

LUVOTECH® eco+ PPS GF40 BK (REC50)

High-performance material with the best of both worlds

The demand for materials with a lower carbon footprint is increasing. But what does the daily handling of recyclates look like in technically demanding areas of application?

- Is the technical performance of the material sufficient for the application?
- Can larger tolerances and batch fluctuations be compensated?
- Are enough raw materials available to cover the increasing demand in the long term?

LEHVOSS offers a solution with its recyclate mixtures.

- High and consistent LEHVOSS quality
- Minimization of the carbon footprint by around 50%
- Meets the requirements of automotive standards
- Extensive performance data
- Mixture of 50% new and recycled raw materials
- Secured raw material sources (PIR)
- Significant cost savings compared to new goods

1 kg LUVOTECH® eco+ PPS GF40 BK (REC50) based on 50% recycled material reduces greenhouse gas emissions compared to virgin PPS GF40 by approx. 50% to 2.6 kg CO₂-eq per kg.

SKZ

Das Kunststoff-Zentrum

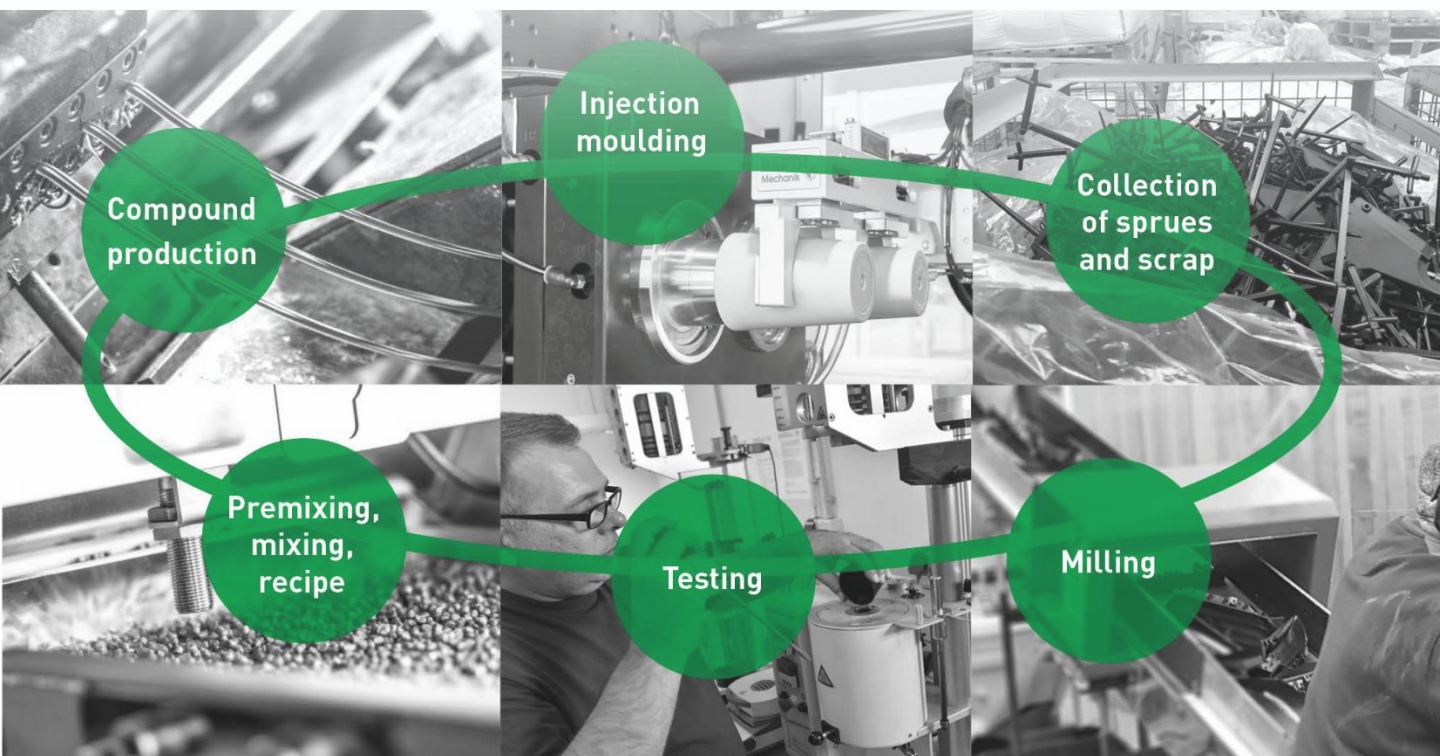
Basis of calculations:
DIN EN ISO 14040,
DIN EN ISO 14044 und
DIN EN ISO 14067



