



# TECHNICAL DATA SHEET

## FLEX MEDIUM ESD



### 1. DESCRIPTION

TPU Flex Medium ESD (electrostatic discharge) is a filament specially developed for the FDM/FFF process. Based on Polycaprolactone-Polyester, it combines the advantages of TPU with ESD protection. The material effectively dissipates static electricity and thus protects sensitive electronic devices from damage.

### 2. FEATURES

- Electrostatic resistance: 0,7 – 0,9 MΩ
- ESD-C Conductive
- Cleanroom compliant
- Very impact and break resistant
- Shore hardness A95
- Chemical resistance to oils, petrol, esters, ketones and chlorinated hydrocarbons

### 3. PROPERTIES

TEST	METHOD	UNIT	VALUE	PRINT SETTINGS
Specific Gravity (20 °C)	DIN 53.479	g/cm <sup>3</sup>	1,20	Nozzle 220-250 °C
MFR (220°C/10.0 kg)	-	g/10min	50-70	Heatbed 50 °C
Shore Hardness	DIN 53.505	-	A92	Adhesive not required
Melting Range	KOFLER	°C	175-185	Speed max. 50 mm/s
Softening Range	KOFLER	°C	160-165	Cooling 60-100 %
Softening point	KOFLER	°C	150-170	Enclosed Space no
Hydrolysis Resistance	-	-	gut	Hardened Nozzle no
Chemical Resistance	-	-	gut	Max. Volumetric Speed 3,2 mm <sup>3</sup> /s
Tensile Strength	DIN 53.504	MPa	40	Recommended settings for printers with a 0.4mm Nozzle. Max. 50% layerheight. Optimal print settings may vary between different printers and also depend on environmental factors.
Elongation at Break	DIN 53.504	%	430	
Tear Resistance	DIN 53.515	kN/m	110	
Abrasion Loss	DIN 53.516	mm <sup>3</sup>	28	
Electrical Conductivity	DIN EN 61340-2-3	MΩ	0,7 - 0,9	

\*Temperature resistance tested at a minimum wall thickness of 4 mm.

#### Abrasion loss according to ISO 4669:

DANTHANE 125K-EL-Compound: ca. 45 mm<sup>3</sup>

DANTHANE 126K-EL-Compound: ca. 35 mm<sup>3</sup>

### 4. CERTIFICATIONS & ADDITIONAL INFORMATION



Certifications depend on colors in final product. More info in the additional information sheet.

### 5. STORAGE AND SHELF LIFE

Store in a dry room at room temperature (18-27°C / 65-80°F). Keep out of direct heat and sunlight.

When stored correctly, this material has a shelf life of 2 years.

Additional info in our regulatory, additional information and chemical resistance data sheets.