



## Wear Resistant Alloy

Nitronic® 60 (UNS S21800) is a wear/galling resistant material

Nitronic® 60 is a highly alloyed austenitic stainless steel offering a combination of good mechanical strength (more than double that of 316) and superior corrosion resistance.

Designed originally as material for use in elevated temperatures (up to 1800°F), Nitronic® 60 is a wear-resistant alloy offering outstanding galling resistance in both elevated and ambient temperatures and is ideal for any application where galling or seizing is a cause for concern. The material represents a cost-effective solution to combat the effects of wear when compared with nickel and cobalt-based alloys.

The addition of silicon and manganese in the alloying process gives the product its galling / wear-resistant qualities even in the annealed condition. The hardness in the annealed condition is excellent - comparable materials would require additional heat treatment to compete with Nitronic® 60 in its annealed state.

Smiths High Performance is a leading stockholder and supplier of high-performance engineering materials to the global motorsport sector. We are supply partners in a range of specialist motorsport markets including Formula 1, Formula E, NASCAR, MOTO GP, WEC & WRC.

Further technical data available on the reverse of this Datasheet

## Corrosion Resistance

Corrosion resistance is superior and better than 304, although, like the majority of austenitic stainless steels, Nitronic® 60 may suffer stress corrosion cracking in hot chloride ion atmospheres. Resistance to selective attack such as pitting and crevice corrosion is slightly improved when compared to 316 stainless.

## Applications in Motorsport

With such outstanding wear characteristics and high-temperature performance, it is not surprising that motorsport components are a beneficiary of this material.

## Use in Fasteners

Fasteners produced in Nitronic® 60 are capable of repetitive assembly and disassembly before the threads are worn or torn. The fastenings will not corrode easily either, due to the alloys superior corrosion-resistant qualities.

## Chemical Composition

	Ni	Cr	Mo	Mn	C	Si	Fe
Min	11.5	20.5	1.50	4.0			
Max	13.5	23.5	3.00	6.0	0.06	1.00	Bal

## Mechanical Properties

	Ultimate Tensile	Yield Strength (0.2% OS)	Elongation	R/A	Hardness
Min	100 KSi	55 KSi	35%	55%	

## Motorsport Applications

- Internal combustion valves
- Valve Stems
- Fastening Systems
- Pin and roller bearings
- Chain drive systems

## Benefits

- Wear / galling resistant material
- Good ambient and high-temperature - performance
- Better corrosion resistance than 304
- Good hardness in the annealed condition
- Highly suitable for fasteners - can be used in repetitive assembly and disassembly
- Excellent resistance to intergranular attack
- Excellent resistance to sulphide stress cracking (SSC)

...where performance matters...

When you purchase high-performance materials from **Smiths High Performance**, you will be joining some of the biggest and best global engineering companies. We are a Tier 1 supply chain partner to the world's leading motorsport companies. Our unique business structure and ethos allows us to offer services which are otherwise unavailable in this market sector.