

## Material data sheet

# ALUMIDE<sup>®</sup> for EOSINT P

### General

A typical application for ALUMIDE<sup>®</sup> 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<sup>®</sup> 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.

ALUMIDE<sup>®</sup> is suitable for processing on the following systems:

- EOSINT P 700

with or without powder conveying system P 380:

- EOSINT P 380
- EOSINT P 360 with upgrade S&P
- EOSINT P 350/2 + upgrade 99 + upgrade S&P

The recommended layer thickness amounts to 0.15 mm. To assure a consistent quality of parts, it is recommended solely to use new powder.

### Technical data

#### General material properties

Average grain size	Laser diffraction	60	µm
Bulk density	DIN 53466	0.64 ± 0.04	g/cm <sup>3</sup>
Density of laser-sintered part	EOS-method	1.36 ± 0.05	g/cm <sup>3</sup>

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### Mechanical properties

Tensile Modulus	DIN EN ISO 527	3800 ± 150	N/mm <sup>2</sup>
Tensile strength	DIN EN ISO 527	46 ± 3	N/mm <sup>2</sup>
Elongation at break	DIN EN ISO 527	3.5 ± 1	%
Flexural Modulus	DIN EN ISO 178	3000 ± 150	N/mm <sup>2</sup>
Flexural strength	DIN EN ISO 178	74 ± 2	N/mm <sup>2</sup>
Charpy - Impact strength	DIN EN ISO 179	29 ± 2	kJ/m <sup>2</sup>
Charpy - Notched impact strength	DIN EN ISO 179	4.6 ± 0.3	kJ/m <sup>2</sup>
Shore D - hardness	DIN 53505	76 ± 2	

### Thermal properties

Melting point	DIN 53736	172 – 180	°C
Heat Deflection Temperatur	ASTMD648 (0,45 Mpa)	177.1	°C
Vicat softening temperature B/50	DIN EN ISO 306	169	°C
Heat conductivity (170 ° C)	Hot wire method	0.5 – 0.8	W(mK) <sup>-1</sup>

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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