

Nimonic 901

Nimonic 901 is an age-hardenable nickel-chromium-iron superalloy with significant additions of molybdenum titanium and aluminum, designed for high strength and corrosion resistance in the service temperature up to approx. 650°C.

Chemical Composition, %

element	Cr	Ni	Fe	Mo	Cu	Al	Ti	B	C	Mn	Si	P	S
min.	11.0	40.0	bal.	5.0			2.35	0.01					
max.	14.0	45.0		7.0	0.5	0.35	3.10	0.02	0.10	1.0	0.6	0.03	0.03

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

Designation and standards

National Standards	Material designation	Chemical composition	Forgings	Rod and bar
SAE	UNS N09901		AMS 5660 AMS 5661	AMS 5660 AMS 5661
DIN	2.4662 NiFe35Cr14MoTi			
GB/T	GH2901, GH901	GB/T 14992		

Density 8.14g/cm³

Corrosion resistance

- high resistance to oxidation under cyclic conditions of heating and cooling
- better resistance to progressive corrosion and oxidation scaling than AISI Type 310 stainless steel

Applications

Typical applications are:

- gasturbine components such as rotors, rings, shafts and discs
- bolts, combustion engine exhaust valves and other highly stressed components