

TECHNICAL DATA SHEET

FILAFLEX 82A ORIGINAL

Description

Filaflex is a Thermoplastic Polyether-Polyurethane elastomer with additives that allow high printability in FDM printers. Filaflex® has a remarkable hydrolysis resistance, high resistance to bacteria and low temperature flexibility properties in printed parts.

| Physical properties | Value | Unit | Test method according to |
|--|-------|-------------------|--------------------------|
| Material density | 1.12 | g/cm ³ | DIN EN ISO 1183-1-A |
| Mechanical properties | Value | Unit | Test method according to |
| Hardness | 82 | Shore A | DIN ISO 7619-1 (3s) |
| Hardness (approx. ≈) | 31 | Shore D | DIN ISO 7619-1 (3s) |
| Tensile strength | 45 | MPa | DIN 53504-S2 |
| Elongation at break | 650 | % | DIN 53504-S2 |
| Stress at 20% elongation | 2.5 | MPa | DIN 53504-S2 |
| Stress at 100% elongation | 6 | MPa | DIN 53504-S2 |
| Stress at 300% elongation | 10 | MPa | DIN 53504-S2 |
| Tear strength | 70 | N/mm | DIN ISO 34-1Bb |
| Abrasion loss | 25 | mm ³ | DIN ISO 4649-A |
| Compression set 23°C / 72 hours | 25 | % | DIN ISO 815 |
| Compression set 70°C / 24 hours | 45 | % | DIN ISO 815 |
| Tensile strength after storage in water at 80°C for 42 days | 32 | MPa | DIN 53504-S2 |
| Elongation at break after storage in water at 80°C for 42 days | 600 | % | DIN 53504-S2 |
| Notched impact strength (Charpy) at +23°C | nb | kJ/m ² | DIN EN ISO 179-1 |
| Notched impact strength (Charpy) at -30°C | nb | kJ/m ² | DIN EN ISO 179-1 |

| Printing properties | Recommended |
|-------------------------|------------------------------------|
| Printing temperatures | 215 - 250°C |
| Printing speed | 20 - 60 mm/s |
| Hot-bed temperature | 0°C |
| Optimal layer height | 0.2 mm |
| Minimal nozzle diameter | 0.4 mm or higher |
| Retraction parameters | 3.5 - 6.5 mm (speed 20 - 160 mm/s) |