

Precision Acme Lead Screws

About Precision Acme Lead Screws

For a simple, yet effective way to convert rotary motion into smooth, precise linear motion, choose precision Acme lead screws. Although not as mechanically efficient as ball screws (a precision Acme lead screw system operates at about 30% efficiency, while a ball screw system operates at about 90% or better), they're more economical and ideal for applications involving lower speeds and cycles.

Precision Acme threads are broader, more square, and stronger than standard "V"-shaped threads which means they're better suited for load carrying. They have a 2C thread fit which is a tighter, more precise thread fit than our general purpose Acme threaded rod (see page 2957) which has a thread fit of 2G. The 2C thread fit also helps eliminate wedging, reduces friction, and increases screw life.

Precision Acme lead screws have an extremely smooth finish that helps reduce friction. The lead accuracy (the variation of distance a nut travels in a complete turn) over the length of the screw is 0.009" per foot or better. All screws have rolled threads.

Note: To prevent galling (roughness on the surface of metal caused by friction) in most linear motion applications, we recommend using screws and nuts made of different materials. Both bronze and plastic nuts work well with all of the screw materials we offer.

Turns per Inch—For single-start screws, turns per inch is equal to the number of threads per inch. For multiple-start screws, turns per inch is equal to the number of threads per inch divided by the number of starts on the screw.

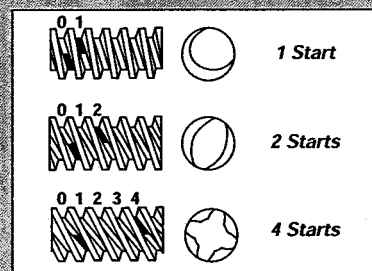
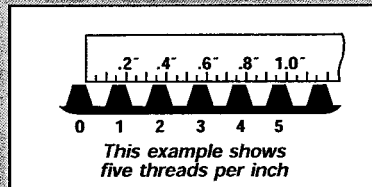
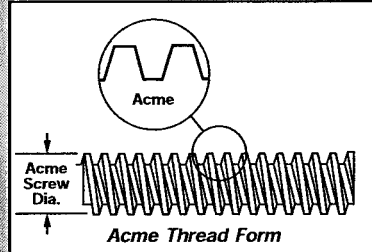
Acme Screw Diameter—Also referred to as the major diameter, Acme screw diameter is the outer diameter of the screw that's formed by the crests of the threads.

To Determine Threads per Inch—Place a rule on your screw and count the number of threads in an inch as shown in the diagram at left.

Starts—The number of independent threads on a screw. Multiple-start screws provide faster nut travel than single-start screws. For example, a single-start, 10-turns-per-inch, 1/2" dia. Acme lead screw with 10 threads per inch requires 10 revolutions for the nut to travel one inch. A multiple-start, 2-turns-per-inch, 1/2" dia. Acme lead screw with 10 threads per inch and five starts only requires two revolutions for the nut to travel one inch.

Most single-start screws are self-locking and help resist backdrive so a braking device is not necessary. Multiple-start screws are not self-locking and may require some sort of braking device to hold them in position.

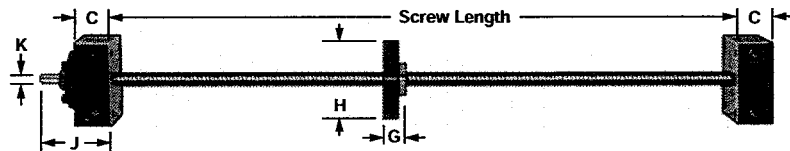
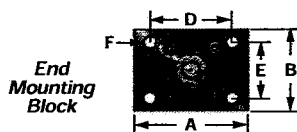
To Determine Number of Starts—Place a pencil tip in your thread's groove and turn the thread one revolution (see diagram at left). If the end of your pencil mark is in the next groove, you have a single-start screw. If there's a thread groove between the beginning and



end of your pencil mark, you have a two-start screw. If there are two thread grooves between the beginning and end of your pencil mark, you have a three-start screw, and so on.

Another way to determine the number of starts is to look at the end of your screw (see diagram at left). The end of a single-start screw is an offset circle. The end of a two-start screw is shaped like a football. The end of a four-start screw has four corners. You can easily count the starts on screws with five or more starts.

Precision Acme Lead Screw Assemblies with End Blocks



No machining required, these assemblies offer "plug-and-play" convenience. Each consists of one precision Acme lead screw with machined ends; one round nut with flange; and two universal-mount, bearing-support, end mounting blocks.

The precision Acme lead screw is made of 4140 alloy steel and has a right-hand thread. Both ends are machined to fit in blocks—the drive end has a keyway so you can connect it to a motor or hand crank. Lead accuracy is 0.003" per ft. Minimum tensile strength is 95,000 psi. Hardness is 200 Brinell.

The nut is bronze, while the flange is steel with 2.09" bolt circle

diameter and 0.266" diameter mounting holes (except where noted). Hardness is 131 to 137 Brinell.

End mounting blocks allow you to mount precision Acme lead screws because they feature precision-ground mounting surfaces on the back and bottom. Made of steel, blocks include angular contact bearings for axial rigidity. They also have a locknut, lockwasher, and seals that can be replaced.

To Order: Please specify 6", 12", 18", 24", 30", 36", 42", or 48" screw length.

Turns per Inch	Acme Screw Dia.	Starts	Threads per Inch	Load Cap., lbs.	End Mounting Block							Nut Lg. (G)	Flange Dia. (H)	Shaft Dia. (K)	Each
					Wd. (A)	Ht. (B)	Ctr. to Ctr. (C)	Ctr. to Ctr. (D)	Ctr. to Ctr. (E)	Dia. (F)					
2	1/2"	5	10	1,250	2.75"	2.00"	1.18"	2.00"	1.38"	0.28"	0.75"	2.60"	2.50"	0.312"	1332K11 \$583.02
2	3/4"	4	8	2,812	3.50"	2.22"	1.38"	2.75"	1.25"	0.28"	1.25"	2.60"	3.29"	0.406"	1332K12 1046.83
2	1"	2	4	5,000	4.50"	2.69"	1.69"	3.38"	1.38"	0.41"	1.50"	2.76"	3.65"	0.500"	1332K13 1156.56
2	1 1/2"	2	4	11,250	6.50"	3.69"	1.94"	4.75"	2.00"	0.66"	2.30"	4.20"	4.86"	1.000"	1332K14* 1649.83
3	3/4"	2	6	2,812	3.50"	2.22"	1.38"	2.75"	1.25"	0.28"	1.25"	2.60"	3.29"	0.406"	1332K15 1046.83
4	1/2"	2	8	1,250	2.00"	1.38"	1.19"	1.50"	0.88"	0.22"	0.75"	2.60"	2.00"	0.250"	1332K16 759.93
4	1"	1	4	5,000	4.50"	2.69"	1.69"	3.38"	1.38"	0.41"	1.50"	2.76"	3.65"	0.500"	1332K17 1133.84
5	1/2"	2	10	1,250	2.75"	2.00"	1.18"	2.00"	1.38"	0.31"	0.75"	2.60"	2.38"	0.250"	1332K19 788.55
5	3/4"	1	5	2,812	3.50"	2.22"	1.38"	2.75"	1.25"	0.28"	1.25"	2.60"	3.29"	0.406"	1332K21 1046.83
5	1"	1	5	5,000	4.50"	2.69"	1.69"	3.38"	1.38"	0.41"	1.50"	2.76"	3.65"	0.500"	1332K22 1133.84
6	3/4"	1	6	2,812	3.50"	2.22"	1.38"	2.75"	1.25"	0.28"	1.25"	2.60"	3.29"	0.406"	1332K24 1046.83
6	1"	1	6	5,000	4.50"	2.69"	1.69"	3.38"	1.38"	0.41"	1.50"	2.76"	3.65"	0.500"	1332K25 1133.84
10	1/2"	1	10	1,250	2.75"	2.00"	1.19"	2.00"	1.38"	0.28"	0.75"	2.60"	2.00"	0.250"	1332K26 788.55
10	1"	1	10	5,000	5.00"	3.03"	1.72"	3.75"	1.50"	0.47"	1.50"	2.76"	4.03"	0.625"	1332K27 1200.68

* Bolt circle dia. is 2.26". * Bolt circle dia. is 3.44" and flange mounting hole dia. is 0.397".

Acme Lead Screw Lubricants

Maximize the life of your Acme screws. Each lubricant is a synthetic, corrosion-resistant grease with calcium-sulfonate thickener for sticking to screws. Operating temperature range is 15° to 400° F.

	Size	Each
Spray	12 oz.	1353K2 \$14.60
Gel	1 lb.	1353K1 9.49

For information about precision Acme lead screws, see page 962.

The diagram shows a worm gear with dimensions A (pitch diameter) and B (throat radius). To the right, two cross-sections of helical gears are shown, labeled 'Right-Hand' and 'Left-Hand', illustrating the helix angle.

To Order:—Where applicable, please specify right- or left-hand threads. Sizes marked with a • are not available with left-hand threads.

