

【Consultation】



In some of our drawings, there are threads such as "1/4 UNC" and "1/2W". My colleagues call the "1/4" size "nibu", and the "1/2" size "yonbu". They have not told me why these sizes have their special name of these threads. Could you please explain why these sizes have this thread name in Japan?

【Answer】

"1/4 UNC " is a Unified threads specification and "1/2W" is a specification for Whitworth threads. The Unified threads are American standard threads and Whitworth threads are British standard threads, both threads are inch-based threads. If we read it literally in Japanese, it would be "yonbun-no-ichi (one fourth) UNC" or "ni-bun-no-ichi (half) Whit". However, since it is difficult to say and easy to misunderstand, older generations came to say this using the length unit used in the Japanese "Shaku-kan" method. For more information, please refer to the explanation below.



【Advice】

There is an old Japanese unit of length called "Shaku-kan method".

1 shaku = 0.30303 m 30.3 cm \approx 303 mm

One-tenth of "1 shaku (isshaku)" was called "1 sun (issun)".

Also, 1/10 of "1 sun" is called "1 bu (ichibu)".

Furthermore, 1/10 of a "ichibu" is "1 rin (ichirin)".

That is to say, "ichibu" \approx 3.03mm, and 5 rin \approx 1.52mm.



On the other hand, the unit of length used in the USA and the U.K. is "1 inch" = 25.4mm. In the case of inch threads, 1/8 or 5/16 is the nominal size of the threads. In other words, 1/8 = 3.175 mm, 5/16 \approx 7.938 mm.

Are "1/8 \approx 3.18 mm" and "1 bu \approx 3.03 mm" similar in length?

What about "5/16 \approx 7.94 mm" and "2 bu 5 rin \approx 7.58 mm"?

The lengths of the two are very similar.

That's why 1/8 is called "1 bu", and 5/16 is called "2 bu 5 rin (nibu gorin)" in Japan.

Nominal Size	Basic major diameter (Inch)	Basic major diameter (mm)	How to read?
1/4	0.2500	6.350	nibu
5/16	0.3125	7.938	nibu gorin
3/8	0.3750	9.525	sanbu
7/16	0.4375	11.112	sanbu gorin
1/2	0.5000	12.700	yonbu
9/16	0.5625	14.288	yonbu gorin
5/8	0.6250	15.875	gobu
3/4	0.7500	19.050	rokubu
7/8	0.8750	22.225	nanabu
1-8	1.0000	25.400	inch
1 1/8	1.1250	28.575	inch ichibu

This is how we call the nominal sizes.

