



Roboze Ultra

ULTRA is a thermoplastic material for special production of functional parts

FILAMENT PRODUCT SPECIFICATION

ULTRA was developed for Roboze and it based on PLA. Polylactid Acid is a biopolymer which offers environmental benefits because it is made from renewable resources. It is produced by polymerization of the lactic acid that is produced by fermentation from plant derived sugars.

General characteristics of ULTRA are:

- Excellent gloss and clarity
- Easy to print
- Hypoallergenic
- High rigidity
- Low shrinkage
- Materials made from 100% renewable sources

Typical applications:

Design, Dental application, architecture, engineering and rapid prototyping

	MECHANICAL PROPERTIES	Test Method	Build Orientation		Infill density
			xz	xy	
TENSILE	Tensile Strength Ultimate	ASTM D638	48 MPa	45 MPa	100%
	Tensile Modulus	ASTM D638	3.8 GPa	3.5 GPa	
	Tensile Elongation at Break	ASTM D638	6%	5.8%	
FLEXURAL	Flexural Strength	ASTM D790	-	80 MPa	100%
	Flexural Modulus	ASTM D790	-	4 GPa	

THERMAL PROPERTIES	Test Method	Value
Glass Transition temperature [°C]	ISO 11357-2	60°C
Heat Deflection Temp. (HDT)	ASTM D648	65°C
Melting Point	ISO 3146	178°C

OTHERS	Test Method	Value
Density	ASTM D792	1,13 g/cm3



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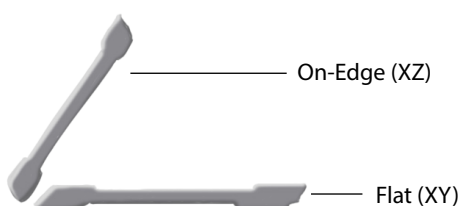
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TEST SPECIMENT SETTING FOR MECHANICAL TESTING

All tests have been made with printed sample in two different orientations on EDGE (XZ) and FLAT (XY).

H.D.T. is the acronym of Heat Deflection Temperature. The international standard norm ASTM D648 provides the terms to determine the operating temperature of polymers. Test method needs a sample, with standard dimension, subject to a load of 455 kPa and 1,82 MPa, after that starts to heat with increase steps of 2°, when the sample reaches an inflection of 0.25 mm, is determined 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 out 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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