

## Technical data sheet

**Product name:** **Bio-Flex® F 1138**  
**Bio-Flex® Shopper**

**Date of issue:** 19.09.2013

**Version:** 1.0  
**Page** 1 / 1

### 1. Designation of product, preparation and manufacturer

**1.1 Trade name:** Bio-Flex® F 1138 / Bio-Flex® Shopper  
previously Bio-Flex® V 2878

**1.2 Description:** Biodegradable and compostable compound for film extrusion, certified according to EN 13432. Used in applications such as T-shirt bags and waste bags.

**1.3 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

### 2. Mechanical properties

Tensile modulus of elasticity	405	[MPa]	ISO 527
Tensile strength	16	[MPa]	ISO 527
Tensile strain at tensile strength	360	[%]	ISO 527
Tensile stress at break	14	[MPa]	ISO 527
Tensile strain at break	370	[%]	ISO 527
Flexural modulus	390	[MPa]	ISO 178
Flexural strain at break	no break	[%]	ISO 178
Flexural stress at 3.5 % strain	10	[MPa]	ISO 178
Density	1,47	[g/cm³]	ISO 1183
Bulk density	n/a	[kg/m³]	ISO 60

### 3. Thermal properties

Melt temperature	> 155	[°C]	ISO 3146-C
Vicat A softening temperature	n/a	[°C]	ISO 306
Heat distortion temperature HDT B	n/a	[°C]	ISO 75
Melt volume rate (190 °C/2.16 kg)	1.5 - 3.5	[cm³/10 min]	ISO 1133
Melt flow rate (190 °C/2.16 kg)	2.0 - 4.5	[g/10 min]	ISO 1133

### 4. Film properties (20 µm)

Tensile modulus MD / TD	530 / 465	[MPa]	ISO 527-5
Tensile strength (yield stress) MD / TD	30 / 22	[MPa]	ISO 527-5
Elongation at yield stress MD / TD	280 / 400	[%]	ISO 527-5
Breaking stress MD / TD	29 / 21	[MPa]	ISO 527-5
Elongation at break MD / TD	280 / 400	[%]	ISO 527-5
Tear propagation resistance (Elmendorf) MD / TD	140 / 295	[N/mm]	ISO 6383-2

MD = machine direction; TD = transversal direction

### 5. Legal notice

The values listed have been established on standardized test specimens at standard temperature and humidity conditions. 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.

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 nothin 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), no. 01, 02 and 17.