



MARTENSITIC STAINLESS STEEL ACX 390	
EN DESIGNATION	ASTM DESIGNATION
1.4031	420
X39Cr13	S42000

**DESCRIPTION** Martensitic stainless steels exhibit an excellent combination of mechanical resistance and hardness by the suitable thermal treatment. Moreover, they are ductile and can be shaped.

**CHEMICAL COMPOSITION**

C	Si	Mn	P	S	Cr	N
0.36-0.42	≤0.75	≤1.00	≤0.040	≤0.015	12.50-14.50	0.06-0.09

**APPLICATIONS**

- Cutting tools
- High quality knives
- Cutlery

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

<b>R<sub>p0.2</sub></b>	> 275 N/mm <sup>2</sup>
<b>R<sub>m</sub></b>	max 700 N/mm <sup>2</sup>
<b>Elongation</b>	min 20%
<b>Hardness</b>	max 235 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>	215	212	205	200	190	-
<b>Mean coefficient of linear expansion between 20°C (10<sup>-6</sup> x K<sup>-1</sup>) and</b>	-	10.5	11	11.5	12	-
<b>Thermal conductivity (W/m·K)</b>	30	-	-	-	-	-
<b>Electrical resistivity (Ω·mm<sup>2</sup>/m)</b>	0.55	-	-	-	-	-

**WELDING**

ACX 390 is not recommended for welding, since its welds would be fragile and with low corrosion resistance.

**CLEANING SURFACE**

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-176 standard requirements. It complies with the European Directives for

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