



Material description

A20X™ is a lightweight powder derived from the aerospace approved castable A205 alloy developed and patented by Aeromet International. It comprises 4wt% Cu and 3 vol% TiB₂ as grain refiner to avoid solidification cracking. It is one of the highest strength aluminium alloys available in the AM world. Applications are widely varied between prototypes, aerospace functional parts and small runs of its A205 cast equivalent.

Physical properties

Density (based on 2.85 g/cm ³ theoretical density)	> 99%
Pore size	< 100 μm
Porosity rate	< 1%
Hardness	min. 140HV

Mechanical properties¹

	Heat Treated ²
Tensile strength Horizontal (XY) Vertical (Z)	460 MPa - 510 MPa
Proof strength (Rp 0.2%) Horizontal (XY) Vertical (Z)	370 MPa - 430 MPa
Modulus of elasticity Horizontal (XY) Vertical (Z)	75 ± 5 GPa
Elongation at break Horizontal (XY) Vertical (Z)	min. 10%

¹ All data gathered using ASTM E8M round and machined specimens with 5mm diameter at gauge section.

² Heat treatment - solution, quench, precipitation harden as per T7.

Aluminium A20X™ (AM205)

Chemical properties

Material composition wt%	Al	Balance	Si	0.1 max	B	1.25-1.55
	Cu	4.20-5.00	Fe	0.08 max	Ti	3.00-3.85
	Mg	0.20-0.33	Ag	0.60-0.90		

Material Properties	Applications	Finishes	Industries
<ul style="list-style-type: none"> • Corrosion Resistant • Lightweight • High Strength • High Thermal Conductivity 	<ul style="list-style-type: none"> • Prototyping • Engineering 	<ul style="list-style-type: none"> • Machined • Spark-eroded • Anodised • Micro shot-peened • Polished 	<ul style="list-style-type: none"> • Automotive • Aerospace