> PPS GF40 (REC50) <

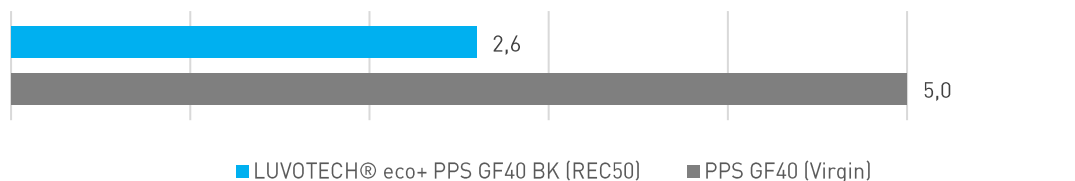
High-performance
recyclate meets
automotive standard
for new goods

Made with
**100% Green
electricity**



Carbon Footprint

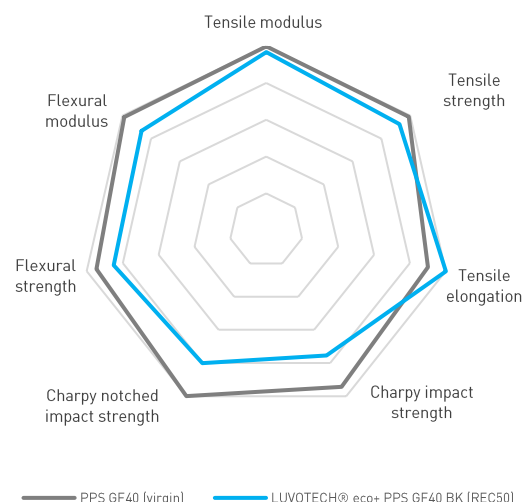
Comparison of greenhouse gas emissions in kg CO₂-eq per



Technical performance

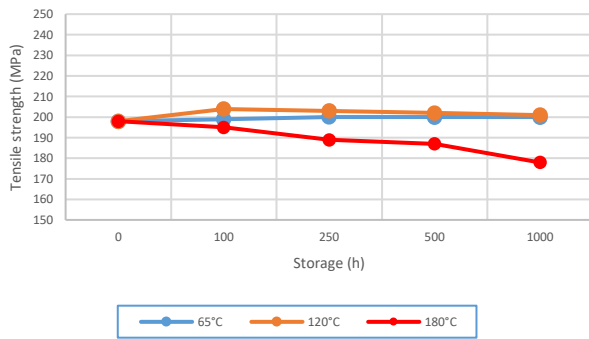
Close to virgin grades, meets automotive standards

Characteristic		PPS GF40 (virgin)	LUVOTECH® eco+ PPS GF40 BK (REC50)	VW 50137 PPS-7-A (2020-05)
Tensile modulus	MPa	15500	15000	-
Tensile strength	MPa	198	185	min. 165
Tensile elongation	%	1.8	2	min. 1.3
Charpy impact strength	kJ/m ²	50	40	min. 30
Charpy notched impact strength	kJ/m ²	10	8	min. 7
Flexural strength	MPa	284	255	min. 250
Flexural modulus	MPa	14800	13000	-

