

General information

Properties

- PA 6 blend
- 30 weight.-% glass fiber (ca. 150 µm)
- high tensile strength - excellent compression strength
- low warping effect
- good adhesion to epoxy based fiber plates
- chemical resistant to many oils, carburant and chemicals
- good hydrolysis resistance
- matte black surface finish
- available in black/ red/ yellow

Mechanical properties	Test method	Unit	Typical value	Quality grade acc. VDI 3405 Part 7
Density	DIN EN ISO 1183	g/ cm ³	1,35	
Modulus of Elasticity printed specimen x-y (0°) *	DIN EN ISO 527-2 Typ 1A *	MPa (N/mm ²)	8.070	10
Modulus of Elasticity printed specimen x-y (90°) *	DIN EN ISO 527-2 Typ 1A *	MPa (N/mm ²)	--	--
Tensile strength printed specimen x-y (0°) *	DIN EN ISO 527-2 Typ 1A *	MPa (N/mm ²)	106	10
Tensile strength printed specimen x-y (+ 45°/-45°) *	DIN EN ISO 527-2 Typ 1A *	MPa (N/mm ²)	51	6
Tensile strength printed specimen x-y (90°) *	DIN EN ISO 527-2 Typ 1A *	MPa (N/mm ²)	> 45	5
Tensile stress printed specimen x-y (0°)	DIN EN ISO 527-2 Typ 1A *	MPa (N/mm ²)	106	
Elongation printed specimen (0°)	DIN EN ISO 527-2 Typ 1A *	%	2	--
Flexural modulus E _f printed specimen (+ 45°/-45°)	DIN EN ISO 14125 (Method B)	GPa (kN/mm ²)	--	
Impact strength printed specimen	DIN EN ISO 179eU	kJ/m ²	--	
Impact strength printed specimen (notched)	DIN EN ISO 179eB	kJ/m ²	--	

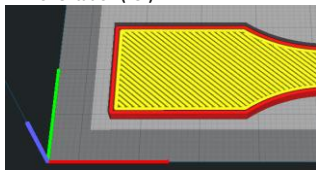
* Test specimen printed: 1.75mm filament; v=50 mm/s; Orientation layers in 0°/ 90°/ +45°; conditioned 24h at 50% RF and 23° C

Test specimen polyamide Pro: Prusa MK3S+, E3D V6, nozzle 0.6mm, temp. nozzle 285°C, temp print bed 70°C; layer height 0.15mm

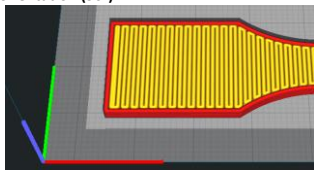
Tensile test PA with 1mm/min. These are target values for optimal print quality. Values might vary greatly with the same settings, depending on the system Nozzle - Printer - Gcode.

Orientation of printed specimen

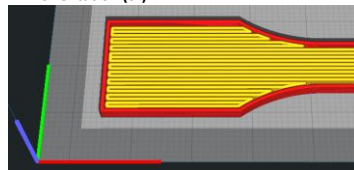
X-Y-orientation (45°)



X-Y-orientation (90°)



X-Y-orientation (0°)



Thermal properties	Test method	Unit	Typical value
Glass transition temp.	DIN ISO 11357	°C	65
Heat distortion temp. (HDT A@1,8 MPa)	DIN ISO 75	°C	90 °C (Continuous service temp. 120°C - IEC 60216)
Electrical properties	Test method	Unit	Typical value
Insulation resistance	IEC 60167	Ohm*m	>10 ¹²
Surface resistance	IEC 60093	Ohm*m	>10 ¹²
Other properties	Test method	Unit	Typical value
Water absorption (after 24h)	DIN ISO 62	%	0,3
Recommendations	Test method	Unit	Typical value
Temperature nozzle	Fiberthree GmbH	°C	270 - 285
Temperature build plate	Fiberthree GmbH	°C	Max. 80
Nozzle diameter	Fiberthree GmbH	mm	> 0,25
Fan cooling	Fiberthree GmbH	%	not recommended
Layer height	Fiberthree GmbH	mm	≥ 0,20
Recommended wall thickness to reduce significantly the impact of moisture	Fiberthree GmbH	mm	2,5
Printing speed	Fiberthree GmbH	mm/s	50
Infill	Fiberthree GmbH	%	0 - 100
Retraction (direct drive/ bowden system)	Fiberthree GmbH	mm (@ 50mm/sec)	direct drive min. 2mm / bowden system min. 6mm
Material build plate	Fiberthree GmbH		carbon fiber, glass fiber or phenolic resins, glass, PEI
Recommended nozzle	Fiberthree GmbH		wear resistant nozzles: hardened steel, tungsten, nozzles with industrial sapphire or ruby or ceramic
Recommended parts	Fiberthree GmbH		Lightweight parts, parts without electrical conductivity, suitable for autoclave fixtures

EU & REACH conformity

SVHC > 0,1 % (List dated December 2023)	given	no substances included
Regulated substances acc. 2015/863/EU (RoHS 3)	given	no substances included

Legal disclaimer

Technical properties or values are related to the thermoplastic base material for filament production if not mentioned differently.

Any recommendation made for use of seller's materials are made to the best knowledge and are based upon prior tests and experience of the seller. Seller does not guarantee the results to be obtained and all such recommendations are non-binding and do not constitute any representation and do not affect in any way buyer's obligation to examine and test the seller's goods with regard to their suitability for buyer's foreseen purposes.

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