



## Tantalum (High strength, ductile and corrosion resistant)

### Product Information

Elementum 3D's pure tantalum material is a high strength, heavy, and hard refractory metal with excellent ductility. At temperatures below 302°F (150°C), it is nearly completely immune to chemical attack. Tantalum applications are typically found in aerospace, medical, nuclear and electrical industries.

### Physical and Chemical Properties

**Material composition: Ta**

**Theoretical maximum density: 16.6 g/cm<sup>3</sup>**

**Printed relative density: > 99%**

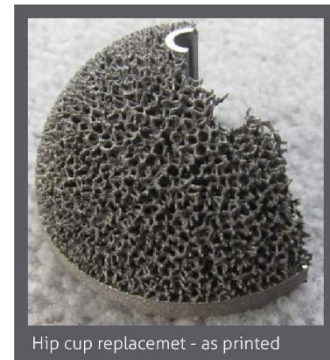
**Ultimate tensile strength<sup>[1]</sup>: 93±3 (634MPa)**

**Yield strength<sup>[1]</sup>: 86.5 ± 1.5 ksi (155 MPa)**

**Elongation<sup>[1]</sup>: 35 ± 2 %**

**Hardness<sup>[1]</sup>: 35 ± 2 HRB**

<sup>[1]</sup>ASTM E8



Hip cup replacemet - as printed

All details given above are our current knowledge and experience, and are dependent on the equipment, parameters and operating conditions. The data provided in this document is subject to change and only intended as general information on a material set that is continually improving and developing. The data does not provide a sufficient basis for engineering parts. All samples were produced on an EOS M290. All tensile tests were performed at third party certified test labs such as Westmoreland Mechanical Testing & Research.

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