# eFlex

Technical Data Sheet

The transparent flexible TPU consumables with a hardness of 87A are strong and durable; the printed product is softer than TPU-95A, but harder than the eLastic printed product; the printed product has a certain degree of transparency.

| Material Status | Mass Production | | |
|---|---|---|---|
| Characteristics | • Flexible and soft<br>• Strong and sturdy<br>• High flexibility | | • High toughness<br>• High impact resistance |
| Applications | • Shoe material<br>• Machinery | • Automobile<br>• Electronic appliances | • Conveying pipeline<br>• Sporting products |
| Form | • Filament | | |
| Processing method | • 3D Print, FDM Print | | |

| | Testing method | Typical value | |
|---|---|---|---|
| **Physical Properties** | | | |
| Density | GB/T 1033 | 1.12 | g/cm³ |
| Melt Flow Index | GB/T 3682 | N/A | |
| **Mechanical Properties** | | | |
| Tensile Strength | GB/T 1040 | 52 | MPa |
| Elongation at Break | GB/T 1040 | 500 | % |
| Flexural Strength | GB/T 9341 | N/A | |
| Flexural Modulus | GB/T 9341 | N/A | |
| IZOD Impact Strength | GB/T 1843 | N/A | |
| **Thermal Properties** | | | |
| Heat distortion Temperature | GB/T 1634 | N/A | |
| Continuous Service Temperature | IEC 60216 | N/A | |
| Maximum (short term) Use Temperature | | N/A | |
| **Electrical Properties** | | | |
| Insulation Resistance | DIN IEC 60167 | N/A | |
| Surface Resistance | DIN IEC 60093 | N/A | |

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## Recommended printing parameters

| | |
|---|---|
| Extruder Temperature | 220 - 250°C |
| Build Platform Temperature | 45-60°C |
| Fan Speed | 100% |
| Printing Speed | 20 - 50mm/s |

Based on 0.4 mm nozzle and Simplify 3D v.4.1.2. Printing conditions may vary with different nozzle diameters

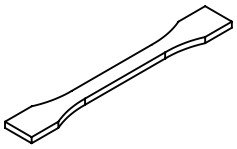
## Drying Recommendations

N/A

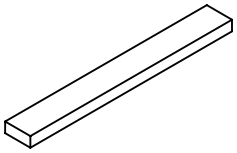
## Notes

1. It is recommended to dry (55°C/>4H) before printing to achieve the best printing effect. It is recommended to use it with eBOX cartridges when printing.
2. It is recommended to use a short-range two-wheel reduction extruder designed for flexibility, and eFlex materials cannot be printed with a remote extruder.
3. The nozzle may have impurities after printing for a long time. It is recommended to use it with the cleaning filament. If necessary, replace the nozzle and throat with a new one.

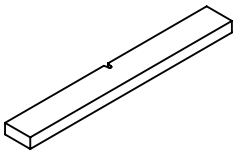
## Mechanical Properties



Tensile testing specimen GB/T 1040



Flexural testing specimen GB/T 9341



Impact testing specimen GB/T 1043

The physical properties, mechanical properties, thermal properties, and electrical properties of the filament are obtained based on the injection molding spline test.

Print test condition：

| | |
|---|---|
| Extruder Temperature | 210-250°C |
| Build Platform Temperature | 45°C |
| Outline/Perimeter Shells | 4 |
| Top/Bottom Layers | 4 |
| Infill Percentage | 20% |
| Fan speed | 100% |
| Printing speed | 40mm/s |

Based on 0.4 mm nozzle and Simplify 3D v.4.1.2.

## Notice



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