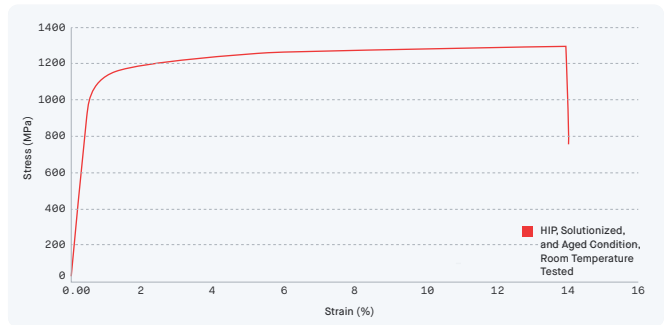


[Material Data Sheet]

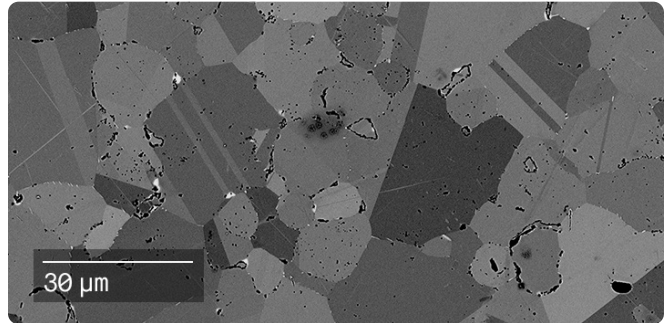
IN718

Nickel Alloy



COMPOSITION % *

Fe	Balance
C	0.08
Cr	17 – 21
Ni	50 – 55
Mo	2.8 – 3.3
Nb	4.75 – 5.5
Ti	0.65 – 1.15
Al	0.2 – 0.8
Co	1
Mn	0.35
Si	0.35
Cu	0.3
O	0.06
Ta	0.05
N	0.02
P	0.015
S	0.015
B	0.006
Bi	0.3 ppm
Se	3 ppm
Pb	5 ppm



ATTRIBUTES & APPLICATIONS

- High temperature strength
- Creep resistance
- Oxidation resistance
- Corrosion resistance
- Gas turbine applications
- Rocket applications

OTHER STANDARD DESIGNATIONS

- UNS07718
- AMS 5662
- AMS 5664
- DIN NiCr19Fe19NbMo3

MECHANICAL PROPERTIES

	Standard	Production System™ HIP, Heat Treated, Room Temperature Tested	AMS 5917 HIP, Heat Treated, Room Temperature Tested	Production System™ HIP, Heat Treated, 649°C Tested	AMS 5917 HIP, Heat Treated, 649°C Tested
Density (g/cc)	ASTM B311	8.2	8.00		
Hardness (HRC)	ASTM E18	45.5 ± 1	34		
0.2% Yield stress (MPa)	ASTM E8 / E21	1080 ± 18	1034	949 ± 18	827
Ultimate Tensile Stress (MPa)	ASTM E8 / E21	1295 ± 20	1241	1093 ± 7	931
Elongation (%)	ASTM E8 / E21	12.8 ± 4	6	13.3 ± 1.7	6
Reduction in area (%)	ASTM E8 / E21	15.7 ± 5	8	16.8 ± 1.8	6
Young's Modulus (GPa)	ASTM E8	190	—		
ASTM grain size	ASTM E112	9 – 9.5	5		

* Amounts are in wt% unless otherwise indicated.