



Material DataSheet CARBONIO NYLON

TDS Nr.: 5018

Rev. 3.0 24/03/2025

Main features

Low warpage

Impact resistance

Low water absorption

High-strength and stiffness parts with low creep

Physical properties

Physical properties	Test method	Specimen	Units	Typical value
Specific gravity	ISO 1183-3		g/cm ³	1.25
Water absorption	ISO 62	ISO 3167 A	%	<0,3

Mechanical Properties at 23°C

Tensile strength	ISO 527	ISO 3167 A	MPa	170
Tensile modulus	ISO 527	ISO 3167 A	GPa	15
Impact strength	ISO 179 1eU	80x10x4mm	kJ/m ²	47
Impact strength notched				
Flexurtal modulus				
Flexurtal strength				
Flexural elongation F. max.				
Elongation F. max.	ISO 527	ISO 3167 A	%	1

Thermal properties

Heat distortiontemperature	HDT A	ISO 75	80x10x4mm	°C	200
Continuous service temperature	20.000 h	IEC 60216	ISO 3167 A	°C	150

Electrical properties

Insulation resistance	strip electrode R25	DIN EN 62631-3-3	ISO 3167 A	ohm	≤10 ²
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SUGGESTED PRINT SETS (1)

Suggest print sets	Unit	Value	Test method
Extruder temp	C°	230-250	Internal
Plate temp	C°	90-110	Internal
Min. nozzle diameter (2)	mm.	0,5	Internal
Fan	%	0 - 40	Internal
Print speed	mm/l°	40 - 50	Internal

ADDITIONAL INFORMATION

In General filaments made with CARBONIUM (nylon + carbon fiber) can be processed on conventional 3D printer using FDM / FFF technology.

CARBONIUM (nylon + carbon fiber) is a special polyamide carbon fiber reinforced developed for 3D printing and to obtain best results we recommend pre drying the filaments at 70° for 2 h. Increase drying time for spools up 1 kg.

Don't leave the filament stopped inside the nozzle more than 20 min. If that down the temperature under 210°, better stop the thermal control.

(1) Suggested print set merely represent a recommendation for general use . Every printer necessity a specific set , nozzle temp, bed temp, etc .

(2) 0.5mm is the minimun diameter of the nozze with carbon fibers reinforced. Carbon fibers are abrasive, we suggest to use a nozzle in hardened or tempered metal, like Widia, or wear resi stance internal surface, like ceramics or other.
NO tefloned surface!

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