

Technical data

KEBALLOY ECO FE 191104 R-PET (Development product*)

KEBALLOY ECO FE 191104 R-PET is a 50% glass fiber reinforced PET compound. The PET base polymer is made from 100% post-consumer recycled PET bottles. KEBALLOY ECO FE 191104 R-PET is thus a sustainable alternative to other glass fiber reinforced structural materials, e.g. as a metal substitute.

Polymer: PET

ISO designation: PET-GF50(REC)

Productgroup: Recycling Compounds

Brief description of the product family:

The name KEBALLOY ECO stands for a product range of engineering plastics and high-performance compounds based on post-consumer or post-industrial recyclate. KEBALLOY ECO compounds enable significant CO₂ savings compared to virgin materials and meet the highest requirements in terms of product properties and their uniformity from batch to batch. KEBALLOY ECO compounds also enable customer- or application-specific microcycles of engineering plastic parts and are thus a valuable contribution on the way to a circular plastics economy.

Properties:

dimensionally stable, good chemical resistance, good aging behavior, high continuous used temperature, High strength, High stiffness, semi-crystalline

Typical areas of application:

Fasteners, Hardware, Housing, Sliding elements, Bearing bushes, Structural components

Industries:

Automotive, Railroad industry, Electrical and electronics industry, Industry, Agriculture, Mechanical Engineering, Furniture industry, Sports & Recreation

Physical properties

Water absorption in % in Anlehnung an ISO 62	0.30
Moisture absorption 23°C/50% r.h. in %. in Anlehnung an ISO 62	0.10
Density in kg/m ³ ISO 1183-1	1750.00

Mechanical properties

E-modulus in MPa ISO 527-1	16500
Breaking stress in MPa ISO 527-1	160.0
Elongation at break in % ISO 527-1	1.5
Impact strength (Charpy) at 23°C in kJ/m ² ISO 179-1eU	30.0
Notched impact strength (Charpy) at 23°C in kJ/m ² ISO 179-1eA	9.0

Thermal properties

Melting temperature (DSC, 10°C/min) in °C ISO 11357-1/-3	247.0
Continuous operating temperature in °C ISO 2578	140.0
Heat deflection temperature HDT (1.80 MPa) in °C ISO 75-1/-2	230.0
Heat deflection temperature HDT (0.45 MPa) in °C ISO 75-1/-2	245.0

Thermal properties

Coefficient of thermal expansion in flow direction in E-6/K ISO 11359-1/-2	20.0
Coefficient of thermal expansion transverse to the flow direction in E-6/K ISO 11359-1/-2	50.0
Fire behavior (0.4 mm wall thickness) IEC 60695-11-10	HB
Fire behavior (0.8 mm wall thickness) IEC 60695-11-10	HB
Fire behavior (1.6 mm wall thickness) IEC 60695-11-10	HB
Fire behavior (3.2 mm wall thickness) IEC 60695-11-10	HB
Glass transition temperature in °C DIN EN ISO 11357-1	80

Processing instructions:**Pre-drying:**

Dryer type: dry air dryer

Temperature: 80°C

Drying time: 4-8 h

Moisture content during processing: < 0.02%.

Recommended basic settings:

Melt temperature: 260 – 290°C

Mold temperature: 140 – 160 °C

Injection speed: high

Back pressure: 40 – 80bar (spec.)

Machine selection:

Screw: 3-zone screw with non-return valve

Nozzle: Open nozzle or shut-off nozzle

Wear protection: Wear protected according to machine manufacturer's recommendation, suitable for processing fiber reinforced plastics

Injection unit: Shot volume = 50-80% of the maximum metering volume

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.

Created at: 20.04.2024

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