Turns per inch	Acme Dia.	Starts	Threads per inch	Threads		Gray Iron			660 Bronze			Plastic		
				OD (A)	Lg. (B)	Load Cap., lbs.		Each	Load Cap., lbs.		Each	Load Cap., lbs.		Each
2	3/8"	4	8	1.35"	0.75"	512	95365A401	\$25.76	700	1343K11	\$24.78	350	1349K11	\$24.41
2	1/2"	5	10	1.465"	1.00"	942	95365A402	27.27	1,300	1343K12	27.44	650	1349K12	26.00
3	1/4"	4	12	1.35"	0.75"	330	95365A403	25.76	325	1343K13	24.78	162	1349K13	24.41
4	3/8"	2	8	1.35"	0.75"	512	95365A404	22.27	700	1343K14	24.78	350	1349K14	24.41
4	1/2"	2	8	1.465"	1.00"		95365A405	21.97	1,300	1343K15	27.44	650	1349K15	26.00
4	1"	1	4	2.985"	2.00"	3,393	95365A406	38.94	5,000	1343K16	87.38	2,500	1349K16	81.97
4	1 1/4"	1	4	3.73"	2.50"	5,301	95365A407	81.82	7,850	1343K17	147.59	3,925	1349K17	149.22
4	1 1/2"	1	4	4.47"	3.00"	7,634	95365A408	112.78	12,000	1343K18	211.75	6,000	1349K18	260.88
4	2"	1	4	6.00"	4.00"	13,572	95365A409	224.24	20,000	1343K19	432.53	10,000	1349K19	432.53
5	3/8"	2	10	1.35"	0.75"	530	95365A411	22.27	700	1343K21	24.78	350	1349K21	24.41
5	1/2"	2	10	1.465"	1.00"	942	95365A412	21.97	1,300	1343K22	27.44	650	1349K22	26.00
5	5/8"	1	5	1.86"	1.25"	1,350	95365A413	24.24	2,000	1343K23	36.00	1,000	1349K23	34.28
5	3/4"	1	5	2.235"	1.50"	1,944	95365A414	31.59	2,900	1343K24	58.75	1,450	1349K24	55.75
5	1 1/4"	1	5	3.73"	2.50"	5,400	95365A416	78.63	7,850	1343K26	147.59	3,925	1349K26	149.22
5	1 1/2"	1	5	4.47"	3.00"	7,775	95365A417	120.00	12,000	1343K27	211.75	6,000	1349K27	260.88
6	3/4"	1	6	2.235"	1.50"	1,978	95365A418	31.59	2,900	1343K28	58.75	1,450	1349K28	55.75
6	1"	1	6	2.985"	2.00"	3,517	95365A419	33.82	5,000	1343K29	87.38	2,500	1349K29	81.97
8	3/8"	1	8	1.35"	0.75"	512	95365A421	17.73	700	1343K31	24.78	350	1349K31	24.41
8	5/8"	1	8	1.86"	1.25"	1,424	95365A422	24.00	2,000	1343K32	36.00	1,000	1349K32	34.28
10	3/8"	1	10	1.35"	0.75"	530	95365A423	17.73	700	1343K33	24.78	350	1349K33	24.41
10	1/2"	1	10	1.465"	1.00"	942	95365A424	18.86	1,300	1343K34	27.44	650	1349K34	26.00
10	5/8"	1	10	1.86"	1.25"	1,473	95365A425	24.24	2,000	1343K35	36.00	1,000	1349K35	34.28
10	3/4"	1	10	2.235"	1.50"	2,121	95365A426	34.85	2,900	1343K36	58.75	1,450	1349K36	55.75
10	1"	1	10	2.985"	2.00"	3,770	95365A427	33.82	5,000	1343K37	87.38	2,500	1349K37	81.97
12	3/8"	1	12	1.35"	0.75"	495	95365A428	18.06	700	1343K38	24.78	350	1349K38	24.41
16	3/8"	1	16	1.35"	0.75"	512	95365A429	18.18	700	1343K39	24.78	350	1349K39	24.41

Turns per inch	Acme Dia.	Starts	Threads per inch	3-ft. Lengths		6-ft. Lengths	
					Each		Each
4	1 1/2"	1	4			99015A21	\$1002.14
4	2"	1	4			99015A22	1432.20
5	3/4"	1	5	99015A11	\$217.58	99015A301	338.98
5	1"	1	5	99015A12	317.21	99015A409	494.20
5	1 1/4"	1	5			99015A23	837.56
6	3/4"	1	6	99015A13	217.58	99015A24	362.63
8	5/8"	1	8	99015A14	197.79		
10	1/2"	1	10	99015A15	180.70		
10	3/4"	1	10	99015A16	249.07	99015A305	388.04
12	1"	1	10	99015A17	361.40	99015A414	564.96
12	3/8"	1	12	99015A18	148.95		
16	1/4"	1	16	99015A19	148.95		

The image contains two technical diagrams of nuts. The first diagram, labeled 'Nut with Flange', shows a perspective view of a threaded nut on the left and a top-down view of a flanged nut on the right. The top-down view has four dimensions: 'E' for the total height, 'B' for the flange diameter, 'A' for the flange thickness, and 'F' for the central hole diameter. The second diagram, labeled 'Machinable Nut', shows a perspective view of a standard nut on the left and a top-down view of a machinable nut on the right. The top-down view has three dimensions: 'H' for the total height, 'G' for the body height, and 'D' for the outer diameter. Below the diagrams are the labels 'Nut with Flange' and 'Machinable Nut'.

Machinable Nuts—All are bronze and have an oversized outside diameter that you can machine for a custom shape. Hardness is 131 Brinell.

				NUTS													
				Nuts with Flange						Machinable Nuts							
mm per Turn	Dia., mm	Threads per cm	SCREWS Each	Load Cap., lbs.	OD (A)	Lg. (B)	Dia. (E)	Thick. (F)	Bolt Circle Dia.	Each	OD (G)	Lg. (H)	Each				
2	10	5	7549K1	\$53.63	674	0.68"	0.625"	1.60"	0.41"	1.125"	7549K16		\$57.63	0.75"	0.75"	7549K32	\$22.46
3	12	3.3	7549K2	59.11	1,124	1.125"	0.750"	2.60"	0.53"	2.09"	7549K17		68.15	0.875"	1.00"	7549K33	24.94
3	14	3.3	7549K3	62.02	1,500	1.125"	0.750"	2.60"	0.53"	2.09"	7549K18		68.15	1.000"	1.125"	7549K34	27.02
3	16	3.3	7549K4	62.20	2,023	1.125"	1.000"	2.60"	0.53"	2.09"	7549K19		60.80	1.125"	1.25"	7549K35	27.02
4	16	2.5	7549K5	76.05	2,023	1.125"	1.000"	2.60"	0.53"	2.09"	7549K21		60.80	1.125"	1.25"	7549K36	27.02
4	20	2.5	7549K6	78.27	3,147	1.125"	1.250"	2.60"	0.53"	2.09"	7549K22		64.63	1.25"	1.50"	7549K37	29.88
5	24	2	7549K7	97.50	4,496	1.50"	1.500"	2.75"	0.52"	2.26"	7549K23		77.93	1.75"	2.00"	7549K38	40.20
5	28	2	7549K8	107.96	6,069	2.125"	1.750"	4.20"	0.832"	3.44"	7549K24*		120.30	1.75"	2.00"	7549K39	40.20
6	32	1.7	7549K9	111.09	7,868	2.125"	1.750"	4.20"	0.832"	3.44"	7549K25*		120.30	2.00"	2.50"	7549K41	48.24
6	36	1.7	7549K11	172.91	10,116	2.125"	1.750"	4.20"	0.832"	3.44"	7549K26*		120.30	2.25"	2.75"	7549K42	65.92
7	40	1.4	7549K12	194.07	12,364	2.125"	2.300"	4.938"	0.895"	4.062"	7549K27 ♦		212.17	2.50"	3.00"	7549K43	75.30
7	44	1.4	7549K13	195.82	15,287	2.75"	2.750"	4.938"	0.895"	4.062"	7549K28 ♦		212.17	2.25"	3.50"	7549K44	159.54
8	48	1.3	7549K14	244.48	17,984	2.75"	2.750"	4.938"	0.895"	4.062"	7549K29 ♦		318.70	3.25"	4.00"	7549K45	207.94
8	52	1.3	7549K15	285.64	21,581	2.75"	2.750"	4.938"	0.895"	4.062"	7549K31 ♦		318.70	3.25"	4.00"	7549K46	207.94

★ Mounting hole dia. is .397". ♦ Mounting hole dia. is .531".

Hand Taps & Acme Tandem Taps

For information about taps, coatings, surface treatments, and pitch diameter limits, see page 2212.

High-Speed Steel Extension and Nut Taps

Get into areas regular taps can't reach. Taps are uncoated (bright finish) and have an H3 pitch diameter limit. All have a plug chamfer and four flutes except tap size 6-32, which has three flutes.

Extension Taps—Long-shank taps are best when extra reach is needed.

Nut Taps—Use for tapping small quantities of nuts in machines. Extra shank length and small shank diameter accommodate several nuts at a time. When the shank is full, the tap is taken out of the machine and the nuts removed. This eliminates reversing the tap after each nut is threaded.

