

ZERON® 100

A super duplex stainless, ZERON® 100 has been designed to cope with the harshest environments.

Displaying excellent resistance to stress corrosion cracking and outstanding corrosion resistance under warm seawater conditions, along with superior pitting resistance, ZERON® 100 is an alloy of choice for a wide range of applications.

PRODUCT FORMS

ZERON® 100 pipe	0.5in	48in
ZERON® 100 round bar	50mm	400mm
ZERON® 100 sheet & plate	1mm	76.2mm
ZERON® 100 welding wire	0.8001mm	3.2mm
ZERON® 100 pipe fittings	0.8001mm	3.2mm
ZERON® 100 flanges and forges	0.8001mm	3.2mm

Can't find the size you need? **Please contact us at onlinesales@neonickel.com**

CHEMICAL ANALYSIS

%	CR	NI	MO	CU	W	C	N	MN	SI	P	S	FE
Min	24	6	3	0.5	0.5	-	0.2	-	-	-	-	-
Max	26	8	4	1	1	0.03	0.3	1	1	0.030	0.010	Balance

APPLICATIONS

- Subsea Pipework Systems
- Heat Exchangers
- Pressure Vessels
- Flue Gas Desulfurization Equipment
- Pulp and Paper
- Power Generation

ABOUT ZERON® 100

ZERON® 100 is a highly alloyed super duplex stainless steel for use in aggressive environments. Its combination of properties makes the alloy the optimum choice in many markets. The alloy has outstanding resistance against chloride-induced stress corrosion cracking and sulphide-stress cracking in sour-gas conditions. With a PREN above 40, ZERON® 100 has superior crevice corrosion resistance in seawater applications. ZERON® 100 is highly resistant to corrosion in a wide range of organic and inorganic acids. The copper content gives ZERON® 100 excellent resistance to corrosion in many non-oxidising acids including most concentrations of sulphuric acid. The alloy has better resistance to corrosion fatigue and erosion corrosion than any other stainless grades. One of the most notable features of ZERON® 100 is its impact strength. Without any true ductile brittle transition, the alloy merely shows a gradual decrease in its impact energy as temperatures lower. The impact energy is variable depending on the production and product type. Welded ZERON® 100's impact strength is only slightly lower than the parent metal. **To buy ZERON® 100 or learn more [get in touch](#), or fill in our online quote form and we'll get right back to you!**

PROPERTIES

Density:	7.84 g/cm ³
Melting Range:	°C
Hardness:	28 HRC max
Specific Heat Capacity:	482 J/kg.°C
Electrical Resistivity:	0.851 μΩ.m
Curie Temperature:	°C
Poisson's Ratio:	0.32

MECHANICAL & PHYSICAL PROPERTIES

MECHANICAL & PHYSICAL PROPERTIES	-70 °C	-46 °C	21.1 °C	93.3 °C	148.9 °C	204.4 °C	250 °C	300 °C
Ultimate Tensile Strength, MPa	-	-	750	670	620	610	600	590
0.2% Yield Strength, MPa	-	-	550	430	400	380	370	360
Reduction of area %	-	-	-	-	-	-	-	-
Elongation %	-	-	25	-	-	-	-	-
Charpy Impact V-notch /J	>45	>45	100	-	-	-	-	-
Coefficient of Thermal Expansion / $\mu\text{m}/\text{m}^{\circ}\text{C}$	-	-	-	12.8	-	13.3	-	13.8
Thermal Conductivity /kcal/(hr.m. $^{\circ}\text{C}$)	-	-	11.094	12.384	13.244	14.018	14.878	15.652
Modulus of Elasticity / GPa	-	-	200	194	-	186	-	180

DESIGN STRESSES - PRESSURE VESSELS

TEMPERATURE °C	37.8 °C	93.3 °C	149 °C	204 °C	260 °C	316 °C
ZERON 100	31.1 ksi	31.0 ksi	29.4 ksi	29.0 ksi	29.0 ksi	29.0 ksi
2205	25.7 ksi	25.7 ksi	24.8 ksi	23.9 ksi	23.3 ksi	23.1 ksi
AL-6XN	27.1 ksi	27.1 ksi	25.7 ksi	24.6 ksi	23.8 ksi	23.3 ksi

SPECIFICATIONS

UNS Number: UNS S32760

W.Nr.Number: 1.4501

Standards: ASTM A182, A240, A276, A314, A473, A479, A815, A790, A928