

# Screw Shear Strength

Material Shear Strength (Steel) = 0.345 kN/mm<sup>2</sup> (25 tons/in<sup>2</sup>) from

[http://www.efunda.com/processes/metal\\_processing/stamping.cfm](http://www.efunda.com/processes/metal_processing/stamping.cfm)

Screw diameters From [http://www.engineersedge.com/screw\\_threads\\_chart.htm](http://www.engineersedge.com/screw_threads_chart.htm)

Screw Size	Min Dia	Area	Shear	Steel Shear Strength In Pounds/in <sup>2</sup>
Basic				
0-80	0.0442	0.006138	343.70	56000
0-80	0.0447	0.006277	351.52	
1-64.	0.0532	0.008891	497.92	
1-64.	0.0538	0.009093	509.22	
1-72.	0.0554	0.009642	539.95	
1-72.	0.056	0.009852	551.71	
2-56.	0.0635	0.012668	709.39	
2-56.	0.0641	0.012908	722.86	
2-64.	0.0662	0.013768	771.00	
2-64.	0.0668	0.014019	785.04	
3-48.	0.0727	0.016604	929.84	
3-48.	0.0734	0.016926	947.83	
3-56.	0.0764	0.018337	1,026.89	
3-56.	0.0771	0.018675	1,045.80	
4-40.	0.0805	0.020358	1,140.07	
4-40.	0.0813	0.020765	1,162.84	
4-48.	0.0857	0.023073	1,292.11	
4-48.	0.0864	0.023452	1,313.30	
5-40.	0.0935	0.027465	1,538.02	
5-40.	0.0943	0.027937	1,564.45	
5-44.	0.0964	0.029195	1,634.90	
5-44.	0.0971	0.02962	1,658.73	
6-32.	0.0989	0.030729	1,720.80	
6-32.	0.0997	0.031228	1,748.75	
6-40.	0.1065	0.035633	1,995.43	
6-40.	0.1073	0.03617	2,025.52	
8-32.	0.1248	0.04893	2,740.10	
8-32.	0.1257	0.049639	2,779.77	
8-36.	0.1291	0.05236	2,932.18	
8-36.	0.1299	0.053011	2,968.63	
10-24.	0.1379	0.059742	3,345.54	
10-24.	0.1389	0.060611	3,394.24	
10-32.	0.1508	0.071442	4,000.74	
10-32.	0.1517	0.072297	4,048.64	
1/4-20.	0.1876	0.110564	6,191.61	
1/4-20.	0.1887	0.111865	6,264.43	
1/4-28.	0.2052	0.132283	7,407.86	
1/4-28.	0.2062	0.133576	7,480.23	

5/16-18.	0.2431	0.185661	10,396.99
5/16-18.	0.2443	0.187498	10,499.89
5/16-24.	0.2603	0.212862	11,920.27
5/16-24.	0.2614	0.214665	12,021.23
3/8-16.	0.297	0.277117	15,518.54
3/8-16.	0.2983	0.279548	15,654.69
3/8-24.	0.3228	0.327353	18,331.79
3/8-24.	0.3239	0.329588	18,456.94
7/16-14.	0.3485	0.381553	21,367.00
7/16-14.	0.3499	0.384625	21,539.01
7/16-20.	0.3749	0.441551	24,726.85
7/16-20.	0.3762	0.444618	24,898.63
1/2-13.	0.4041	0.513012	28,728.68
1/2-13.	0.4056	0.516828	28,942.35
1/2-20.	0.4374	0.601046	33,658.55
1/2-20.	0.4387	0.604624	33,858.93
5/8-11.	0.5119	0.823228	46,100.77
5/8-11.	0.5135	0.828382	46,389.40
5/8-18.	0.5554	0.969084	54,268.73
5/8-18.	0.5568	0.973976	54,542.66
3/4-10.	0.6255	1.229149	68,832.34
3/4-10.	0.6273	1.236233	69,229.07
3/4-16.	0.6718	1.417849	79,399.52
3/4-16.	0.6733	1.424187	79,754.49
7/8 -9.	0.7368	1.70549	95,507.42
7/8 -9.	0.7387	1.714297	96,000.63
7/8-14.	0.7858	1.939876	108,633.04
7/8-14.	0.7874	1.947784	109,075.88
1 -8.	0.8446	2.241052	125,498.94
1 -8.	0.8466	2.251679	126,094.00
1 -12.	0.896	2.522121	141,238.77
1 -12.	0.8978	2.532265	141,806.81
1-1/8-7.	0.9475	2.820384	157,941.53
1-1/8-12.	1.021	3.274925	183,395.80
1-1/4-7	1.0725	3.613637	202,363.65
1-1/4-12	1.146	4.125904	231,050.62
1-3/8-6	1.1681	4.28657	240,047.92
1-3/8-12	1.2709	5.074259	284,158.50
1-1/2-6	1.2931	5.253081	294,172.54
1-1/2-12	1.3959	6.121509	342,804.50
1-3/4-5	1.5019	7.086502	396,844.11
2 - 4-1/2	1.7245	9.342783	523,195.86