

431

Martensitic stainless Type 431 is designed to provide improved corrosion resistance and toughness in a quench-hardenable stainless steel. It has been used for parts such as aircraft fasteners and fittings. Its toughness (i.e. impact strength) is excellent at relatively high hardness level. It offers the best corrosion resistance of the conventional martensitic stainless steels.

Stainless Type 431 can be considered for applications requiring the optimum combination of corrosion resistance, hardness and toughness in the temperature range of approx. -73~650°C.

Chemical Composition, %

element	Cr	Ni	Fe	C	Mn	Si	P	S
min.	15.00	1.25	bal.	0.20	1.00	1.00	0.040	0.030
max.	17.00	2.50						

Chemical Composition according to ASTM. Some compositional limits of other specifications may vary slightly.

Designation and standards

National Standards	Material designation	Chemical composition	Forgings	Rod and bar	Plate and sheet	Wire
ASTM ASME SAE	UNS S43100 AISI 431	A959 SA959	AMS5628	A276 SA276 A479 SA479 AMS5628		A580 SA580
DIN	1.4057 X17CrNi16-2	DIN 10088-1	DIN 10250-4	DIN 10088-3 DIN 10272		
GB/T	14Cr17Ni2 1Cr17Ni2 S43110	GB/T 20878	GJB 2455 HB 5024 QJ 501A	GB/T 1220 GB/T 1221 GJB 2294A HB 5270	GJB 2295A	GB/T 4240

Density 7.75g/cm³

Corrosion resistance

- best general-corrosion resistance of the hardenable chromium stainless steels
- good galvanic-corrosion resistance in contact with brasses and bronzes in the presence of sea water

Applications

Typical applications are:

- highly stressed aircraft components including fasteners, bolting, pump shafts, valve stems
- aircraft fittings

You could send email to sales@huishih.com for more information.

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