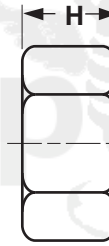
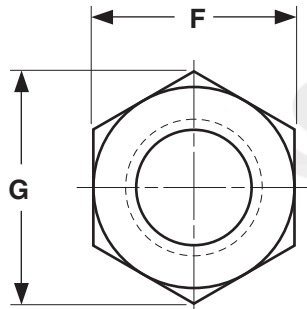


NUTS

HEAVY HEX

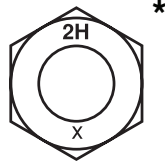
For Use With Structural Bolts



HEAVY HEX NUTS FOR USE WITH STRUCTURAL BOLTS										ASME B 18.2.2* & 18.2.6
Nominal Size or Basic Major Diameter of Thread		F			G		H			
		Width Across Flats			Width Across Corners		Thickness			
		Basic	Max	Min	Max	Min	Basic	Max	Min	
1/4 *	0.2500	1/2	0.500	0.488	0.577	0.556	15/64	0.250	0.218	
5/16 *	0.3125	9/16	0.562	0.546	0.650	0.622	19/64	0.314	0.280	
3/8 *	0.3750	11/16	0.688	0.669	0.794	0.763	23/64	0.377	0.341	
1/2	0.5000	7/8	0.875	0.850	1.010	0.969	31/64	0.504	0.464	
5/8	0.6250	1-1/16	1.062	1.031	1.227	1.175	39/64	0.631	0.587	
3/4	0.7500	1-1/4	1.250	1.212	1.443	1.382	47/64	0.758	0.710	
7/8	0.8750	1-7/16	1.438	1.394	1.660	1.589	55/64	0.885	0.833	
1	1.0000	1-5/8	1.625	1.575	1.876	1.796	63/64	1.012	0.956	



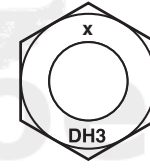
Grade-C



A194 Grade-2



A 563 Grade-DH



A 563 Grade-DH3

Description	A six-sided internally threaded fastener which is both thicker and wider across the flats than a same-sized finished hex nut. Nuts in sizes 7/16 & smaller shall be double chamfered. Larger sizes are either double chamfered or chamfered on top with a washer faced bearing surface.
Applications/Advantages	This is the strongest of all comparably-graded nuts due to its greater length of thread engagement and greater resistance to dilation (widening or stretching). <i>Grade-C</i> nuts are to be used with A-325 structural bolts. <i>Grade-2H</i> nuts are to be used with bolts in high-pressure and high-temperature service. <i>Grade-DH</i> nuts are recommended for use with A-490, Type-1 structural bolts and <i>Grade-DH3</i> nuts for use with A-490, Type-3 structural bolts.
Material	Nuts shall be made from a steel which conforms to the following chemical composition requirements (heat analysis)-- <i>Grade C</i> -- Carbon: 0.55% maximum; Phosphorus: 0.12% maximum; Sulfur: 0.023% maximum. <i>A 194 Grade-2H</i> - Carbon: 0.40% min; Manganese: 1.00% max; Phosphorus: 0.04% max; Sulfur: 0.05% max; Silicon: 0.40% max. <i>A 563 Grade-DH</i> - Carbon: 0.20-0.55%; Manganese: 0.60% minimum; Phosphorus: 0.04% maximum; Sulfur: 0.05% maximum. <i>Grade-DH3</i> - Carbon: 0.20-0.53%; Manganese: 0.40% minimum; Phosphorus: 0.046% maximum; Sulfur: 0.050% maximum; Copper: 0.20% minimum; Chromium: 0.45% minimum; (Either Nickel: 0.20% minimum or Molybdenum: 0.15% minimum, may be used).
Heat Treatment	<i>Grade-2H</i> : Nuts are heat treated by quenching in a liquid medium from a temp above the transformation temp and tempering at a temp of at least 850°F. <i>Grades-C, DH & DH3</i> : Nuts are heat treated by quenching in a liquid medium from a temp above the transformation temp and tempering at a temp of at least 800°F.
Core Hardness	<i>Grade-C</i> : Rockwell B78 - C38 <i>A 194 Grade-2H, A 563 Grades DH & DH3</i> : Rockwell C24 - C38
Proof Load	<i>Grade-C</i> : 144,000 psi. <i>Grade-2H</i> : 150,000 psi. <i>Grades-DH & DH3</i> : 175,000 psi.
Plating	See Appendix-A for plating information.