Tap Size and Threads Per Inch	Shank Dia.	Thread Lg.	O'all Lg.	Drill Size	Each
Extension Taps					
6-32	0.141"	1 1/16"	6"	#36	2582A12 \$11.81
8-32	0.169"	3/4"	6"	#29	2582A13 11.68
10-24	0.194"	7/8"	6"	#26	2582A14 11.10
10-32	0.194"	7/8"	6"	#21	2582A16 11.10
1/4"-20	0.255"	1"	6"	#7	2582A31 21.20
1/4"-28	0.255"	1"	6"	#3	2582A32 21.20
5/16"-18	0.318"	1 1/8"	6"	F	2582A33 22.59
5/16"-24	0.318"	1 1/8"	6"	I	2582A34 22.16
3/8"-16	0.381"	1 1/4"	6"	5/16"	2582A35 24.30
3/8"-24	0.381"	1 1/4"	6"	Q	2582A36 24.60
7/16"-14	0.323"	1 7/16"	6"	U	2582A17 12.22

Tap Size and Threads Per Inch	Shank Dia.	Thread Lg.	O'all Lg.	Drill Size	Each
Extension Taps (Cont.)					
7/16"-20	0.323"	1 7/16"	6"	25/64"	2582A18 \$21.51
1/2"-13	0.367"	1 21/32"	6"	27/64"	2582A19 12.59
1/2"-20	0.367"	1 21/32"	6"	29/64"	2582A21 25.58
5/8"-11	0.480"	1 13/16"	6"	17/32"	2582A22 16.25
5/8"-18	0.480"	1 13/16"	6"	37/64"	2582A23 33.86
Nut Taps					
1/4"-20	0.185"	1 5/8"	5"	#7	2583A12 29.27
5/16"-18	0.240"	1 13/16"	5 1/2"	F	2583A13 33.19
3/8"-16	0.294"	2"	6"	5/16"	2583A14 38.68
1/2"-13	0.400"	2 1/2"	7"	27/64"	2583A16 50.07

Carbon-Steel Hand Taps

Not as long lasting or accurate as high-speed steel taps, but an economical choice for maintenance threading. Taps are uncoated (bright finish). Tap sizes 0-80 and 1-72 have two flutes; sizes 2-56 to 6-32 and 1/8"-40 have three flutes; 8-32 to 12-24, 3/16"-24 to 1/4"-7, 1/8"-6, and 1/2"-6 have four flutes; and 1/4"-12, 1/8"-12, 1/4"-5, and 2"-4 1/2" have six flutes. **Note:** For drill sizes to use with taps, see our high-speed steel hand taps on page 2218.

To Order: Please specify taper, plug, or bottoming chamfer.

Tap sets include one each taper, plug, and bottoming tap of the same size (a set of all three taps is recommended when tapping to the bottom of a blind hole). Sets are furnished in a plastic tray pack.

Tap Size and Threads Per Inch	Thread Lg.	O'all Lg.	Taps Each	Tap Sets Per Set
0-80	5/16"	1 5/8"	25995A111 \$4.84	25995A117 \$14.52
1-72	3/8"	1 11/16"	25995A112 4.54	25995A118 13.61
2-56	7/16"	1 3/4"	25995A111 4.79	25995A333 14.38
4-40	9/16"	1 7/8"	25995A412 2.15	25995A335 6.46
6-32	1 1/16"	2"	25995A413 1.71	25995A337 5.12
8-32	3/4"	2 1/8"	25995A414 1.71	25995A338 5.12
10-24	7/8"	2 3/8"	25995A415 1.84	25995A339 5.52
10-32	7/8"	2 3/8"	25995A416 1.84	25995A359 5.52
12-24	1 5/16"	2 3/8"	25995A417 2.15	25995A341 5.52
1/8"-40	5/8"	1 15/16"	26035A511 2.10	26035A413 4.85
3/16"-24	7/8"	2 3/8"	26035A512 2.33	26035A416 7.00
1/4"-20	1"	2 1/2"	26035A513 2.12	26035A351 6.35
1/4"-28	1"	2 1/2"	26035A514 2.12	26035A371 6.35
5/16"-18	1 1/8"	2 23/32"	26035A515 2.56	26035A352 7.68
5/16"-24	1 1/8"	2 23/32"	26035A516 2.56	26035A372 7.68
3/8"-16	1 1/4"	2 15/16"	26035A517 2.87	26035A353 8.60
3/8"-24	1 1/4"	2 15/16"	26035A518 2.87	26035A373 8.60
7/16"-14	1 7/16"	3 3/32"	26035A519 3.79	26035A354 11.38
7/16"-20	1 7/16"	3 3/32"	26035A521 3.79	26035A374 11.38
1/2"-13	1 21/32"	3 3/8"	26035A522 4.32	26035A355 12.97
1/2"-20	1 21/32"	3 3/8"	26035A523 4.32	26035A375 12.97

Tap Size and Threads Per Inch	Thread Lg.	O'all Lg.	Taps Each	Tap Sets Per Set
9/16"-12	1 21/32"	3 19/32"	26035A524 \$5.87	26035A356 \$17.60
9/16"-18	1 21/32"	3 19/32"	26035A525 5.87	26035A376 17.60
5/8"-11	1 13/16"	3 13/16"	26035A526 6.57	26035A357 19.72
5/8"-18	1 13/16"	3 13/16"	26035A527 6.57	26035A377 19.72
3/4"-10	2"	4 1/4"	26035A528 9.40	26035A359 28.19
3/4"-16	2"	4 1/4"	26035A529 9.40	26035A379 28.19
7/8"-9	2 1/32"	4 11/16"	26035A531 13.06	26035A361 39.85
7/8"-14	2 1/32"	4 11/16"	26035A532 13.06	26035A381 39.18
1"-8	2 1/2"	5 1/8"	26035A533 16.15	26035A362 48.44
1"-12	2 1/2"	5 1/8"	26035A534 16.15	26035A382 48.44
1"-14	2 1/2"	5 1/8"	26035A535 17.71	26035A844 53.13
1 1/8"-7	2 9/16"	5 7/16"	26035A536 36.08	26035A363 108.24
1 1/8"-12	2 9/16"	5 7/16"	26035A537 36.08	26035A383 108.24
1 1/4"-7	2 9/16"	5 3/4"	26035A538 41.42	26035A364 124.26
1 1/4"-12	2 9/16"	5 3/4"	26035A539 41.42	26035A384 124.26
1 3/8"-6	3"	6 1/16"	26035A541 66.83	26035A365 200.52
1 3/8"-12	3"	6 1/16"	26035A542 66.83	26035A385 200.52
1 1/2"-6	3"	6 3/8"	26035A543 78.78	26035A366 236.22
1 3/4"-5	3 1/8"	7"	26035A544 114.33	26035A367 342.95
2"-4 1/2	3 9/16"	7 5/8"	26035A545 153.92	26035A368 461.71

High-Speed Steel Acme Tandem Taps

Taps combine a roughing cut and a finishing cut in one pass to form an acme thread. Taps have four flutes and are designed to give a Class 2G thread fit. Use only for tapping through-holes.

Straight-flute taps are uncoated (bright finish). **Spiral-flute taps** increase efficiency by shooting chips forward through the tapped hole. They have an oxide surface treatment and can be used in holes 5% to 10% deeper than straight-flute taps.

Also Available: Other sizes. Please ask for 25345A999 and specify style (straight flute or spiral flute and right- or left-hand thread), tap size, material to be tapped, through-hole or blind hole, and hole depth.

Tap Size and Threads Per Inch	Shank Dia.	Thread Lg.	O'all Lg.	Drill Size	Max. Depth of Nut Bronze and Steel	Straight Flute For Right-Hand Thread Each	SPIRAL FLUTE	
							For Right-Hand Thread Each	For Left-Hand Thread Each
1/2"-10	0.367"	2 9/16"	5"	Z	1"	25345A55 \$63.00	25345A67 \$77.90	25345A76 \$77.90
5/8"-8	0.480"	3 3/16"	6 1/4"	13.0 mm	1 1/4"	25345A56 78.54	25345A68 92.65	25345A77 92.65
5/8"-10	0.480"	3 3/16"	6 1/4"	1 7/32"	1 1/4"	25345A11 78.54	25345A12 133.82	25345A13 133.82
3/4"-5	0.573"	4 5/16"	7 15/16"	14.5 mm	1 1/2"	25345A14 102.59	25345A15 162.65	25345A16 162.65
3/4"-6	0.573"	4 5/16"	7 15/16"	39/64"	1 1/2"	25345A57 102.59	25345A69 121.47	25345A78 121.47
3/4"-8	0.573"	4 5/16"	7 15/16"	41/64"	1 1/2"	25345A17 102.59	25345A18 162.65	25345A19 162.65
3/4"-10	0.573"	4 5/16"	7 15/16"	21/32"	1 1/2"	25345A21 102.59	25345A22 162.65	25345A23 162.65
7/8"-6	0.697"	4 3/8"	8 5/8"	47/64"	1 3/4"	25345A59 134.90	25345A71 135.51	25345A79 135.51
1"-4	0.730"	5 1/4"	10 1/8"	49/64"	2"	25345A24 146.47	25345A25 187.89	25345A26 187.89
1"-10	0.730"	5 1/4"	10 1/8"	29/32"	2"	25345A27 146.47	25345A72 147.18	25345A84 151.05
1 1/8"-5	0.862"	5 1/4"	10 3/4"	24.0 mm	2 1/4"	25345A62 161.96	25345A28 187.89	25345A29 187.89
1 1/4"-4	0.959"	5 1/4"	11 1/8"	1 1/64"	2 1/2"	25345A31 174.59	25345A73 181.00	25345A85 181.00
1 1/4"-5	0.959"	5 1/4"	11 1/8"	1 5/64"	2 1/2"	25345A63 174.59	25345A32 238.82	25345A33 238.82
1 1/2"-4	1.233"	5 7/8"	12 5/8"	32.5 mm	3"	25345A65 217.13	25345A74 186.67	25345A86 186.67
							25345A75 242.08	25345A87 242.08

◆ Drill sizes shown are the most commonly used sizes and are suitable for the majority of threading requirements. For additional information and other drill sizes, see page 2256.

