



Graphite Additive Manufacturing

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3D PRINTED METALS

MATERIALS	Max. Length mm	Density g/cm ³	Tensile Modulus Mpa	Tensile Strength Mpa	Elongation at Break %	Yield Point Mpa	Thermal Conductivity W/mK
○ Aluminium AISI10Mg	300	2.7	75000	310	2	170	120
○ Inconel 718	300	8.2	200000	1250	8	1000	12
● Stainless Steel 316L	300	7.85	83000	510	2.2	485	-
● Titanium Ti6AL4V	90	4.5	110000	1005	5	900	7
● Tool Steel 1.2709	300	8.1	180000	1100	8	1000	15

All figures shown are current as of March 2017

Ref: GMD011

For more information please contact: sales@graphite-am.co.uk 01296 482673

METALS - Typical Applications

- Aluminium** AISi10Mg
Used for manufacturing lightweight prototypes, unique or series production parts in the fields of automotive and aerospace industries with high mechanical and dynamic load.
- Inconel** 718
Parts for high temperature applications. Typical uses are turbine construction (aviation or stationary turbines) or exhaust tracts within motor sports applications.
- Stainless Steel** 316L
Applications in many technologies, including the automotive industry and in aerospace & maritime engineering. The good mechanical characteristics of stainless steel make it suitable for use in applications exposed to heavy strain, because its high resistance to wear & tear or surface hardening, keep abrasion to a minimum. It can also be used at high operating temperatures.
- Titanium** Ti6AL4V
Used for manufacturing lightweight prototypes, unique or series production parts in the fields of motor sports and aerospace industries. Examples of applications: components with integrated cooling structure.
- Tool Steel** 1.2709
Ideal for many tooling applications such as tools for injection moulding, die casting of light metal alloys, punching, extrusion etc., and also for high performance industrial and engineering parts, for example in aerospace and motor racing applications.

FINISHING OPTIONS

Standard finish involves the removal of support material and sandblasting.

Because of the high density of the materials, mechanical surface finishing or even mirror finish polishing is possible.

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