

MATERIAL DATA SHEET

TITANIUM

Ti-6Al-4V Gr.5

MECHANICAL PROPERTIES

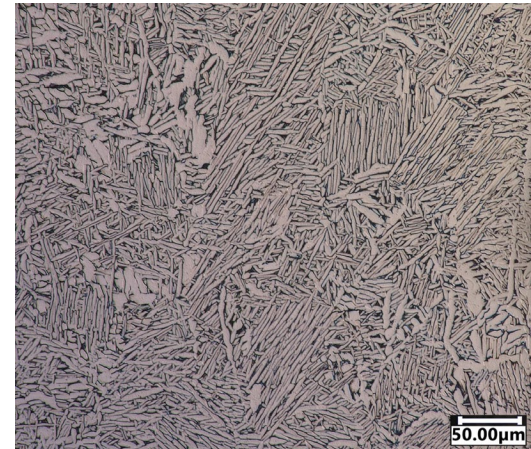
L-PBF		AS-BUILT	HEAT TREATMENT A	HEAT TREATMENT B
Yield Strength [MPa]	XY	1096 ± 22	1013 ± 14	857 ± 15
	Z		1055 ± 11	834 ± 16
Ultimate Tensile Strength [MPa]	XY	1235 ± 7	1103 ± 13	962 ± 15
	Z		1119 ± 12	958 ± 14
Elongation [%]	XY	12 ± 1	13 ± 2	19 ± 1
	Z		17 ± 1	19 ± 1
Hardness [HRC]		38	37	34

E-PBF		AS-BUILT	HIP	ASTM F2924
Yield Strength [MPa]	XY	994 ± 19	961 ± 13	>825
	Z			
Ultimate Tensile Strength [MPa]	XY	1082 ± 13	1070 ± 10	>895
	Z			
Elongation [%]	XY	12 ± 4	19 ± 2	>10
	Z			
Hardness [HRC]		35	35	-

PHYSICAL PROPERTIES

	L-PBF		E-PBF	
	AS-BUILT	HIP	AS-BUILT	HIP
Relative Density [%]	> 99.3	> 99.5	> 98.5	> 99.5
Surface Roughness [Ra µm]	up to 4‡		up to 18‡	
Minimum Wall Thickness [mm]	0.3 - 0.4		0.8 - 1.0	

‡ Surface roughness is dependant on geometry and orientation



Widmanstätten structure in AM Ti64

PROCESSING CAPABILITIES

- Additive Manufacturing Solutions
- Printing Optimization
- Heat Treatment
- Deburring and Finishing
- CNC Machining
- Computed Tomography
- Mechanical and Metallurgical Testing
- Precision Metrology
- AS9100 / ISO 9001:2015



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