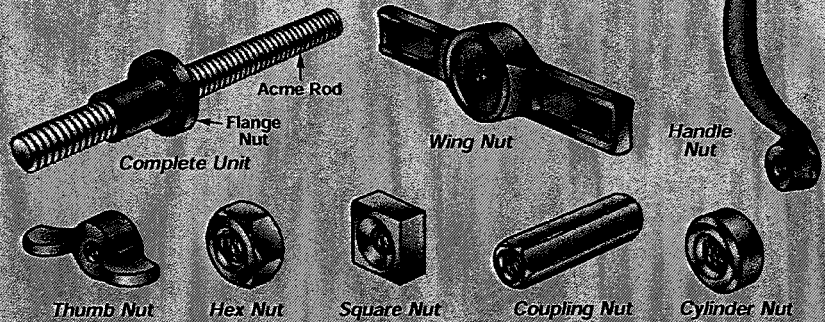
General Purpose Acme Rod

For precision Acme rod and components, see pages 962-966.

About Acme Threads

Acme threads are broader and more square than Standard V-shaped threads, which provides quick threading and strength. They also require less input torque for a given load than V-shaped threads.

General purpose Acme rod and nuts have a Class 2G thread fit. Excellent for frequent assembly and disassembly as well as projects where dirt and other substances are a problem. The threads are easy to clean and can be re-used. Uses include clamps, screw presses, highway construction, hanger rod, adjusting screws, and scaffold-leveling screws.



General Purpose Acme Rod

Furnished in random lengths from 69" to 72".

Grade B7 alloy steel rod is made of heat-treated, plain finish, 4140 alloy steel. Rockwell hardness is C28-32 and minimum tensile strength is 125,000 psi. Rod is ASTM A193 B7 Grade material.

18-8 stainless steel rod is Type 304 stainless steel, corrosion resistant, and may be slightly magnetic. Rockwell hardness is a minimum of B85. Minimum tensile strength is 75,000 psi.

Plain steel rod is C1018 steel and is equivalent to Grade 2 low-strength steel. Rockwell hardness is B72. Minimum tensile strength is 64,000 psi. Rod is ASTM A108 material.

Type 316 stainless steel rod contains molybdenum for enhanced

corrosion resistance compared to 18-8 stainless steel. May be slightly magnetic. Rockwell hardness is a min. of B97. Min. tensile strength is 75,000 psi. Meets ASTM A193, Grade B8M.

Alloy 360 brass rod is immune to rust and resists mild atmospheric corrosion. Nonmagnetic with good strength, durability, and corrosion resistance. Rockwell hardness is a minimum of B55. Minimum tensile strength is 50,000 psi.

Zinc-plated steel rod is the same material as plain steel, but with a zinc-plated finish for improved rust resistance. Rockwell hardness is a minimum of B72. Minimum tensile strength is 64,000 psi.

▲ **Also Available:** Rod in 3-ft. and 12-ft. lengths in Acme sizes indicated with a ▲. To order, please specify Acme size.

For 3-ft. lengths: Ask for 93410A100 for Grade B7 alloy steel; 95061A200 for 18-8 stainless steel; or 98935A300 for plain steel.

For 12-ft. lengths: Ask for 93410A600 for Grade B7 alloy steel; 95061A700 for 18-8 stainless steel; or 98935A800 for plain steel.

Acme Size	GRADE B7 ALLOY STEEL		18-8 STAINLESS STEEL		PLAIN STEEL	
	Right-Hand Thread	Left-Hand Thread	Right-Hand Thread	Left-Hand Thread	Right-Hand Thread	Left-Hand Thread
Each	Each	Each	Each	Each	Each	Each
1/4"-16	93410A305...\$13.79	93410A405...\$15.17	95061A505...\$46.00	95061A715...\$50.60	98935A205...\$10.71	98935A405...\$14.29
3/8"-8	93410A310...13.79	93410A410...15.17	95061A513...46.60	95061A723...51.20	98935A211...17.85	98935A407...23.81
3/8"-10	93410A315...13.79	93410A412...15.17	95061A518...46.60	95061A728...51.20	98935A212...17.85	98935A409...23.81
3/8"-12	93410A110▲...23.84	93410A415...32.52	95061A191▲...62.49		98935A217▲...21.04	98935A410...22.72
1/2"-8	93410A320...21.55	93410A420...23.72	95061A524...57.20	95061A734...63.00	98935A031...24.99	98935A418...33.33
1/2"-10	93410A120▲...35.93	93410A425...43.55	95061A212▲...54.10	95061A412...80.20	98935A033▲...24.68	98935A420...28.14
5/8"-6	93410A325...34.48	93410A430...37.93	95061A528...88.00	95061A738...96.80	98935A034...28.57	98935A427...38.10
5/8"-8	93410A130▲...38.87	93410A435...47.12	95061A213▲...85.65	95061A413...97.89	98935A035▲...29.62	98935A430...32.54
3/4"-5	93410A140▲...49.10	93410A445...59.52	95061A217▲...109.98	95061A417...125.69	98935A218▲...31.87	98935A440...36.28
3/4"-6	93410A150▲...49.10	93410A455...59.52	95061A214▲...109.98	95061A414...125.69	98935A036▲...34.95	98935A450...36.28
3/4"-8	93410A330...41.38	93410A450...45.52	95061A533...112.00	95061A743...123.20	98935A039...32.25	98935A452...43.00
7/8"-6	93410A160...48.28	93410A465...53.10	95061A193▲...133.80		98935A037▲...45.42	98935A460...51.69
1"-4	93410A335...53.45	93410A470...58.79	95061A538...165.00	95061A748...181.40	98935A109...42.66	98935A469...56.89
1"-5	93410A170▲...77.86	93410A475...92.91	95061A215▲...157.63		98935A110▲...50.91	98935A470...57.93
1"-6	93410A180▲...77.86	93410A485...92.21	95061A196▲...157.63		98935A111▲...50.91	98935A480...57.93
1"-8	93410A340...53.45	93410A490...58.79	95061A541...220.00	95061A751...242.00	98935A041...32.14	98935A486...42.86
1"-10	93410A190▲...77.86	93410A495...92.21	95061A198▲...157.63		98935A219▲...50.91	98935A490...57.93
1 1/8"-5	93410A210...77.07	93410A505...84.83	95061A220...217.80		98935A328...54.21	98935A510...61.69
1 1/4"-4	93410A220▲...98.66	93410A525...119.07	95061A201...238.00		98935A112▲...59.30	98935A520...67.48
1 1/4"-5	93410A230▲...98.66	93410A535...119.07	95061A218▲...238.00	95061A418...272.00	98935A131▲...59.30	98935A530...67.48
1 3/8"-4		93410A545...151.72			98935A329...68.51	98935A540...77.97
1 1/2"-4	93410A250▲...129.75	93410A555...161.72	95061A216...420.70		98935A113▲...81.62	98935A550...91.76
1 1/2"-5	93410A345...189.66	93410A557...208.62	95061A562...384.00	95061A772...422.40	98935A331...127.27	98935A555...159.08
2"-4	93410A260...299.74	93410A565...310.34	95061A205...540.72		98935A114...269.10	98935A560...314.55
2 1/4"-4	93410A270...379.31	93410A575...417.24			98935A216...309.48	
2 1/2"-4	93410A280...450.00	93410A585...517.24			98935A215...329.65	

Acme Size	TYPE 316 SS		ALLOY 360 BRASS		ZINC-PLATED STEEL	
	Right-Hand Thread	Left-Hand Thread	Right-Hand Thread	Left-Hand Thread	Right-Hand Thread	Left-Hand Thread
Each	Each	Each	Each	Each	Each	Each
1/2"-10	97014A140 \$64.14	97001A418 \$37.41	98941A250 \$20.00		97014A180 \$194.31	98941A280 \$49.52
5/8"-8	97014A150 85.17	97001A427 58.19	98941A260 24.29		97014A182 199.98	98941A282 51.90
3/4"-5	97014A160 118.62		98941A268 29.05		97014A190 305.34	98941A290 91.43
3/4"-6	97014A170 118.62	97001A439 83.13	98941A270 31.43		97001A484 228.59	98941A300 213.81

Metric Plain Steel General Purpose Acme Rod

Furnished in 2-meter lengths, this is the metric version (also known as trapezoidal thread) of general purpose Acme rod. Rod is C1018 steel and equivalent to Grade 2 low-strength steel. Right-hand threads. Rockwell hardness is a minimum of B72. Minimum tensile strength is 64,000 psi. Rod is ASTM A108 material.

