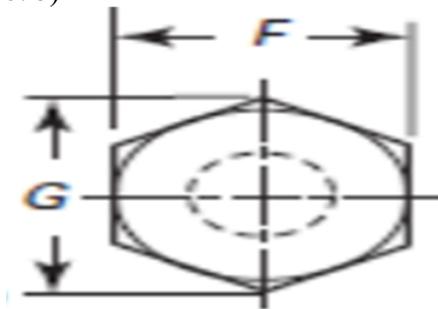
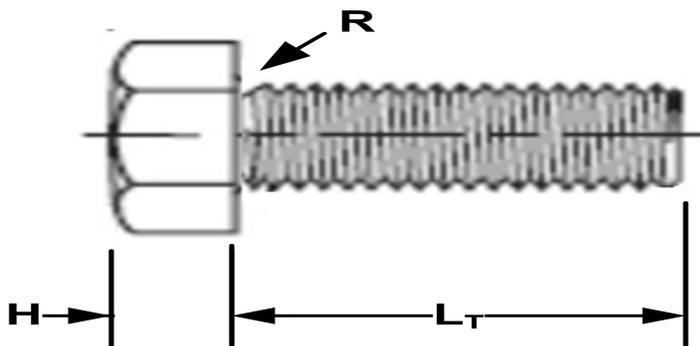


## Hex Tap Bolts (1/4 thru 5/8)



### F593C

GRADE MARK

THREAD DATA		
Size: 1/2	Threads per in.: 13	Series Designation: UNC
Thread Class or Type: 2A	Major Diameter: 0.4985 - 0.4876	Pitch and Functional Dia.: 0.4485 - 0.4435
Tensile Stress Area: 0.1419	Standard: ASME B1.1 - 2003 (R2008)	
DIMENSIONAL DATA		
Type: Hex Tap Bolts (1/4 thru 5/8)	Standard: IFI - 199	Nominal Diameter: 0.5
F - Width Across Flats: 0.750 - 0.725	G - Width Across Corners: 0.866 - 0.826	R - Fillet Radius: 0.030 - 0.010
H - Head Height: 0.364 - 0.302	L <sub>T</sub> - Thread Length for Screw Length 6 in. or less: Fully Threaded	Point Type: Non-pointed
L - Length: 1	Length Tolerance: +0.02/-0.03	
PHYSICAL REQUIREMENTS		
Nominal: 0.5	Standard: ASTM F593-2013a, Condition CW1_18-8/304	Typical Materials: stainless steel, 304, 304L, 305, 384, 18-9LW, 302HQ
Hardness: HRB 95 - C32	Tensile Load, Min. (lbf): 14,190	Tensile Load, Max. (lbf): 21,285
Yield PSI, 2% Offset, Machined Specimen: 65,000	Elongation, min. %, Machined Specimen: 20% in 4D	Tensile Strength, Min. (psi): 100,000
Tensile Strength, Max. (psi): 150,000	Calculated Shear Load-BODY (ref.)(lbf): 8,514	Calculated Shear Load-THREADS (ref.)(lbf): 7,095
Straightness Factor: N/A	Calculated Pretension <sup>2</sup> (lbf) : 6,918	Tightening Torque <sup>1</sup> : 58 ft.lbf, 692 in.lbf, 78.2 Nm
FINISH DATA		
Finish: As received steel	K factor (ref. DIN 946): 0.2	

<sup>1</sup> These torque values are based on K factors determined using DIN 946, tightening tension of 75% of the yield strength, and the calculation formula T=KDP. These values are advisory only. The torque for assembling critical joints should be determined and/or verified through actual experimentation by the user. The IFI is not responsible for any losses or claims resulting from the use of these values.<sup>2</sup> Calculated Pretension is equal to 75% of the bolt's yield strength achieved when using the indicated Tightening Torque.

