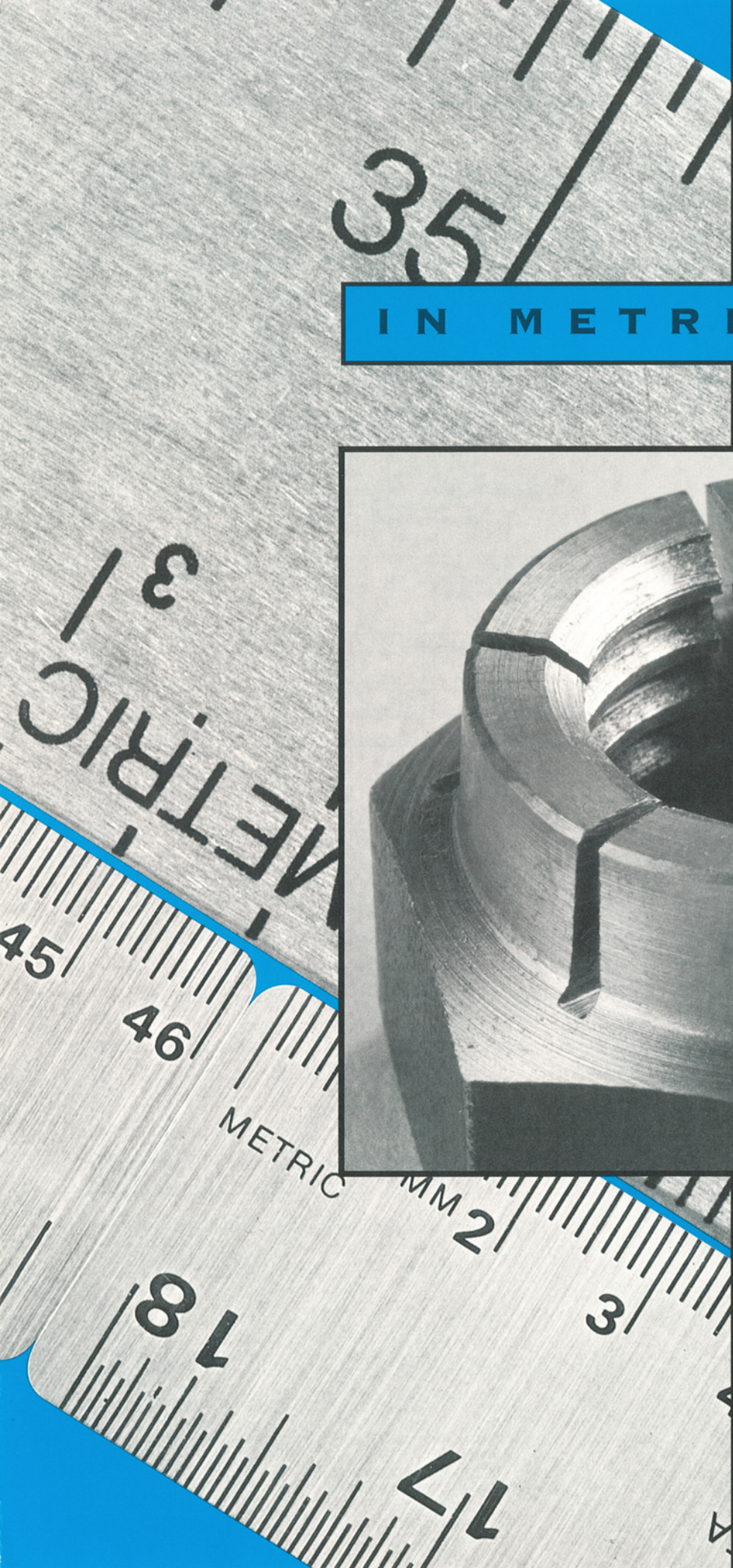
