

# Nitronic® 60 Stainless Steel

## NITRONIC 60 STAINLESS STEEL DATASHEET

Nitronic® 60 stainless steel is fully austenitic steel that performs well as a high temperature alloy and is well suited for applications that require excellent resistance to galling and wear owing to its silicon and manganese content. Nitronic 60 stainless steel maintains this resistance even when annealed or after extensive cold-working and is considerably cheaper than similarly resistant nickel or cobalt-based alloys. This means Nitronic 60 stainless steel is appropriate for highly critical applications such as expansion joints in bridges and is one of the most cost-effective materials for any high wear context, such as bearings, valves, or wear rings in vertical centrifugal pumps.

Nitronic 60 stainless steel is most commonly used in valve stems, fastening systems, nuts and bolts, wear rings and pump components, bearings, and valves.

Product forms include pipe, tube, fitting, flange, sheet, strip, plate, round bar, flat bar, fastener, forging stock, and hexagon.

### Standards

- UNS S21800
- UNS S20162

### Physical Properties

- Density: 0.274 LB/in<sup>3</sup> (7.62 g/cm<sup>3</sup>)
- Melting Point: 2500°F (1375°C)
- Modulus of Elasticity: 26.8x10<sup>6</sup>psi
- Magnetic Permeability: 1.003 Max

### Characteristics

- Superior self-mated galling and metal-to-metal wear resistance.
- Higher strength than Type 316.
- Resistant to atmospheric corrosion.



### Chemical Composition

	C	Mn	S	P	Si	Cr	Ni	N	Mo	Fe
MIN	-	4.00	-	-	2.50	16.50	6.00	0.05	0.50	-
MAX	0.15	8.00	0.040	0.040	4.50	21.00	10.00	0.25	2.50	balance

### Mechanical Properties

	Tensile (min) KSI (Mpa)	Yield (min) KSI (Mpa)	Elongation (min) %	Reduction of Area (min) %	Hardness HRB (BHN)
Level 1	110 (758)	90 (620)	35	55	100 (241) Min.
Level 2	135 (930)	105 (724)	20	50	100 (241) Min.
Level 3	160 (1103)	130 (896)	15	45	100 (241) Min.
Level 4	180 (1241)	145 (999)	12	45	100 (241) Min.
Level 5	200 (1379)	180 (1241)	10	45	100 (241) Min.

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