

Declaration: All the information below is from Internet! And just for learning use.

The ISO (E.T.R.T.O.) System:

ISO, the [International Organization for Standardization](#) has developed a universal tire sizing system that eliminates this confusion. (This system was formerly known as the "E.T.R.T.O." system, developed by the [European Tyre and Rim Technical Organisation](#).)

The ISO system uses two numbers; the first is the width of the tire or rim in millimeters (The actual tire width will vary a bit depending on the width of the rim. The rim width is the inner width measured between the flanges as shown in the diagram.)

The second ISO number is the critical one, it is the diameter of the bead seat of the rim, in mm ("B.S.D."). Generally, if this number matches, the tire involved will fit onto the rim; if it doesn't match, the tire won't fit.

For example, a 700 x 20 C road tire would be a 20-622; a 700 x 38 hybrid tire would be a 38-622. [The width difference between these sizes would make them less-than ideal replacements for one another](#), but any rim that could fit one of them would work after a fashion with the other.

A general guideline is that the tire width should be between 1.45/2.0 x the inner rim width.

If you flatten out a tire and measure the total width from bead to bead, it should be approximately 2.5 x the ISO width.

If your tire is too narrow for the rim there's an increased risk of tire/rim damage from road hazards.

If its too wide for the rim, there's an increase risk of sidewall wear, and a greater risk of loss of control in the event of a sudden flat.

The following is a partial listing of traditional tire sizes that are sometimes seen in the U.S., with their ISO bead seat equivalents.

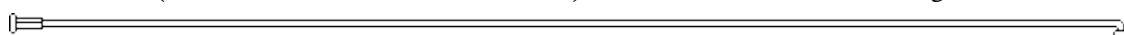
Fractional sizes:

Fractional	ISO	Applications
29 inch	622 mm	This is a marketing term for wide 622 mm ("700c") tires.
28 x I 1/2	635 mm	English, Dutch, Chinese, Indian Rod-brake roadsters (Also marked F10, F25, 700 B)
	622 mm	(F.13)Rare Canadian designation for the (F.13)
28 x I 5/8 x I 1/4		Northern European designation for the 622 mm (700 C) size
27 x anything	630 mm	Older road bikes
26 x I (650 C)	571 mm	Triathlon, time trial, small road bikes

26 x I 1/4	597 mm	Older British sport & club bikes
26 x I 3/8 (S-6)	597 mm	Schwinn " lightweights "
26 x I 3/8 (E.A.3)	590 mm	Most 3-speeds , department-store or juvenile 10 speeds
26 x I 1/2 (650B)	584 mm	French utility, tandem and loaded-touring bikes, a very few Raleigh (U.S.) & Schwinn mountain bikes.
26 x I 3/4 (S-7)	571 mm	Schwinn cruisers
24 x I	520 mm	High performance wheels for smaller riders; Terry front
24 x I 1/8	520 mm or 540 mm!	Caveat emptor!
24 x I 1/4	547 mm	British or Schwinn Juvenile
24 x I 3/8 (S-5)	547 mm	Schwinn Juvenile lightweights
24 x I 3/8 (E-5)	540 mm	British Juvenile, most wheelchairs
20 x I 1/8 20 x I 1/4 20 x I 3/8	451 mm	Juvenile lightweights , BMX for light riders, some recumbents
20 x I 3/4	419 mm	Schwinn juvenile
17 x I 1/4	369 mm	Alex Moulton
16 x I 3/8	349 mm	Older Moulton, Brompton & other folders, Recumbent front, juvenile
16 x I 3/8	337 mm	Mystery tire
16 x I 3/8	335 mm	Polish juvenile
16 x I 3/4	317 mm	Schwinn Juvenile
12 1/2 x anything	203 mm	Juvenile, scooters
10 x 2	152 mm	Wheelchair
8 x I 1/4	137 mm	Wheelchair

Traditionally, fractional sizes are made for straight-sided rims.

High-performance sizes (571 mm /26 x I & 630 mm /27") have evolved toward hook-edged rims.



