

PA NYLON Carbon Fiber

Polymer Technical Data Sheet

EUMAKERS
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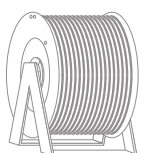
IDENTIFICATION

Commercial Name	EUMAKERS PA NYLON Carbon Fiber Filament
Raw Material	Carbon Fibers Reinforced PA
Use	3D Printing Applications

COLOR AVAILABILITY

Color	Black
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PHYSICAL PROPERTIES	VALUE	STANDARD
Density	1,00 g/cc	ISO 1183



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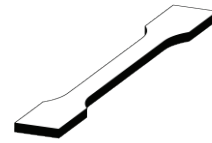
TENSILE TEST - STANDARD ISO 527

Test specimens printed on Ultimaker 2+ with the following setup:

- Nozzle type: Olsson Ruby
- Nozzle temperature: 260° C
- Heat bed Temp: 70° C
- Print speed: 40 mm/s
- Infill orientation: 45° C

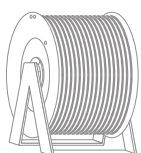


xz



xy

INFILL	15 %			50 %			100%		
	15 %	50 %	100 %	15 %	50 %	100 %	15 %	50 %	100 %
Tensile Modulus (Mpa)	12,50	14,46	12,64	33,70	36,60	66,30			
Elastic Modulus (Mpa)	1292	1343	1513	1844	1875	2758			
Elongation at Break (%)	2,10	2,30	2,00	5,70	6,30	6,70			
Energy at Break (J)	0,63	0,78	0,64	5,45	7,02	12,20			



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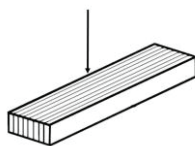
IDENTIFICATION

FLEXTURAL TEST - STANDARD ISO 178

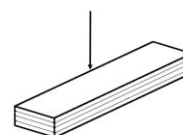
Test specimens printed on Ultimaker 2+ with the following setup:

- Nozzle type: Olsson Ruby
- Nozzle temperature: 260° C
- Heat bed Temp: 70° C
- Print speed: 40 mm/s
- Infill orientation: 45° C

xy - parallel



xy - normal



INFILL	xy - parallel		xy - normal	
	50 %	100%	50 %	100 %
Flexural Strength (Mpa)	108,9	117,9	79,50	113,8
Flexural Modulus (Mpa)	3368	3956	2427	2606
Deformation (%)	5,00	5,00	5,20	5,40

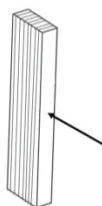
IDENTIFICATION

IMPACT TEST IZOD - STANDARD ISO 180

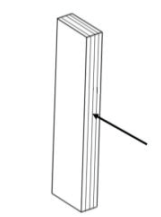
Test specimens printed on Ultimaker 2+ with the following setup:

- Nozzle type: Olsson Ruby
- Nozzle temperature: 260° C
- Heat bed Temp: 70° C
- Print speed: 40 mm/s
- Infill orientation: 45° C

zy - normal



xy - parallel



INFILL	zy - normal			xy - parallel		
	15 %	50 %	100%	15 %	50 %	100 %
Impact Strength (KJ/m²)	36,50	37,47	42,15	29,00	29,80	41,10
Impact Energy (KJ)	1,46	1,50	1,68	1,16	1,19	1,64



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THERMAL PROPERTIES	VALUE	STANDARD
Melting Point	180° C	ISO 11357
Heat Deflection Temperature	155° C	ISO 75
Max Usage Temperature	Long Term 90° - 120° C	ISO 2578
Max Usage Temperature	Short Term 150° C	ISO 2578

OTHER PROPERTIES	VALUE	STANDARD
Fiammability	HB	IEC 1210
Ball Indentation Hardness	110 Mpa	ISO 2039-1
Specific Volume Resistivity	10 ³ Ωm	IEC 60243

FILAMENT SPECIFICATIONS AND PRINTING SETTINGS

Diameter 1.75 mm	± 0,05 mm
Diameter 2.85 mm	± 0,05 mm
Roundness Deviation	max 2%
Suggested Print Temperature	240° - 260° C
Suggested Print Speed	40 mm/s
Suggested Bed Temperature	60° - 70° C
Cooling Fan	20 - 60 %

