

Austenitic Stainless Steel NAS 120	
ASTM Designation	EN Designation
304	1.4301
S30400	X5CrNi18-10

DESCRIPTION

This is the basic austenitic stainless steel 18/8, the most widely used. It exhibits good properties regarding corrosion resistance, forming, and weldability.

CHEMICAL COMPOSITION

C	Si	Mn	P	S	Cr	Ni
≤ 0.070	≤ 0.75	≤ 2.00	≤ 0.040	≤ 0.015	17.50-19.00	8.00 - 10.00

APPLICATIONS

- Tableware
- Household Appliances
- Industry
- Construction, decoration

MECHANICAL PROPERTIES AFTER COLD ROLLING AND FINAL ANNEALING
PHYSICAL PROPERTIES

UTS	75 ksi min
0.2% YS	30 ksi min
Elongation	40% min
Hardness	max 92 HRB

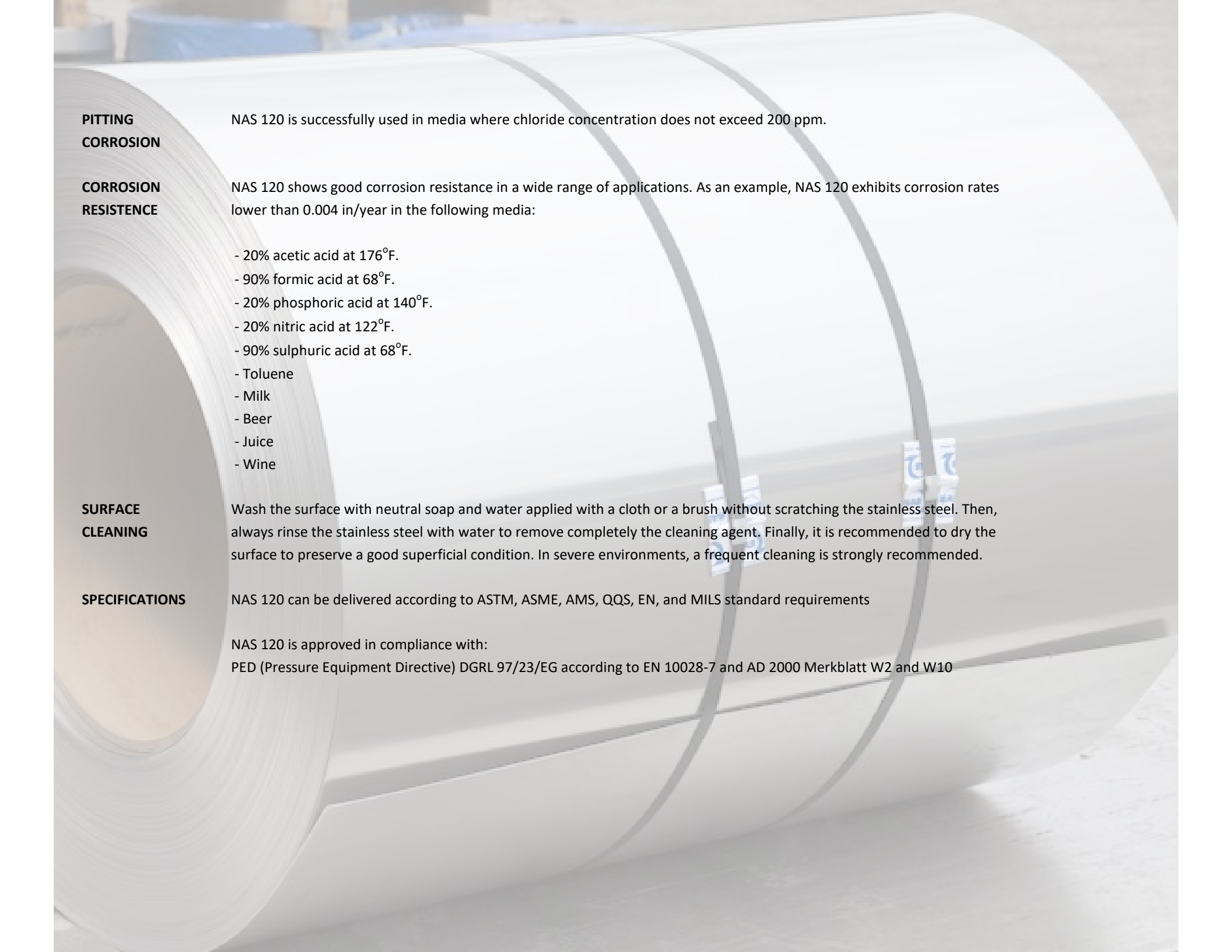
At 68 °F, it has a density of 0.285 lb/in³ and a specific heat of 0.12 Btu/lb/°F

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

WELDING

NAS 120 is suitable for all conventional welding techniques. The recommended consumable electrodes are:

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



**PITTING
CORROSION**

NAS 120 is successfully used in media where chloride concentration does not exceed 200 ppm.

**CORROSION
RESISTENCE**

NAS 120 shows good corrosion resistance in a wide range of applications. As an example, NAS 120 exhibits 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

**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 120 can be delivered according to ASTM, ASME, AMS, QQS, EN, and MILS standard requirements

NAS 120 is approved in compliance with:

PED (Pressure Equipment Directive) DGRL 97/23/EG according to EN 10028-7 and AD 2000 Merkblatt W2 and W10