

CRA C276 (UNS N10276)

C276 is typically supplied as a cold worked solid solution nickel-based alloy, capable of meeting the severe challenges of high temperature, high pressure, sour wells. The alloy is classified in MR0175/ISO15156 as a type 4e alloy, with no restrictions to partial pressure of H₂S below 270F and resistant to 1000 psi H₂S at 450°F.

NOMINAL COMPOSITION

Chromium 15%

Nickel Balance

Molybdenum 16%

Iron 5%

SPECIFIED MECHANICAL PROPERTIES - API 5CRA / ISO 13680 Group 4 Category 15-60-16

Grade	Yield Strength min. (ksi)	Tensile Strength min. (ksi)	Elongation min. (%)	NACE MR0175/ISO 15156 Environmental Limits
110	110	115	11	Table A.14 Type 4e
125	125	130	10	Table A.14 Type 4e
140	140	145	9	Table A.14 Type 4e

TYPICAL MECHANICAL PROPERTIES

Grade	Yield Strength (ksi)	Tensile Strength (ksi)	Charpy V-Notch Toughness (ft-lbs at 14F)
110	125	138	120
125	140	150	110
140	154	162	160

TYPICAL PHYSICAL PROPERTIES

		70°F	200°F	400°F
Density	lbs/in ³	0.32		
Thermal Expansion	X10 ⁻⁶ /deg F	6.0	6.2	6.7
Elastic Modulus	psi x 10 ⁶	29.8	29.0	28.3
Poisson Ratio		0.3		
Thermal Conductivity	Btu/ft h °F	5.9	6.4	7.5
Specific Heat	Btu/lb °F	0.10	0.10	0.10