

Technical data sheet

Product name: Bio-Flex® S 7711
Date of issue: 27 March 2023

Version: 2.4

Designation of product, preparation and manufacturer

Trade name: Bio-Flex® S 7711

Use of product: Biodegradable and compostable polymer compound suitable for cast film and thermoforming as well as profile extrusion. Certified as compostable according to EN 13432 with a maximum thickness of 1260 µm. The biobased carbon content (BCC) is >70 % (calculated). Suitable for applications such as food trays.

Manufacturer: FKUR Kunststoff GmbH
 Siemensring 79
 D - 47 877 Willich
 Phone: + 49 (0) 2154 / 92 51-0
 Fax: + 49 (0) 2154 / 92 51-51
 Mail: info@fkur.com
 Web: www.fkur.com

Mechanical properties

Modulus of elasticity	3,300	[MPa]	ISO 527
Tensile strength	49	[MPa]	ISO 527
Tensile strain at tensile strength	4.5	[%]	ISO 527
Tensile stress at break	20	[MPa]	ISO 527
Tensile strain at break	24	[%]	ISO 527
Notched impact strength (Charpy), RT	5.2	[kJ/m²]	ISO 179-1/1 eA
Impact Strength (Charpy), RT	78	[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)	4.6	[g/10 min]	ISO 1133
Melting temperature	150 - 170	[°C]	ISO 3146-C
Vicat A softening temperature	112	[°C]	ISO 306
Density	1.36	[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.

Technical data sheet

Product name: Bio-Flex® S 7711
Date of issue: 27 March 2023

Version: 2.4

Processing conditions for cast film extrusion

Machine equipment:	Standard polyolefin castfilm line.		
Machine settings:	Feeding Zone	60	[°C]
	Zone 1	160	[°C]
	Zone 2	175	[°C]
	Zone 3	180	[°C]
	Zone 4	195	[°C]
	Wide slot nozzle	190	[°C]
	Calender roll temperature	20 - 50	[°C]
	Mass temperature	190	[°C]

Purging advice for cast film extrusion

Before production:	Ensure that all temperature zones work correctly. Purge the extruder with low viscosity PP or PE using the above temperature settings. Purging time: approximately 10 to 20 minutes. We recommend to change the screen before production.
During production:	Heat extruder and nozzle to the recommended temperature. If melt is too viscous, increase temperature stepwise. Material has a tendency to degrade and therefore should not remain hot inside the machine for too long. If you are adding regrinded scraps, take care to be able to melt these properly.
After production:	Reduce the temperature of the calender roll stepwise, if the film starts sticking to the calender. Purge the extruder with high viscosity PP or PE. Do not allow material to remain hot inside the machine for extended periods as the material will degrade.

Processing conditions for profile extrusion

Machine equipment:	Standard polyolefin line.		
Machine settings:	Feeding Zone	60	[°C]
	Zone 1	160	[°C]
	Zone 2	175	[°C]
	Zone 3	180	[°C]
	Zone 4	185	[°C]
	Die	190	[°C]

Purging advice for profile extrusion

Before production:	Ensure that all temperature zones work correctly. Purge the extruder with low viscosity PP or PE using the above temperature settings. Purging time: approximately 10 to 20 minutes. We recommend to change the screen before production.
During production:	Heat extruder and nozzle to the recommended temperature. If melt is too viscous, increase temperature stepwise. Material has a tendency to degrade and therefore should not remain hot inside the machine for too long.
After production:	Reduce the temperature of the die, if the melt stability is too low. Purge the extruder with high viscosity PP or PE. Do not allow material to remain hot inside the machine for extended periods as the material will degrade.

Legal notice

Neither FKUR Kunststoff GmbH nor its marketing affiliates shall be responsible for the use of this information or of any product, method or equipment mentioned. Customers must undertake their own determination of this product's suitability and completeness for their own use, for the protection of the environment, for the health and safety of their employees and purchasers of their products. No warranty is made of the merchantability or fitness of any product, and nothing herein waives any of the seller's conditions of sale.
The current version of General Conditions of Sale of FKUR Kunststoff GmbH is valid.
The brands „FKuR – Plastics made by nature“ and „BIO-FLEX“ are registered trademarks of FKUR Kunststoff GmbH, according to the international 'Nice-Classifications' (NCL9).