

INVAR 36

MECHANICAL PROPERTIES*

L-PBF		AS-BUILT
Yield Strength [MPa]	XY Z	310 ± 17
Ultimate Tensile Strength [MPa]	XY Z	403 ± 32
Elongation [%]	XY Z	40 ± 4

		HEAT TREATMENT A	HEAT TREATMENT B
Yield Strength [MPa]	XY Z	260 ± 2	259 ± 1
Ultimate Tensile Strength [MPa]	XY Z	363 ± 7	362 ± 2
Elongation [%]	XY Z	40 ± 12	46 ± 3

PHYSICAL PROPERTIES

Relative Density [%]	>99.98
Surface Roughness [Ra μm]	up to 4.5 [‡]
Minimum Wall Thickness [mm]	0.3 - 0.5 [‡]

	TEMPERATURE RANGE [°C]	
	30 TO 100	30 TO 150
ASTM F1684 Average Linear Coefficient of Thermal Expansion [μm/m°C]	1.93	1.2 - 2.7
Coefficient of Thermal Expansion [μm/m°C]	1.47 ± 0.056	1.89 ± 0.063

‡ Properties are dependant on geometry and orientation

* All data is collected using round non-post machined ASTM E8M



Microstructure of Invar36 after HIP

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

