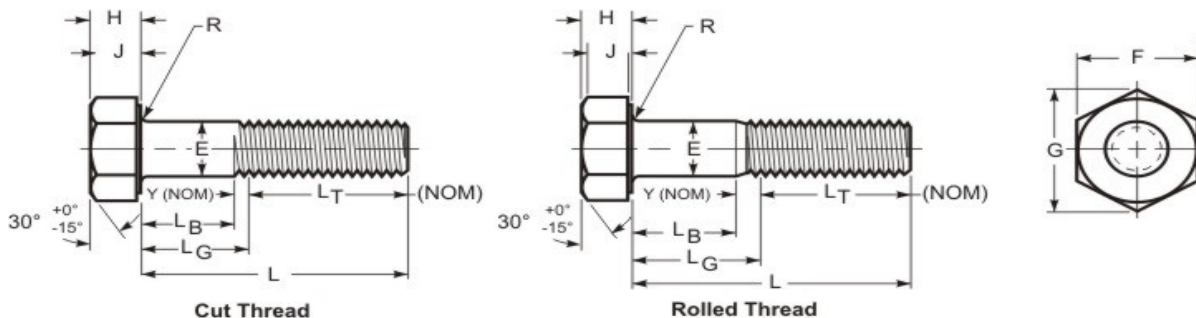


Hex Cap Screw



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 Cap Screw | Standard: ASME B18.2.1-2012 | Nominal Diameter: 0.5 |
| E - Body Diameter : 0.5000 - 0.4930 | F - Width Across Flats: 0.750 - 0.736 | G - Width Across Corners: 0.866 - 0.840 |
| R - Fillet Radius: 0.025 - 0.015 | H - Head Height: 0.323 - 0.302 | J - Wrenching Height Min: 0.215 |
| L _T - Thread Length for Screw Length 6 in. or less: 1.250 | Transition Thread Length - Ref.: 0.385 | Point Type: Chamfered |
| Runout of Bearing Surface FIM: 0.014 Max | LG max./LB min.: 0.00/0.00 (Fully Threaded) | L - Length: 1-1/2 |
| Length Tolerance: -0.06 | | |
| PHYSICAL REQUIREMENTS | | |
| Nominal: 0.5 | Standard: SAE J429-2014, Grade 5 | Typical Materials: medium carbon steel, 1028 through 1055 |
| Hardness: HRC 34 - 25 | Proof Load (lbf): 12,100 | Tensile Load, Min. (lbf): 17,000 |
| Yield PSI, 2% Offset, Machined Specimen: 92,000 | Tensile Strength, Min. (psi): 120,000 | Calculated Shear Load-BODY (ref.)(lbf): 10,200 |
| Calculated Shear Load-THREADS (ref.)(lbf): 8,500 | Straightness Factor: N/A | Calculated Pretension ² (lbf) : 9,791 |
| Tightening Torque ¹ : 90 ft.lbf, 1,077 in.lbf, 121.7 Nm | | |
| FINISH DATA | | |
| Finish: Zinc & Clear, non-hexavalent/Cr(VI) free - .0001"/ 3µm | K factor (ref. DIN 946): 0.22 | Standard: ASTM F1941/F1941M-2016, Fe/Zn 3AN |

¹ 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. ² Calculated Pretension is equal to 75% of the bolt's yield strength achieved when using the indicated Tightening Torque.

