

【Question】

What do the letters UNC and UNF represent when I see them on a drawing? I need to produce a component with a 1/4"-20UNC and a 1/4"-28UN thread.

【Answer】

UNC and UNF are symbols of Unified Screw Thread Series.

The Unified Thread Series was agreed on by the United States, Great Britain and Canada in 1949 to obtain interchangeability. Recently, modifications have been made to the original 1949 specifications for ease of use.

The Unified Thread Series is classified into coarse threads, fine threads and extra fine threads much like Metric screw threads are.

UNC: Is the symbol for Unified coarse pitch threads.

UNF: Is the symbol for Unified fine pitch threads.

UNEF: Is the symbol for United extra fine pitch threads.

UNS: Is the symbol for Unified special threads.

If you are using the Unified Thread Series, it is easy to tell the threads major diameter, threads per inch (TPI) and if the thread is coarse or fine pitch from the thread specification. As an example, a 1/4"-20UNC thread has a 1/4" major diameter, with 20 threads per inch (TPI) and is a UNC coarse pitch thread. Metric threads are normally described only with the use the outer diameter of the thread listed in millimeters like a M12. In metric threads, it takes a closer examination of the specifications to determine if the thread is a coarse or fine pitch thread.

For instance, if the nominal diameter is a:

1/4" UNC, the number of screw threads is 20 (Coarse thread)

(Pitch: $25.4\text{mm} \div 20 \text{ threads per inch (TPI)} = 1,270\text{mm}$)

1/4" UNF, the number of screw threads is 28 (Fine thread)

(Pitch: $25.4\text{mm} \div 28 \text{ threads per inch (TPI)} = (0.907\text{mm})$)

1/4" UNEF, the number of screw threads is 32 (Extra fine thread)

(Pitch: $25.4\text{mm} \div 32 \text{ threads per inch (TPI)} = 0.794$)

UNC :Unified Coarse thread

UNF :Unified Fine thread

UNEF: Unified Extra-Fine thread

*UNS :Unified Special

In Unified threads the thread pitch measurement is calculated by dividing 25.4mm by the number of threads per inch (TPI).
Example:
A 1/4"-20UNC thread pitch = $25.4\text{mm} \div$ the

YES-010

Bag full of wisdom when you're in trouble.

Thread
specification

【Attachment】

There are specific thread pitches for each standard thread diameter of UNC, UNF and UNEF threads. Refer to the Technical Information of the Yamawa catalog to see the standard thread diameters and the corresponding thread pitch for UN, UNF and UNEF threads.

*Note: Be careful with the symbol "UNS". It is not defined in the standard thread chart and designates a special UN thread.

From the Yamawa general catalog.

■ Conversion Table

■ Unifined Threads

Size		Nominal Dia.		Threads per Inch		
Column 1	Column 2	inch	mm	Coarse Thread UNC	Fine Thread UNF	Fine Thread UNEF
No. 0	No. 1	0.0600	1.524		80	
No. 2		0.0730	1.854	64	72	
No. 4	No. 3	0.0860	2.184	56	64	
		0.0990	2.515	48	56	
No. 5	No.12	0.1120	2.845	40	48	
No. 6		0.1250	3.175	40	44	
No. 8		0.1380	3.505	32	40	
No.10		0.1640	4.166	32	36	
		0.1900	4.826	24	32	
		0.2160	5.486	24	28	32
1/4		0.2500	6.350	20	28	32
5/16		0.3125	7.938	18	24	32
3/8		0.3750	9.525	16	24	32
7/16		0.4375	11.112	14	20	28

Threads per inch (25.4mm)	Pitch (mm)
100	0.2540
80	0.3175
72	0.3528
64	0.3969
60	0.4233
56	0.4536
48	0.5292
44	0.5773
40	0.6350
36	0.7056
32	0.7938
28	0.9071
27	0.9407
24	1.0583
20	1.2700