

Grade: Austenitic stainless steel (UNS S20910 / Nitronic® 50 / XM19)

Type: Corrosion resistant stainless steel, usually delivered in the annealed condition though a high strength (HS) can be supplied*.

Nominal Composition	
Element	Weight %
Carbon	0.06 max
Silicon	1.0 max
Manganese	4.0 / 6.0
Phosphorus	0.04 max
Sulphur	0.010 max
Molybdenum	1.5 – 3.0
Chromium	20.5 – 23.5
Nickel	11.5 – 13.5
Nitrogen	0.20 – 0.40
Niobium	0.10 / 0.30
Vanadium	0.10 / 0.30

*HS (high strength 105ksi yield) version up to 3" dia can be achieved through controlled hot working practices.

This grade cannot be hardened by heat treatment
Nitronic® is a trade name

XM19



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Mechanical Properties:

annealed condition.

Property	Values
Ultimate Tensile Strength	100 min Ksi (689 N/mm ²)
0.2 % Yield Strength	55 min Ksi (379 N/mm ²)
Elongation	35 % min
Reduction of Area	55 % min
Hardness (see note**)	NACE (35HRC max)

Mechanical Properties:

HS (high strength) condition

Property	Values
Ultimate Tensile Strength	135 min Ksi (930 N/mm ²)
0.2 / Yield Strength	105 min Ksi (724 N/mm ²)
Elongation	20 / min
Reduction of Area	50 / min
Hardness (see note**)	NACE (35HRC max)



Notes

** NACE – “general use” approval now limits the maximum environmental temperature to 150°F (66°C)
The grade is readily weldable using conventional processes