



Material data sheet

ALUMIDE[®] for EOSINT P

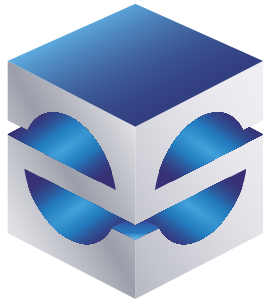
General

ALUMIDE[®] is suitable for processing on the following EOSINT P machines: P 380, P 360 with upgrade S&P; P 350/2 + upgrade 99 + upgrade S&P without powder conveyance. ALUMIDE[®] is a mixed product made up of individual components with varying specific density that can only be manufactured with the aid of a complex mixing process. The powder fluidisation in the EOSINT P is to be set to a value at which accumulations of material are avoided, particularly when the level of material in the dosing bins is low. This possible separation effect is prevented at a flow rate of between 3 and 4 l/min. At the same time this setting ensures the continuous addition of material to the powder supply bins. The recommended layer thickness amounts to 0.15 mm. The unexposed, but thermally stressed powder from the building chamber and the powder from the collector bins cannot be re-used and is to be disposed of. A typical application for ALUMIDE[®] is the manufacture of stiff parts of metallic appearance for applications in automotive manufacture (e.g. wind tunnel tests or parts that are not safety-relevant), for tool inserts for injecting and moulding small production runs, for illustrative models (metallic appearance), for education and jig manufacture, among other aspects. Surfaces of parts made of ALUMIDE[®] can be finished by grinding, polishing or coating. An additional advantage is that low tool-wear machining is possible, e.g., milling, drilling or turning.

Technical data

General material properties

Average grain size	Laser diffraction	60	µm
Bulk density	DIN 53466	0,64 ± 0,04	g/cm ³
Density of laser-sintered part	EOS-method	1,35 ± 0,05	g/cm ³



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Mechanical properties (ALU_mech)

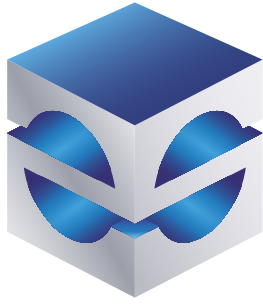
Tensile Modulus	DIN EN ISO 527	3800 ± 150	N/mm ²
Tensile strength	DIN EN ISO 527	46 ± 3	N/mm ²
Elongation at break	DIN EN ISO 527	4 ± 0,5	%
Flexural Modulus	DIN EN ISO 178	2900 ± 200	N/mm ²
Flexural strength	DIN EN ISO 178	71 ± 1,5	N/mm ²
Charpy - Impact strength	DIN EN ISO 179	29 ± 2	kJ/m ²
Charpy - Notched impact strength	DIN EN ISO 179	4,6 ± 0,3	kJ/m ²
Shore D - hardness	DIN 53505	76 ± 2	

Mechanical properties (ALU_surf)

Tensile Modulus	DIN EN ISO 527	3600 ± 150	N/mm ²
Tensile strength	DIN EN ISO 527	45 ± 3	N/mm ²
Elongation at break	DIN EN ISO 527	3 ± 0,5	%
Flexural Modulus	DIN EN ISO 178	2800 ± 130	N/mm ²
Flexural strength	DIN EN ISO 178	70 ± 1,5	N/mm ²
Charpy - Impact strength	DIN EN ISO 179	29 ± 2	kJ/m ²
Charpy - Notched impact strength	DIN EN ISO 179	4,6 ± 0,3	kJ/m ²
Shore D - hardness	DIN 53505	76 ± 2	

Thermal properties

Melting point	DIN 53736	172 - 180	°C
Heat Deflection Temperatur	ASTMD648	177.1	°C
Vicat softening temperature B/50	DIN EN ISO 306	169	°C



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The mechanical properties depend on the x-, y-, z-position of the test parts and on the exposure parameters used. The data are based on our latest knowledge and are subject to changes without notice. They do not guarantee properties for a particular part and in a particular application.

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