

Properties of Stocked Materials

Material	Titanium 64 Alloy As built condition	Stainless Steel 15-5ph As built condition	Stainless Steel 316L As built condition	Inconel 718 As built condition
Composition	Ti balance Al (5.5-6.5%) V (3.5-4.5%) O (<2000ppm) N (<500ppm) C (<800ppm) H (<120ppm) Fe (<2500ppm)	Fe balance Cr (14-15.5%) Ni (3.5-5.5%) Cu (2.5-4.5%) Mn (1% max) Si (1% max) Mo (0.5% max) Nb (0.15-0.45%) C (0.07%)	Fe balance Cr (17.49%) Ni (12.84%) Cu ((0.08%) Mn (0.47%) Si (0.41%) Mo (2.36%) N (0.09) C (0.01%) P (<0.013%) S (<0.010%) O (0.04%)	Fe balance Ni (50-55%) Cr (17-21%) Nb (5.5%) Mo (3.3% max) Ti (1.15% max) Si (0.35% max) Mn (0.35% max) Ai (0.3% max) Cu (0.3% max) C (0.08% max) P (0.015% max) S (0.015% max)
Density	4.43g/cm ³	7.8g/cm ³	7.9g/cm ³	8.19g/ cm ³
Layer Thickness	50µm (standard) 30 µm (special request)	50µm (standard) 30µm (special request)	50µm (standard) 30µm (special request)	50µm (standard) 30µm (special request)
Minimum Wall Thickness*	0.3mm	0.3mm	0.3mm	0.3mm
Surface Roughness**	Ra=9-12µm as built Ra=4-10µm standard finish	Ra=9-12µm as built Ra=4-10µm standard finish	Ra=9-12µm as built Ra=4-10µm standard finish	Ra=9-12µm as built Ra=4-10µm standard finish
	Stress Relieved	As built	As built	As built
Ultimate tensile strength	1100 +/- 60 MPa	1050 +/- 50 MPa	540 +/- 40 MPa	900 +/- 50 MPa
Yield Strength (Rp 0.2%)	1000 +/- 70 MPa	950 +/- 50 MPa	460 +/- 30 MPa	650 +/- 50 MPa
Elongation at break***	7% +/- 2%	12% +/- 4%	50% +/- 15%	28% +/- 5%
Hardness	35-40 HRC	35-40 HRC	89 HRB	25-30 HRC
Max long term operating temp	350 °C	300 °C	300 °C	700 °C
* Dependent on geometry ** Dependent on surface orientation *** As printed test bars		All values approximate and dependent on standard parameters Values subject to change without notice Other materials can be arranged for volume orders, please call to discuss +64 7 557 0344		

Properties of Stocked Materials

Material	Aluminium (ALSi10Mg) As built condition	Maraging Steel COMING SOON
Composition	Al balance Si (9-11%) Fe (<0.55%) Cu (<0.05%) Mn (<0.45%) Mg (0.2-0.45%) Ni (<0.05%) Zn (<0.1%) Pb (<0.05%) Sn (<0.05%) Ti (<0.15%)	
Density	2.67g/cm ³	
Layer Thickness	50µm (standard)	
Minimum Wall Thickness*	0.3mm	
Surface Roughness**	Ra=9-12µm as built Ra=4-10µm standard finish As built	
Ultimate tensile strength	460 +/- 20 MPa	
Yield Strength (Rp 0.2%)	240 +/- 10 MPa	
Elongation at break***	6% +/- 2%	
Hardness	119-5 HBW	
Max long term operating temp		
* Dependent on geometry ** Dependent on surface orientation *** As printed test bars	All values approximate and dependent on standard parameters Values subject to change without notice Other materials can be arranged for volume orders, please call to discuss +64 7 557 0344	