

Carbon Fibre Filled Polyamide
CarbonMide

Application:

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 or 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

* The mechanical properties depend on the exposure parameters used.

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

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