

Nitronic 60

Nitronic 60 (UNS S21800) provides a significantly lower cost way to fight wear and galling compared with cobalt-bearing and high nickel alloys. Its uniform corrosion resistance is better than stainless type 304 in most media. Chloride pitting resistance is superior to 316. The yield strength at room temperature is nearly twice that of stainless type 304 and 316. In addition, Nitronic 60 provides excellent high-temperature oxidation resistance and low-temperature impact resistance.

Chemical Composition, %

element	Cr	Ni	Fe	N	C	Mn	Si	P	S
min.	16.00	8.00	bal.	0.08	0.10	7.00	3.50	0.060	0.030
max.	18.00	9.00		0.18		9.00	4.50		

Chemical Composition according to ASTM. Some compositional limits of other specifications may vary slightly.

Designation and standards

National Standards	Material designation	Chemical composition	Forgings	Rod and bar	Plate and sheet	Strip	Seamless tube
ASTM ASME SAE	UNS S21800	A959 SA959	AMS5848	A276 SA276 A193 SA193 A194 SA194 AMS5848	A240 SA240	A240 SA240	

Density 7.62g/cm³

Corrosion resistance

- outstanding wear and galling resistance at both ambient and elevated temperatures up to 815°C
- cavitation erosion resistance superior to austenitic stainless as well as duplex stainless steels
- better chloride pitting resistance, stress corrosion cracking resistance and crevice corrosion resistance than stainless type 316
- oxidation resistance superior to stainless type 316

Applications

Typical applications are:

- valve stems, seats and trim
- fastening systems, including nuts and bolts
- pump components such as wear rings and lobes