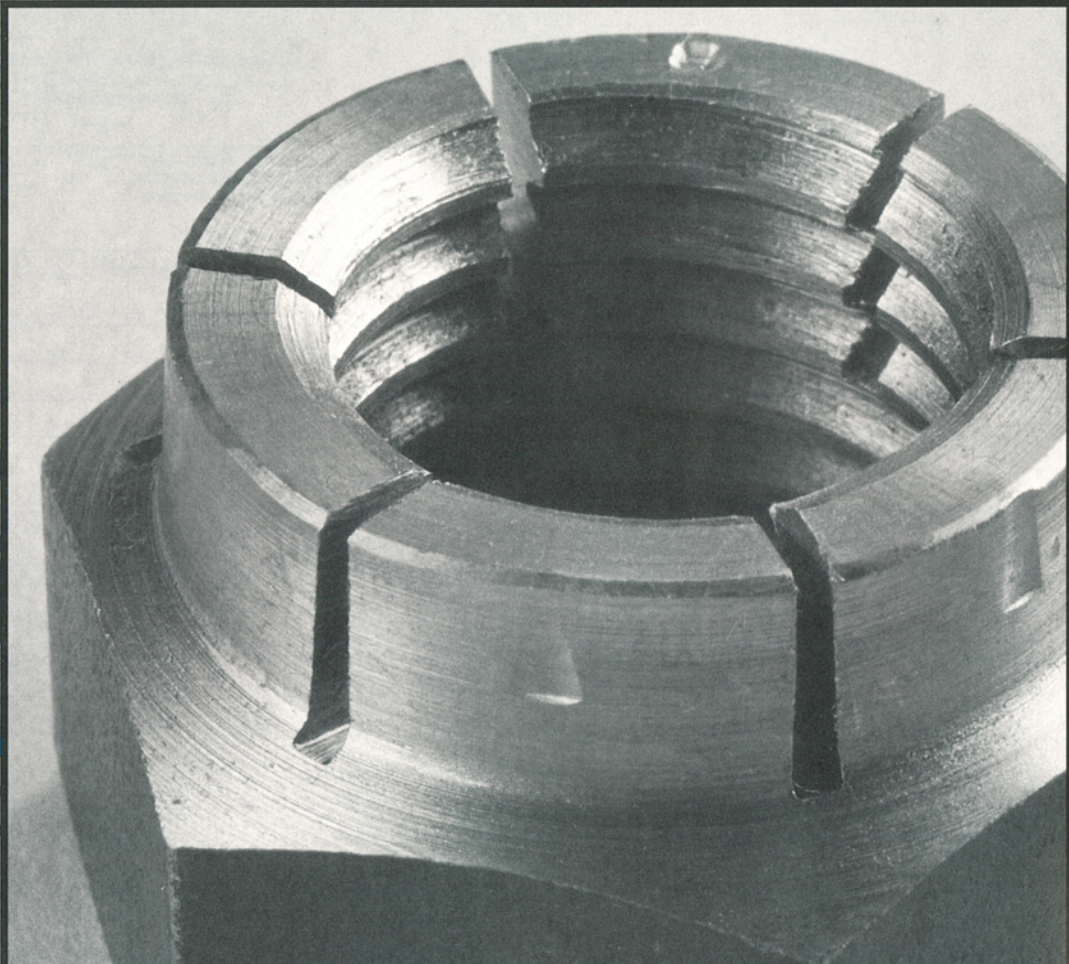


