INC718

Material properties

- High mechanical strength and an higher ductility than stainless steel
- High corrosion resistance
- Excellent thermal and creep properties

Applications

- Aeronautic : turbines, exhausts
- Nuclear : valves, vessels
- Measuring instruments and tools
- Cryogenic use

Physical properties (as built)

Density	8200	$kg.m^{-3}$
Young modulus	129000	MPa

Chemical composition

Elements	Ni	Cr	Fe	Mo	Nb	Co	Mn	Ti	Al
%	50-55	17-20	11,13-24,6	2,8-3,3	4,7-5,5	<1	<0,35	0,6-1,2	0,3-0,7

Mechanical properties

Properties	Notation	Direction	As built	HT	units
Yield strength	$Rp_{0,2}$	XY	725 ± 30	-	MPa
		Z	620 ± 20	1160 ± 35	
Tensile strength	R_m	XY	1030 ± 40	-	MPa
		Z	915 ± 75	1315 ± 50	
Elongation at break	$A_{\%}$	XY	18,5 ± 3,9	-	%
		Z	17,8 ± 7,4	6,1 ± 2,1	

HT : heat treatments