

## AISI 431

**Grade:** 431 stainless steel

Nominal Composition	
Element	Weight %
Carbon	0.12-0.20% max
Silicon	1.00%max
Manganese	1.00% max
Phosphorus	0.040% max
Sulphur	0.030% max
Chromium	15.0-18.0% max
Nickel	1.25-3% max

**Mechanical Properties (Quenched and tempered condition). Can be single or double tempered.**  
Typically supplied in hardened and tempered condition (T)

Property	Values
Ultimate Tensile Strength	850-1000 N/mm <sup>2</sup>
0.2 % Yield Strength	635 N/mm <sup>2</sup> min
Elongation	11% min
Reduction of Area	-
Charpy Impact Toughness	Izod KCV J @ RT – 34 min
Hardness	248-302 HBW max

431 is a martensitic stainless steel with a 17% chromium and 2.55 nickel content. It offers good corrosion resistance in mild marine and industrial atmospheres, where high tensile and yield strength along with excellent toughness are required