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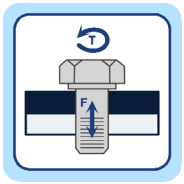

Nickel Systems Torque Tables

Inconel 625

Min Yield Strength (σ_y)	60.0	KSI	60,000	PSI	UNS N06625 Fastener Torque	
					K value	
					Dry	0.22
					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	1,717.2	1,287.9	5.9	3.5
1/4	28	0.0364	1,965.6	1,474.2	6.8	4.0
5/16	18	0.0524	2,892.5	2,169.4	12.4	7.3
5/16	24	0.0580	3,201.6	2,401.2	13.8	8.1
3/8	16	0.0775	4,278.0	3,208.5	22.1	13.0
3/8	24	0.0878	4,846.6	3,634.9	25.0	14.8
7/16	14	0.1063	5,867.8	4,400.8	35.3	20.9
7/16	20	0.1187	6,552.2	4,914.2	39.4	23.3
1/2	13	0.1419	7,832.9	5,874.7	53.9	31.8
1/2	20	0.1599	8,826.5	6,619.9	60.7	35.9
9/16	12	0.1820	10,046.4	7,534.8	77.7	45.9
9/16	18	0.2030	11,205.6	8,404.2	86.7	51.2
5/8	11	0.2260	12,475.2	9,356.4	107.2	63.4
5/8	18	0.2560	14,131.2	10,598.4	121.4	71.8
3/4	10	0.3340	18,436.8	13,827.6	190.1	112.3
3/4	16	0.3730	20,589.6	15,442.2	212.3	125.5
7/8	9	0.4620	25,502.4	19,126.8	306.8	181.3
7/8	14	0.5090	28,096.8	21,072.6	338.0	199.8
1	8	0.6060	33,451.2	25,088.4	460.0	271.8
1	12	0.6630	36,597.6	27,448.2	503.2	297.4
1 1/4	7	0.9690	53,488.8	40,116.6	919.3	543.2
1 1/4	12	1.0730	59,229.6	44,422.2	1,018.0	601.6
1 1/2	6	1.4050	77,556.0	58,167.0	1,599.6	945.2
1 1/2	12	1.5800	87,216.0	65,412.0	1,798.8	1,062.9

Equations	$= \pi / 4 * (D - 0.9743 / n)^2$	$= \sigma_y * A * 90\%$	= Proof Load * 75%	= k * D * Clamp Load * (1ft/12in)

Assumptions: (1) Yield Strength is chosen based on ASTM B 446 minimum standard for N06625 0.2% offset at room temperature for hot worked or cold worked annealed rods and bars. (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 or 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.*