

No.029

The difference between Unified Thread & Whitworth Thread

Thread Specification

[Question]



Our customer is requesting a 5/8-11 Hand Tap with a plug chamfer. Can you specify the type of taps you would recommend?

[Answer]

You need to confirm the standard of the thread as there are 2 options available with the information given, either a Unified Thread or a Whitworth Thread.



(Guide)

Unified Threads: Are an inch size American standard symbolized as UNC for the coarse pitch thread, and UNF for the fine pitch threads

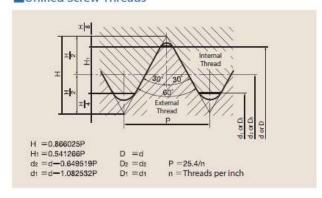
Whitworth Threads: Are a British standard symbolized by the letter W.

Both types of threads offer a 5/8-11 thread size.

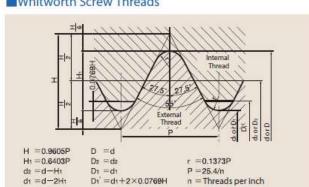
Size 5/8 (inch)=15.875mm (=5/8 x 25.4mm).

Pitch: 2.309 (=25.4mm \div 11 threads).

■Unified Screw Threads



■Whitworth Screw Threads



There are differences in some key elements between the Unified Threads and the Whitworth Threads. This is why it is important to confirm which standard of the thread is required as you cannot tell by the symbols given, 5/8-11.

The main difference are the threads included angle and the crest or root radii or flats.

5/8"-11	<u>Unified</u>	Whitworth
Thread included angle	60°	55°
Thread height (H)	1.25mm	1.48mm
Thread crest	0.125P	0.1373P
Thread root	0.250P	0.1372P

Be careful with the following symbols as both the Unified Threads and the Whitworth Threads are available with the same sizes.

1/4"-20 can be a 1/4"-20W (Whitworth) or a 1/4"-20UNC (Unified)

3/8"-16 can be a 3/8"-16W (Whitworth) or a 3/8"-16UNC (Unified)

3/4"-10 can be a 3/4"-10W (Whitworth) or a 3/4"-10UNC (Unified)