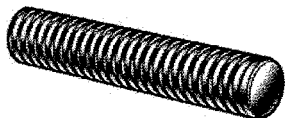
For metric Acme nuts, see pages 2958-2960.

Acme Size	Pitch	Each
M12	3 mm	97048A711...\$31.90
M16	4 mm	97048A715...49.52
M20	4 mm	97048A719...63.10
M26	5 mm	97048A725...88.81
M40	7 mm	97048A739...170.00

General Purpose Acme Studs & Nuts

For precision Acme rod and components, see pages 962-966.

Acme Studs—Right Hand Zinc-Plated Steel



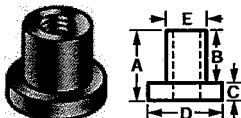
These studs are shorter lengths of the general purpose Acme rod found on the previous page. Made of 12L14 zinc-plated steel, they have sawed ends and right-hand threads. Meet ASTM A108. Minimum Rockwell hardness is B92. Minimum tensile strength is 70,000 psi and comparable to Grade 2 low-strength steel.

Also Available: Left-hand thread zinc-plated steel Acme studs in all sizes. To order, ask for 93255A200 and specify Acme size and length.

Also Available: Alloy steel and 18-8 stainless steel Acme studs in all sizes. Right-hand thread only. To order, ask for 93420A888 for alloy steel or 94330A888 for 18-8 stainless steel. Please specify Acme size and length.

Lg.	Each	Lg.	Each	Lg.	Each	Lg.	Each	Lg.	Each
1/2"-10 Acme Size		5/8"-8 Acme Size (Cont.)		3/4"-6 Acme Size		1"-5 Acme Size (Cont.)		1 1/4"-5 Acme Size (Cont.)	
6" 93255A431...	\$5.59	10" 93255A445...	\$8.36	6" 93255A451...	\$7.22	10" 93255A475...	\$12.17	14" 93255A489...	\$19.24
7" 93255A432...	5.97	12" 93255A447...	8.88	8" 93255A453...	8.32	12" 93255A477...	12.56	18" 93255A493...	23.48
8" 93255A433...	6.45	14" 93255A449...	9.42	10" 93255A455...	9.34	14" 93255A479...	15.25		
10" 93255A435...	7.32			12" 93255A457...	10.32	16" 93255A501...	16.80		
12" 93255A437...	7.74			14" 93255A459...	11.29	18" 93255A505...	18.36		
14" 93255A439...	8.16								
5/8"-8 Acme Size		3/4"-5 Acme Size		1"-5 Acme Size		1 1/4"-5 Acme Size			
6" 93255A441...	6.20	6" 93255A205...	7.25	6" 93255A461...	12.25	6" 93255A481...	11.63	6" 93255A621...	14.11
7" 93255A442...	6.76	8" 93255A213...	8.31	8" 93255A463...	13.24	8" 93255A483...	13.54	8" 93255A629...	18.80
8" 93255A443...	7.32	10" 93255A217...	9.33	10" 93255A471...	9.09	10" 93255A485...	15.69	10" 93255A633...	23.44
		12" 93255A221...	10.32	12" 93255A473...	10.62	12" 93255A487...	17.78	12" 93255A637...	28.13
		14" 93255A225...	11.29					14" 93255A641...	32.80
		18" 93255A233...	13.24					18" 93255A649...	42.16

Bronze Acme Flange Nuts

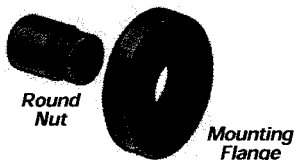


One-piece Acme flange nuts mount easily to walls, machinery, and other fixed reference points. Nuts are SAE 660 bronze and highly resistant to corrosion caused by saltwater, gases, and sewage. These nonmagnetic nuts have right-hand threads and travel up and down general purpose Acme rod transmitting linear motion. They also can be used as spacers and bearings. Drill mounting holes in the flange according to your needs. Minimum Rockwell hardness is B65. Minimum tensile strength is 35,000 psi.

Also Available: All sizes in left-hand thread. To order, ask for 95120A100 and specify Acme size.

Acme Size	(A)	(B)	(C)	(D)	(E)	Each	Acme Size	(A)	(B)	(C)	(D)	(E)	Each
1/2"-10	1"	7/8"	1/8"	1 1/4"	3/4"	95120A111... \$66.26	1"-6	2"	1 1/2"	1/2"	2 1/2"	1 1/2"	95120A155... \$98.70
5/8"-8	1 1/4"	1"	1/4"	1 1/2"	7/8"	95120A119... 72.84	1 1/8"-5	2 1/4"	1 5/8"	5/8"	2 3/4"	1 3/4"	95120A167... 112.46
3/4"-5	1 1/2"	1 1/8"	3/8"	2"	1"	95120A123... 82.02	1 1/4"-4	2 1/2"	1 3/4"	3/4"	3"	2"	95120A171... 128.10
3/4"-6	1 1/2"	1 1/8"	3/8"	2"	1"	95120A127... 82.02	1 1/4"-5	2 1/2"	1 3/4"	3/4"	3"	2"	95120A175... 128.10
7/8"-6	1 3/4"	1 1/4"	1/2"	2 1/4"	1 1/4"	95120A143... 90.56	1 1/2"-4	3"	2 1/4"	3/4"	3 1/2"	2 1/2"	95120A183... 183.88
1"-5	2"	1 1/2"	1/2"	2 1/2"	1 1/2"	95120A151... 98.70	2"-4	4"	3"	1"	4"	3"	95120A191... 432.39

Metric Acme Round Nuts and Mounting Flanges



These round nuts and mounting flanges screw together to form a single unit. For use with metric Acme rod, also known as trapezoidal thread.

Round nuts are SAE 660 bronze and have internal threads that fit metric Acme rod. The external threads fit the respective mounting flange. Nuts are nonmagnetic and highly resistant to corrosion caused by saltwater, gases, and sewage. Rockwell hardness is a minimum of B72. Minimum tensile strength is 35,000 psi. Meet ASTM B505, Grade 932.

Mounting flanges are C1215 steel with a black-oxide finish. For use with the respective Acme round nut. Mount to walls, machinery, and other fixed surfaces. Rockwell hardness is a minimum of B83. Minimum tensile strength is 80,000 psi. Meet ASTM A018.

Round Nuts						Mounting Flanges					
Acme Size	Pitch, mm	OD, mm	Ht., mm	External Thread Lg., mm	Each	Dia., mm	Thick., mm	Bolt Circle Dia., mm	Mounting Holes No.	Dia., mm	Each
M12	3	28	19	13	97252A120... \$47.62	66	14	53	4	7	97252A620... \$41.43
M16	4	28	26	13	97252A160... 51.43	66	14	53	4	7	97252A660... 41.43
M20	4	34	32	13	97252A200... 57.14	75	14	60	4	7	97252A700... 47.62
M26	5	45	45	15	97252A260... 76.19	85	16	70	4	7	97252A760... 57.14
M40	7	60	60	20	97252A400... 134.29	120	21	90	4	11	97252A800... 80.00

Acme Wing Nuts



Flat Style

Also known as scaffold and lever nuts, these wing nuts have right-hand threads. They're made of ductile cast iron and are easy to grip even with greasy hands or thick welding gloves. Rockwell hardness is B72. Minimum tensile strength is 60,000 psi. Wing-span is 9 1/2".

Flat style wing nuts have a body height of 1 1/8". Wing height is 5/8".

Ball style wing nuts have a body height of 1". Wing height is 1/2" and ball diameter is 1 1/8".



Ball Style

Acme Size	Flat Style Each	Ball Style Each
3/4"-5	92428A620... \$30.31	92428A11... \$31.31
3/4"-6	92428A630... 30.31	92428A12... 31.31
1"-5	92428A650... 33.20	92428A13... 34.24
1"-6	92428A730... 33.20	92428A14... 35.93
1 1/4"-4	92428A670... 35.49	92428A15... 37.16
1 1/4"-5	92428A680... 35.49	92428A16... 35.69
1 1/2"-4	92428A710... 37.53	92428A17... 39.96

Acme Handle Nuts



These malleable iron nuts have an offset handle for a comfortable grip. Rockwell hardness is B97. Minimum tensile strength is 40,000 psi.

Acme Size	Flange Dia.	O'all Lg.	Each
3/8"-12	1 5/16"	4 1/4"	98890A111... \$7.90
1/2"-10	1 1/4"	4 1/2"	98890A115... 8.80
5/8"-8	1 1/4"	4 3/4"	98890A119... 10.61

Acme Thumb Nuts



The wide wings on these nuts make turning easy. Nuts are malleable iron. Rockwell hardness is B97. Minimum tensile strength is 40,000 psi.

Acme Size	Wingspan	Ht.	Each
3/8"-12	2 3/4"	1 3/16"	98675A111... \$6.30
1/2"-10	2 1/4"	1"	98675A115... 4.11
5/8"-8	2 3/4"	1 3/16"	98675A119... 5.22
3/4"-5	2 15/16"	1 3/16"	98675A123... 5.96
3/4"-6	2 5/16"	1 3/16"	98675A127... 5.96

General Purpose Acme Nuts

For precision Acme rod and components, see pages 962-966.

