

25CRW (UNS S39274)

25CRW is typically supplied as a cold worked super duplex stainless steel suitable for high chloride and mildly sour wells with partial pressure of H₂S < 3 psi. The alloy is classified in MR0175/ISO15156 as a duplex stainless steel having Pitting Resistance Equivalent Number > 40. The high PREN prevents pitting corrosion in the presence of high chlorides or dissolved oxygen. It is therefore often used in seawater and water injection wells.

NOMINAL COMPOSITION

Chromium 25%

Nickel 7%

Molybdenum 3.8%

Iron Balance

SPECIFIED MECHANICAL PROPERTIES - API 5CRA / ISO 13680 Group 2 Category 25-7-4

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 4c
125	125	130	10	Table A.14 Type 4c
140	140	145	9	N/A

TYPICAL MECHANICAL PROPERTIES

Grade	Yield Strength (ksi)	Tensile Strength (ksi)	Charpy V-Notch Toughness (ft-lbs at 14F)
110	121	133	85
125	133	148	55

TYPICAL PHYSICAL PROPERTIES

		70°F	200°F	400°F
Density	lbs/in ³	0.28		
Thermal Expansion	X10 ⁻⁶ /deg F	7.5	7.5	7.5
Elastic Modulus	psi x 10 ⁶	29.0	28.2	27.0
Poisson Ratio		0.24	0.24	0.24
Thermal Conductivity	Btu/ft h °F	8	9	10
Specific Heat	Btu/lb °F	0.12	0.12	0.12