Technical data sheet

Product name: **Bio-Flex® F 9533 WH**
Date of issue: 29 October 2020 Version: 1.0

Designation of product, preparation and manufacturer

Trade name: Bio-Flex® F 9533 WH

Use of product: Biodegradable compound suitable for injection moulding application. The biobased carbon content (BCC) is > 85 % (calculated).

Manufacturer: FKuR Kunststoff GmbH
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Mechanical properties

Modulus of elasticity	4,600	[MPa]	ISO 527
Tensile strength	50	[MPa]	ISO 527
Tensile strain at tensile strength	4	[%]	ISO 527
Tensile stress at break	31	[MPa]	ISO 527
Tensile strain at break	7	[%]	ISO 527
Flexural modulus	4,900	[MPa]	ISO 178
Flexural strain at break	4	[%]	ISO 178
Flexural stress at 3.5 % strain	50	[MPa]	ISO 178
Notched impact strength (Charpy), RT	3	[kJ/m²]	ISO 179-1/1 eA
Impact Strength (Charpy), RT	35	[kJ/m²]	ISO 179-1/1 eU

The values listed have been established on standardized test specimens (DIN EN ISO 3167, type A) at standard temperature and humidity conditions.

Physical properties

Melt flow rate (190 °C/2.16 kg)	25	[g/10 min]	ISO 1133
Melting temperature	> 155	[°C]	ISO 3146-C
Vicat A softening temperature	63	[°C]	ISO 306
Density	1.45	[g/cm³]	ISO 1183

The figures should be regarded as guide values only. Under certain conditions the properties can be influenced to a significant extent by the processing conditions.

Processing and Handling Information

General

Bio-Flex® is a biodegradable plastic based on PLA and other biopolymers. Moisture content can lead to hydrolysis. Residual moisture content of more than 0.2 % can result in fish eyes and/or pin holes during processing.

Drying

We recommend drying Bio-Flex® at 60°C for a period of 2 - 4 hours.

Storage

If not specified otherwise product life is 6 month after shipment from Sellers warehouse if product is in its original packaging, stored under dry (max. 70% relative humidity) and dark conditions (not exposed to sunlight at a temperature of 5 °C to max. 30°C (ambient temperature). It is important to observe that a major drop in external air temperature (e.g. during transportation) can result in a development of water condensate. Prior to the processing of the material, it should be ensured that there is no condensate on the packaged product.

Finished products made from Bio-Flex® must be stored dry and cold. It is recommended to wrap goods in black PE liners to protect them against moisture and UV radiation. Storage time depends on processing parameters and of climate conditions in the respective area. Because of these essential and complex interacting parameters, FKuR Kunststoff GmbH cannot give any shelf life guarantees for finished products. Please notice that the conditions mentioned above depend on experience of our customers. Each customer should execute individual storage tests according to product specifications and storage requirements.

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Processing conditions for injection moulding

Machine equipment:	Standard screw, open nozzle.		
Machine settings:	Feeding Zone	40 - 60	[°C]
	Zone 1	150	[°C]
	Zone 2	160	[°C]
	Zone 3	175	[°C]
	Machine nozzle	180	[°C]
	Mould temperature	30 - 65	[°C]
	Holding pressure level	40 - 70	[%]
	Melt cushion (of volume)	3 - 10	[%]
	Cooling time	15	[s]
	Max. dwell time	300	[s]

We recommend to use cold runner systems.
Regrind sprues and runners can be reused at 20%.

Purging advice for injection moulding

Before production:	Purge the plastification unit and, if existing, the hot runner with PP, PE or purging compound.
During production:	Heat tools and plastification unit to the recommended temperature. If tool is not filled, increase temperature stepwise. Material has a tendency to degrade and therefore needs a constant melt flow.
After production:	Purge the plastification unit and, if existing, the hot runner with PP, PE or purging compound.
Important information:	The dwell time of the material inside the machine shall be reduced to a minimum in order to lower the risk of degradation.

Legal notice