



## 431 Stainless Steel

431 is a Martensitic stainless steel known for its high strength and hardness, as well as moderate corrosion resistance.

431 is used in applications where high strength and moderate corrosion resistance are required, such as in valves, pumps, shafts, and various components in the chemical and food processing industries it is also often used in applications where resistance to wear and fatigue is important.

### 431 Stainless Steel Grades & Equivalents:

- BS970 431S29
- EN57
- ISO3506-1 C3-80
- 1.4057

### Typical Chemical Analysis

C	Si	Mn	P	S	Cr	Ni	Mo
0.12-0.20	1.00	1.00	0.040	0.030	15.0-18.0	2.0-3.0	
W	N	Cb/Nb	Ti	Co	Cu	Al	B
V	Fe	Mg	Ta	Ca	O	Bi	Se
Sn	Zn	Pb	Y	Cb/Nb + Ta	Ni + Co	H	PREN

### Typical Mechanical Properties

Tensile Strength	850-1000 N/mm <sup>2</sup>
0.2% Proof Stress	635 N/mm <sup>2</sup> min
Elongation	11% min
Reduction of Area	
Hardness	248-302 HBw
Impacts	34 Joules min
Stress Rupture	
Other Remarks	

### Product Forms Available:

- Hexagon Head Bolts
- Hexagon Nuts
- Studbolts
- Socket Capscrews
- Socket Countersunk Screws
- Socket Setscrews
- & Many other special fasteners and bespoke machined parts

Products can be produced to customer drawings or relevant British (BS), American (ASME, ANSI), European (DIN, UNI) or International Standards (ISO).

The size ranges M3 to M120 Metric and 3/16" to 4.75" Imperial can be supplied. Thread forms include UNC, UNS, UNF, BSW, BSF, Whitworth, Metric, Metric Fine.



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