Roboze Carbon PA

Carbon Pa is a high performance PA Carbon Fiber reinforced for the production of functional parts

FILAMENT PRODUCT SPECIFICATION

CARBON PA was developed for Roboze and it based on Polyamide reinforced with Carbon Fiber at 20%. It is ideal for high-end mechanical applications, thanks to its high tensile modulus. It provides the answer to all industries key needs such as envi-ronmental-friendliness through weight reduction and metal substitution, safety through impact absorption or flammability protection, processing simplification, and sustainability, due to its durability, long-term resistance and fluid resilience.
Printed parts even have accurate surfaces thanks to our technology and mechatronic motion.

Typical applications:
Carbon Pa is used in a wide range of different applications; in the automotive industry, racing, aerospace, electrical and lighting, consumer and industrial goods and sports equipment.

	MECHANICAL PROPERTIES	Test Method	Build Orientation		Infill density
			xz	xy	
TENSILE	Tensile Strength Ultimate	ASTM D638	138 MPa	136 MPa	100%
	Tensile Modulus	ASTM D638	14.7 GPa	15.5 GPa	
	Elongation	ASTM D638	1,71%	1,62%	
FLEXURAL	Flexural Strength	ASTM D790	-	100 MPa	100%
	Flexural Modulus	ASTM D790	-	5 GPa	

THERMAL PROPERTIES	Test Method	Value
HDT (load 1.82 MPa)	ASTM D648	200°C
Continuous Service Temperature	UL746B	150°C

OTHERS	Test Method	Value
Density	ISO 1183	1,4 g/cm3
Water Absorption	ISO 3167A	< 0,3 %
Surface Resistance	IEC 60093	< 1 e+2 ohm

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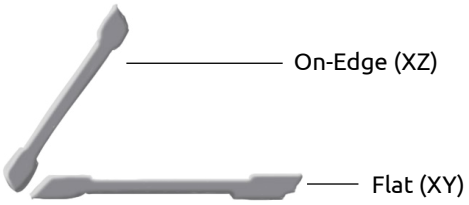
TEST SPECIMENT SETTING FOR MECHANICAL TESTING

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 455 kPa and 1,82 MPa , after that starts to heat with increase steps of 2° , when the sample arrive an inflection of 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** 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

Roboze S.P.A. (HQ)
Via Vincenzo Aulisio 31/33
70124 Bari - Italy
Phone: +39 0805057559

Roboze Inc
2135 City Gate Lane - Suite 300
Naperville, Illinois 60563, United States

VAT n. IT07513040720
Sales Inquires: sales@roboze.com

www.roboze.com

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