FLEXLOC[®] Locknuts

IN METRIC SIZES.

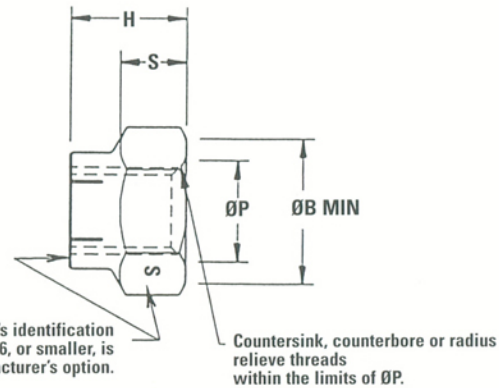
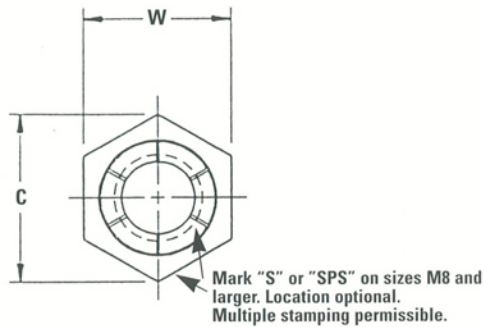


SPS
TECHNOLOGIES

Because You Want To Grow Globally

...you need to think metrically. It is a fact that, among the world's major industrialized nations, only the United States of America thinks in terms of feet and inches. All the rest of the world — all your international customers and prospects — either have always used the metric system, or have converted to it. To help you grow globally, SPS Technologies offers FLEXLOC locknuts, the industry's standard and its classic, in metric sizes.

Full height FLEXLOC® locknuts in metric sizes



TYPE	DASH NUMBER	THREADS	ØB MIN	C MIN	H MAX	ØP MAX	S MIN	W		Proof Load-kN			Weight Approx g/100 STEEL ONLY
								MAX	MIN	Steel Class 8	Steel Class 10	Cres	
MFA	M3050	M3.0 X 0.50	5.32	6.08	4.5	3.8	1.44	5.5	5.38	4.0	5.0	4.0	51.7
MFC	M3035	M3.0X 0.35											
MFA	M407	M4 X 0.70	6.80	7.74	6.0	4.8	2.52	7.0	6.85	7.0	8.8	7.0	104
MFC	M405	M4 X 0.50											
MFA	M508	M5 X 0.80	7.80	8.87	7.5	6.0	3.15	8.0	7.85	11.4	14.2	11.4	166
MFC	M505	M5 X 0.50											
MFA	M610	M6 X 1.00	9.79	11.05	7.8	7.0	3.27	10.0	9.78	16.0	20.0	16.0	261
MFC	M6075	M6 X 0.75								29.0	36.5	29.0	
MFA	M8125	M8 X 1.25	12.77	14.38	10.4	9.0	4.37	13.0	12.73	31.0	39.0	31.0	602
MFC	M810	M8 X 1.00								46.0	58.0	46.0	
MFA	M1015	M10 X 1.50	16.76	18.90	13.0	11.0	5.46	17.0	16.73	49.0	61.0	49.0	981
MFC	M1012	M10 X 1.25								67.0	84.0	67.0	
MFA	M1217	M12 X 1.75	18.75	21.10	15.6	13.0	6.55	19.0	18.67	74.0	92.0	74.0	1680
MFC	M1212	M12 X 1.25								92.0	115	92.0	
MFA	M1420	M14 X 2.0	21.74	24.49	18.2	15.0	9.82	22.0	21.67	100	125	100	2700
MFC	M1415	M14 X 1.5								126	157	126	
MFA	M1620	M16 X 2.0	23.73	26.75	20.8	17.0	11.23	24.0	23.67	134	167	134	4130
MFC	M1615	M16 X 1.5								154	192	154	
MFA	M1825	M18 X 2.5	26.76	30.14	23.4	19.0	12.64	27.0	26.67	172	216	172	5690
MFC	M1815	M18 X 1.5								196	245	196	
MFA	M2025	M20 X 2.5	29.72	33.53	26.0	21.0	14.04	30.0	29.67	218	272	218	7970
MFC	M2015	M20 X 1.5								242	303	242	
MFA	M2225	M22 X 2.5	31.71	35.72	28.6	23.0	15.44	32.0	31.61	266	333	266	9830
MFC	M2215	M22 X 1.5								282	353	282	
MFA	M2430	M24 X 3.0	35.71	39.98	31.2	25.0	16.84	36.0	35.38	307	384	307	13800
MFC	M2420	M24 X 2.0								367	459	367	
MFA	M2730	M27 X 3.0	40.70	45.63	32.4	28.0	17.50	41.0	40.38	397	496	397	18600
MFC	M2720	M27 X 2.0								448	561	448	
MFA	M3035	M30 X 3.5	45.69	51.28	36.0	31.0	19.44	46.0	45.38	497	621	497	25600
MFC	M3020	M30 X 2.0								555	694	555	
MFA	M3335	M33 X 3.5	49.68	55.80	39.6	34.0	21.38	50.0	49.38	608	761	608	33400
MFC	M3320	M33 X 2.0								653	817	653	
MFA	M3640	M36 X 4.0	54.67	61.31	43.2	37.0	23.33	55.0	54.26	692	865	692	43300
MFC	M3630	M36 X 3.0								780	976	780	
MFA	M3940	M39 X 4.0	59.67	66.96	46.8	40.0	25.27	60.0	59.26	825	1030	825	57100
MFC	M3930	M39 X 3.0											

