



Austenitic Stainless Steel NAS 601	
ASTM Designation	EN Designation
201	1.4372
S20100	X12CrMnNN17-7-5

DESCRIPTION

NAS 601 is a Cr-Ni-Mn austenitic stainless steel. It is an alternative to austenitic steels such as NAS 120 but with less nickel content, to be used in moderate corrosive applications. Its austenitic structure is ensured by the addition of nitrogen and manganese.

CHEMICAL COMPOSITION

C	Si	Mn	P	S	Cr	Ni	N
≤ 0.150	≤ 1.00	5.50-7.50	≤ 0.060	≤ 0.030	16.00-18.00	3.50 - 5.50	≤ 0.25

APPLICATIONS

- Kitchenware
- Catering industry

MECHANICAL PROPERTIES AFTER COLD ROLLING AND FINAL ANNEALING

UTS	75 ksi min
0.2% YS	38 ksi min
Elongation	40% min
Hardness	max 95 HRB

PHYSICAL PROPERTIES

At 68 °F, it has a density of 0.283 lb/in³ and a specific heat of 0.12 Btu/lb/°F

Modulus of Elasticity (x10 ⁶ psi)	28.6
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)	27.4

WELDING

Slightly lower weldability than NAS 120. It can be used with any welding method. AISI 308L as filler material can be used if necessary. Nitrogen content gases are recommended as protection. The heat-affected zone (HAZ) can be susceptible to intergranular corrosion.

**CORROSION
RESISTENCE**

NAS 601 is linked to basic applications, therefore it has not been necessary for a detailed study of its behavior in different corrosive media. It has less resistance to general corrosion than NAS 120.

**PITTING AND
CREVICE
CORROSION**

The resistance to crevice and pitting corrosion of the NAS 601 grade is between the ferritic stainless steel NAS 501 and the austenitic stainless steel NAS 120

**STRESS CORROSION
CRACKING**

Austenitic stainless steels are susceptible to SCC when presenting tensile residual stresses and being in chlorine media at temperatures above 140°F.

**ATMOSPHERIC
CORROSION**

NAS 601 is not recommended in marine and industrial environments. It presents an acceptable behavior in urban and rural ones, but necessitates more frequent cleaning and maintenance than ordinary austenitic stainless steels.

**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.

SPECIFICATIONS

It can be delivered according to ASTM, ASME, and EN standards requirements.