

ASTM F594K

AUSTENITIC STAINLESS STEEL

BOLTING MATERIAL FOR GENERAL PURPOSE USE

ASTM F594K Specification covers the requirements for stainless steel nuts 0.25"-1.50" inclusive in nominal diameter in a number of alloys in common use and intended for service application requiring general corrosion resistance. Seven group of stainless steel alloys are covered including 10 AUSTENITIC, 2 FERRITIC, 4 MARTENSITIC & 1 PRECIPITATION HARDENING. Suitable Bolts, hex cap screws & studs used with these nuts shall conform to the requirements of specification F593 & shall be of the same alloy group.

Chemical Properties

Stainless Alloy Group Group 3	UNS No.	Composition, % maximum except as shown								
		Carbon	Magnese	Phosphorus	Sulfur	Silicon	Chromium	Nickel	Copper	Molybdenum
321	S32100	0.08	2.00	0.045	0.030	1.00	17.0-19.0	9.0-12.0	-	-
347	S34700	0.08	2.00	0.045	0.030	1.00	17.0-19.0	9.0-13.0	-	-

Mechanical Properties

Alloy	Marking	Size	Proof Stress	Hardness
3	F594K	1/4" To 1 1/2"	75 Ksi Min	B65 To 95,

Heat Treatment

Machined from annealed or Solution Annealed stock thus retaining the properties of the original stock or hot formed and solution annealed.

Tensile Stress Areas and Threads Per Inch

Size	Coarse Thread (UNC)		Fine Thread (UNF)		8 Thread series (8 UN)	
	Threads	Stress Area	Threads	Stress Area	Threads	Stress Area
1/4"	20	0.0318	28	0.0364	--	--
5/16"	18	0.0524	24	0.0364	--	--
3/16"	16	0.0775	24	0.0878	--	--
7/16"	14	0.1063	20	0.1187	--	--
1/2"	13	0.1419	20	0.1599	--	--
9/16"	12	0.1820	18	0.2030	--	--
5/8"	11	0.2260	18	0.2560	--	--
3/4"	10	0.3340	16	0.3730	--	--
7/8"	9	0.4620	14	0.5090	--	--
1"	8	0.6060	12	0.6630	--	--
1 1/8"	7	0.7630	12	0.8560	8	0.790
1 1/4"	7	0.9690	12	1.0730	8	1.000
1 3/8"	6	1.1550	12	1.3150	8	1.233
1 1/2"	6	1.4050	12	1.5810	8	1.492

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