

## ASTM A 194M 8S

# STAINLESS STEEL

NUT MATERIAL FOR HIGH TEMPERATURE SERVICE

ASTM A 194M 8S is a fully austenitic alloy was originally designed for high temperatures around 1800°F. The oxidation resistance of ASTM A194M 8S is similar to Type 309 SS, and far superior to Type 304 SS. The additions of Si and Mn have given the alloy a matrix to inhibit wear, galling, and fretting even in the annealed condition. Higher strengths are attainable through cold working the material and is still fully austenitic after severe cold-working.

### Chemical Properties

C	Si	Mn	P	S	Cr	Ni	N
0.10 Max	3.5-4.5	7.0-9.0	0.060 Max	0.030 Max	16.0-18.0	8.0-9.0	0.08-0.18

### Mechanical Properties

#### Proof Load Using Threaded Mandrel- METRIC (kN)

#### Hardness

TYPE	M6	M8	M10	M12	M14	M16	BHN	HRB	HRC
HEAVY HEX	11.1	20.1	31.9	46.4	63.3	86.4		Min	Max
HEX	10.4	18.8	29.9	43.4	59.2	80.9	183-271	88	25

TYPE	M20	M22	M24	M27	M30	M36
HEAVY HEX	134.8	166.7	194.2	252.5	308.6	449.4
HEX	126.2	156	181.8	236.4	288.9	420.8

### Heat Treatment

Carbide Solution Treated.

### Equivalent Designation

UNS S21800

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