

CRA G2 (UNS N06975)

NOMINAL COMPOSITION

Chromium 25% Nickel 50% Molybdenum 6% Copper 1.0% Titanium 1.1 Iron Balance

CORROSION RESISTANCE

CRA G2 (UNS N06975) is a cold worked nickel-based alloy meeting the severe challenges of wells containing high chlorides, H₂S and temperature. With a typical Pitting Resistance Equivalent Number of 51 it is highly resistant to pitting corrosion and chloride-induced stress corrosion cracking. For sour service applications, it is classified in MR0175/ISO15156 as a type 4d alloy, with no restrictions to partial pressure of H₂S below 300F and resistant to 300 psi H₂S at 425°F.

SPECIFIED MECHANICAL PROPERTIES - API 5CRA / ISO 13680 Group 4 Category 25-50-6

Yield Strength min. (ksi)	Yield Strength max. (ksi)	Tensile Strength min. (ksi)	Elongation min. (%)	NACE MR0175/ISO 15156 Compliant
110	140	115	11	YES
125	150	130	10	YES
140	160	145	9	NO*

*NACE MR0175/ISO 15156 limits maximum yield strength to 150 ksi

TYPICAL PHYSICAL PROPERTIES

		70°F	250°F	350°F	450°F
Density	lbs/in ³	0.297	0.296	0.295	0.294
Thermal Expansion	X10 ⁻⁶ /deg F	-	7.2	7.4	7.7
Elastic Modulus	psi x 10 ⁶	28.5	27.9	27.8	27.6
Poisson Ratio		0.29	0.29	0.29	0.3
Thermal Conductivity	W/ft deg F	1.5	1.8	2.0	2.2
Specific Heat	BTU/lb deg F	0.09	0.10	0.10	0.11