Cr-Ni AUSTENITIC STAINLESS STEEL ACX 200	
EN DESIGNATION	ASTM DESIGNATION
1.4307	304L
X2CrNi18-9	S30403

DESCRIPTION

Cr-Ni austenitic stainless steels are the most versatile with the most extended use ones. They exhibit good properties regarding corrosion resistance, forming and weldability. ACX 200 more resistant to intergranular corrosion in welds than ACX 120, due to its low carbon content.

CHEMICAL COMPOSITION

C	Si	Mn	P	S	Cr	Ni	N
≤0.03	≤0.75	≤2.00	≤0.045	≤0.015	18.00-19.50	9.00-10.50	≤0.10

APPLICATIONS

- Tubes
- Boiler forge
- Chemical industry
- Cryogenic applications

MECHANICAL PROPERTIES AFTER COLD ROLLING AND FINAL ANNEALING

$Rp_{0.2}$	>230 N/mm^2
Rm	540 - 670 N/mm^2
Elongation	> 45%
Hardness	< 200 HB

PHYSICAL PROPERTIES

At 20^{0}C it has a density of 7.9 kg/dm^3 and a specific heat of 500 J/kg·K

	20^{0}C	100^{0}C	200^{0}C	300^{0}C	400^{0}C	500^{0}C
Modulus of elasticity (GPa)	200	194	186	179	172	165
Mean coefficient of linear expansion between 20^{0}C (10^{-6} x K^{-1}) and	-	16	16.5	17	18	18
Thermal conductivity (W/m·K)	15	17	18	19	20.5	22
Electrical resistivity (Ω·mm^2/m)	0.73	0.80	1.00	1.15	1.22	1.25

WELDING

The recommended consumable electrodes are:

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

INTERGRANULAR CORROSION

ACX 200 due to its low carbon content, ≤ 0.03%, is more resistant to intergranular corrosion than ACX 120.

CORROSION RESISTANCE

These stainless steels show high corrosion resistance in a wide range of applications. For instance, these steels exhibit corrosion rates lower than 0.10 mm/year in the following media:

- 20% acetic acid at 80^{0}C.
- 90% formic acid at 20^{0}C.
- 20% phosphoric acid at 60^{0}C.
- 20% nitric acid at 50^{0}C.
- 90% sulphuric acid at 20^{0}C.
- Toluene.
- Milk.
- Beer.
- Juice.
- Wine.

PITTING CORROSION

These Cr-Ni stainless steels can be safely used in chloride media with concentrations lower than 200 ppm.

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

ACX 200 austenitic stainless steel is included in the main international standards.

These stainless steels can be supplied according to EN, ASTM, ASME, AMS, QQS and MILS standard requirements.

ACX 200 is approved in compliance with:

- PED (Pressure Equipment Directive) according to EN 10028-7 and AD 2000 Merkblatt W2 and W10.
- Lloyd´s Register of Shipping.

ACX 200 complies with the European Directives:

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