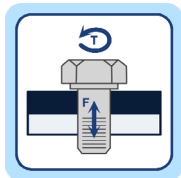




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Nickel Systems Torque Tables

17-4 PH H900

Min Yield Strength (σ_y)	170.0	KSI	170,000	PSI	UNS S17400	
					Fastener Torque	
					K value	
					Dry	0.20
					Lubricated	0.13
Bolt Nominal Diameter (D)	Threads	Stress Area (A)	Proof Load	Clamping Load	Dry	Lubricated
in	#/in	in ²	lbf	lbf	ft-lbf	ft-lbf
1/4	20	0.0318	4,865.4	3,649.1	15.2	9.9
1/4	28	0.0364	5,569.2	4,176.9	17.4	11.3
5/16	18	0.0524	8,195.4	6,146.5	32.0	20.8
5/16	24	0.0580	9,071.2	6,803.4	35.4	23.0
3/8	16	0.0775	12,121.0	9,090.8	56.8	36.9
3/8	24	0.0878	13,731.9	10,298.9	64.4	41.8
7/16	14	0.1063	16,625.3	12,469.0	90.9	59.1
7/16	20	0.1187	18,564.7	13,923.5	101.5	66.0
1/2	13	0.1419	22,193.2	16,644.9	138.7	90.2
1/2	20	0.1599	25,008.4	18,756.3	156.3	101.6
9/16	12	0.1820	28,464.8	21,348.6	200.1	130.1
9/16	18	0.2030	31,749.2	23,811.9	223.2	145.1
5/8	11	0.2260	35,346.4	26,509.8	276.1	179.5
5/8	18	0.2560	40,038.4	30,028.8	312.8	203.3
3/4	10	0.3340	52,237.6	39,178.2	489.7	318.3
3/4	16	0.3730	58,337.2	43,752.9	546.9	355.5
7/8	9	0.4620	72,256.8	54,192.6	790.3	513.7
7/8	14	0.5090	79,607.6	59,705.7	870.7	566.0
1	8	0.6060	94,778.4	71,083.8	1,184.7	770.1
1	12	0.6630	103,693.2	77,769.9	1,296.2	842.5
1 1/4	7	0.9690	151,551.6	113,663.7	2,368.0	1,539.2
1 1/4	12	1.0730	167,817.2	125,862.9	2,622.1	1,704.4
1 1/2	6	1.4050	219,742.0	164,806.5	4,120.2	2,678.1
1 1/2	12	1.5800	247,112.0	185,334.0	4,633.4	3,011.7

Equations

$$= \pi / 4 * (D - 0.9743 / n)^2$$

$$= \sigma_y * A * 90\%$$

$$= \text{Proof Load} * 75\%$$

$$= k * D * \text{Clamp Load} * (1\text{ft}/12\text{in})$$

Assumptions: (1) Yield Strength is chosen based on ASTM SA-564 minimum standard for S17400 0.2% offset at room temperature. (2) This is for standard bolt, washer and nut connection. (3) This is for uniform materials for the bolt, washer & the nut. (4) This is for full thread engagement. (5) This is for new bolts and nuts without corrosion. (6) Our k values are typical. Molybdenum disulfide-based and nickel-based anti-seize lubricants were considered for lubrication. These values can fluctuate depending upon the source, type of oil and a variety of other factors. (7) This is considered under static load. Other factors such as vibration or dynamic applications were not considered. (8) These values are only appropriate for bolts under 6 inches. *This table was reviewed by an engineer & is believed by Nickel Systems to be accurate. However, it is not to be used as a substitute for professional engineering bolt design. Please consult a professional engineer. Nickel Systems assumes no liability for any use of this table beyond its intended purpose.*