



Austenitic Stainless Steel NAS 520	
ASTM Designation	EN Designation
439	1.4510
S43035	X3CrTi17

**DESCRIPTION**

NAS 520 is a variation of NAS 501 with titanium content. This element gives the steel very good resistance to intergranular corrosion. This addition improves its weldability, since it enhances tenacity and ductility. Moreover, it exhibits good drawing conditions.

**CHEMICAL  
COMPOSITION**

C	Si	Mn	P	S	Cr	Ti
≤ 0.30	≤ 1.00	≤ 1.00	≤ 0.040	≤ 0.030	17.00-19.00	≥ 0.20+4(C+N)

**APPLICATIONS**

- Washing machines
- Tubes
- Exhaust systems

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

UTS	60 ksi min
0.2% YS	30 ksi min
Elongation	22% min
Hardness	max 89 HRB

**PHYSICAL  
PROPERTIES**

At 68 °F, it has a density of 0.278 lb/in<sup>3</sup> and a specific heat of 0.11 Btu/lb/°F

Modulus of Elasticity (x10 <sup>6</sup> psi)	29.0
Coefficient of Thermal Expansion, 68-212°F, /°F	5.6 x 10 <sup>-6</sup>
Thermal conductivity (Btu/hr•ft•°F)☒	14.0
Electrical resistivity (Micro ohm-in)	23.1

**WELDING**

The recommended consumable electrodes are:

Shielded electrodes	Wires and rods	Hollow electrodes
E 23 12 L	G 23 12 L (GMAW) W 23 12 L (GTAW)	T 23 12 L
ER 308L	P 23 12 L (PAW) S 23 12 L (SAW)	308L
ER 316L	ER 308L ER 316L	ER 316L

**CORROSION  
RESISTANCE**

Thanks to the titanium stabilization, NAS 520 has good intergranular corrosion resistance. As ferritic stainless steel has good stress corrosion cracking resistance.

**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.