

LUVOPRINT® PESU GF 50954 NT

Polyethersulfone
with glass fibers, natural color (beige)

Physical properties		Test method	Units	Typical value
Density as Printed		DIN EN ISO 1183	g/cm³	1,19
Water absorption	23°C / 24h	DIN EN ISO 62	%	< 0,1

Mechanical properties, at 23°C / 50% rh				
Tensile Strength				
X/Y Direction	dry, @50 mm/min	DIN EN ISO 527	MPa	79,2
Z Direction	dry, @50 mm/min	DIN EN ISO 527	MPa	33,4
Tensile Modulus				
X/Y Direction	dry, @1 mm/min	DIN EN ISO 527	GPa	5,3
Z Direction	dry, @1 mm/min	DIN EN ISO 527	GPa	2,2
Elongation at Break				
X/Y Direction	dry, @50 mm/min	DIN EN ISO 527	%	1,9
Z Direction	dry, @50 mm/min	DIN EN ISO 527	%	1,8
Flexural Strength				
X/Y Direction	dry, @10 mm/min	DIN EN ISO 178	MPa	107,3
Z Direction	dry, @10 mm/min	DIN EN ISO 178	MPa	50,0
Flexural Modulus				
X/Y Direction	dry, @2 mm/min	DIN EN ISO 178	GPa	4,5
Z Direction	dry, @2 mm/min	DIN EN ISO 178	GPa	2,0
Impact Strength				
X/Y Direction	dry	DIN EN ISO 179 1eU	kJ/m²	25,8
Z Direction	dry	DIN EN ISO 179 1eU	kJ/m²	6,2

Thermal properties				
Heat distortion temp.	HDT A	DIN EN ISO 75	°C	220
CTE				
X Direction	60°C - 210°C	DIN EN ISO 11359	10 ⁻⁶ /K	13,8
Y Direction	60°C - 210°C	DIN EN ISO 11359	10 ⁻⁶ /K	34,2
Z Direction	60°C - 210°C	DIN EN ISO 11359	10 ⁻⁶ /K	72,2

Electrical properties				
Insulation resistance	strip electrode R25	DIN EN 62631-3-3	Ω	>10 ¹²

Main features

LUVOPRINT® PESU GF 50954 NT is a high-performance material, optimized for FGF printing. Reinforced with 30% glass fibers, it offers exceptional dimensional stability and is resistant to warping during processing. The material also features a very low moisture absorption, is flame-retardant (V-0) and exhibits outstanding thermal stability. It can be used for high temperature applications.

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Recommended processing parameters

Delivery form & storage

Unless indicated otherwise, the material is delivered as 3mm long pellets in sealed bags. Preferably storage should be effected in dry and normally temperatured rooms.

Predrying

It is advisable to pre dry the granules with a suitable dryer immediately before processing. The granule may absorb moisture from the environment.

Dryer type

Dehumidifying dryer

Temperature °C

150

Drying time in h

3 - 5

General processing information

In general, this product can be processed on conventional FGF printers while observing the usual technical guidelines. Any added fibrous materials or fillers may have an abrasive effect. In this case the cylinder and screw should be protected against wear as is usual in the processing of reinforced thermoplastic materials. Lengthy dwell times for the melts in the cylinder should be avoided. Lower the temperatures during interruptions!

Recommended processing parameters

Printing surface: Aluminum, Polycarbonate

Surface temperature: 140 - 160°C (for optimum adhesion)

n-1 Layer temperature: 140 - 160°C (for best layer adhesion)

Nozzle

340 - 360°C

Zone 3

350 - 370°C

Zone 2

360 - 380°C

Zone 1

355 - 375°C

Additional Information

During processing the moisture level should not exceed 0.05%, otherwise porosity and surface defects (e.g. smearing) may occur. To avoid internal stresses, a low shear load should be used for processing. The parts may be tempered at a later stage to reduce internal stresses. The processing notes provided merely represent a recommendation for general use. Due to the large variety of machines, geometries and volumes of parts, etc., it may be necessary to employ different settings according to the specific application. High-temperature polymers place increased demands on the tool steels employed. Please contact us for further information.

Qualified Systems



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