

HEX NUTS AND HEX JAM NUTS

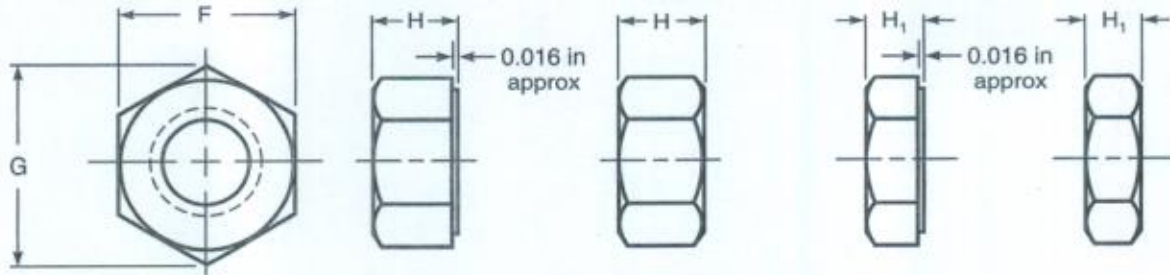


Table 3 Dimensions of Hex Nuts and Hex Jam Nuts

Nominal Size or Basic Major Dia of Thread	F			G		H			H ₁			Runout of Bearing Face, FIM			
	Width Across Flats			Width Across Corners		Thickness Hex Nuts			Thickness Hex Jam Nuts			Hex Nuts		Hex Jam Nuts	
												Specified Proof Load			
	Basic	Max	Min	Max	Min	Basic	Max	Min	Basic	Max	Min	Up to 150,000 psi	150,000 psi and Greater	All Strength Levels	
1/4	0.2500	7/16	0.438	0.428	0.505	0.488	7/32	0.226	0.212	5/32	0.163	0.150	0.015	0.010	0.015
5/16	0.3125	1/2	0.500	0.489	0.577	0.557	17/64	0.273	0.258	3/16	0.195	0.180	0.016	0.011	0.016
3/8	0.3750	9/16	0.562	0.551	0.650	0.628	21/64	0.337	0.320	7/32	0.227	0.210	0.017	0.012	0.017
7/16	0.4375	11/16	0.688	0.675	0.794	0.768	3/8	0.385	0.365	1/4	0.260	0.240	0.018	0.013	0.018
1/2	0.5000	3/4	0.750	0.736	0.866	0.840	7/16	0.448	0.427	5/16	0.323	0.302	0.019	0.014	0.019
9/16	0.5625	7/8	0.875	0.861	1.010	0.982	31/64	0.496	0.473	5/16	0.324	0.301	0.020	0.015	0.020
5/8	0.6250	15/16	0.938	0.922	1.083	1.051	35/64	0.559	0.535	3/8	0.387	0.363	0.021	0.016	0.021
3/4	0.7500	1-1/8	1.125	1.088	1.299	1.240	41/64	0.665	0.617	27/64	0.446	0.398	0.023	0.018	0.023
7/8	0.8750	1-5/16	1.312	1.269	1.516	1.447	3/4	0.776	0.724	31/64	0.510	0.458	0.025	0.020	0.025
1	1.0000	1-1/2	1.500	1.450	1.732	1.653	55/64	0.887	0.831	35/64	0.575	0.519	0.027	0.022	0.027
1-1/8	1.1250	1-11/16	1.688	1.631	1.949	1.859	31/32	0.999	0.939	39/64	0.639	0.579	0.030	0.025	0.030
1-1/4	1.2500	1-7/8	1.875	1.812	2.165	2.066	1-1/16	1.094	1.030	23/32	0.751	0.687	0.033	0.028	0.033
1-3/8	1.3750	2-1/16	2.062	1.994	2.382	2.273	1-11/64	1.206	1.138	25/32	0.815	0.747	0.036	0.031	0.036
1-1/2	1.5000	2-1/4	2.250	2.175	2.598	2.480	1-9/32	1.317	1.245	27/32	0.880	0.808	0.039	0.034	0.039
See Notes	9	3			4								2		

NOTES TO TABLE 3:

- Unification.** Bold type indicates products unified dimensionally with British and Canadian standards. Unification of fine thread nuts is limited to sizes 1 in. and smaller.
- Tops and Bearing Surfaces of Nuts.** Nuts in sizes 5/8 in. nominal size and smaller shall be double chamfered. Larger size nuts shall be double chamfered or have washer faced bearing surface and chamfered top.
The diameter of chamfer circle on double chamfered nuts and diameter of washer face shall be within the limits of the maximum width across flats and 95 percent of the minimum width across flats.
The tops of washer faced nuts shall be flat and the diameter of chamfer circle shall be equal to the maximum width across flats within a tolerance of minus 15 percent. The length of chamfer at hex corners shall be from 5 to 15 percent of the basic thread diameter. The surface of chamfer may be slightly convex or rounded.
Bearing surfaces shall be flat and perpendicular to the axis of the threaded hole within the FIM limits specified for the respective nut type and strength level.
- Width Across Flats.** Maximum width across flats shall not be exceeded (see exception in General Data). No transverse section through the nut between 25 and 75 percent of the actual nut thickness as measured from the bearing surface shall be less than the minimum width across flats. For milled-from-bar nuts, see statement in General Data pertaining to the nominal bar size to be used.
- Corner Fill.** A rounding or lack of fill at junction of hex corners with chamfer shall be permissible provided the width across corners is within specified limits at and beyond a distance equal to 17.5 percent of the basic thread diameter from the chamfered faces.

- True Position of Tapped Hole.** The axis of tapped hole shall be located at true position with respect to the axis of nut body within a tolerance zone having a diameter equivalent to 4 percent of the maximum width across flats, regardless of feature size.
- Countersink.** Tapped hole shall be countersunk on the bearing face or faces. The maximum countersink diameter shall be the thread basic (nominal) major diameter plus 0.030 in. for 3/8 in. nominal size nuts and smaller, and 1.08 times the basic major diameter for nuts larger than 3/8 in. No part of the threaded portion shall project beyond the bearing surface.
- Threads.** Threads shall be Unified coarse, fine, or 8 thread series (UNC, UNF, or 8 UN series), Class 2B, in accordance with ASME B1.1, page A-46.
- Material.** Unless otherwise specified, chemical and mechanical properties of steel nuts shall conform with Grade A of ASTM A563, page B-167; or Grade 2 of SAE J995, page N-46. Nuts of other materials such as corrosion resistant (stainless) steel, brass, bronze and aluminum alloys shall have properties as agreed upon between the manufacturer and purchaser. The properties for nuts of several grades of corrosion resistant steel alloys are covered in ASTM F594, page B-177, and of several nonferrous materials in ASTM F467, page B-184.
- Nominal Size.** Where specifying nominal size in decimals, zeros preceding the decimal and in the fourth decimal place shall be omitted.
- For additional requirements, see the Introductory Notes and General Data, page D-3.
- Weights of hex and hex jam nuts are given on page N-34.
- Formulas for nut dimensions are in Appendix II, page D-21.