ALLOY 410

AMS 5504 / AMS 5613 (Chem only) / UNS S41000

Products & Sizes			
Coil	**Sheet**	**Plate**	**Bar**
0.020" - 0.140"	0.020" - 0.140"	0.1875" - 1.000"	1.000" - 8.000"

410 Chemical Composition

	Element	Min	Max
C	Carbon	-	0.15
Mn	Manganese	-	1.00
Si	Silicon	-	1.00
Cr	Chromium	11.50	13.50
Ni	Nickel	-	0.75
S	Sulfur	-	0.03
P	Phosphorus	-	0.04

Industry Standards

- EN 1.4006
- PWA-LCS
- GE Aircraft Engine (GT193)
- GE Aviation S-SPEC-35 AeDMS S-400
- RR SABRe Edition 2
- DFARS Compliant

Industry Applications

- Aerospace structures
- Automotive exhausts, manifolds and high temperature engine components
- Medical instruments and devices
- Knives and kitchen utensils
- Petro-chemical applications
- Stainless steel cutlery, kitchen utensils
- Manufacturing flat springs
- Hand tools
- Bolts, nuts, springs and fasteners

Physical Properties

Property	Value
Density	0.276 lb/in^3
Specific Gravity	7.65
Melting Range	2700-2790°F (1482-1532°C)
Modulus of Elasticity	29 x 106 psi (200 GPa)
Specific Heat	0.11 Btu/lb. ·°F

Coefficient of Thermal Expansion			
Temperature Range		**Coefficients**	
°C	**°F**	**cm/cm/°C**	**in/in/°F**
20-200	68-392	10.5 x10^{-6}	5.9 x 10^{-6}
20-600	68-1112	11.6 x 10^{-6}	6.5 x 10^{-6}

Thermal Conductivity			
Temperature Range		**W/m·K**	**Btu/(hr · ft · °F)**
°C	**°F**		
100	212	(0.249)	14.4

Thermal Conductivity		
Temperature Range		microhm-cm
°C	°F	
20	68	56

Mechanical Properties

Coefficient of Thermal Expansion				
Typical Annealed Properties				Hardening Response HRC
HRB	0.2% Offset Yield Strength, Ksi (MPa)	Tensile Strength, Ksi (MPa)	Elongation % in 2" (51mm)	
82-96	30 (205) - 42 (290)	65 (450) - 74 (510)	20 -34	38-45