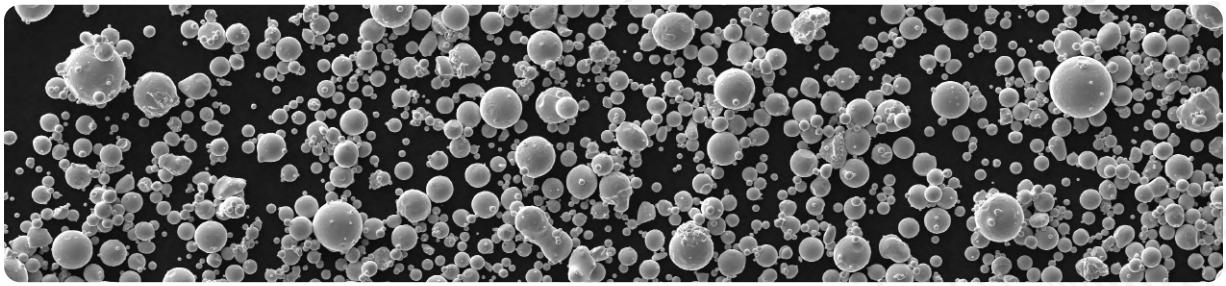
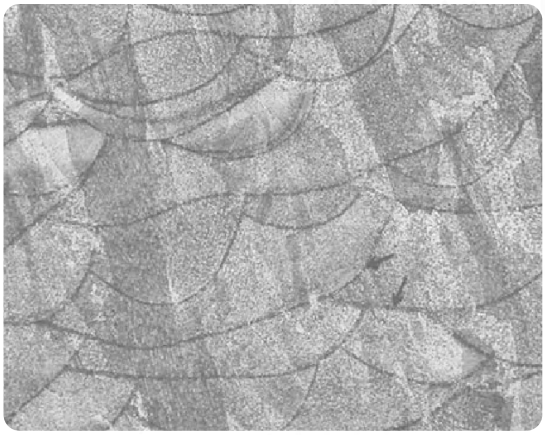


Aluminium alloy AlSi10Mg

A light structural alloy of lower density than other materials for 3D printing. Shows good alloying properties, heat and electric conductivity. Ready products made with Alfa-150D and Alfa-280 3D printers demonstrate homogenous structure and practically complete absence of porosity.

Chemical composition:

Si ≤ 9-11%	O ≤ 0,1%
Fe ≤ 0,55%	Zn ≤ 0,1%
Mn ≤ 0,45%	N ≤ 0,05%
Mg 0,2-0,45%	Ni ≤ 0,05%
Ti ≤ 0,15%	Cu ≤ 0,05%
Pb+Sn ≤ 0,1%	Al balance



Industries application:

- aerospace industry;
- aircraft building industry;
- automotive industry;
- power industry.

Physical and mechanical properties*:

	Orientation XY	Orientation Z
Tensile strength	325-350 MPa	330-360 MPa
Yield Strength	210-245 MPa	175-225 MPa
Young's Modulus	67-77 GPa	62-72 GPa
Elongation	9-14%	5-12%
Hardness	114-124 HBW	
Density	2,66 g/см^3	

* The physical and mechanical properties of the products produced by selective laser melting technology largely depend on subsequent processing conditions. The properties of the parts are for as-built condition and can be used only for reference.

Main manufacturing applications:

- cantilevers;
- piping accessories/fittings;
- waveguides;
- air ducts;
- heat exchangers.