

# Technical Data Sheet



**Product name:** FlexiFil™

**Date of issue:** 29 October 2015

**Version:** v2

FlexiFil™ is a rubber-like high-performance TPC (Thermoplastic Co-Polyester) type of 3D printer filament. FlexiFil™ has unique flexural strength properties, as 3D printed objects with FlexiFil™ will have a “flexural memory”, allowing objects to return back to their original position after being bent.

The combination of flexibility, mechanical strength, durability, good resistance to chemicals, excellent UV resistance and extreme temperatures makes FlexiFil™ a unique filament.

| Properties             | Typical value             | Test Method    | Test condition                 |
|------------------------|---------------------------|----------------|--------------------------------|
| <b>Physical</b>        |                           |                |                                |
| Specific gravity       | 1.14 g/cc                 | ISO 1183       | -                              |
| Melt flow rate         | 39 cm <sup>3</sup> /10min | ISO 1133       | 230° C/2.16Kg                  |
| Water absorption       | ± 0.69%                   | -              | Saturated at 23° C             |
| Moisture absorption    | ± 0.30%                   | -              | Equilibrium 23° C/50% RH       |
| <b>Mechanical</b>      |                           |                |                                |
| Impact strength        | No Break                  | ISO 180/1A     | Izod Notched @23° C (73° F)    |
| Tensile strength       | 24 Mpa                    | ISO 527 -1/-2  | Stress @ Break                 |
| Tensile modulus        | 95 Mpa                    | ISO 527 -1/-2  | -                              |
| Elongation at break    | 530%                      | ISO 527 -1/-2  | Nominal Strain at Break, 23° C |
| Flexural strength      | -                         | -              | -                              |
| Flexural modulus       | -                         | -              | -                              |
| Hardness               | 45D                       | ISO 868        | Shore D Hardness (3s)          |
| <b>Thermal</b>         |                           |                |                                |
| Print temperature      | ± 220 - 260° C            | -              | -                              |
| Melting temperature    | ± 180                     | ISO 11357-1/-3 | 10° C/min                      |
| Viscat softening temp. | -                         | -              | -                              |
| <b>Optical</b>         |                           |                |                                |
| Haze                   | -                         | -              | -                              |
| Transmittance          | -                         | -              | -                              |
| Gloss                  | -                         | -              | -                              |

| Product details, certifications and compliance | Diameter | Tolerance | Roundness |
|--|----------|-----------|-----------|
| HS Code  | 1.75mm   | ± 0.05mm  | ≥ 95%     |
| REACH compliant                                | 2.85mm   | ± 0.10mm  | ≥ 95%     |
| RoHS certified                                 |          |           |           |
| FDA compliant                                  |          |           |           |

|                  |                     |   |
|------------------|---------------------|---|
| Formfutura VOF   | CoC: 55502105       | Tel: +31 (0)85 002 0881   |
| Groenestraat 215 | VAT: NL851741083B01 | Email: <a href="mailto:info@formfutura.com">info@formfutura.com</a> |
| 6531 HH Nijmegen | EORI: NL851741083   | Website: <a href="http://www.formfutura.com">www.formfutura.com</a> |
| The Netherlands  |                     |   |

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