



Austenitic Stainless Steel NAS 150	
ASTM Designation	EN Designation
304L	1.4307
S30403	X2CrNi18-9

**DESCRIPTION**

Cr-Ni austenitic stainless steels are the most versatile with the most extended use. They exhibit good properties regarding corrosion resistance, forming, and weldability. NAS 150 is more resistant to intergranular corrosion in welds than NAS 120, due to its lower carbon content.

**CHEMICAL  
COMPOSITION**

C	Si	Mn	P	S	Cr	Ni
≤ 0.030	≤ 0.75	≤ 2.00	≤ 0.045	≤ 0.015	18.00-20.00	8.00 - 12.00

**APPLICATIONS**

- Tubes
- Boiler Forge
- Chemical Industry
- Cryogenic Applications

**MECHANICAL  
PROPERTIES AFTER  
COLD ROLLING AND  
FINAL ANNEALING**

UTS	70 ksi min
0.2% YS	25 ksi min
Elongation	40% min
Hardness	max 92 HRB

**PHYSICAL  
PROPERTIES**

At 68 °F, it has a density of 0.285 lb/in<sup>3</sup> and a specific heat of 0.12 Btu/lb/°F

Modulus of Elasticity (x10 <sup>6</sup> psi)	28
Coefficient of Thermal Expansion, 68-212°F, /°F	9.2 x10 <sup>-6</sup>
Thermal conductivity (Btu/hr•ft•°F)☒	9.4
Electrical resistivity (Micro ohm-in)	28.3

## WELDING

The recommended consumable electrodes are:

Shielded electrodes	Wires and rods	Hollow electrodes
E 19 9 L	G 19 9 L (GMAW) W 19 9 L (GMAW)	T 19 9 L
308L	P 19 9 L (PAW) S 19 9 L (SAW) 308L	308L

## INTERGRANULAR CORROSION

NAS 150 due to its lower carbon content  $\leq 0.03\%$ , is more resistant to intergranular corrosion than NAS 120.

## CORROSION RESISTENCE

Cr-Ni austenitic stainless steels exhibit high corrosion resistance in a wide range of applications. For instance, these steels have corrosion rates lower than 0.004 in/year in the following media:

- 20% acetic acid at 176°F.
- 90% formic acid at 68°F.
- 20% phosphoric acid at 140°F.
- 20% nitric acid at 122°F.
- 90% sulphuric acid at 68°F.
- Toluene
- Milk
- Beer
- Juice
- Wine

## PITTING CORROSION

These Cr-Ni stainless steels can be safely used in chloride media with concentrations lower than 200 ppm.

## SURFACE CLEANING

Wash the surface with neutral soap and water applied with a cloth or a brush without scratching the stainless steel. Then, always rinse the stainless steel with water to remove completely the cleaning agent. Finally, it is recommended to dry the surface to preserve a good superficial condition. In severe environments, a frequent cleaning is strongly recommended.



**SPECIFICATIONS**

NAS 150 austenitic stainless steel is included in the main international standards.

This grade can be supplied according to ASTM, ASME, AMS, QQS, EN, and MILS standard requirements.

NAS 150 is approved in compliance with:

PED (Pressure Equipment Directive) according to EN 10028-7 and AD 2000 Merkblatt W2 and W10