

► A7050-RAM2 (High-Strength and Corrosion Resistant)

Product Information

Elementum 3D's A7050-RAM2 is an aerospace and specialty AM aluminum alloy that features a combination of high toughness, strong mechanical strength, and good stress corrosion cracking resistance.

Physical and Chemical Properties

Material composition: Proprietary A7050 w/2% ceramic

Printed density: 2.85g/cc

Relative density: > 99.5%

Ultimate tensile strength: *Approx. 72-75 ksi (496-518 MPa) (T74 Condition)

Yield strength: *Approx. 64-70 ksi (483 MPa) (T74 Condition)

Elongation: *Approx. 4-6%

Hardness: 88 HRB

Modulus of elasticity: **Approx. 11.0 Msi (76 GPa)

Depositions rate: 1.54 in³/hr (7.02 mm³/s)

Surface roughness as built:

35° Upskin - Ra 6.4 µm, Ra 0.25 x 10⁻³ inch

55° Downskin - Ra 12.2 µm, Ra 0.48 x 10⁻³ inch

All stated values are approximate values and are compared to the wrought property values listed, sourced from ¹<http://www.matweb.com/search/datasheet.aspx?matguid=1dc19fb0f19341a298c24528cf73ead8&ckck=1>, on 08/09/2019. Also, estimated to me the upper limit for A7050-RAM2 are the aluminum 7075-T6 properties listed, ²<http://asm.matweb.com/search/SpecificMaterial.asp?bassnum=MA7075T6>, on 08/09/2019.

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.

Please contact us at jacob@elementum3d.com for additional information.

*ASTM E8, **ASTM E494-15