



## TECHNICAL DATASHEET

# Roboze Carbon PP

Carbon PP is a carbon fiber filled polypropene, one of the most widely used commodity polymers in the world. The addition of these fibers increases strength, stiffness and dimensional stability, keeping the main characteristics of polypropylene intact.

### APPLICATIONS

Functional prototyping  
Tooling

End-use parts  
Automotive industry

## Filament Product Specification

	MECHANICAL PROPERTIES	Test Method	English		Metric		Infill Density
			XZ	XY	XZ	XY	
Tensile	Tensile strength ultimate	ASTM D638	7832 psi	7541 psi	54 MPa	52 MPa	100%
	Tensile modulus	ASTM D638	1015 ksi	1000 ksi	7 GPa	6.9 GPa	
	Tensile elongation at break (%)	ASTM D638	1.20%	1.19%	1.20%	1.19%	
Impact	Charpy impact strength	ISO 179 1eU	16.625 ft*lb/in <sup>2</sup>	15.2 ft*lb/in <sup>2</sup>	35 kJ/m <sup>2</sup>	32 kJ/m <sup>2</sup>	

THERMAL PROPERTIES	Test Method	English	Metric
Continuous Use Temperature	UL746B	248 °F	120 °C
Maximum use temperature (short term)	ASTM D794	266 °F	130 °C
Vicat softening temperature	DIN ISO 306	176 °F	80 °C

OTHERS	Test Method	Value	
		English	Metric
Density	ISO 1183	0.0361 lb/in <sup>3</sup>	1 g/cm <sup>3</sup>
Water absorption	ISO 62	302 °F	150 °C
Surface Resistivity	DIN/IEC 60093	≤ 10 <sup>12</sup> Ω	
Linear mould shrinkage	DIN 16901	0.2 - 0.6%	
UL94 flame class rating (thickness of 0.11 in - 3.00 mm)	UL 94	V-0	
Insulation resistance strip electrode	DIN/IEC 60167	≤ 10 <sup>-6</sup> Ω * in	≤ 10 <sup>-7</sup> Ω * cm



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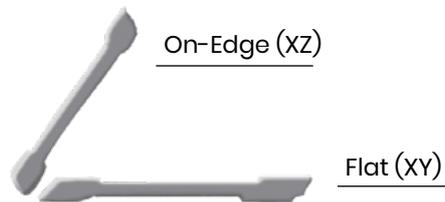
# Roboze Carbon PP

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### TEST SPECIMENT SETTING FOR MECHANICAL TESTING

All tests have been made with printed sample in two different orientations on EDGE (XZ) and FLAT (XY). H.D.T. is the acronyms of Heat Deflection Temperature. The international standard norm ASTM D648 provide the terms to determinate the operating temperature of polymers. Test method need a sample, with standard dimension, subject a load of 65.9 psi (455 kPa) and 263.93 psi (1.82 MPa), after that starts to heat with increase steps of 2°, when the sample arrive an inflection of 1 inch (0.25 mm), is determinate the h.d.t

XZ= X or "on edge"  
XY= Y or "flat"



The performance characteristics of these materials may vary according to application, end use, or operating conditions. Each user is responsible for determining that the Roboze material is safe, technically suitable, and lawful for the intended application, as well as for identifying the proper disposal (or recycling) method consistent with applicable environmental laws and regulations.

The information presented in this document are typical values intended for reference and comparison purposes only. They should not be used for design specifications or quality control purposes. Actual values will vary with build conditions. Tested parts were built on ROBOZE PLUS 400. Product specifications are subject to change without notice.

### Your Smart Solution

Roboze machines are designed to optimize time, reduce costs, and speed up time to market. Our high performing materials are engineered to empower you with unlimited possibilities for all kinds of projects.

### The Only Beltless System

Roboze Beltless technology is years ahead in innovation. The patented mechatronic movement system of the X and Y-axes, which directly connects rack and pinion, achieves never before seen real 25-micron layer tolerances.

Find our more on advanced Roboze solutions at [roboze.com](http://roboze.com) and get in touch with our experts.

### See It To Believe It

Request a sample and see for yourself what you can create with our technology and super techno-polymers.

[info@roboze](mailto:info@roboze)

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