Notes for Full Height and Thin Height FLEXLOC Locknuts: Hexagon, Self-Locking, ISO Metric

(Part Number: Full height – MFA, MFC; Thin height – FK.)

Material: Steel, carbon or alloy.

Steel, corrosion resistant austenitic.

Hardness: Steel only - class 8, C30 max. class 10, C26-36

Finish: Cadmium plate per QQ-P-416, type I, class 2.

Cadmium plate per QQ-P-416, type II, class 2.

Silver plate per AMS 2410. Zinc plate per ASTM B633, type II.

Lubricant: supplied with a non-dry (wax type) lubricant, unless otherwise specified.

When specified, a dry film lubricant can be supplied.

Threads before lubrication per ISO R965/II, class 6H.

Locking torque per ISO 2320.

Dimensions shall be met prior to lubrication on dry film lubricated nuts.

Surface texture: per ANSI B46.1.

Part numbers: The part number consists of groups of digits and letters designating the material, finish, type, class, and size.

For full height, the first group of digits designates the material and finish:

20-steel, sizes 3 thru 16

30-steel, sizes 18 and larger

21-steel, cadmium plated, type I, sizes 3 thru 16

31-steel, cadmium plated, type I, sizes 18 and larger

23-steel, zinc plated sizes 3 thru 16

33-steel, zinc plated sizes 18 and larger

27-steel, cadmium plated, type II, sizes 3 thru 16

37-steel, cadmium plated, type II, sizes 18 and larger

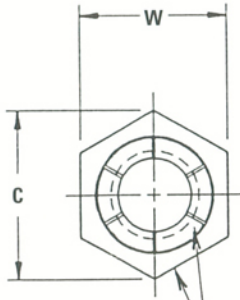
28-steel, cadmium plated, type I, plus molybdenum disulfide dry film lubricant, sizes 3 thru 16

38-steel, cadmium plated, type I, plus molybdenum disulfide dry film lubricant, sizes 18 and larger

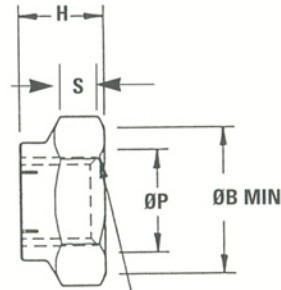
50-steel, passivated, corrosion resistant

59-steel, silver plated, corrosion resistant

Thin height FLEXLOC® locknuts in metric sizes



Mark "S" or "SPS" on sizes M8 and larger.
Location optional.
Multiple stamping permissible.



Countersink, counterbore or radius relieve threads within the limits of ØP.

