Ferritic 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 PROERTIES 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^3 and a specific heat of 0.11 Btu/lb/°F

Modulus of Elasticity (x10^6 psi)	29.0
Coefficient of Thermal Expansion, 68-212˚F, /˚F	5.6 x 10^{-6}
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.