

Incoloy 20

Incoloy 20 is a low carbon, niobium stabilized austenitic nickel-iron-chromium alloy with alloying additions of copper and molybdenum.

Incoloy 020 is characterized by:

- excellent resistance to sulphuric and phosphoric acids
- good resistance to intergranular corrosion
- excellent resistance to chloride-ion induced stress-corrosion cracking
- good resistance to pitting and crevice corrosion
- good mechanical properties at both ambient and elevated temperatures, up to approx. 500°C

Chemical Composition, %

element	Cr	Ni	Fe	Cu	Мо	Nb	С	Mn	Si	Р	S
min.	19.0	32.0	bal.	3.0	2.0	8xC					
max.	21.0	38.0		4.0	3.0	1.0	0.07	2.0	1.0	0.045	0.035

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

Designation and standards

National	Material	Chemical	Forgings	Rod and	Plate and	Strip	Wire	Seamless
Standards	designation	composition	Forgings	bar	sheet			tube
ASTM ASME NACE				B472				
	UNS N08020		B462	SB472	B463	B463	B473	B729
	F20	MR 0175	SB462	B473	SB463	SB463	SB473	SB729
				SB473				
DIN	2.4660			DIN 17752	DIN 17750	DIN 17750	DIN 17752	DIN 177F1
	NiCr20CuMo	DIN 17744		DIN 17752	DIN 17750	1//20 אונט	DIN 17753	DIN 17751
GB/T	NS1403, NS143	GB/T 15007		GB/T 15008				

Density 8.08g/cm³

Corrosion resistance

- excellent resistance to sulphuric, phosphoric and organic acids
- excellent resistance to aqueous solution of their salts
- good resistance to nitric acid
- excellent resistance to intergranular corrosion and stress corrosion
- good resistance to pitting and crevice corrosion

Applications

Typical applications are:

- equipment for manufacture of sulphuric acid and for processes based on sulphuric acid
- extraction columns in the production of amines and the processing of pharmaceuticals
- production of plastics and synthetic fibres
- equipment for good processing to protect against contamination