Acme Hex Nuts

18-8 stainless steel nuts are Type 303 stainless steel. Rockwell hardness is B85-B95. Minimum tensile strength is 85,000 psi. Nuts may be slightly magnetic.

Plain steel nuts are 12L14 steel. Rockwell hardness is B85. Min. tensile strength is 79,000 psi. Strength is comparable to Grade 2 low-strength steel. Meet ASTM A108.

Zinc-plated steel nuts are the same steel as the plain steel nuts above, but with a zinc-plated finish for enhanced corrosion resistance. Rockwell hardness is B85. Minimum tensile strength is 79,000 psi.

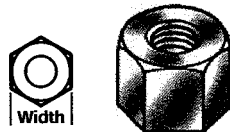
Alloy 360 brass nuts provide quicker threading than nuts made of other materials. Rockwell hardness is B75. Min. tensile strength is 58,000 psi. Meet ASTM B16.



Acme Size	Wd.	Ht.	18-8 STAINLESS STEEL		PLAIN STEEL	
			Right-Hand Thread Each	Left-Hand Thread Each	Right-Hand Thread Each	Left-Hand Thread Each
1/4"-16	1/2"	15/64"	95066A105.....\$5.88	95066A305.....\$12.71	94815A007.....\$1.43	91808A009.....\$2.86
3/8"-10	11/16"	23/64"	95066A206.....11.50	95066A355.....23.00	94815A011.....1.90	91808A014.....2.50
3/8"-12	3/4"	23/64"	95066A207.....11.50	95066A357.....23.00	94815A018.....1.90	91808A019.....2.50
3/8"-12	11/16"	23/64"	95066A208.....7.68	95066A408.....8.77		
1/2"-8	7/8"	31/64"	95066A209.....10.88	95066A366.....26.57	94815A106.....1.55	91808A106.....1.55
1/2"-10	3/4"	31/64"	95066A212.....8.70	95066A412.....9.94	94815A024.....2.45	91808A023.....3.93
1/2"-10	7/8"	31/64"			94815A107.....1.67	91808A107.....1.79
5/8"-6	1 1/16"	39/64"	95066A141.....13.63	95066A371.....24.71	94815A029.....2.79	91808A027.....3.05
5/8"-8	1"	39/64"	95066A213.....10.08	95066A413.....11.51		
5/8"-8	1 1/16"	39/64"			94815A108.....1.90	91808A108.....2.21
3/4"-5	1 1/4"	47/64"	95066A214.....11.23	95066A414.....12.83	94815A117.....3.81	91808A117.....3.81
3/4"-6	1 1/4"	47/64"	95066A217.....11.23	95066A417.....12.83	94815A109.....2.50	91808A109.....2.50
3/4"-8	1 1/4"	47/64"	95066A152.....13.50	95066A383.....25.57	94815A034.....3.29	91808A046.....3.50
7/8"-6	1 7/16"	55/64"			94815A123.....3.69	91808A120.....3.93
7/8"-6	1 1/2"	55/64"	95066A226.....12.13			
1"-4	1 5/8"	63/64"	95066A166.....23.38	95066A389.....37.57	94815A037.....4.64	91808A054.....4.64
1"-5	1 1/2"	1"			94815A110.....3.81	
1"-5	1 5/8"	63/64"	95066A215.....15.85	95066A415.....18.11		91808A110.....3.93
1"-6	1 1/2"	1"			94815A111.....3.81	
1"-6	1 5/8"	63/64"	95066A218.....15.85			91808A111.....4.64
1"-8	1 5/8"	63/64"	95066A168.....21.00	95066A392.....35.14	94815A045.....4.64	91808A066.....6.43
1"-10	1 1/2"	1"			94815A118.....3.81	
1"-10	1 5/8"	63/64"	95066A219.....15.85	95066A419.....18.11		91808A121.....4.64
1 1/8"-5	1 3/4"	1 1/64"	95066A220.....19.70			
1 1/8"-5	1 13/16"	1 1/64"			94815A119.....4.88	91808A119.....4.88
1 1/4"-4	2"	1 1/32"	95066A225.....29.18		94815A112.....6.98	91808A118.....7.33
1 1/4"-5	2"	1 1/32"	95066A221.....29.18	95066A421.....33.34	94815A116.....6.19	91808A112.....6.19
1 3/8"-4	2 3/16"	1 11/32"			94815A122.....11.19	91808A122.....11.90
1 1/2"-4	2 1/4"	1 15/32"	95066A216.....45.46	95066A416.....52.36		
1 1/2"-4	2 1/4"	1 1/2"			94815A113.....11.19	91808A113.....13.17
1 1/2"-4	2 3/8"	1 15/32"				
1 1/2"-5	2 1/4"	1 15/32"	95066A175.....40.88	95066A435.....57.14	94815A121.....11.19	91808A123.....14.29
1 1/2"-5	2 3/8"	1 15/32"				91808A114.....31.90
2"-4	3"	1 31/32"	95066A233.....78.29		94815A114.....29.71	
2 1/4"-4	3 1/2"	2 1/2"	95066A185.....307.50	95066A445.....351.43	94815A125.....28.31	
2 1/2"-4	3 1/2"	2 1/2"	95066A195.....387.50	95066A455.....442.86	94815A115.....28.31	
			ZINC-PLATED STEEL		ALLOY 360 BRASS	
3/8"-12	3/4"	3/8"	98948A730.....\$6.04	98948A130.....\$6.57	95155A111.....\$3.22	
1/2"-10	7/8"	1/2"	98948A740.....6.84	98948A140.....7.43	95155A114.....3.67	95155A314.....\$3.93
5/8"-8	1"	5/8"			95155A119.....4.69	95155A319.....5.02
3/4"-5	1 1/4"	3/4"			95155A123.....5.44	95155A323.....5.83
3/4"-6	1 1/4"	3/4"	98948A750.....7.00	98948A150.....7.61	95155A127.....5.44	95155A327.....5.83
7/8"-6	1 1/2"	7/8"			95155A143.....7.04	95155A343.....7.55
1"-5	1 5/8"	1"	98948A770.....8.60	98948A170.....9.35	95155A147.....8.09	95155A347.....8.67
1"-6	1 5/8"	1"			95155A151.....8.09	95155A351.....8.67
1"-10	1 5/8"	1"			95155A155.....8.09	95155A355.....8.67
1 1/8"-5	1 3/4"	1 1/8"			95155A159.....11.58	95155A359.....12.40
1 1/4"-5	2"	1 1/4"	98948A820.....16.52	98948A220.....17.96	95155A163.....15.49	95155A363.....16.60
1 1/2"-4	2 1/4"	1 1/2"			95155A167.....20.18	95155A367.....21.62
2"-4	3"	2"			95155A171.....46.02	95155A371.....48.96
2 1/2"-4	3 1/2"	2 1/2"			95155A179.....59.12	

Metric Plain Steel Acme Hex Nuts

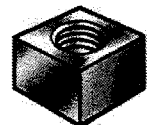
Also known as the trapezoidal thread form, these are the metric version of general purpose Acme hex nuts. Made of C1215 steel, these nuts have right-hand threads and meet ASTM A018. Rockwell hardness is B85. Minimum tensile strength is 78,000 psi.



Acme Size	Pitch, mm	Wd., mm	Ht., mm	Each
M12	3	22.20	12.0	94353A120.....\$14.76
M16	4	27.00	16.0	94353A160.....15.48
M20	4	31.75	20.0	94353A200.....17.86
M26	5	41.30	25.4	94353A260.....25.48
M40	7	60.33	39.9	94353A400.....60.00

Alloy 360 Brass Acme Square Nuts

These square nuts thread quickly. Rockwell hardness is B55. Min. tensile strength is 58,000 psi. Meet ASTM B16.



Acme Size	Wd.	Ht.	Right-Hand Thread Each	Left-Hand Thread Each
3/8"-12	3/4"	3/8"	95270A111.....\$3.78	95270A511.....\$4.38
1/2"-10	7/8"	1/2"	95270A114.....4.32	95270A514.....5.00
5/8"-8	1"	5/8"	95270A119.....5.52	95270A519.....6.38
3/4"-5	1 1/4"	3/4"	95270A123.....6.42	95270A523.....7.42
3/4"-6	1 1/4"	3/4"	95270A127.....6.42	95270A527.....7.42
7/8"-6	1 1/2"	7/8"	95270A143.....9.16	95270A543.....10.58
1"-5	1 5/8"	1"	95270A147.....10.48	95270A547.....12.11
1"-6	1 5/8"	1"	95270A151.....10.48	95270A551.....12.11
1"-10	1 5/8"	1"	95270A155.....10.48	95270A555.....12.11
1 1/8"-5	1 3/4"	1 1/8"	95270A159.....15.00	
1 1/4"-5	2"	1 1/4"	95270A163.....20.08	95270A563.....23.20
1 1/2"-4	2 1/4"	1 1/2"	95270A167.....26.16	95270A567.....30.22
2"-4	3"	2"	95270A171.....62.64	

General Purpose Acme Nuts

For precision Acme rod and components, see pages 962-966.

Acme Coupling Nuts



Join two pieces of general purpose Acme rod together with these extra tall coupling nuts.

