

# Metallics

An **AMERICAN** Source For Premier  
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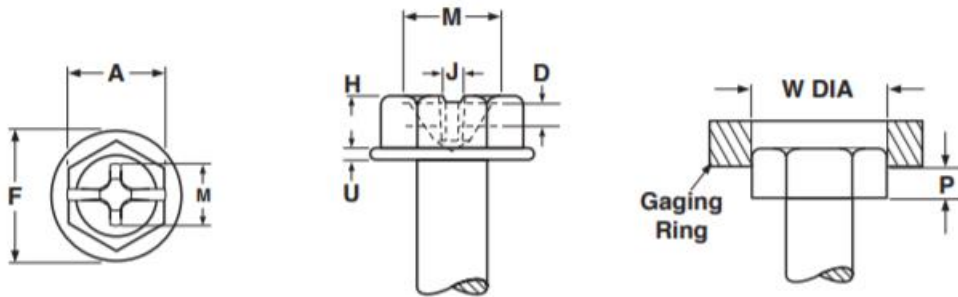
## HEX HEAD QUADRIE SELF DRILLING & TAPPING SCREWS – STEEL ZINC

The following Specification Sheet applies to all Hex Head QuaDrive Self Drilling & Tapping Screws – Steel Zinc in our QTEKD series of screws.

*Four drives in one head*



*Introduced in 1999*



COMBINATION HEX WASHER HEADS																	ASME B18.6.3- 2013	
Nom Size	A		H		F		U		J		D		P	M	Recess Penetrating Gaging Depth		Phillips Driver Size	
	Width Across Flats		Head Height		Washer Diameter		Washer Thickness		Slot Width		Slot Depth		Protrusion Beyond Gaging Ring	Recess Diameter	Max	Min		
	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Min	Ref				
6	.250	.244	.093	.080	.328	.302	.025	.015	.048	.039	.053	.033	.048	.148	.089	.064	2	
8	.250	.244	.110	.096	.348	.322	.031	.019	.054	.045	.074	.052	.058	.168	.115	.090	2	
10	.312	.305	.120	.105	.414	.384	.031	.019	.060	.050	.080	.057	.063	.178	.127	.102	2	
12	.312	.305	.155	.139	.432	.398	.039	.022	.067	.056	.103	.077	.083	.247	.152	.127	3	
1/4	.375	.367	.190	.172	.520	.480	.050	.030	.075	.064	.111	.083	.103	.277	.186	.161	3	

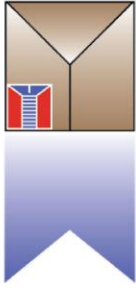
### Metallics

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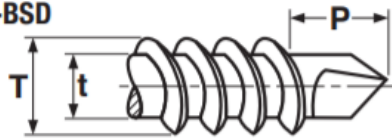


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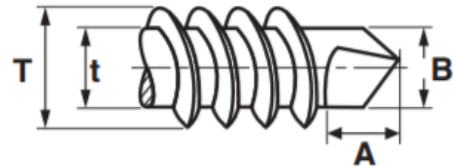
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## THREAD DIMENSIONS

Type-BSD



5/16 & 3/8 Diameter  
#3 Point



SELF-DRILLING SCREWS, TYPE BSD (SPACED THREAD)													SAE J78-2013
Nominal Size or Basic Screw Diameter	Threads Per Inch	T		t		P		Minimum Practical Nominal Screw Lengths, Formed Points				Minimum Torsional Strength, lb.- in. (STEEL SCREWS ONLY)	
		Major Diameter		Minor Diameter		Protrusion Allowance		90° Head, #2 Pt	Csk Head, #2 Pt	90° Head, #3 Pt	Csk Head, #3 Pt		
		Max	Min	Max	Min	#2 Pt.	#3 Pt.						
4	.1120	24	.114	.110	.086	.082	.163	-	5/16	3/8	-	-	14
6	.1380	20	.139	.135	.104	.099	.190	.220	5/16	3/8	3/8	7/16	24
7*	.1510	19	.153	.146	.113	.109	.137	.157	5/16	3/8	3/8	7/16	-
8	.1640	18	.166	.161	.122	.116	.211	.251	3/8	7/16	7/16	1/2	42
10	.1900	16	.189	.183	.141	.135	.235	.300	7/16	1/2	1/2	9/16	61
12	.2160	14	.215	.209	.164	.157	.283	.353	1/2	5/8	1/2	5/8	92
1/4	.2500	14	.246	.240	.192	.185	.318	.393	1/2	5/8	1/2	5/8	150

\*SAE J78 does not include Specifications for #7 diameter drill screws.

