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Parmaco
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MIM-Materialspezifikation und Anwendungen

Composition

Material: **Nickelbase alloy**

Standards: **Inconel 718, DIN 2.4668**

Typical composition:

Element	*Composition (%)*
Cr	17.0 – 21.0
Ni	50.0 – 55.0
Nb	4.75 – 5.50
Mo	2.80 – 3.30
Ti	0.65 – 1.15
Al	0.20 – 0.80
C	Max 0.08
Cu	Max 0.30
Si	Max 0.35
Mn	Max 0.35
P	Max 0.015
S	Max 0.015
Ta	Max 0.05
Co	Max 1.00
Fe	Balance

Properties	**As sintered**	**Annealed**	**Annealed and aged**
Density	≥ 8.0 g/cm3	≥ 8.0 g/cm3	≥ 8.0 g/cm3
Hardness	Max 100 HRB	Max 100 HRB	Min 36 HRC
Tensile Strength $R_{p0.2}$	Max 552 MPa	Max 552 MPa	Min 1100 MPa
Yieled Strength R_m	-	-	-
Elongation	-	-	-
Surface Roughness R_a	≤ 3.2 µm	≤ 3.2 µm	≤ 3.2 µm

Applications / Remarks

Precipitation hardenable Nickel-Chrome-alloy with considerable content of Iron, Niob and Molybenum in conjunction with small amount of Aluminium and Titanium. Combines corrosion resistant with high strength and excellent welding properties, including resistance against weld cracking. The alloy possesses very good creep resistance at temperatures up to 700°C.
Applications in gas turbines, rocket engines, space technology and nuclear reactors.