



## FERRITIC STAINLESS STEEL

### ACX 500

EN DESIGNATION

ASTM DESIGNATION

1.4016

430

X6Cr17

S43000

**DESCRIPTION** ACX 500 is the base alloy in the ferritic group. It exhibits good resistance in corrosive environments or atmospheric exposures, as well as sulphurous gases. It is ductile in annealed condition and can be formed by rolling, folding or drawing operations. It is not excessively hardened during cold working.

**CHEMICAL COMPOSITION**

C	Si	Mn	P	S	Cr	Ni
≤0.08	≤1.00	≤1.00	≤0.040	≤0.015	16.00-18.00	≤0.075

**APPLICATIONS**

- Home electrical appliances
- Cutlery
- Household
- Indoor decoration

**MECHANICAL PROPERTIES AFTER COLD ROLLING AND FINAL ANNEALING**

<b>R<sub>p0.2</sub></b>	>260 N/mm <sup>2</sup>
<b>R<sub>m</sub></b>	450 - 600 N/mm <sup>2</sup>
<b>Elongation</b>	> 20%
<b>Hardness</b>	< 185 HB

**PHYSICAL PROPERTIES**

At 20°C it has a density of 7.7 kg/dm<sup>3</sup> and a specific heat of 460 J/kg·K

	20°C	100°C	200°C	300°C	400°C	500°C
<b>Modulus of elasticity (GPa)</b>	220	215	210	205	195	-
<b>Mean coefficient of linear expansion between 20°C (10<sup>-6</sup> x K<sup>-1</sup>) and</b>	-	10	10	10.5	10.5	11
<b>Thermal conductivity (W/m·K)</b>	25	28.5	31	32	33	34
<b>Electrical resistivity (Ω·mm<sup>2</sup>/m)</b>	0.60	0.79	0.98	1.15	1.22	1.30

**WELDING**

The recommended consumable electrodes are:

Shielded electrodes	Wires and rods	Hollow electrodes
E 17 or 19 9 L	G 17 or 19 9 L (GMAW) W 17 or 19 9 L (GTAW)	T 17 or T 19 9 L
309L	P 17 or 19 9 L (PAW) S 17 or 19 9 L (SAW)	309L
316L	309L 316L	316L

**CORROSION RESISTANCE**

ACX 500 exhibits good corrosion resistance in a large variety of environments. For instance, this stainless steel has a corrosion rate lower than 0.10 mm/year in the following media:

- 10% hydrogen peroxide at 21°C.
- 40% nitric acid at boiling temperature.
- 10% acetic acid at boiling temperature.
- 50% citric acid at 21°C.
- 10% boric acid at 21°C.
- 20% sodium hydroxide at 50°C.
- 10% benzoic acid at 21°C.



STRESS CORROSION  
CRACKING

ACX 500 exhibits good stress corrosion cracking resistance, as most ferritic stainless steels.

ATMOSPHERIC  
CORROSION

ACX 500 has good resistance to atmospheric corrosion in indoor applications. When it is used in more aggressive environments, is necessary a frequent cleaning to prevent superficial stains.

HIGH-  
TEMPERATURE  
OXIDATION  
RESISTANCE

ACX 500 shows good oxidation resistance up to 870°C for discontinuous thermal cycles and up to 790 - 815°C for continuous treatment. The oxide scale formed is strongly adhered to the surface, and it is difficult to remove by sudden temperature changes.

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 10088-2 and ASTM A-240 standard requirements.