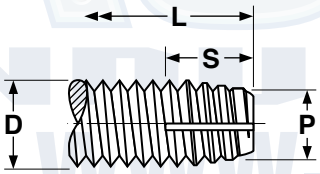
Type 1 Thread Cutting Self- Tapping Screws



Threads and Points for Type 1 Thread Cutting Screws

ASME B18.6.4-1998

Nominal Size or Basic Screw Diameter		Threads Per Inch	D		P	S				L				Minimum Torsional Strength, lb.-in.
			Major Diameter		Point Diameter	Point Taper Length				Determinant Length for Point Taper		Minimum Practical Nominal Screw Lengths		
						Short Screws		Long Screws						
			Max	Min	Ref	Max	Min	Max	Min	90° Heads	Csk Heads	90° Heads	Csk Heads	
2	.0860	56	.0860	.0813	.068	.062	.045	.080	.062	5/32	3/16	5/32	3/16	5
4	.1120	40	.1120	.1061	.087	.088	.062	.112	.088	7/32	1/4	3/16	1/4	13
6	.1380	32	.1380	.1312	.107	.109	.078	.141	.109	1/4	5/16	1/4	5/16	23
8	.1640	32	.1640	.1571	.132	.109	.078	.141	.109	1/4	11/32	1/4	5/16	42
10	.1900	24	.1900	.1818	.148	.146	.104	.188	.146	11/32	7/16	5/16	13/32	56
10	.1900	32	.1900	.1831	.158	.109	.078	.141	.109	1/4	11/32	1/4	5/16	74
12	.2160	24	.2160	.2078	.174	.146	.104	.188	.146	11/32	7/16	5/16	13/32	93
1/4	.2500	20	.2500	.2408	.200	.175	.125	.225	.175	13/32	17/32	3/8	1/2	140
5/16	.3125	18	.3125	.3026	.257	.194	.139	.250	.194	15/32	19/32	7/16	9/16	306
3/8	.3750	16	.3750	.3643	.312	.219	.156	.281	.219	1/2	11/16	15/32	5/8	560
1/2	.5000	13	.5000	.4876	.423	.269	.192	.346	.269	5/8	25/32	19/32	3/4	1075

Tolerance on Length	Up to 3/4 in., Incl.: -0.03	Over 3/4 to 1-1/2 in., Incl.: -0.05	Over 1-1/2 in.: -0.06

Description	A thread cutting screw with machine screw thread pitch, blunt point, tapered entering threads and a single cutting edge.	
	Steel	***Stainless***
Applications/ Advantages	May be used in steel sheets, structural shapes, special alloy steels, cast iron, brass or plastics.	Stainless screws offer greater corrosion resistance than steel screws but have a more limited range of applications due to being a softer metal. When using any thread-cutting screw, the material in which the threads are cut should have a lower hardness by 10-20 Rockwell hardness points.
Material	AISI 1016 - 1024 or equivalent steel.	18-8 stainless steel.
Heat Treatment	Screws shall be quenched in liquid and then tempered by reheating to 650°F minimum.	18-8 thread-cutting screws are not heat-treated.
Surface Hardness	Rockwell C45 minimum	-
Case Depth	No. 4 thru 6 diameter: .002 - .007 No. 8 thru 12 diameter: .004 - .009 1/4" diameter and larger: .005 - .011	-
Core Hardness (after tempering)	Rockwell C28 - 38	Rockwell B90 - C20
Plating	See Appendix-A for plating information.	