Heavy Hex Nut Dimensions: ASME B18.2.2

Inch series, 3/8 to 4 in. Across flats F is the basic (max) figure and also the socket size. Across corners is the max figure. Thickness H is the basic figure with its decimal equivalent. Dimensions in inches. Weights are approximate, per nut, for steel.

Heavy hex nut dimensions

Nominal size	Across flats F (socket)	Across corners, in	Thickness H	Weight	Bar stock to machine
3/8	11/16 (0.688)	0.794	23/64 (0.359)	0.03 lb / 0.01 kg	1.00 in
1/2	7/8 (0.875)	1.010	31/64 (0.484)	0.07 lb / 0.03 kg	1.25 in
5/8	1-1/16 (1.062)	1.227	39/64 (0.609)	0.12 lb / 0.05 kg	1.25 in
3/4	1-1/4 (1.250)	1.443	47/64 (0.734)	0.20 lb / 0.09 kg	1.50 in
7/8	1-7/16 (1.438)	1.660	55/64 (0.859)	0.30 lb / 0.14 kg	1.75 in
1	1-5/8 (1.625)	1.876	63/64 (0.984)	0.43 lb / 0.20 kg	2.00 in
1-1/8	1-13/16 (1.812)	2.093	1-7/64 (1.109)	0.59 lb / 0.27 kg	2.25 in
1-1/4	2 (2.000)	2.309	1-7/32 (1.219)	0.79 lb / 0.36 kg	2.50 in
1-3/8	2-3/16 (2.188)	2.526	1-11/32 (1.344)	1.02 lb / 0.46 kg	2.75 in
1-1/2	2-3/8 (2.375)	2.742	1-15/32 (1.469)	1.31 lb / 0.59 kg	2.75 in
1-3/4	2-3/4 (2.750)	3.175	1-23/32 (1.719)	2.04 lb / 0.93 kg	3.25 in
2	3-1/8 (3.125)	3.608	1-31/32 (1.969)	2.99 lb / 1.36 kg	3.75 in
2-1/4	3-1/2 (3.500)	4.041	2-13/64 (2.203)	4.19 lb / 1.90 kg	4.25 in
2-1/2	3-7/8 (3.875)	4.474	2-29/64 (2.453)	5.64 lb / 2.56 kg	4.50 in
3	4-5/8 (4.625)	5.340	2-61/64 (2.953)	9.50 lb / 4.31 kg	5.50 in
3-1/2	5-3/8 (5.375)	6.207	3-7/16 (3.438)	15.26 lb / 6.92 kg	6.25 in
4	6-1/8 (6.125)	7.073	3-15/16 (3.938)	21.80 lb / 9.89 kg	7.25 in

Heavy hex nut grades and what they pair with

Grade	What it is	Pairs with
ASTM A563 grade A	Plain carbon steel, the commercial grade	General fastening, A307 bolts, the default when a drawing just says “steel hex nut, heavy pattern”
ASTM A563 grade DH	Quenched and tempered	A325 and A490 structural bolts, the grade the structural code names
ASTM A194 grade 2H	Quenched and tempered, proof-tested at 175,000 psi	A193 B7 stud bolts on pressure flanges, and an accepted substitute for DH on structural joints

Two rules for a quick check: across flats = 1.5 × diameter + 1/8 in, and thickness is about the nominal diameter (within 1/32 in up to 2 in; the largest sizes run up to 1/16 in under). A standard hex nut is 1/8 in narrower and thinner, so the two patterns are not interchangeable on a specified joint. Bar stock is the across-corners figure rounded up to the next 1/4 in stock size. Check the drawing and the standard where they apply.

Need a size, thread or material no catalogue lists? We machine heavy hex nuts to your drawing, sketch or sample. From 1 piece, quote in 12 hours.

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