

## 22 Chrome (UNS S31803)

22 Chrome is supplied as a cold worked duplex stainless steel intended for sweet (CO<sub>2</sub>) wells containing Chlorides and low levels of H<sub>2</sub>S. This alloy is classified in MR0175/ISO15156 as a duplex stainless steel having Pitting Resistance Equivalent Number < 40, suitable for H<sub>2</sub>S pp < 0.3 psi.

### NOMINAL COMPOSITION

Chromium 22%      Nickel 5.0%      Molybdenum 3.0%      Nitrogen 0.18%      Iron Balance

### API 5CRA / ISO 13680 Group 2 Category 22-5-3 Specified Mechanical Properties

Grade	Yield Strength min. (ksi)	Tensile Strength min. (ksi)	Elongation min. (%)	Hardness max. (HRC)	NACE MR0175/ISO 15156 Environmental Limits
110	110	125	11	36	Table A.25
125	125	130	10	36	Table A.25
140	140	145	9	38	Not recommended for sour service

### TYPICAL PHYSICAL PROPERTIES

		70°F	200°F	400°F
Density	lbs/cu <sup>3</sup> .	0.28		
Thermal Expansion	X10 <sup>-6</sup> /deg F	7.0	7.5	8.0
Elastic Modulus	psi x 10 <sup>6</sup>	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