No. 012	Bicycle Screw Threads	Thread Specification

【Question】

Are there special screw threads exclusively used on bicycles?
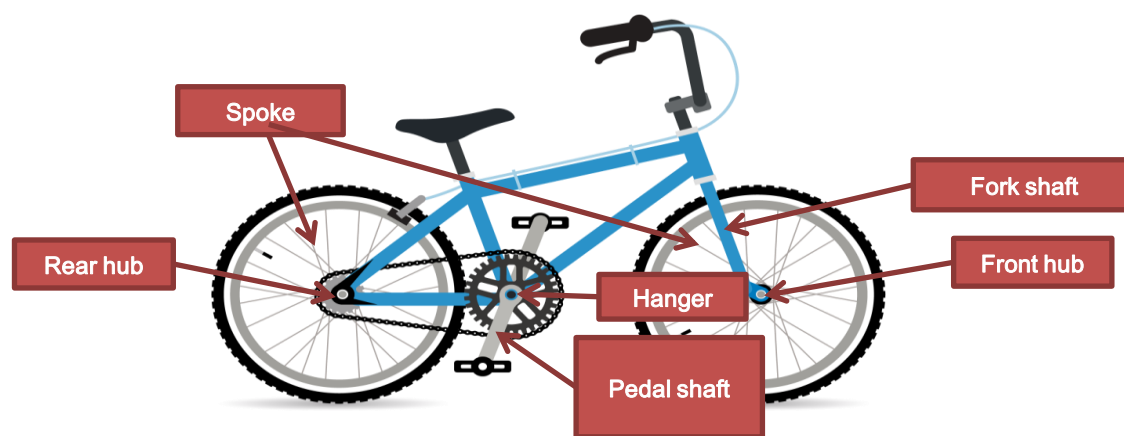
【Answer】

Yes, there are!

They are called Bicycle Threads and they are distinguished with the symbol " B C ".

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【Guide】 Bicycles made in Japan are under the control of the JIS (Japanese Industrial Standards.

There are screw thread sizes that are used exclusively for bicycles in addition to standard metric sizes controlled by JIS. The "BC" symbol for bicycle screw threads is classified into "General Use" and "Spoke Use".

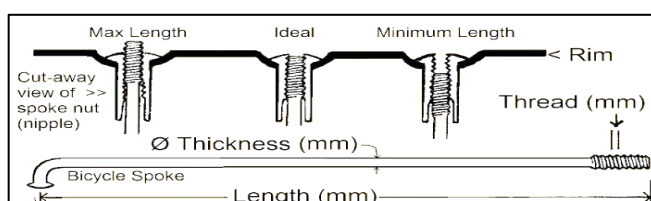The categories for the thread sizes and threads are defined by the different components of a bicycle.

Spoke — Fork shaft — Rear hub — Front hub — Hanger — Pedal shaft

<General Use>

Size	Number of Threads	Pitch	Bolt screw thread/height	Root radius	Internal Threads			Applications
					Major Diameter (Basic Size)	Pitch Diameter (Basic Size)	Minor Diameter (Basic Size)	
BC5/16	26	0.977	0.52	0.16	7.94	7.42	7.06	Front hub shaft
BC3/8	26	0.977	0.52	0.16	9.53	9.01	8.65	Rear hub shaft
BC7/16	26	0.977	0.52	0.16	11.11	10.59	10.23	Rear hub shaft for heavy load
BC1/2	20	1.27	0.68	0.21	12.7	12.02	11.55	Pedal shaft(left,right), Gear crank(left,right)
BC9/16	20	1.27	0.68	0.21	14.29	13.61	13.14	Pedal shaft(left,right), Gear crank(left,right)
BC5/8	20	1.27	0.68	0.21	15.88	15.2	14.73	Two-wheeled cart shaft
BC11/16	24	1.058	0.56	0.18	17.46	16.9	16.48	Hanger(left)
BC3/4	30	0.847	0.45	0.14	19.05	18.6	18.29	Hanger
BC31/32	30	0.847	0.45	0.14	24.61	24.16	23.85	Front fork shaft
BC1	24	1.058	0.56	0.18	25.4	24.84	24.46	Front fork shaft
BC1.29	24	1.058	0.56	0.18	32.77	32.21	31.83	Nut for rear hub shaft suspention(left)
BC1.37	24	1.058	0.56	0.18	34.8	34.24	33.86	Rear hub, hand brake, small gear, hanger(left,right), free wheel
BC1'7/16	24	1.058	0.56	0.18	36.51	35.95	35.57	Hanger
BC1.45	24	1.058	0.56	0.18	36.83	36.27	35.89	Hanger
BC1'9/16	24	1.058	0.56	0.18	39.69	39.13	38.75	Free wheel, tang(left)

<Spoke Use>

*Size	Number of Threads	Pitch	Bolt screw thread/height	Root radius	Internal Threads			Applications	The number of spoke
					Major Diameter (Basic Size)	Pitch Diameter (Basic Size)	Minor Diameter (Basic Size)		
BC1.8	56	0.454	0.24	0.08	2.06	1.82	1.66	Light vehicles	#15
BC2	56	0.454	0.24	0.08	2.27	2.03	1.87	Utility vehicles	#14
BC2.3	56	0.454	0.24	0.08	2.57	2.33	2.17		#13
BC2.6	56	0.454	0.24	0.08	2.87	2.63	2.47		#12
BS2.9	44	0.577	0.31	0.10	3.24	2.93	2.72		#11
BC3.2	40	0.635	0.34	0.11	3.57	3.23	3.00	Two-wheel cart, heavl load	#10
BC3.5	40	0.635	0.34	0.11	3.87	3.53	3.30		#9
BC4	32	0.794	0.42	0.13	4.45	4.03	3.74		#8

Max Length — Ideal — Minimum Length — < Rim

Cut-away view of >> spoke nut (nipple)

Thread (mm)

Ø Thickness (mm)

Bicycle Spoke

Length (mm)

*The thread size of the spoke nipple threads is based on the diameter of the spoke wire size.

There are some main worldwide bicycle standards such as British standard, French standard, and Italian standard. However, there is no commonality between those international standards.

(JIS follows British standard and ISO standard.)