18-8 stainless steel nuts are Type 303 stainless steel and have a minimum Rockwell hardness of B85-95. Minimum tensile strength is 85,000 psi. Meet ASTM A581. Nuts may be slightly magnetic.

Plain steel nuts are 12L14 steel. Rockwell hardness is B92. Minimum tensile strength is 70,000 psi and comparable to Grade 2 low-strength steel. Meet ASTM A108.

Zinc-plated steel nuts are the same steel as the plain steel nuts above, but with a zinc-plated finish for better corrosion resistance. Minimum Rockwell hardness is B80. Minimum tensile strength is 70,000 psi.

Alloy 360 brass nuts thread more quickly than other nuts. Min. Rockwell hardness is B78. Min. tensile strength is 58,000 psi. Meet ASTM B16.

			18-8 STAINLESS STEEL		PLAIN STEEL	
			Right-Hand Thread	Left-Hand Thread	Right-Hand Thread	Left-Hand Thread
Acme Size	Wd.	Ht.	Each	Each	Each	Each
3/8"-12	1/2"	1 7/8"			93023A661.....\$8.68	
1/2"-10	5/8"	1 1/4"	93030A106.....\$18.90	93030A406.....\$21.83	93023A673.....9.73	93026A648.....\$11.57
5/8"-8	7/8"	2 1/8"	93030A109.....21.25	93030A409.....24.56	93023A662.....11.75	93026A651.....13.97
3/4"-5	1"	2 1/4"	93030A112.....28.78	93030A412.....33.25	93023A664.....13.18	93026A653.....15.66
3/4"-6	1"	2 1/4"	93030A113.....28.78	93030A413.....33.25	93023A663.....13.18	93026A652.....15.66
7/8"-6	1 1/4"	2 1/2"	93030A115.....31.25		93023A665.....13.50	93026A304.....16.06
1"-5	1 3/8"	2 3/4"	93030A119.....38.29	93030A419.....43.01	93023A667.....14.18	93026A655.....16.86
1"-6	1 3/8"	2 3/4"	93030A117.....36.83		93023A666.....14.18	93026A654.....16.86
1"-10	1 3/8"	2 3/4"	93030A118.....36.83	93030A418.....43.01	93023A680.....14.18	93026A308.....16.86
1 1/8"-5	1 1/2"	3"	93030A122.....47.05		93023A668.....20.75	93026A656.....24.66
1 1/4"-4	1 5/8"	3"	93030A123.....62.78		93023A671.....27.68	93026A658.....32.89
1 1/4"-5	1 5/8"	3"	93030A124.....62.78	93030A424.....69.75	93023A669.....27.68	93026A657.....32.89
1 3/8"-4	1 7/8"	3 1/4"			93023A672.....38.05	93026A313.....45.23
1 1/2"-4	2"	3 1/2"	93030A127.....96.45	93030A427.....107.17	93023A674.....42.58	93026A659.....50.60
2"-4	3"	4"	93030A129.....122.82		93023A675.....79.98	93026A318.....93.58
2 1/2"-4	3 1/2"	5"			93023A327.....87.98	
			ZINC-PLATED STEEL		ALLOY 360 BRASS	
1/2"-10	5/8"	1 1/4"	98947A115.....\$12.87	98947A515.....\$14.65	99044A115.....\$14.79	99044A515.....\$16.83
5/8"-8	7/8"	2 1/8"	98947A123.....15.39	98947A523.....17.51	99044A123.....21.45	99044A523.....24.41
3/4"-5	1"	2 1/4"	98947A142.....17.24	98947A542.....19.61	99044A142.....24.73	99044A542.....28.14
3/4"-6	1"	2 1/4"	98947A143.....17.24	98947A543.....19.61	99044A143.....24.73	99044A543.....28.14
7/8"-6	1 1/4"	2 1/2"	98947A157.....17.66	98947A557.....20.10	99044A157.....27.68	99044A557.....31.50
1"-5	1 3/8"	2 3/4"	98947A164.....18.51	98947A564.....21.06	99044A164.....32.82	99044A564.....37.34
1"-6	1 3/8"	2 3/4"	98947A165.....18.51	98947A565.....21.06	99044A165.....32.82	99044A565.....37.34
1 1/8"-5	1 5/8"	3"	98947A176.....36.00	98947A576.....40.96	99044A176.....57.61	99044A576.....65.55
1 3/8"-4	1 7/8"	3 1/4"	98947A181.....49.05	98947A581.....55.83	99044A181.....81.15	99044A581.....92.34

Acme Cylinder Nuts



Cylinder nuts transmit linear motion and also can be used as spacers and bearings. Machine them easily to the desired size.

Gray iron nuts have a Rockwell hardness of B97. Minimum tensile strength is 40,000 psi. Meet ASTM A48, Class 40.

Bronze nuts are SAE 660 bronze. Min. Rockwell hardness is B72. Min. tensile strength is 35,000 psi. Meet ASTM B505, Grade 932.

Brass nuts are alloy 360 brass to provide quicker threading than other nuts. Rockwell hardness is a minimum of B80. Minimum tensile strength is 58,000 psi. Meet ASTM B16.

			Right-Hand Thread		Left-Hand Thread	
Acme Size	OD	Ht.	Each	Each	Each	Each
Gray Iron						
1/2"-10	1.465"	1.00"	95080A103.....\$15.45	95080A403.....\$16.97	1"-5.....2.985".....2.00".....95080A122.....\$32.42	95080A422.....\$35.61
5/8"-8	1.860"	1.25"	95080A108.....19.70	95080A408.....21.67	1"-6.....2.985".....2.00".....95080A123.....32.42	
3/4"-5	2.235"	1.50"	95080A112.....25.61	95080A412.....28.18	1"-10.....2.985".....2.00".....95080A125.....32.42	
3/4"-6	2.235"	1.50"	95080A113.....25.61	95080A413.....28.18	1 1/4"-5.....3.730".....2.50".....95080A128.....68.18	
					1 1/2"-4.....4.470".....3.00".....95080A132.....100.00	
Bronze						
1/2"-10	0.911"	0.90"	95090A104.....17.50	95090A404.....19.43	1"-5.....1.661".....1.53".....95090A127.....29.63	95090A427.....33.95
5/8"-8	1.286"	1.03"	95090A108.....20.50	95090A408.....22.50	1 1/4"-5.....2.161".....2.02".....95090A129.....43.75	95090A429.....48.13
3/4"-5	1.411"	1.28"	95090A112.....22.98	95090A412.....26.50	1 1/2"-4.....2.787".....3.00".....95090A133.....87.50	95090A433.....96.14
3/4"-6	1.411"	1.28"	95090A117.....22.98	95090A417.....26.50	2"-4.....3.286".....4.03".....95090A136.....145.00	
Brass						
3/8"-12	0.750"	0.38"	95100A101.....2.95		1"-5.....1.625".....1.00".....95100A119.....7.50	95100A419.....7.50
1/2"-10	0.875"	0.50"	95100A103.....3.40	95100A403.....3.40	1"-6.....1.625".....1.00".....95100A121.....7.50	95100A421.....7.50
5/8"-8	1.000"	0.63"	95100A105.....4.35	95100A405.....4.35	1"-10.....1.625".....1.00".....95100A123.....7.50	95100A423.....7.50
3/4"-5	1.250"	0.75"	95100A107.....5.03	95100A407.....5.03	1 1/4"-5.....2.000".....1.25".....95100A127.....14.35	95100A427.....14.35
3/4"-6	1.250"	0.75"	95100A109.....5.03	95100A409.....5.03	1 1/2"-4.....2.500".....1.50".....95100A129.....18.73	
7/8"-6	1.500"	0.88"	95100A117.....6.55	95100A417.....6.55		

Metric Bronze Acme Cylinder Nuts



The same as the cylinder nuts above, but with right-hand metric threads (also know as trapezoidal threads). Hardness is 72 Brinell. Minimum tensile strength is 44,000 psi. Meet ASTM B505, Grade 932.

Acme Size	Pitch, mm	OD, mm	Ht., mm	Each	Acme Size	Pitch, mm	OD, mm	Ht., mm	Each
M12	3	25.40	25.40	96996A413.....\$35.00	M26	5	44.45	38.10	96996A426.....\$59.24
M16	4	34.93	25.40	96996A417.....40.91	M40	7	69.85	76.20	96996A429.....175.00
M20	4	38.10	31.75	96996A422.....48.18					

Tightening Torque Guides

Inch Guide—This handy 22-page reference guide lists the torque requirements for tightening nuts made from grades 2, 5, and 8 materials as well as A307, A449, and A354. Torques are also broken down by seven commonly offered finishes. Guide size is 7 3/4" Ht. x 3 1/2" Wd.

90662A020.....Each \$6.36

Metric Guide—Same as the inch guide at left, except this metric version lists the torque requirements for class 4.8, 8.8, 9.8, 10.9 and 12.9 nuts made from A325M and 490M materials. Torques are also broken down by seven commonly offered finishes. Guide size is 7 3/4" Ht. x 3 1/2" Wd.

90662A040.....Each \$6.36

About Nut and Washer Materials

Where available, minimum Rockwell hardness, minimum tensile strength, and properties are included.

Finishes

Black-Oxide and Phosphate—Fair rust and weather resistance.

