

# TECHNICAL DATA SHEET

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## Under Control

Z-ESD is a material which perfectly fits the needs of the industrial sector, especially the electrical and electronics industries. It is durable, warpage resistant, and provides protection against electrostatic discharge which can be particularly damaging to electronic equipment. This unique property can significantly help to reduce the loss of electronic components and generate savings. Z-ESD allows you to print functional objects, elements and casings containing highly sensitive electronics, and tools used for control processes.

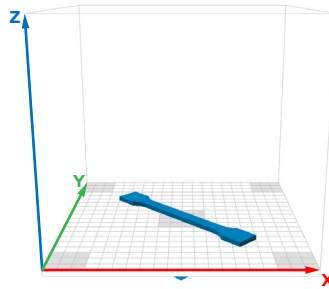


Mechanical Properties	Metric	Imperial	Test Method
Tensile Strength	32.88 MPa	4770 psi	ISO 527:1998
Breaking Stress	30.73 MPa	4460 psi	ISO 527:1998
Elongation at max Tensile Stress	4.16%	4.16%	ISO 527:1998
Elongation at Break	4.46%	4.46%	ISO 527:1998
Bending Stress	47.70 MPa	6920 psi	ISO 178:2011
Flexural Modulus	1.50 GPa	218 ksi	ISO 178:2011
Izod Impact, Notched	4.92 kJ/m <sup>2</sup>	2.34 ft-lb/in <sup>2</sup>	ISO 180:2004
Thermal Properties	Metric	Imperial	Test Method
Glass Transition Temperature	79.93° C	176° F	ISO 11357-3:2014
Other Properties	Metric	Imperial	Test Method
Melt Flow Rate	6.02 g/10 min Load 2.16 kg Temperature 230° C	0.0133 lb/10 min Load 4.76 lb Temperature 446° F	ISO 1133:2006
	8.57 g/10 min Load 5 kg Temperature 230° C	0.0189 lb/10 min Load 11 lb Temperature 446° F	
Specific Density	1.285 g/cm <sup>3</sup>	10.7 lb/gal	ISO 1183-3:2003
Shore Hardness (D)	69.2	69.2	ISO 868:1998
Surface Resistivity	>10 <sup>6</sup> – 10 <sup>9</sup> < Ohm/sq	>10 <sup>6</sup> – 10 <sup>9</sup> < Ohm/sq	IEC 60093

The data presented in this document are intended for information and comparison purposes only. They should not be used for project specifications or its quality evaluation. The material's actual properties depend on the printing process conditions, the design structure and its purpose, test conditions, etc.

Samples of Z-ESD used to carry out the tests were built on Zortrax M200.  
The general print parameters utilized are noted below:

Z-SUITE: v2.2.0.0  
Layer thickness: 0.19 mm;  
Quality: High;  
Seam: Normal;  
Infill: Solid,  
Fan Speed: Auto;  
Surface Layers:  
- Top: 7 (default);  
- Bottom: 4 (default);



Product specifications are subject to change without notice.

Each user is responsible for complying with product safety standards, its intended use as well as the law and waste disposal (and recycling) rules for electrical and electronic equipment. Zortrax does not make any express or implied warranties, including but not limited to implied warranties of merchantability or fitness for a particular purpose.

**zortrax**

Zortrax S.A.  
Lubelska 43a  
10-410 Olsztyn, Poland  
NIP: 5242756595  
REGON: 146496404

**Contact**  
Office: [office@zortrax.com](mailto:office@zortrax.com)  
Sales Department: [sales@zortrax.com](mailto:sales@zortrax.com)  
Support Center: [support@zortrax.com](mailto:support@zortrax.com)