

NPT vs. BSP Pipe

While NPT threads are common in the United States, BSP threads are widely used in many other countries.

- BSP -British Standard Pipe Taper
- NPT -National Pipe Taper

While the actual specified outside diameters of American National Pipe differ slightly from those of British Standard Pipe, either thread may reliably be cut onto a pipe of its respective trade size. BSP threads are analogous to NPT.

WARNING: Never try to mate a BSP fitting with an NPT or NPS fitting if the pressure holding capability is at all critical.

NPT and BSP threads are not compatible due to the differences in their thread forms, and not just the fact that most diametrical sizes have a different pitch. NPT threads have a 60° included angle and have flattened peaks and valleys; BSP threads have a 55° included angle and have rounded peaks and valleys..

NPT and BSP thread pitches (threads per inch, TPI) are listed below. To determine pitch, use a thread gauge or count the number of threads that fall into a 1" span. Note that, strictly speaking, when we use threads per inch, we are actually specifying the inverse of the pitch, pitch being in units of [length] / [peak to peak]. This is the actual length of each thread, peak to peak. Although the term "pitch" is universally used, albeit loosely, to describe threads per inch, the actual pitch of a ¼ BSP fitting is really 1/19 inch, or 0.0526 inches.

Pipe Size	Pitch (Threads/Inch)		Pipe Size	Pitch (Threads/Inch)		Pipe Size	Pitch (Threads/Inch)	
	NPT/NPS	BSP		NPT/NPS	BSP		NPT/NPS	BSP
1/8"	27	28	1"	11 1/2	11	3"	8	11
1/4"	18	19	1 1/4"	11 1/2	11	4"	8	11
3/8"	18	19	1 1/2"	11 1/2	11	5"	8	11
1/2"	14	14	2"	11 1/2	11	6"	8	11

Source: <http://pipeandhose.com>