TYPE	DASH NUMBER	THREADS	ØB MIN	C MIN	H MAX	ØP MAX	S MIN	W		Proof Load-kN			Weight Approx g/100 STEEL ONLY
								MAX	MIN	Steel Class 8*	Steel Class 10*	Cres	
FK	M3560	M3.5 X 0.60	5.81	6.64	4.2	4.3	1.94	6.0	5.88	4.51	5.21	4.51	56.9
	M3535	M3.5 X 0.35								5.29	6.11	5.29	
FK	M407	M4 X 0.70	6.80	7.74	4.7	4.8	2.00	7.0	6.85	5.84	6.74	5.84	85.2
	M405	M4 X 0.50								6.54	7.56	6.54	
FK	M508	M5 X 0.80	7.80	8.87	5.6	6.0	2.66	8.0	7.85	10.4	10.9	10.4	127
	M505	M5 X 0.50								11.9	12.5	11.9	
FK	M610	M6 X 1.00	9.79	11.05	5.7	7.0	2.17	10.0	9.78	14.7	15.5	14.7	196
	M6075	M6 X 0.75								16.2	17.0	16.2	
FK	M8125	M8 X 1.25	12.77	14.38	7.2	9.0	2.58	13.0	12.73	19.3	20.3	19.3	420
	M810	M8 X 1.00								20.7	21.8	20.7	
FK	M1015	M10 X 1.50	16.76	18.90	8.7	11.0	3.41	17.0	16.73	30.6	32.2	30.6	848
	M1012	M10 X 1.25								32.4	34.0	32.4	
FK	M1217	M12 X 1.75	18.75	21.10	10.1	13.0	3.93	19.0	18.67	47.4	49.8	47.4	1224
	M1212	M12 X 1.25								48.8	51.3	48.8	
FK	M1420	M14 X 2.0	21.74	24.49	11.5	15.0	4.44	22.0	21.67	61.0	64.1	61.0	1905
	M1415	M14 X 1.5								66.1	69.4	66.1	
FK	M1620	M16 X 2.0	23.73	26.75	12.8	17.0	5.31	24.0	23.67	83.0	87.1	83.0	2480
	M1615	M16 X 1.5								88.8	93.3	88.8	
FK	M1825	M18 X 2.5	26.76	30.14	14.2	19.0	5.40	27.0	26.67	98.4	112	98.4	3350
	M1815	M18 X 1.5								105	121	105	
FK	M2025	M20 X 2.5	29.72	33.53	15.5	21.0	6.25	30.0	29.67	125	143	125	4590
	M2015	M20 X 1.5								132	152	132	
FK	M2225	M22 X 2.5	31.71	35.72	16.7	23.0	6.73	32.0	31.61	154	176	154	5670
	M2215	M22 X 1.5								163	186	163	
FK	M2430	M24 X 3.0	35.71	39.98	18.0	25.0	6.93	36.0	35.38	171	196	171	7630
	M2420	M24 X 2.0								188	215	188	
FK	M2730	M27 X 3.0	40.70	45.63	18.3	28.0	6.65	41.0	40.38	224	256	224	10000
	M2720	M27 X 2.0								242	277	242	
FK	M3035	M30 X 3.5	45.69	51.28	20.0	31.0	6.45	46.0	45.38	273	312	273	13400
	M3020	M30 X 2.0								303	347	303	
FK	M3335	M33 X 3.5	49.68	55.80	21.7	34.0	7.72	50.0	49.38	338	386	338	17300
	M3320	M33 X 2.0								372	426	372	
FK	M3640	M36 X 4.0	54.67	61.31	23.3	37.0	7.61	55.0	54.26	397	455	397	21700
	M3630	M36 X 3.0								422	483	422	
FK	M3940	M39 X 4.0	59.67	66.96	24.9	40.0	8.40	60.0	59.26	475	544	475	28300
	M3930	M39 X 3.0								502	574	502	

For thin height, the first group of digits designates the material and finish:
 20-steel, sizes 3.5 thru 16
 30-steel, sizes 18 and larger
 21-steel, cadmium plated, type I, sizes 3.5 thru 16
 31-steel, cadmium plated, type I, sizes 18 and larger
 23-steel, zinc plated sizes 3.5 thru 16
 33-steel, zinc plated sizes 18 and larger
 27-steel, cadmium plated, type II, sizes 3.5 thru 16
 37-steel, cadmium plated, type II, sizes 18 and larger
 28-steel, cadmium plated, type I, plus molybdenum disulfide dry film lubricant, sizes 3.5 thru 16
 38-steel, cadmium plated, type I, plus molybdenum disulfide dry film lubricant, sizes 18 and larger
 50-steel, passivated, corrosion resistant
 59-steel, silver plated, corrosion resistant

