# Technical Data Sheet

## High Precision PET

### Product specifications

FormFutura High Precision PET is a pure PET filament that is developed for consistent batch-to-batch production via 3D printing. This filament has a guaranteed precision on diameter, ovality, shrinkage, and color tolerances. The diameter and ovalidity of High Precision PET filament is measured via a continuous 3-axis laser measurement. A 3-axes measurement is far more accurate and ensures that there are no blind spots around the diameter. High Precision PET filaments are colored RAL specific with a max tolerance of Delta E5. All parameters of each individual spool can be checked by scanning the QR code on the spool.

### Important key features

- Certificate of analysis / data report per spool
- Precise RAL color matched filament.
- Continuous 3-axis laser measurement
- Precise batch-to-batch color consistency (≤ Delta E5)
- Good chemical resistance & UV resistance.

### Suitable applications

- Batch to batch production of end use parts.
- Household appliances
- Electronic components.
- Manufacturing aids.

| Material properties | Typical value | Test Method |
|---|---|---|
| Density | 1.33 g/cm3 | ISO 1183/A |
| Melt Volume Rate, 285°C/2,16kg | 47 ± 8 g/10 min | ISO 1133 |

| Mechanical properties | | |
|---|---|---|
| Tensile modulus (23°C, 1mm/min) | 2500 MPa | ISO 527 |
| Tensile strength at yield (23°C, 50mm/min) | 74 MPa | ISO 527 |
| Elongation at tensile yield (23°C, 50mm/min) | 4% | ISO 527 |
| Tensile strength at break (23°C, 50mm/min) | 74 Mpa | ISO 527 |
| Elongation at tensile break (23°C, 50mm/min) | 4% | ISO 178 |
| Charpy unnotched impact strength, 23°C | 22,4 kJ/m$^2$ | ISO 179/1eU |

| Thermal properties | | |
|---|---|---|
| Glass Transition Temperature | 70°C | DSC |

### Storage and handling

Filament should be stored at room temperature in a dry and dark place with humidity below 15%. Recommended storage temperature is ca. 18-25°C (64.4 -77.0°F). Keep out of moisture, sunlight and direct heat. When stored properly, product has a shelf life of 24 months. To obtain the best parameters of the printed object, it is recommended to dry the material prior to usage and to 3D print it directly from a dry box.

### Product export information

| HS Code | Description | Origin |
|---|---|---|
| 39169090 | Monofilament for 3D printing | European Union |

### Disclaimer

*The product- and technical data provided in this datasheet is correct to the best of FormFutura BV's knowledge and are intended for reference and comparison purposes only. Actual values may vary according to printing conditions, model complexity, environmental conditions, etcetera. Typical values are indicative only and are not to be construed as being binding specifications. All other information supplied, including that herein, is considered accurate but is furnished upon the express condition that the customer shall make its own assessment to determine a product's suitability for a particular purpose. We make no warranty, express or implied, including regarding any information supplied or the data upon which it is based or the results to be obtained from the use of such products or information, or concerning product, whether of satisfactory quality, merchantability, fitness for any particular purpose or otherwise, or with respect to intellectual property infringement as a result of use of information or products, and none shall be implied.*