



Grade	Code	UNS	Nickel Alloys
NITRONIC 50	XM-19	S20910	

Nickel Alloy Specification

NITRONIC 50 / UNS S20910 / XM-19 is manganese alloyed austenitic stainless steel with improved corrosion resistance compared to AISI 316L due to increased chromium content plus about twice the yield strength of the same at room temperature. Unlike many austenitic alloys, NITRONIC 50 does not become magnetic when cold formed. NITRONIC 50 Stainless has very good mechanical properties at both elevated and sub-zero temperatures.

Chemical Composition (XM-19)

Ni %	Cr %	C %	S %	Mn %	Si %	Mo %	Nb %	V %	Fe %
11,50 – 13,50	20,50 – 23,50	0,06 max.	0,03 max.	4,00 – 6,00	1,00 max.	1,50 – 3,00	0,10 – 0,30	0,10 – 0,30	Balance

Mechanical Properties (Annealed)

Product Form	Rp0.2, Mpa	Rm, Mpa	Elongation [%]	Hardness[HB]
Rod & Bar	345	≥ 655	≥ 35	≤ 293
Typical	420	730	50	201
High strength version*	≥ 586	≥ 896	≥ 20	≤ 330

* Normal stock version

Suitable For

The combination of corrosion resistance and mechanical strength, XM-19 is utilized in marine hardware, pump shafting, petrochemical, pulp & paper, food processing and petroleum industries. Can also be used in “down hole” applications due to sulfide stress cracking resistance.

Remarks

Field service experience have shown that NITRONIC 50 stainless has excellent resistance to sulfide stress cracking in air conditions.

Specification

NITRONIC 50, XM-19, S20910

Norm

NACE Standard MR01-75/ ISO 15156-3