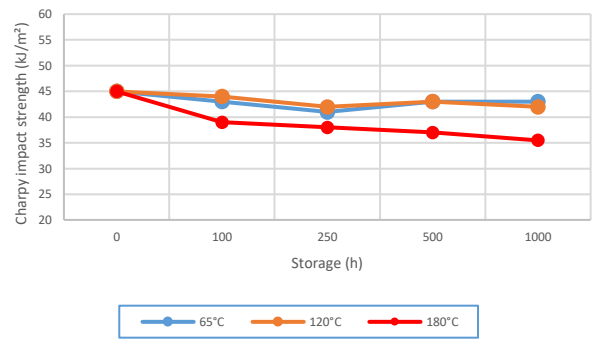


Mechanics after heat storage

Tensile strength

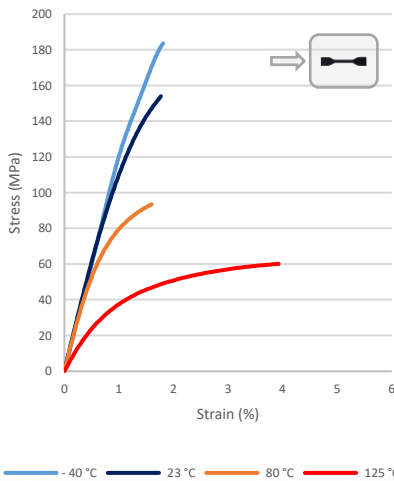


Impact strength

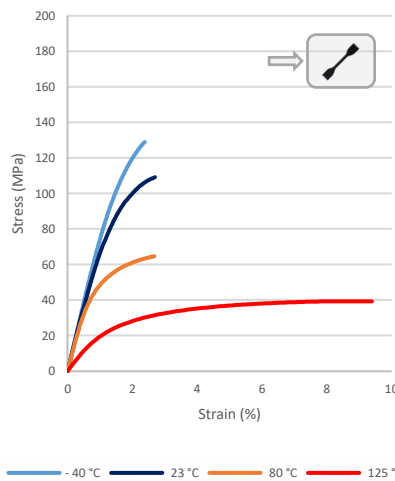


Mechanics of fiber direction under temperature influence

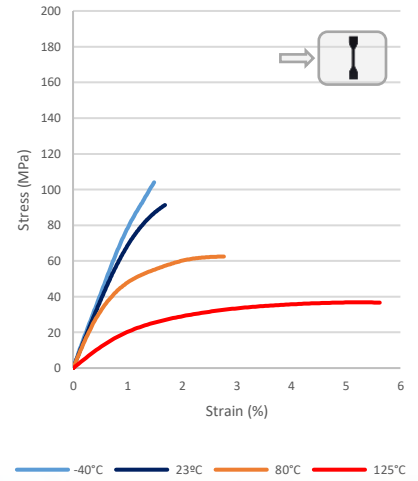
Strength in grain direction | 0°



Strength across the grain | 45°



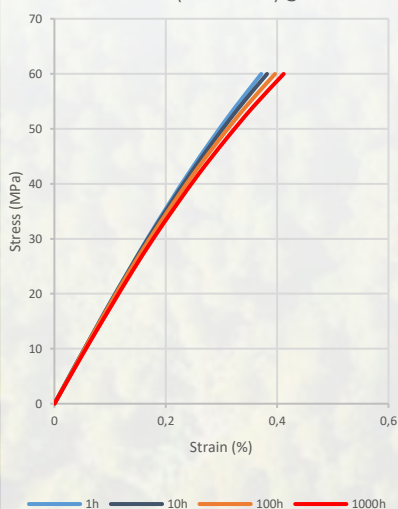
Strength across the grain | 90°



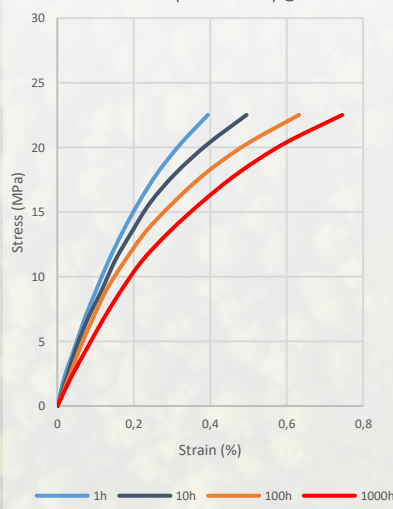
Differences to data sheet values [23°C | 0°] according to ISO 527 are due to the process used to produce the test specimens.

