



## NITRONIC\*\* 50

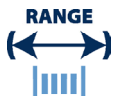
### Key Features

- Superior corrosion resistance to type 316 stainless steel
- Good mechanical properties at ambient and sub-zero temperatures
- Does not become magnetic when cold worked or cooled to sub-zero temperatures

### IMPORTANT

We will manufacture to your required mechanical properties.

## key advantages to you, our customer



**RANGE**  
0.025mm to 21mm  
(.001" to .827")



Order 3m to 3t  
(10 ft to 6000 Lbs)



Delivery:  
within 3 weeks



Wire to your spec



E.M.S available



Technical support

### NITRONIC\*\* 50 available in:-

- Round wire
- Bars or lengths
- Flat wire
- Shaped wire
- Rope/Strand

### Packaging

- Coils
- Spools
- Bars or lengths



\*\*Trade name of AK Steel.



Chemical Composition			Specifications	Key Features	Typical Applications
Element	Min %	Max %	ISO 15156-3 (NACE MR0175)	Superior corrosion resistance to type 316 stainless steel	Components in processing environments like: - Marine - Petroleum - Petrochemical - Fertilizer - Pulp & Paper
C	-	0.06			
Si	-	1.00	<b>Designations</b>	Good mechanical properties at ambient and sub-zero temperatures	
Mn	4.0	6.0	W.Nr. 1.3964 UNS S20910 AWS 165	Does not become magnetic when cold worked or cooled to sub-zero temperatures	
Ni	11.5	13.5			
Cr	20.5	23.5			
S	-	0.03			
P	-	0.04			
Mo	1.5	3.0			
N	0.20	0.40			
V	0.10	0.30			
Nb/Cb	0.10	0.30			
Fe	BAL				

<b>Density</b>	7.88 g/cm <sup>3</sup>	0.285 lb/in <sup>3</sup>
<b>Melting Point</b>	1415 – 1450 °C	2579 – 2642 °F
<b>Coefficient of Expansion</b>	16.2 µm/m °C (20 – 100 °C)	9.0 x 10 <sup>-6</sup> in/in °F (70 – 200 °F)
<b>Modulus of Rigidity</b>	78.9 kN/mm <sup>2</sup>	11444 ksi
<b>Modulus of Elasticity</b>	196.5 kN/mm <sup>2</sup>	28500 ksi

Heat Treatment of Finished Parts					
Condition as supplied by Alloy Wire	Type	Temperature		Time (Hr)	Cooling
		°C	°F		
Annealed or Spring Temper	Stress Relieve	250	480	1	Air

Properties				
Condition	Approx. tensile strength		Approx. operating temperature	
	N/mm <sup>2</sup>	ksi	°C	°F
Solution Annealed	<1000	<145	-200 to +300	-330 to +570
Spring Temper	1300 – 2200	189 – 319	-200 to +300	-330 to +570

The above tensile strength ranges are typical. If you require different please ask.