

## Fiche Technique

**KIMYA TPC-91A 3D FILAMENT**

Flexible filament for FFF 3D Printers

**DESCRIPTION**

Kimya TPC-91A is a 3D printing filament made from thermoplastic copolyester (TPC), a type of elastomer. This material combines rigid ester segments and flexible ether segments through copolymerization, giving it both flexibility and durability. TPC-91A offers excellent chemical and impact resistance along with a Shore hardness of 91A, making it well-suited for producing flexible parts. It's used across various industrial sectors like electronics, textiles, and roofing, as well as in decorative and leisure 3D printing applications.

**BENEFITS**

- Flexibility.
- Durability.
- Chemical & Impact Resistance.

**TECHNICAL DATA****Properties**

Diameter	1.75 ± 0.1 mm 2.85 ± 0.1 mm
Density	1.22 g/cm <sup>3</sup>
Moisture rate	< 0.5 %
Melt flow index (MFI)	18 - 20 g/10min
Melting Temperature (Tm)	159°C (381.2°F)

**Test Methods**

INS-6712
ISO 1183-1
INS-6711
ISO 1133-1
ISO 11357-1 DSC (10°C/min-20-220°C)

**Properties**

Tensile Modulus	67 MPa (9.7 ksi)
Tensile Strength	17.7 MPa (2.6 ksi)
Tensile Strain at Strength	> 500 %
Tensile Stress at Break	17.5 MPa (2.5 ksi)
Tensile Strain at Break (type A)	> 500 %
Flexural Modulus	66 MPa (9.6ksi)
Flexural Stress at Conventional Deflection (3.5% Strain)*	2.6 MPa (0.38 ksi)
Charpy Impact Resistance	No Break
Shore Hardness	91 A

**Test Methods**

ISO 37/2/500
ISO 37/2/500
ISO 37/2/500
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ISO 37/2/500
ISO 178
ISO 178
ISO 179-1/1eA
ISO 868

**PROCESSING****Printing Direction**

Printing Speed
Nozzle Temperature
Bed Temperature

**XY**

Initial layers: 10-20 mm/s, further layers 30-60 mm/s
245°C - 270°C (473°F - 518°F)
55°C - 65°C (131°F - 149°F)

**NOTES**

- \*According to ISO 178, end of the test at 5% deformation even if there is no specimen break.
- The data should be considered as indicative values - Properties can be influenced by production conditions.