Creep behaviour at different temperatures

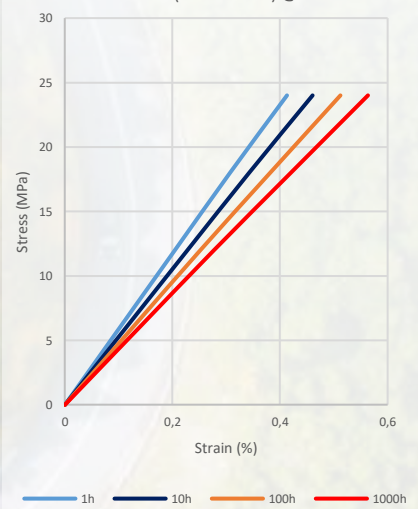
Stress-Strain (isochronous) @ 23°C



Stress-Strain (isochronous) @ 120°C

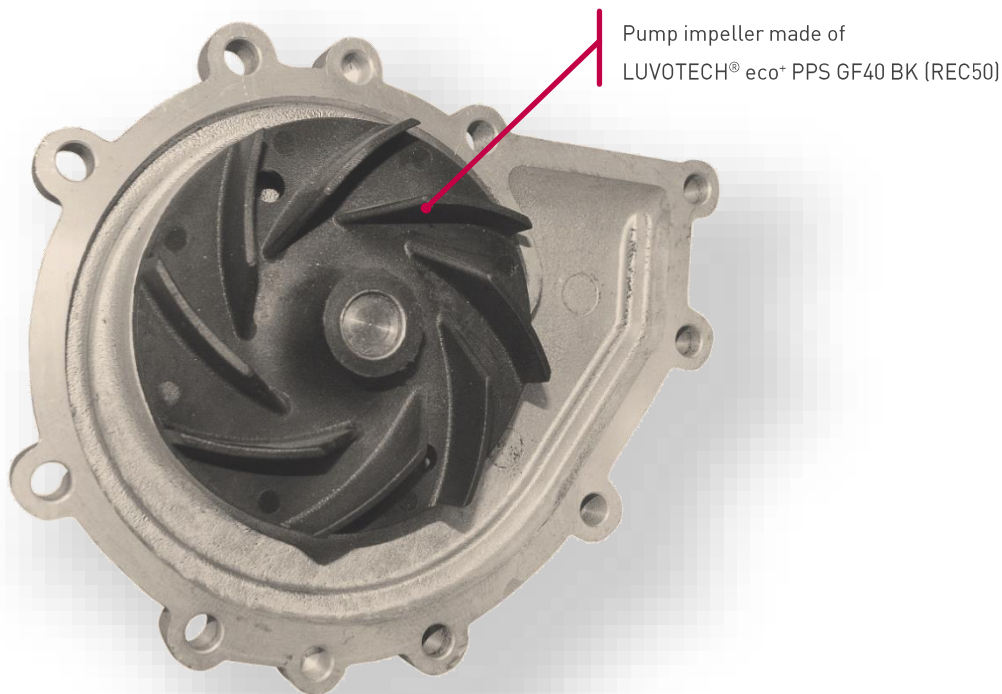
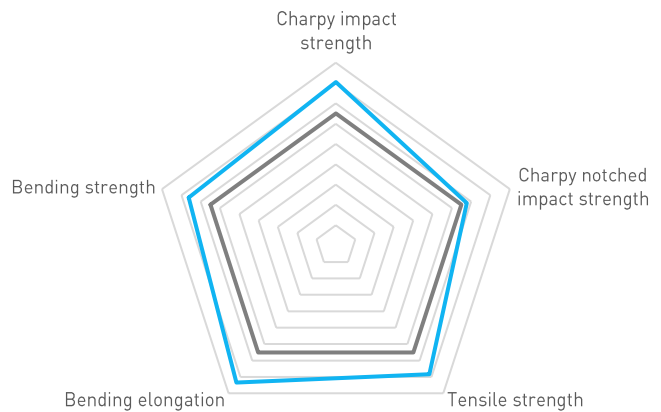
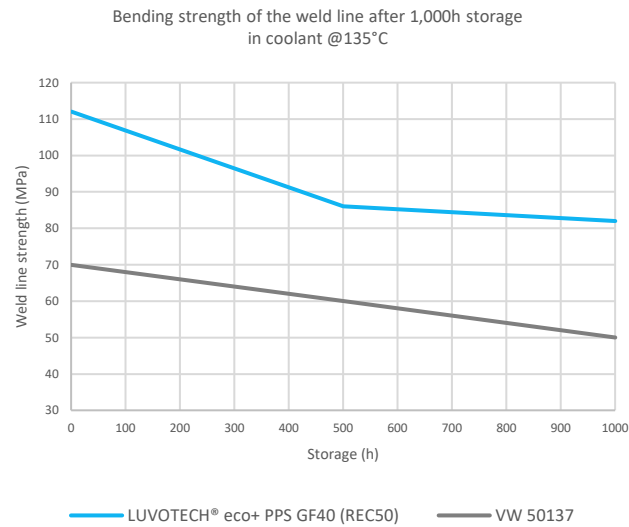


Stress-Strain (isochronous) @ 180°C



Mechanics after storage in coolant

Requirements according to VW standard 50127



Europe & Head Office
Lehmann&Voss&Co. KG
Alsterufer 19
20354 Hamburg | Germany
Phone: +49 40 44 197 250
Email: info@lehvoss.de

Technical Compound Division
WMK Plastics GmbH
Luenschloss Strasse 42
42657 Solingen | Germany
Phone: +49 212 38 24 180
Email: info@wmk-plastics.de

www.lehvoss.de/compounds

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