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# Technical data
# KEBATRON PPS FWL1040G1

PPS-GF40, linear PPS, 40% glass fiber reinforced, compliant for parts in food contact applications according to regulations in EU, USA, China, Japan and Mercosur.

**Polymer:** PPS

**ISO designation:** PPS-L-GF40-FC

**Productgroup:** PPS

**Brief description of the product family:**

Under the trade name KEBATRON, we offer a range of high-performance compounds based on PPS. KEBATRON offers high continuous service temperature, good aging behavior, high strength and stiffness, is inherently flame retardant and has exceptionally good chemical resistance.

**Properties:**

dimensionally stable, good chemical resistance, Good electrical properties, good aging behavior, good fire behavior, high continuous used temperature, High strength, High stiffness, hydrolysis stable, semi-crystalline, approved for food contact (EU and FDA)

**Typical areas of application:**

Fittings, Electronic components, Sanitary housing (brass replacement), Structural components, Valve body, Water pumps, sensor housings

**Industries:**

Electrical and electronics industry, Household appliances, Food processing industry, Mechanical Engineering, Medical Technology, Sanitary industry

## Physical properties

| | |
|---|---|
| Water absorption in % \| in Anlehnung an ISO 62 | 0.02 |
| Density in kg/m³ \| ISO 1183-1 | 1650.00 |

## Mechanical properties

| | |
|---|---|
| E-modulus in MPa \| ISO 527-1 | 11000 |
| Breaking stress in MPa \| ISO 527-1 | 195.0 |
| Elongation at break in % \| ISO 527-1 | 1.9 |
| Impact strength (Charpy) at 23°C in kJ/m² \| ISO 179-1eU | 60.0 |
| Notched impact strength (Charpy) at 23°C in kJ/m² \| ISO 179-1eA | 11.0 |

## Rheological properties

| | |
|---|---|
| Shrinkage in flow direction in % \| ISO 294-4 | 0.20 |
| Shrinkage transverse to the flow direction in % \| ISO 294-4 | 0.80 |

## Thermal properties

| | |
|---|---|
| Melting temperature (DSC, 10°C/min) in °C \| ISO 11357-1/-3 | 281.0 |

## Thermal properties

| | |
|---|---|
| Heat deflection temperature HDT (1.80 MPa) in °C \| ISO 75-1/-2 | 270.0 |
| Coefficient of thermal expansion in flow direction in E-6/K \| ISO 11359-1/-2 | 23.0 |
| Coefficient of thermal expansion transverse to the flow direction in E-6/K \| ISO 11359-1/-2 | 35.0 |
| Fire behavior (0.4 mm wall thickness) \| IEC 60695-11-10 | V0 |
| Fire behavior (0.8 mm wall thickness) \| IEC 60695-11-10 | V0 |

## Electrical properties

| | |
|---|---|
| Contact resistance in Ohm*m \| IEC 60093 | 1e+16 |
| Dielectric strength in kV/mm \| IEC 60243-1 | 24 |
| Tracking resistance CTI in V \| IEC 60112 | 150 |

**Processing instructions:**

**Pre-drying:**

Dryer type: dry air dryer (!).
Temperature: 120 – 140 °C
drying time: 4 – 8 h
Recommended max. residual moisture: < 0.02 %.

**Recommended basic settings:**

melt temperature: 310 – 335°C
Mold temperature: 140 – 180°C (As a rule of thumb, the higher the requirements, the higher the mold temperature).
Back pressure: < 10 bar (spec.)

The injection speed should be set as a slow – fast – slow profile. As a principle: as fast as possible, as slow as necessary.

**Machine selection:**

In the processing of KEBATRON PPS, wear- and corrosion-protected injection units have proven their worth. The injection unit should be selected so that the shot volume is 50 – 80% of the maximum metering volume. The dwell time should be kept as short as possible.

**Legal notices:**

The information in this data sheet is based on our current knowledge and experience. Due to the wide range of possible influences during processing and application of our products, they do not exempt the processor from carrying out his own tests and trials. A legally binding assurance of certain properties or suitability for a specific application cannot be derived from our information.

* FE products are development products which are still in the trial phase. Technical data may still change in the course of product and process development. No final decision has yet been made on the commercialization of FE products. We reserve the right to discontinue the manufacture of FE products without giving further reasons.

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Am Weidenbach 8-10
51491 Overath

Telefon +49 (0)2206 90851-100
Telefax +49 (0)2206 90851-199

E-Mail: kontakt@barlog.de
Web: www.barlog.de