



Kimya PPSU-S 3D Filament

The Kimya **PPSU-S** 3D filament belongs to the polysulfone family. Polyphenylsulfone (**PPSU**) is an amorphous thermoplastic. It is a technical material with an elevated glass transition temperature and low humidity absorption. It benefits from good chemical and thermal resistance. PPSU-S can be used in multiple sectors, notably low-volume injection molds, automotive spare parts, chemical treatment, oil and gas... The Kimya PPSU-S 3D filament has the following properties:

- High temperature resistance
- Hydrolysis resistance
- Flame retardant – eligible to **UL94 V0**
- Aerospace **FAR 25.853** Standard
- Food contact under **EU 10/2011**
- Complies with the **RoHS** and **REACH** standard

2-year KIMYA warranty.

FILAMENT PROPERTIES

PROPERTIES	TEST METHODS	VALUES
Diameter	INS-6712	1.75 ± 0.1 mm
Density	ISO 1183-1	1.3 g/cm ³
Melt flow index (MFI)	ISO 1133-1 (@380°C – 5 kg)	17 g/10min
Glass transition temperature (T _g)	ISO 11357-1 DSC (10°C/min - 0-420°C)	224 °C

PRINT PARAMETERS AND SPECIMENS DIMENSIONS

PRINTING DIRECTION	XY
Printing Speed	35 mm/s
Infill	100% -
Infill Angle	45°/-45°
Nozzle Temperature	380°C
Bed T°	220°C
Chamber T°	220°C

PRINTED SPECIMENS PROPERTIES

	PROPERTIES	TEST METHODS	VALUES
THERMAL PROPERTIES	Maximum use T°	-	176 °C
	Heat distortion temperature (HDT) (0,45Mpa)	ASTM D648	°C
	Heat distortion temperature (HDT) (1,8Mpa)	ASTM D648	207 °C
ELECTRICAL PROPERTIES	Volume resistivity	ASTM D257	9.0*10 ¹⁵ Ohms/cm
MECHANICAL PROPERTIES	Tensile modulus	ISO 527-2/1A/50	1,752 MPa
	Tensile Strength	ISO 527-2/1A/50	53.8 MPa
	Tensile strain at strength	ISO 527-2/1A/50	6.4 %
	Tensile Stress at Break	ISO 527-2/1A/50	53.8 MPa
	Tensile strain at break (type A)	ISO 527-2/1A/50	6.4 %
	Flexural modulus	ISO 178	1,664 MPa
	Deformation at Flexural Strain	ISO 178	5 %
	Flexural stress at conventional deflection (3,5% strain)*	ISO 178	54.1 MPa
	Charpy impact resistance	ISO 179-1/1eA	20.7 kJ/m ²
	Shore Hardness	ISO 868	79,8
Note 1	*According to ISO 178, end of the test at 5% deformation even if there is no specimen break.		
Note 2	The data should be considered as indicative values - Properties can be influenced by production conditions.		

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