

Code	X17CrNi16-2
US standard (AISI)	431
Composition Alloying components [%]	<ul> <li>C: 0.12 - 0.22</li> <li>P: 0 - 0.04</li> <li>Cr: 15.00 - 17.00</li> <li>S: 0 - 0.015 (0.030*)</li> <li>Mn: 0 - 1.50</li> <li>Si: 0 - 1.00</li> <li>Ni: 1.5 - 2.5</li> <li>Remainder: Fe</li> </ul>
Stainless steel grade	C3
Density [g/cm³]	7.7
Yield point Rp0.2 [N/mm²]	≥600
Tensile strength Rm [N/mm²]	≤950
Corrosion resistance	<ul> <li>Good</li> <li>Bestresistancewithinthegroupofmaterialsclassedasmartensitic stainless steels, but also susceptible to intergranular corrosion</li> </ul>
Machinability	poor
Weldability	good
Other properties	<ul> <li>Nickel-free martensitic ferromagnetic structure with high tenacity</li> <li>The steel is usually tempered (Rm = 1400 N/mm²/Rp0.2 = 1200 N/mm²)</li> <li>Can be mechanically polished to a mirror finish</li> <li>Suitability for electropolishing: good</li> <li>For use in the temperature range -40° - 400°C</li> </ul>
Main uses	<ul> <li>Machine and structural parts that are subject to high levels of mechanical stress in the food, petrochemistry, seafaring, automotive, aviation or chemical industries:</li> <li>Pump parts</li> <li>Helical and turbine blades</li> <li>Compressor wheels</li> <li>Piston rods</li> <li>Shafts</li> <li>Valve cones</li> </ul>