

# AMS 5643 (UNS S17400)

## PRECIPITATION HARDENING STAINLESS STEEL BAR

### PRODUCT DESCRIPTION

AMS 5643 (UNS S17400) is an American aerospace grade which may be hardened by a single low temperature precipitation hardening treatment and contains 4% copper. After treatment, AMS 5643 offers excellent mechanical properties at a high strength level. The alloy can be magnetised and has a typical density of 7.75kg/dm<sup>3</sup>. The material should not be used in the annealed condition.

### KEY FEATURES

- High strength alloy with good corrosion resistance
- Suitable for manufacture of intricate parts
- Excellent weldability
- Excellent mechanical properties after treatment

### APPLICATIONS

- Missile components
- Motor shafts, gears, valve stems
- Aerospace and Defence components



### CONDITION:

Can be supplied in the annealed condition (Condition A) or heat treated as follows:-

- Condition H900 (900°F)
- Condition H925 (925°F)
- Condition H1025 (1025°F)
- Condition H1075 (1075°F)
- Condition H1100 (1100°F)
- Condition H1150 (1150°F)

### CHEMICAL COMPOSITION (weight %)

	C	Mn	P	S	Si	Cr	Ni	Cu	Mo	Nb
Min						15.00	3.00	3.00		5XC
Max	0.07	1.00	0.04	0.03	1.00	17.50	5.00	5.00	0.50	0.45

### MECHANICAL PROPERTIES (typical)

Condition	Tensile Strength (MPa)	0.2% Proof Stress(MPa)	Elongation on 4D G.L. (%)	Hardness (HB)
H900	1,310	1,172	10	388 / 444
H925	1,172	1,069	10	375 / 429
H1025	1,069	1,000	12	331 / 401
H1075	1,000	862	13	311 / 375
H1100	965	793	14	302 / 363
H1150	931	724	16	277 / 352