



DEEP DRAWING AUSTENITIC STAINLESS STEEL ACX 180	
EN DESIGNATION	ASTM DESIGNATION
1.4301	304
X5CrNi18-10	S30400

DESCRIPTION DDQ austenitic stainless steels exhibit good corrosion resistance, excellent weldability, good glazing aptitude and very good drawability.

CHEMICAL COMPOSITION	C	Si	Mn	P	S	Cr	Ni	N
	≤0.07	≤0.75	≤2.00	≤0.045	≤0.015	18.00-19.50	8.50-10.50	≤0.10

APPLICATIONS

- Sinks
- Tableware
- Household
- Heat exchangers
- Medium and deep drawing

MECHANICAL PROPERTIES AFTER COLD ROLLING AND FINAL ANNEALING	Property	Value
	Rp_{0.2}	>230 N/mm ²
	Rm	540 - 750 N/mm ²
	Elongation	> 45%
	Hardness	< 190 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	16.5	17	17.5	18
Thermal conductivity (W/m·K)	15	17	18	19	20.5	22
Electrical resistivity (Ω·mm²/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	G 19 9 L (GMAW)	T 19 9 L
308L	W 19 9 L (GTAW)	
	P 19 9 L (PAW)	
	S 19 9 L (SAW)	
	308L	308L

FORMABILITY	0.8 mm thickness
Erichsen	12 mm
LDR	2 to 2.05 mm



CORROSION RESISTANCE

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

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

Good resistance to stress corrosion cracking.

Good resistance to atmospheric corrosion, though in more severe environment, such as marine and polluted ones, superficial stains can happen.

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

Acerinox DDQ austenitic stainless steels are included in the main international standards.

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

These steels are approved in compliance with:

- PED (Pressure Equipment Directive), DGRL 97/23/EG according to EN 10028-7 and AD2000 Merkblatt W2 and W10.
- Lloyd's Register of Shipping.

ACX 180 complies with the European Directives:

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