



7% NICKEL AUSTENITIC STAINLESS STEEL ACX 100	
EN DESIGNATION	ASTM DESIGNATION
1.4310	301
X10CrNi18-8	S30100

DESCRIPTION ACX 100 austenitic stainless steel exhibits high toughness, corrosive atmosphere resistance and surface brightness. These make it an excellent choice for structural and decorative applications. Moreover, ACX 100 has good weldability properties and can be obtained annealed or with different hardness grades.

CHEMICAL COMPOSITION

C	Si	Mn	P	S	Cr	Ni	Mo	N
≤0.15	≤1.00	≤2.00	≤0.045	≤0.015	16.00-18.00	7.00-8.00	≤0.80	≤0.10

APPLICATIONS

- Architectural and automotive decorative elements
- Food industry
- Tableware, household
- Aeronautical components
- Railway cars and trucks superstructures
- Springs

MECHANICAL PROPERTIES AFTER COLD ROLLING AND FINAL ANNEALING

R_{p0.2}	> 250 N/mm ²
R_{p1.0}	> 280 N/mm ²
R_m	600 - 950 N/mm ²
Elongation	min 40%
Hardness	max 200 HB

PHYSICAL PROPERTIES

At 20°C, it has a density of 7.9 kg/dm³ and a specific heat of 500 J/kg·K

	20°C	100°C	200°C	300°C	400°C	500°C
Modulus of elasticity (GPa)	200	194	186	179	172	165
Mean coefficient of linear expansion between 20°C (10⁻⁶ x K⁻¹) and	-	16	17	17	18	18
Thermal conductivity (W/m·K)	15	16.2	-	-	-	21.4
Electrical resistivity (Ω·mm²/m)	0.73	-	-	-	-	-

WELDING

Recommended consumable electrodes:

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

CORROSION RESISTANCE

The corrosion resistance of ACX 100 is slightly lower than ACX 120. It is more likely to suffer intergranular corrosion.

In case of carbide precipitation during welding processes ACX 150 is recommended. It is suitable for urban environments and food handling applications.



HIGH-TEMPERATURE
OXIDATION
RESISTANCE

This stainless steel is not recommended at temperatures above 870°C. The oxidation rate is highly affected by the atmosphere to which the material is exposed, warming and cooling cycles and structural design, therefore no general data is provided.

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

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

It complies with the European Directives:

- Food industry, RE 1935/2004.
- Hexavalent chromium, ROHS.
- Electrical instruments, ROHS.