

Roboze ULTEM™ AM9085F

PEI is a high performance thermoplastic material for special production of functional parts

FILAMENT PRODUCT SPECIFICATION

PEI (Polyether Imide) is an amorphous, high-performance polymer that combines excellent thermal properties, exceptional dimensional stability, inherent flame retardancy, and good chemical resistance. It offers the ability to create parts with excellent properties at elevated temperatures due to a high glass transition temperature.

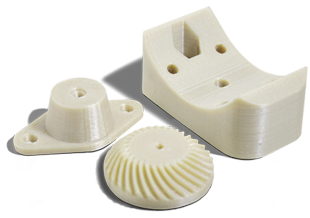
It offers:

- High thermal properties
- Inherent flame resistance with low smoke evolution and low smoke toxicity
- Long-term hydrolytic stability
- Excellent dimensional stability (low creep sensitivity and low, uniform coefficient of thermal expansion) and highly reproducible part-to-part dimensions
- Exceptional strength and modulus, even at elevated temperatures
- Good resistance to a broad range of chemicals, such as automotive fluids, fully halogenated hydrocarbons, alcohols, and aqueous solutions
- Stable dielectric constant and dissipation factor over a wide range of temperatures and frequencies

Its applications are:

- aerospace and aircraft
- ventilation system component
- automotive and transportation
- electrical devices
- transmission components
- throttle bodies
- ignition components
- sensors and thermostat housings

	MECHANICAL PROPERTIES	Test Method	Build Orientation		Infill density
			xz	xy	
TENSILE	Tensile Strength Ultimate	ASTM D638	70 MPa	65 MPa	100%
	Tensile Modulus	ASTM D638	2.3 GPa	2.1 GPa	
	Tensile Elongation at Break	ASTM D638	2,2%	2%	
FLEXURAL	Flexural Strength	ASTM D790	-	110 MPa	100%
	Flexural Modulus	ASTM D790	-	2.3 GPa	



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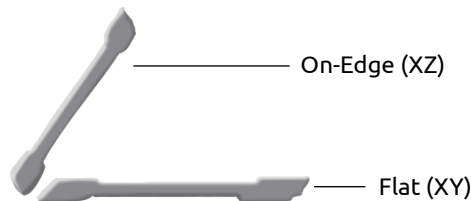
THERMAL PROPERTIES	Test Method	Value
Glass Transition temperature [°C]	ISO 11357-2	210°C
Heat Deflection (HDT)	ISO75	150°C

OTHERS	Test Method	Value
Density	ASTM D792	1,34 g/cm3
Volume Resistivity	IEC 60093	8,00*e+15 ohm*cm

TEST SPECIMENT SETTING FOR MECHANICAL TESTING

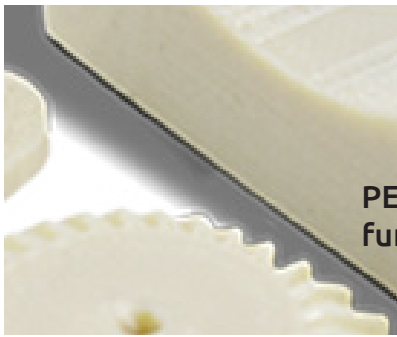
All tests have been made with printed sample in two different orientations on EDGE (XZ) and FLAT (XY). H.D.T. is the acronyms of Heat Deflection Temperature . The international standard norm ASTM D648 provide the terms to determinate the operating temperature of polymers . Test method need a sample , 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.



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