

Carbon Fibre Filled Polyamide CarbonMide for EOSINT P 38x

Application:

CarbonMide is suitable for use in all EOSINT P 38x systems without powder feeding system. The recommended layer thickness is 0.15 mm.

The parts have an anthracite black colour.

The material has outstanding mechanical properties characterised by extreme stiffness and strength. Typical applications of the material are fully functional prototypes with high end finish for wind tunnel tests other aerodynamic applications. Due to a orientation of the fibres during recoating the mechanical properties varies in the three different axis directions.

Material Properties:

Average particle size	Laser diffraction	60	µm
Bulk density	DIN 53466	0,50	g/cm ³
Density of laser-sintered part	EOS-Method	1,03	g/cm ³

Mechanical Properties:*

Tensile Modulus x	DIN EN ISO 527	6500	MPa
Tensile Modulus y	DIN EN ISO 527	3500	MPa
Tensile Modulus z	DIN EN ISO 527	2200	MPa
Tensile strength x	DIN EN ISO 527	72	MPa
Tensile strength y	DIN EN ISO 527	56	MPa
Tensile strength z	DIN EN ISO 527	25	MPa
Elongation at break x	DIN EN ISO 527	3,5	%
Elongation at break y	DIN EN ISO 527	4,8	%
Elongation at break z	DIN EN ISO 527	1,0	%

Charpy - Impact strength x	DIN EN ISO 179	20,5	kJ/m ²
Charpy - Impact strength y	DIN EN ISO 179	27,5	kJ/m ²
Charpy - Impact strength z	DIN EN ISO 179	5,5	kJ/m ²
Charpy - Notched impact strength x	DIN EN ISO 179	5,3	kJ/m ²
Charpy - Notched impact strength y	DIN EN ISO 179	4,4	kJ/m ²
Charpy - Notched impact strength z	DIN EN ISO 179	2,1	kJ/m ²

Thermal Properties:

Melting point	DIN 53736	172 - 180	°C
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Electrical Properties:

Specific resistance [-5...+5V] x	46,3·10 ⁻³	Ω·m
Specific resistance [-5...+5V] y	107·10 ⁻³	Ω·m
Specific resistance [-5...+5V] z	3080·10 ⁻³	Ω·m

* The mechanical properties depend 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.