



Ferritic Stainless Steel NAS 808	
ASTM Designation	EN Designation
409	1.4512
S40920	X2CrTi12

DESCRIPTION

NAS 808 is a titanium stabilized ferritic stainless steel. It exhibits good high temperature oxidation resistance and good corrosion resistance in low corrosive media. Because of the titanium addition and the low carbon and nitrogen content, this steel shows good forming and weldability.

**CHEMICAL
COMPOSITION**

C	Si	Mn	P	S	Cr	Ti
≤ 0.030	≤ 1.00	≤ 1.00	≤ 0.040	≤ 0.020	10.50-11.70	≥ 8 (C+N)

APPLICATIONS

- Exhaust systems: muffler, catalytic converter
- Tubes

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

UTS	55 ksi min
0.2% YS	25 ksi min
Elongation	20% min
Hardness	max 88 HRB

**PHYSICAL
PROPERTIES**

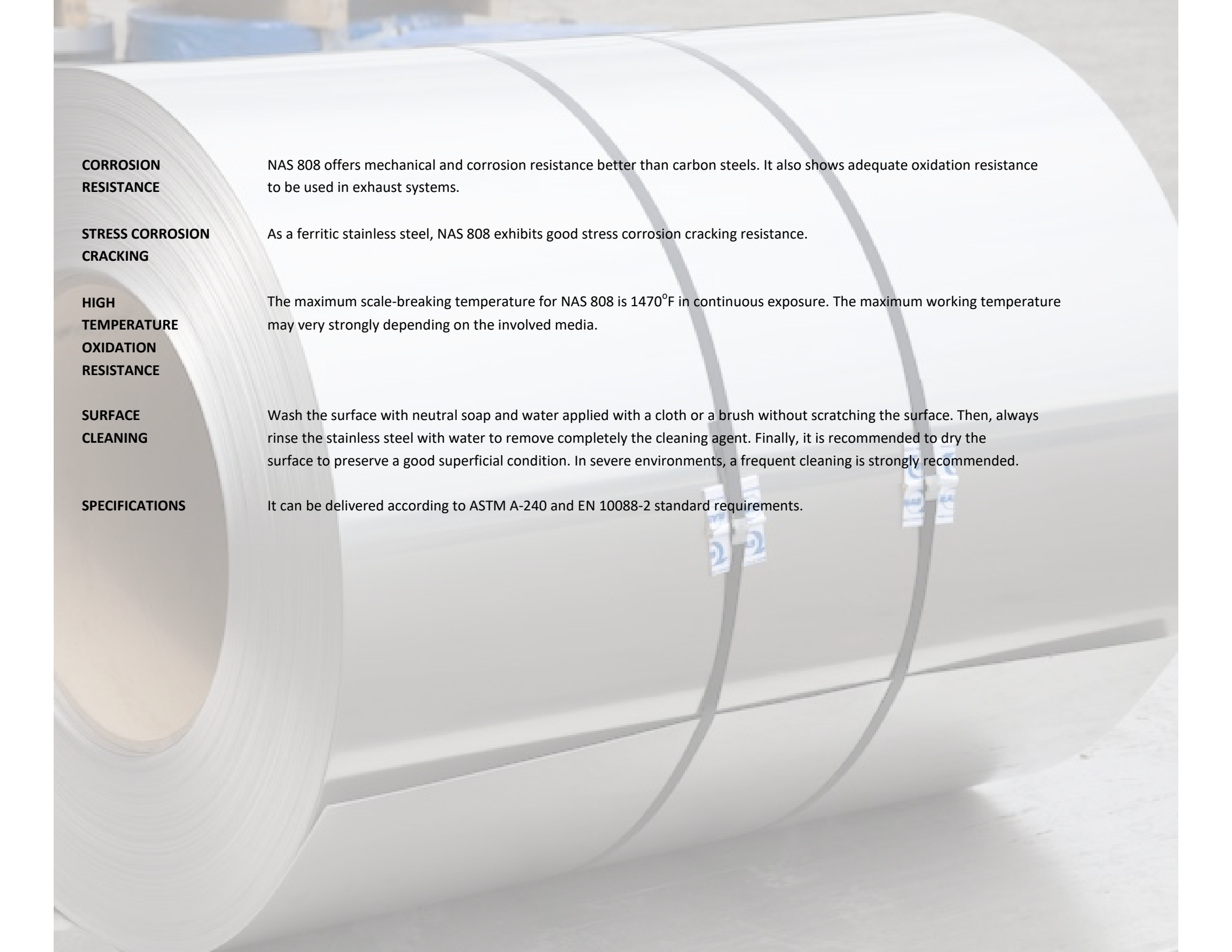
At 68 °F, it has a density of 0.279 lb/in³ and a specific heat of 0.11 Btu/lb/°F

Modulus of Elasticity (x10 ⁶ psi)	32.0
Coefficient of Thermal Expansion, 68-212°F, /°F	6.5 x 10 ⁻⁶
Thermal conductivity (Btu/hr•ft•°F)	13.2
Electrical resistivity (Micro ohm-in)	24.8

WELDING

The recommended consumable electrodes are:

Shielded electrodes	Wires and rods	Hollow electrodes
E 19 9 L	G 19 9 L (GMAW)	T 13 Ti
ER 308L	W 19 9 L (GTAW)	ER 308L
	P 19 9 L (PAW)	
	S 19 9 L	
	ER 208L	



**CORROSION
RESISTANCE**

NAS 808 offers mechanical and corrosion resistance better than carbon steels. It also shows adequate oxidation resistance to be used in exhaust systems.

**STRESS CORROSION
CRACKING**

As a ferritic stainless steel, NAS 808 exhibits good stress corrosion cracking resistance.

**HIGH
TEMPERATURE
OXIDATION
RESISTANCE**

The maximum scale-breaking temperature for NAS 808 is 1470°F in continuous exposure. The maximum working temperature may vary strongly depending on the involved media.

**SURFACE
CLEANING**

Wash the surface with neutral soap and water applied with a cloth or a brush without scratching the surface. 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

It can be delivered according to ASTM A-240 and EN 10088-2 standard requirements.