

## 【Consultation】



Can you please tell me the difference between "PT" and "NPT"?

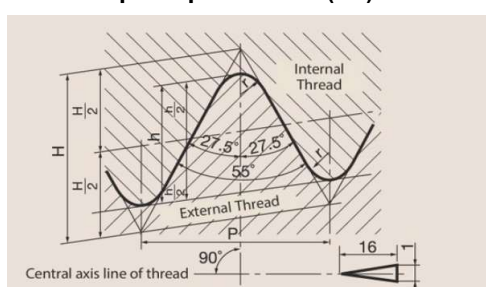
## 【Answer】

The difference between "PT" and "NPT" is thread angle, basic profile and number of threads. This is the reason that taps and dies are not interchangeable. We have explained the difference between "PT" and "NPT" pipe taps in the previous article, but we'll explain about screws threads this time.

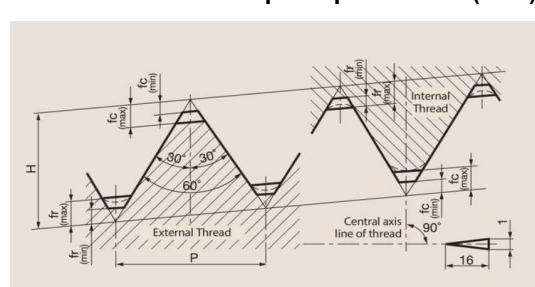


## 【Explanation】

Taper Pipe Threads (PT)



American Standard Taper Pipe Threads (NPT)



PT (Taper Pipe Threads) have a 55 degree angle of screw threads and NPT(American Taper Pipe Threads) have a 60 degree angle.

The diagram below shows a layover of the basic profiles for PT 1/2-14 (red) and NPT 1/2-14 (blue), which have the same number of threads. As you can see the thread shape and the height are different.

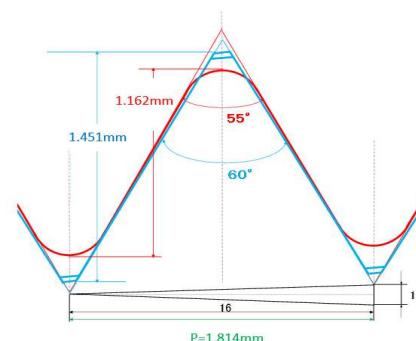
PT is used in the connection of pipes, pipe components and fluid equipment, where the main purpose of the thread is to provide a tight seal.

It is usually used with a sealant tape or compound.

NPT is called "American Standard Taper Pipe Threads ".

NPT is a combination of an NPT external thread and an NPT internal thread, and is the standard type of pipe thread commonly used for fittings for pipes and machine parts.

It is also used as a pressure-resistant joint by combining external thread and internal thread with a sealant tape or compound.



## <Standard>

Rc(PT) : JIS B 0203 (In Japan)

NPT : ANSI/ASME B 1.20.1 (In USA)

## 【Reference】



Be sure to check the difference in the Basic Major diameter and the number of threads between PT and NPT threads.

Size	PT		NPT	
	Basic Major dia. of Gauge plane	Number of Threads	Basic Major dia. of Gauge plane	Number of Threads
1/16	7.723	28	7.770	27
1/8	9.728	28	10.117	27
1/4	13.157	19	13.426	18
3/8	16.662	19	16.866	18
1/2	20.955	14	20.980	14
3/4	26.441	14	26.325	14

Size	PT		NPT	
	Basic Major dia. of Gauge plane	Number of Threads	Basic Major dia. of Gauge plane	Number of Threads
1	33.249	11	32.934	11 1/2
1 1/4	41.910	11	41.689	11 1/2
1 1/2	47.803	11	47.760	11 1/2
2	59.614	11	59.797	11 1/2
2 1/2	75.814	11	72.273	8
3	87.884	11	88.184	8