



Atlanta, Georgia

Phone 800-521-7326

Fax 770-745-1333

Round Head Machine Screw



ASME B 1.1	Size and Threads Per Inch	Series Designation	Allowance	Major Diameter		Pitch Diameter			Tensile Strength, lb. Min**	Stress Area Inches ²	A		H		J		T		M	G	N	Phillips Bit Size
				Min	Max	Min	Max	Tolerance			Head Diameter	Head Height	Slot Width	Slot Depth	Dimension of Recess							
				Min	Max	Min	Max	Min			Max	Min	Max	Min	Max	Min	Max	Ref				
6-32	0.138	UNC	.0008	.1312	.1372	.1141	.1169	.002820	550	0.00909	.240	.260	.091	.103	.039	.048	.051	.068	.155	.070	.045	2
6-40	0.138	UNF	.0008	.1321	.1372	.1184	.1210	.002614	609	0.01015	.240	.260	.091	.103	.039	.048	.051	.068	.155	.070	.045	2
8-32	0.164	UNC	.0009	.1571	.1631	.1399	.1428	.002916	850	0.0140	.287	.309	.107	.120	.045	.054	.058	.077	.171	.088	.064	2
8-36	0.164	UNF	.0009	.1577	.1632	.1424	.1452	.002804	884	0.01474	.287	.309	.107	.120	.045	.054	.058	.077	.171	.088	.064	2
10-24	0.190	UNC	.0010	.1818	.1890	.1586	.1619	.003319	1050	0.0175	.334	.359	.123	.137	.050	.060	.065	.087	.188	.106	.082	2
10-32	0.190	UNF	.0009	.1831	.1891	.1658	.1688	.003004	1200	0.0200	.334	.359	.123	.137	.050	.060	.065	.087	.188	.106	.082	2
12-24	0.216	UNC	.0010	.2078	.2150	.1845	.1879	.003400	1450	0.0242	.382	.408	.139	.153	.056	.067	.073	.096	n/a	n/a	n/a	3
12-28	0.216	UNF	.0010	.2085	.2150	.1886	.1918	.003224	1548	0.0258	.382	.408	.139	.153	.056	.067	.073	.096	n/a	n/a	n/a	3
1/4-20	0.250	UNC	.0011	.2408	.2489	.2127	.2164	.003731	1900	0.0318	.443	.472	.160	.175	.064	.075	.082	.109	.261	.134	.104	3
1/4-28	0.250	UNF	.0010	.2425	.2490	.2225	.2258	.003322	2200	0.0364	.443	.472	.160	.175	.064	.075	.082	.109	.261	.134	.104	3
5/16-18	0.3125	UNC	.0012	.3026	.3113	.2712	.2752	.004041	3150	0.0524	.557	.590	.198	.216	.072	.084	.099	.132	.301	.174	.144	3
5/16-24	0.3125	UNF	.0011	.3042	.3114	.2806	.2843	.003660	3480	0.0580	.557	.590	.198	.216	.072	.084	.099	.132	.301	.174	.144	3
3/8-16	0.375	UNC	.0013	.3643	.3737	.3287	.3331	.004363	4650	0.0775	.670	.708	.237	.256	.081	.094	.117	.155	.380	.215	.182	4
3/8-24	0.375	UNF	.0011	.3667	.3739	.3430	.3468	.003804	5268	0.0878	.670	.708	.237	.256	.081	.094	.117	.155	.380	.215	.182	4
Tolerance on Length L	Screw Size	Screw Length																				
		Up To 1/2"					Over 1/2" to 1"					Over 1" to 2"					Over 2"					
		6 - 12					-0.02					-0.03					-0.06				-0.09	
1/4 - 3/8					-0.03					-0.03					-0.06				-0.09			

**Tensile strength is based off of 60,000 psi. and only apply to carbon steel screws. Hex and Hex Washer Head machine screws of adequate length may be wedge tensile tested. Other head styles can be axial tensile tested.

ANSI B18.6.3	Steel	SAE Stainless 18-8	Stainless 316	Stainless 410
Material	AISI 1006 - 1022 or equivalent Steel	Stainless SAE 18-8	Stainless SAE 316	Stainless SAE 410 Passivated
Hardness	Rockwell B70 - B100	Rockwell B85 - B95 (approximate)*	Rockwell B85 - B95 (approximate)*	Rockwell C34 (approximate)*
Tensile Strength	Steel machine screws which have a nominal diameter smaller than #4 are not subject to tensile testing. No. 4 and No. 5 machine screws which are shorter than 1/2" are not subject to tensile testing. Steel machine screws of diameters No. 6 to 1/2" inclusive, which are shorter than either 1/2" or 3D (where D is the nominal screw size in inches) are not subject to tensile testing. Such steel machine screws of a size to be tested shall meet the tensile load requirements listed above. **Tensile strength values for stainless screws are offered as approximations only. There is no single standard for the performance requirements of stainless machine screws.			

* Hardness and tensile strength standards are offered as guides only for stainless machine screws. There is currently no national standard for these performance requirements for stainless machine screws.

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