

## Super 25 Chrome

Super Duplex 25 Chrome grades, 25CRW & 25CRS, are cold hardened duplex stainless steels intended for corrosion resistance in sweet (CO<sub>2</sub>) and moderately sour (H<sub>2</sub>S) environments with high chloride content, requiring high strength up to 450°F. The "Super" designation indicates that it has a Pitting Resistance Equivalence (PREN) ≥40. This provides increased resistance to H<sub>2</sub>S and localized corrosion from high chlorides and/or oxygen relative to standard 25 Chrome.

It is therefore a common choice for use as tubing and liner in seawater and water injection wells. However, all environmental factors, including H<sub>2</sub>S, CO<sub>2</sub>, temperature, pH, and chloride concentration, should be considered before final material selection.

These alloys are classified in MR0175/ISO15156 as duplex stainless steels having a Pitting Resistance Equivalent Number ≥40, suitable for H<sub>2</sub>S partial pressure ≤3.0 psi.

### NOMINAL COMPOSITION

<b>25CRS</b>	Chromium 25%	Nickel 7%	Molybdenum 4%		Iron Balance
<b>25CRW</b>	Chromium 25%	Nickel 7%	Molybdenum 3%	Tungsten 2%	Iron Balance

### 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.25
125	125	130	10	Table A.25
140	140	145	9	N/A

### TYPICAL PHYSICAL PROPERTIES

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