Nickel-Plated—Fair rust and weather resistance. For decoration.

Zinc and Zinc Yellow—Good to excellent rust and weather resistance.

Galvanized and Hot-Dipped Galvanized—Excellent rust and weather resistance.

Cadmium-Plated—Excellent rust and weather resistance. Also contains lubricating properties.

Ultra-Coat—Superior corrosion resistance. Zinc and aluminum flakes in a water-based inorganic coating. Offers 1000 hours of salt spray resistance.

Blue Coated—Makes these metric items easy to distinguish from inch.

Steel

Plain Steel—Made of C1006-C1015 steel. Minimum Rockwell hardness: B49. Minimum tensile strength: 44,225 psi. Comparable to Grade 2 low-strength steel.

Spring Steel—Made of C1075 or C1095 steel. It memorizes its shape, making it reusable. Minimum Rockwell hardness: C31. Minimum tensile strength: 139,925 psi. Strength is greater than Grade 5 medium-strength steel.

Case-Hardened Steel—Made from C1006-C1022, 12L13, or 12L14 steel. The surface layer is hardened to achieve a hard wear-resistant surface. Often has a black-oxide finish. Strength is comparable to Grade 2 low-strength steel.

Plain Malleable Iron—A cast alloy made of iron and carbon. Minimum Rockwell hardness: C2.5. Minimum tensile strength: 50,000 psi. Strength is greater than Grade 2 low-strength steel.

Grades of Steel

Grade 2—Made from C1006-C1022, C1215, 12L13, or 12L14 steel. For use in low-strength applications. Minimum Rockwell hardness: B49. Minimum tensile strength: 44,225 psi.

Grade 5—Made from steels such as C1008-C1026. For use in medium-strength applications. Rockwell hardness: C25. Minimum tensile strength: 120,000 psi.

Grade 8—Made from alloy steels such as C1021-C1045. For use with Grade 8 screws in high-strength applications, as well as with ASTM A325 screws. Minimum Rockwell hardness: C24. Minimum tensile strength: 150,000 psi.

Class 4/4.8/5.8—Comparable to Grade 2. Minimum Rockwell hardness: B71. Minimum tensile strength: 60,900 psi.

Class 6—Comparable to Grade 2. Minimum Rockwell hardness: B89. Minimum tensile strength: 87,000 psi.

Class 8—Comparable to Grade 5. Minimum Rockwell hardness: C20. Minimum tensile strength: 116,000 psi.

Class 10—Comparable to Grade 8. Minimum Rockwell hardness: C32. Minimum tensile strength: 150,800 psi.

Class 12—Exceeds Grade 8 high-strength steel and is the highest metric strength class. Made from alloy steels C1035 and C1045. Minimum Rockwell hardness: C39. Minimum tensile strength: 176,900 psi.

ASTM A563—For general structural and mechanical use.

Grade C—For use with externally threaded heat-treated medium-strength steel fasteners such as ASTM A325 structural bolts. Minimum Rockwell hardness: B78. Strength is greater than Grade 5 medium-strength steel.

Grade DH and Grade G—For use with ASTM A490 and ASTM A325 structural bolts. Minimum Rockwell hardness: C24. Strength is comparable to Grade 8 high-strength steel.

ASTM A194—Offers high strength and withstands high pressure.

Grade 2H—Made from steels such as C1030-C1052. Use with ASTM A325 structural bolts. Minimum Rockwell hardness: C24. Minimum tensile strength: 117,000 psi. Strength is comparable to Grade 5.

Grade 7—Made from 4140 to 4145H alloy steel. Minimum Rockwell hardness: C24. Minimum tensile strength: 125,000 psi. Strength is comparable to Grade 5 medium-strength steel.

Stainless Steel

Can be passivated with nitric acid for extra corrosion protection. All listed stainless steels are mildly magnetic.

18-8 Stainless Steel—Excellent corrosion resistance. Min. Rockwell hardness: B70. Min. tensile strength: 70,000 psi. Strength is somewhat better than Grade 2 low-strength steel.

Type 316 Stainless Steel—Contains molybdenum for better corrosion resistance than 18-8. Minimum Rockwell hardness: B70. Minimum tensile strength: 70,000 psi. Strength is somewhat better than Grade 2 low-strength steel.

Type 400 Series Stainless Steel—Contains more carbon than 18-8 or Type 316 stainless steel for greater strength but lower corrosion resistance. Minimum Rockwell hardness: C28. Minimum tensile strength: 75,000 psi. Strength is greater than Grade 2 low-strength steel.

Stainless Steel (Cont.)

ASTM F594 18-8 and Type 316 Stainless Steel—The same as 18-8 and Type 316 stainless steel, but manufactured to meet ASTM specifications.

ASTM A194 Grade 8M Type 316 Stainless Steel—See Type 316 stainless steel. Meets ASTM A194 for high strength and pressure.

ASTM A194 Grade 8M Strain-Hardened Type 316 Stainless Steel—Offers greater strength than ASTM A194 Grade 8M. Min. Rockwell hardness: C34. Minimum tensile strength: 90,000 psi. Strength is greater than Grade 2 low-strength steel.

ASTM A194 Grade 8—Meets ASTM A194 for 18-8 stainless steel. Use with Grade B8. Minimum Rockwell hardness: B60. Minimum tensile strength: 73,225 psi. Strength is somewhat better than Grade 2 low-strength steel.

Alloy 20 Stainless Steel—Also called Carpenter 20. Most resistant to stress corrosion and high-temperature sulfuric acid. Minimum Rockwell hardness: B89. Minimum tensile strength: 85,000 psi. Strength is greater than Grade 2 low-strength steel.

Alloys

Hastelloy C726—Offers excellent resistance to corrosive chemicals. Minimum Rockwell hardness: B86. Minimum tensile strength: 110,000 psi. Strength is greater than Grade 2 low-strength steel.

Nickel-Copper Alloy 400—Also called Monel. It's exceptionally strong, slightly magnetic, and resistant to heat and corrosion—especially that caused by saltwater and caustic solutions. Minimum Rockwell hardness: B72. Minimum tensile strength: 70,000 psi. Strength is greater than Grade 2 low-strength steel.

Brass—Alloy 270 or 360. Nonmagnetic with good strength, durability, and corrosion resistance. Minimum Rockwell hardness: B55. Minimum tensile strength: 50,000 psi. Strength is comparable to Grade 2 low-strength steel.

Silicon Bronze—Nonmagnetic and highly resistant to corrosion caused by saltwater, gases, and sewage. Minimum Rockwell hardness: B85. Minimum tensile strength: 70,000 psi. Strength is greater than Grade 2 low-strength steel.

Aluminum—Made of 2011T, 6061T, or 5052-H32 aluminum alloy. Mild resistance to weather-related corrosion with one-third the weight of steel. "T" indicates heat treated. Minimum Rockwell hardness: B56. Minimum tensile strength: 33,350 psi. Strength is less than Grade 2 low-strength steel.

Titanium—Grade 2. As strong as steel, but weighs 60% less. Resistant to rust, saltwater, many chemicals, and acid. Minimum Rockwell hardness: B80. Minimum tensile strength: 40,000 psi. Strength is comparable to Grade 2 low-strength steel.

Zinc Alloy—Also called Zamak 3. A casting alloy. Minimum Rockwell hardness: B49. Minimum tensile strength: 41,000 psi. Strength is comparable to Grade 2 low-strength steel.

Nonmetallics

Nylon 6/6—Resists chemicals and solvents except mineral acids. It's nonconductive and absorbs environmental moisture. Working temp.: up to 180° F. Minimum Rockwell hardness: R121. Minimum tensile strength: 12,000 psi.

Nylatron—Nylon 6/6 with molybdenum disulphide added for lubricity. Resistant to oil, grease, most alkalies, solvents, and organic acids. Working temp.: up to 220° F. Minimum Rockwell hardness: R115. Minimum tensile strength: 12,500 psi. Strength is comparable to Nylon 6/6.

Teflon—Made of virgin-grade material. Moisture and chemical resistant. Working temp.: up to 500° F. Minimum Rockwell hardness: R15. Minimum tensile strength: 2,000 psi. Strength is less than Nylon 6/6.

PVC—Superior resistance to weathering, moisture, acids, alkalies, salt solutions, and alcohols. Working temp.: up to 160° F. Minimum Rockwell hardness: C53. Minimum tensile strength: 5,000 psi. Strength is less than Nylon 6/6.

Fiberglass—Made of urethane resin. It's nonconductive, flame retardant, and is resistant to mild acids, solvents, and saltwater. Working temp.: up to 212° F. Minimum Rockwell hardness: R119. Minimum tensile strength: 27,000 psi. Strength is greater than Nylon 6/6.

Plastic—Polyethylene: excellent chemical resistance and electrical insulation properties. Working temp.: up to 150° F. Minimum Rockwell hardness: R67. Minimum tensile strength: 2,800 psi. Strength is less than Nylon 6/6. **Urethane**: an elastic polyethylene. Durometer is Shore A72.

Fiber—Made of cellulosic paper pressed into laminating layers. Meets ASTM D710 and is commercial grade. Working temperature is up to 230° F. Minimum Rockwell hardness is R60. Minimum tensile strength is 8,000 psi. Strength is less than Nylon 6/6.