NPT AND NPTF THREDFLOER PIPE TAPS

Cold forming pipe taps may offer significant advantages compared to cutting taps when correctly applied. Benefits include smooth, burnished threads with no burrs or stop marks, better tap life, and the absence of chips during tapping.

To ensure successful results with a minimum of effort, a discussion of taper pipe tap applications with Balax ˝Tapplication Engineers˝ is suggested prior to their purchase and use. The use of a torque limiting tap holder is recommended.

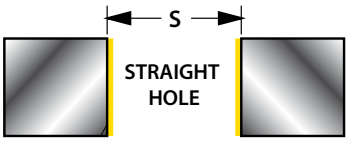
STRAIGHT HOLE OPTION

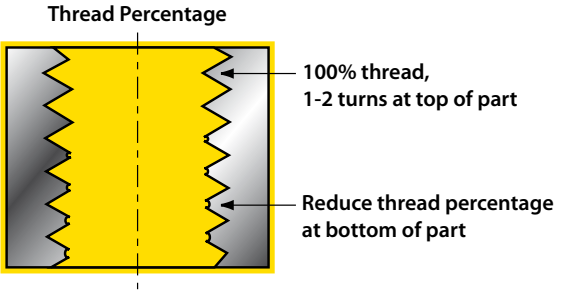
For steel and stainless steel applications, straight hole tapping will reduce tapping torque and increase tap life.

Using the straight pre-tap hole, a cold forming tapered pipe tap will produce the correct tapered thread in the part by rearranging or flowing the metal from the top to the bottom of the hole.

This procedure will result in a sharp crested 100% thread at the top of the hole (usually 2 to 3 turns of complete thread), however, the thread at the bottom will have partially formed crests containing a cup or ˝U˝. For many applications, the highly polished and accurate threads at the top of the hole provide superior appearance and excellent sealing capability.

USE THE STRAIGHT HOLE SIZES ˝S˝ IN THE TABLE BELOW.

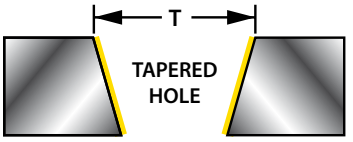




TAPERED HOLE OPTION

For softer materials such as copper and aluminum where tapping torque is not a problem. The use of a tapered hole will result in a uniform thread height and crest configuration for the entire depth of thread in the part. This requires a special taper reamer.

USE THE TAPER HOLE SIZES ˝T˝ IN THE TABLE BELOW.



TAP SIZE NPT OR NPTF	NPT EDP#	NPTF EDP #	STRAIGHT HOLE SIZE ˝S˝			TAPER HOLE SIZE ˝T˝		
			DUCTILE METALS	*THICK WALL DIECASTINGS	TOLERANCE	DUCTILE METALS	*THICK WALL DIECASTINGS	TOLERANCE
1/16-27	02000	02010	.274"	.270"	+.002"	.283"	.276"	+.002"
1/8-27 SM (.3125 SHANK)	02100	02110	.367"	.363"	+.002"	.376"	.369"	+.002"
1/8-27 LG (.4375 SHANK)	02200	02210	.367"	.363"	+.002"	.376"	.369"	+.002"
1/4-18	02300	02310	.478"	.474"	+.003"	.492"	.481"	+.003"
3/8-18	02400	02410	.616"	.611"	+.003"	.630"	.619"	+.003"
1/2-14	02500	02510	.763"	.759"	+.003"	.781"	.766"	+.003"
3/4-14	02600	02610	.974"	.970"	+.004"	.992"	.977"	+.004"

***Sizes may have to be reduced for thin wall applications.**

NPS AND NPSF THREDFLOER PIPE TAPS

NPS and NPSF threads require reamed pre-tap holes because of the requirement for 100% threads with controlled crest dimensions. NPSF taps are being successfully used in diecast applications, however, care in their application and use is required. Diecast aluminum containing high-silicon can become brittle when cold formed and may crumble at the crest of the thread.

TAP SIZE	NPS EDP#	NPSC EDP#	NPSM EDP#	NPSF EDP#	*HOLE SIZE FOR 75% THREAD	
					FOR NPS, NPSC, NPSM	FOR NPSF
1/16-27				02030	–	.281 - .282"
1/8-27 SM (.3125 SHANK)	02120	02122	02124	02130	.379 – .380"	.373 - .374"
1/8-27 LG (.4375 SHANK)	02220	02222	02224	02230	.379 – .380"	.373 - .374"
1/4-18	02320	02322	02324	02330	.499 – .500"	.491 - .492"
3/8-18	02420	02422	02424	02430	.636 – .637"	.626 - .627"
1/2-14	02520	02522	02524	02530	.788 – .790"	.777 - .779"
3/4-14	02620	02622	02624	02630	.998 – 1.000"	.988 - .990"

For diecast parts, subtract .001" - .002" to compensate for porosity.

IN-LINE STUB THREDFLOERS

Balax In-line Stub Thredfloers feature a bottom style thread chamfer and controlled blank dimensions and chamfer length. Tap front points are removed to reduce the tapping stroke to provide clearance within the tapping die. In-line taps are available with TiN, TiCN and TiALN surface treatments.

ANSI

TAP SIZE	H4	H5	H6	H7	H8
2-56	10344				
4-40		10865			
6-32		11425			
8-32		11765			
10-24				12107	
10-32		12325			
1/4-20					12788
1/4-28				13007	

METRIC

TAP SIZE	D5	D6	D7	D8	D9
M2 x .4	17365				
M2.5 x .45		17506			
M3 x .5		17686			
M3.5 x .6			17887		
M4 x .7			18087		
M5 x .8				18288	
M6 x 1.0					18489