



Roboze Flex

Flex is a thermoplastic material for special production of functional parts

FILAMENT PRODUCT SPECIFICATION

FLEX was developed for Roboze and it based on TPE. Thermoplastic elastomers are a unique class of materials that combine the key processing and recycling properties of thermoplastics with many of the physical properties of thermoset rubbers such as elasticity, low compression set and high flexibility.

General characteristics of TPE are:

- Wide range of hardness
- Fatigue resistance
- Chemical resistance
- Abrasion resistance
- Weathering and ozone resistance
- Ease of processing
- Recyclability

Its application are:

Engeneering and rapid prototyping , o-ring and all field you need elasticity.

	MECHANICAL PROPERTIES	Test Method	Build Orientation		Infill density
			xz	xy	
TENSILE	Tensile Strength Ultimate	ASTM D638	40 MPa	37 MPa	100%
	Tensile Modulus	ASTM D638	25 MPa	23 MPa	
	Tensile Elongation at Break	ASTM D638	750%	720%	

THERMAL PROPERTIES	Test Method	Value
Glass Transition temperature [°C]	ISO 11357-2	-25°C
Heat Deflection (HDT)	ASTM D648	49°C
Melting Point	ISO 3146	220°C

OTHER	Test Method	Value
Density	ISO 1183	1,22 g/cm3
Water Absorption	ISO 62	0,19 %
Volume Resistivity	IEC 60093	1,00*e+11 ohm*m



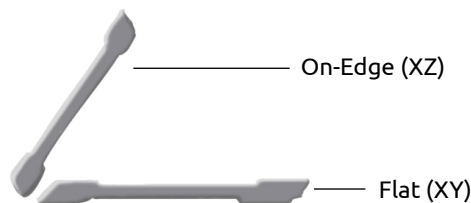
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TEST SPECIMENT SETTING FOR MECHANICAL TESTING

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.

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