CENTRAL WIRE INDUSTRIES

CWI 440C Stainless Steel: UNS S44004

440C stainless steel is a member of the 400 series of stainless steels. It has the highest carbon content of all the stainless steel alloys and is hardened by heat treatment. 440C offers high strength, hardness, and excellent wear resistance. It's often used in high-wear applications like cutlery, bearings and races, bushings, valve components, surgical instruments, and molds and dies. This stainless steel is not recommended for use at high temperatures (typically higher than 400°C) to avoid reduction of its corrosion and impact resistance.

Nominal Composition

	Cr	C	Mn	Si	Mo	P	S	Fe
Min	16.0	0.95	-	-	-0.40	-	-	-
Max	18.0	1.2	1.0	1.0	0.65	0.04	0.03	Balance

Physical and Thermal Properties

	At 70°F	At 20°C
Density	0.275 lb/in	7.80 g/cm³
Melting Point	2500-2700°F	1483°C
Thermal Expansion Co-efficient	5.60 µin/in°F	10.2 µm/m°C
Thermal Conductivity	168 BTU in/hr.ft².°F	24.2 W/mK

Applicable Specifications

Wire & Bar	AMS 5618 (VAR), AMS 5630, AMS 5880, ASTM A276, AMS QQ-S-763, ASTM A493, ASTM A580, DIN 1.4125, BS EN 10088.

Mechanical Properties

Representative Tensile Properties (Hardened 1900°F, oil quench, and tempered 600°F)	
Temperature	70°F
Ultimate Tensile Strength	285 ksi
0.2% Yield Strength	275 ksi
Elongation	2%
Reduction of Area	10%
Hardness	580 Brinell

Typical Hardness (1" round, hardened 1900°F, oil quench, and tempered one hour)						
Tempting Temperature	300	400	500	600	700	800
Rockwell Hardness	60	59	57	56	56	56

Available Forms	Packaging Options
• Round wire (0.009" to 0.625") • Bars • Shaped wire	• Coils • Spools • Bars • Custom packaging