSS)

4.3 Tyre dimensions (standards.iteh.ai)

The following terms and symbols will be used for tyre dimensions:

- Design section width (S)
- Nominal section width (S_N)
- Overall width (W)
- Minimum section width (S_{\min})
- Maximum overall width (W_{\max})
- Design overall diameter (D_{design})
- Maximum overall diameter ($D_{0,\max}$)
- Design rim width (R_{design})
- Measuring rim width (R_m)

See [Figure 1](#) for a graphical representation of tyre dimensions and nomenclature.

4.3.1 Design tyre dimensions

4.3.1.1 Design rim width, R_{design}

Each tyre size designation has a design rim width specified based on the nominal section width as shown in [Table 4](#).