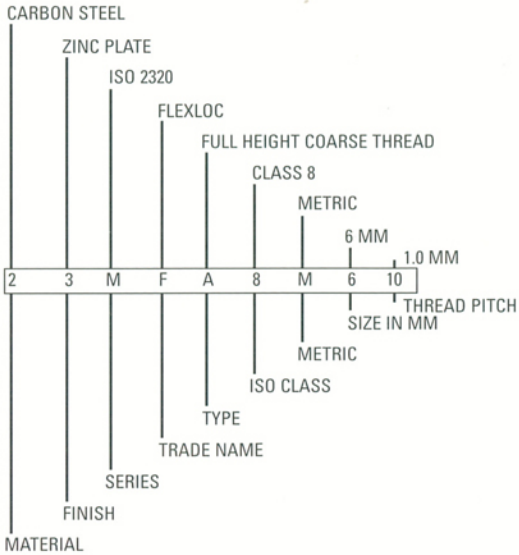
Full Height Example: 21MFA8M1620 = 16mm diameter X 2.0mm pitch, self-locking metric nut, carbon steel, type cadmium plate, class 8.
 Thin Height Example: 31FK10M1620 = 16mm diameter X 2.0mm pitch, self-locking metric nut, steel, type I cadmium plate, class 10.
 Usage limitations: These nuts are designed to be used on external threads within the limitations of MS33588.

* The class refers to heat treat, not ultimate tensile strength level.

PART NUMBERING SYSTEM

Full Height and Thin Height (except where difference is indicated)

How the FLEXLOC locknut part numbering system works: Identification of material, finish and size.



FIRST LETTER (ALWAYS "M" METRIC)
 SECOND LETTER (ALWAYS "F" FLEXLOC)
 THIRD LETTER (TYPE OF NUT)
 A - Standard "FLEXLOC" nut, coarse thread
 C - Standard "FLEXLOC" nut, fine thread
 K - Thin

METRIC THREADS

The first two numbers followed by the first three letters (five in all) designate the type as listed above. Following the first group of letters is a digit designating the ISO property class of steel nut, 8 for class 8 and 10 for class 10. For cres, brass, and aluminum nuts the class digit is replaced by a dash. The last group of digits designates the diameter and pitch of the thread and is preceded by an "M".

Examples:

31MFA8M1620 = 16mm diameter X 2.0mm pitch, self-locking metric nut, steel, type I cadmium plate, class 8.

59MFC-M1212 = 12mm diameter X 1.25mm pitch, self-locking metric nut, cres, silver plate.

SPECIALS

Because of the large variety of special materials, finishes and sizes which we can furnish, no attempt should be made to compose part numbers. All special locknuts are assigned a 5-digit part number by SPS.

Each FLEXLOC part number consists of a group of digits and letters separated by a dash from a group of digits only. The digits of the first group designate material and finish; the letters designate type of nut. Digits of the group following the dash indicate the size or diameter and the number of threads per inch. Specific meanings of the digits and letters are as follows:

FIRST GROUP

FIRST DIGIT (MATERIAL)

- | | |
|--|--|
| 0 - Special Material | 6 - Brass |
| 1 - | 7 - Aluminum |
| 2 - Carbon Steel | 8 - |
| 3 - Carbon Steel | 9 - Type 347 Stainless Steel or Equivalent |
| 4 - Aircraft Alloy | 10 - Aluminum (Micro Size) |
| 5 - Austenitic Corrosion-Resistant Steel | 11 - A-286 or Any Hi-Temp. Steel |

SECOND DIGIT (FINISH)

- | | |
|----------------------------------|---|
| 0 - Plain | 5 - Anodized |
| 1 - Commercial Cadmium | 6 - Black Oxide |
| 2 - Cadmium (Type I) | 7 - Cadmium Iridescent Dichromate (Type II) |
| 3 - Zinc (Iridescent Dichromate) | 8 - Molybdenum Disulfide (MO S.) |
| 4 - Dull Nickel | 9 - Silver |



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