Decimal sizes:

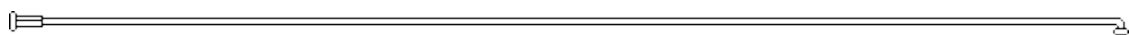
Decimal	ISO	Applications
29 inch	622 mm	This is a marketing term for wide 622 mm ("700c") tires.
28 x decimal	622 mm	Some German tire companies use this non-standard designation for 622 mm ("700c") tires.
26 x 1.00 through 2.3	559 mm	Most Mountain bikes , cruisers , etc. except:
26 x 1.25 (rare)	599 mm	Very old U.S. lightweights
26 x 1.375	599 mm	Very old U.S. lightweights
24 x 1.5-24 x 2.125	507 mm	Juvenile mountain bikes, cruisers
22 x 1.75, 22 x 2.125	457 mm	Juvenile
20 x 1.5-20 x 2.125	406 mm	Most BMX , juvenile, folders, trailers, some recumbents
18 x 1.5	355 mm	Birdy folding bikes
18 x 1.75-18 x 2.125	355 mm	Juvenile
16 x 1.75-16 x 2.125	305 mm	Juvenile, folders, trailers, some recumbents

French sizes:

In the French system, the first number is the nominal diameter in mm, followed by a letter code for the width: "A" is narrow, "D" is wide. The letter codes no longer correspond to the tire width, since narrow tires are often made for rim sizes that originally took wide tires; for example, 700 C was originally a wide size, but now is available in very narrow widths, with actual diameters as small as 660 mm.

French Size	ISO	Applications
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700 A	642 mm	Obsolete
700 B	635 mm	Rod-brake roadsters .
700 C	622 mm	Road bikes, hybrids, "29 inch" MTBs. (28 x 1 1/2 F.13 Canada)
700 D	587 mm	Oddball size formerly used on some GT models.
650 A	590 mm	French version of 26 x 1 3/8; Italian high-performance bikes for smaller riders
650 B	584 mm	French utility bikes, tandems, and loaded-touring bikes; some older Raleigh and Schwinn mountain bikes
650 C	571 mm	Triathlon, time trial, high performance road bikes for smaller riders
600 A	540 mm	European Juvenile road bikes, most wheelchairs
550 A	490 mm	European Juvenile road bikes
500 A	440 mm	European Juvenile, folding
450 A	390 mm	European Juvenile
400 A	340 mm	European Juvenile



ISO Cross Reference:

ISO Bead Seat Diameter	Traditional Designations
635 mm	28 x 1 1/2, 700 B
630 mm	27 x anything
622 mm	700 C, 28 x (two fractions), 29 inch (28 x 1 1/2 F.13 Canada)

599 mm	26 x I.25, x I.375
597 mm	26 x I 1/4, 26 x I 3/8 (S-6)
590 mm	26 x I 3/8 (E.A.3), 650 A
587 mm	700 D
584 mm	650B, 26 x I 1/2
571 mm	26 x I, 26 x I 3/4, 650 C
559 mm	26 x I.00- x 2.125
547 mm	24 x I 1/4, 24 x I 3/8 (S-5)
540 mm	24 x I 1/8, 24 x I 3/8 (E.5), 600 A
520 mm	24 x I, 24 x I 1/8
507 mm	24 x I.5- x 2.125
490 mm	550 A
457 mm	22 x I.75; x 2.125
451 mm	20 x I 1/8; x I 1/4; x I 3/8
440 mm	500 A
419 mm	20 x I 3/4
406 mm	20 x I.5- x 2.125
390 mm	450 A
369 mm	17 x I 1/4
355 mm	18 x I.5- x 2.125
349 mm	16 x I 3/8
340 mm	400 A
337 mm	16 x I 3/8
317 mm	16 x I 3/4
305 mm	16 x I.75- x 2.125
203 mm	12 1/2 X anything.
152 mm	10 x 2
137 mm	8 x I 1/4

Most of this information was compiled by [John Allen](#) for *Sutherland's Handbook For Bicycle Mechanics*, the bible of bicycle technology. *Sutherland's* has a more detailed, more thorough version of this chart.