SPACED THREAD SELF DRILLING SCREWS - 5/16 & 3/8 DIAMETERS, #3 POINT											
Nominal Size or Basic Screw Diameter	Threads Per Inch	T		t		A		B			
		Major Diameter		Minor Diameter		Drill Point Length		Drill Point Diameter			
		Max	Min	Max	Min	Max	Min	Max	Min		
5/16	.3125	12	.315	.307	.272	.263	.421	.361	.270	.265	
3/8	.3750	12	.380	.370	.308	.298	.354	.314	.338	.330	

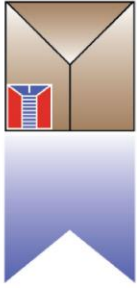
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TYPE BSD SELF-DRILLING SCREW SELECTION CHART			
Nominal Screw Size	Point Number	Recommended Panel Thickness, in.	
		Min.	Max.
4	2	.035	.080
6	2	.035	.090
8	2	.035	.100
10	2	.035	.110
10	3	.110	.175
12	3	.110	.210
1/4	3	.110	.220

This table is only a guide and does not constitute a warranty of any type.

	Steel	Stainless
<b>Description</b>	<p><b>Type BSD:</b> A tapping screw with spaced threads and a drill point which drills its own hole.</p> <p><b>Type CSD:</b> A thread forming screw with machine screw thread pitch and a drill point which drills its own hole.</p> <p>Both types allow the screw to form mating threads and produce a complete fastening system in a single operation.</p>	
<b>Applications/ Advantages</b>	<p><b>Type BSD:</b> May be used to attach plywood, soft woods or composition board to metal, or attach metal to metal.</p> <p><b>Type CSD:</b> The finer thread pitch reduces friction and driving torques. Type-CSD screws are normally used with thicker materials.</p> <p>All self-drilling screws offer economical benefits: reduces labor and tooling costs; reduces or eliminates drill bits and taps.</p>	<p>The 18-8 stainless drill screw offers superior corrosion resistance while the 410 stainless screw will drill through harder material than the 18-8. The hardness of the material to be drilled should be a minimum of 10-20 Rockwell hardness points less than the screw's hardness.</p> <p>Minimum torques are the same for stainless and steel self-drill screws. Drill time is 2.5 seconds for a 1mm thick plate.</p>
<b>Material</b>	AISI 1016 - 1024 or equivalent steel	410, 18-8 or 316 stainless steel
<b>Heat Treatment</b>	Screws shall be quenched in liquid and then tempered by reheating to 625°F minimum.	<p><b>410 SS:</b> An ideal method of hardening 410 stainless screws is a bright hardening process, which typically involves a vacuum furnace. Another key factor affecting hardness is the chemistry of the fastener--most elements have maximum values but not minimums. This fact can contribute to hardness variance.</p> <p>18-8 &amp; 316 are only hardenable by cold-working.</p>
<b>Case Hardness</b>	Rockwell C52 -58	-
<b>Case Depth</b>	<p><b>No. 4 and 6 diameter:</b> .002 - .007</p> <p><b>No. 8 thru 12 diameter:</b> .004 - .009</p> <p><b>1/4" diameter and larger:</b> .005 - .011</p>	-
<b>Hardness</b>	Core: Rockwell C32 - 40 (after tempering)	<p><b>410 SS:</b> Rockwell C38 - 46 (approx.)</p> <p><b>18-8 &amp; 316 SS:</b> Rockwell B100 (approx.)</p>
<b>Plating</b>	See Appendix-A for plating information.	Stainless drill screws are usually supplied plain.

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