

Threads and Points for Type 23 Thread Cutting Screws

ASME B18.6.3-2010

Nominal Size or Basic Screw Diameter		Threads Per Inch	D		P	S				L				Minimum Torsional Strength, lb.-in. (STEEL parts only)
			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
3	.0990	48	.0990	.0938	.078	.073	.052	.094	.073	3/16	7/32	5/32	7/32	9
4	.1120	40	.1120	.1061	.087	.088	.062	.112	.088	7/32	1/4	3/16	1/4	13
5	.1250	40	.1250	.1191	.100	.088	.062	.112	.088	7/32	9/32	3/16	1/4	18
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

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, a blunt point, tapered entering threads, a single wide cutting edge, and a chip cavity.
Applications/ Advantages	Steel type-23's are well-suited for cast iron and zinc, aluminum die castings, and plastics. The type-23 design provides excellent chip clearing with minimum tightening torques. 18-8 stainless screws offer additional resistance to corrosion. When using any thread-cutting screw, the material in which the threads are cut should have a lower hardness by at least 10 to 20 Rockwell hardness points.
Material	**Steel**: AISI 1016 - 1024 or equivalent steel; Stainless:18-8 stainless steel.
Heat Treatment	**Steel**: Screws shall be quenched in liquid and then tempered by reheating to 650°F minimum.
Surface Hardness	**Steel**: Rockwell C45˚ minimum
Case Depth (steel)	No. 2 thru 6 diameter: .002 - .007 No. 8 thru 12 diameter: .004 - .009 1/4" diameter and larger: .005 - .011
Core Hardness	**Steel (after tempering)**: Rockwell C28 - 38 **Stainless**: Rockwell B90 - C20
Plating	See Appendix-A for plating of steel thread-cutting screws.