



The Bioplastic Specialist

Technical Properties & Applications

FKUR
plastics - made by nature!

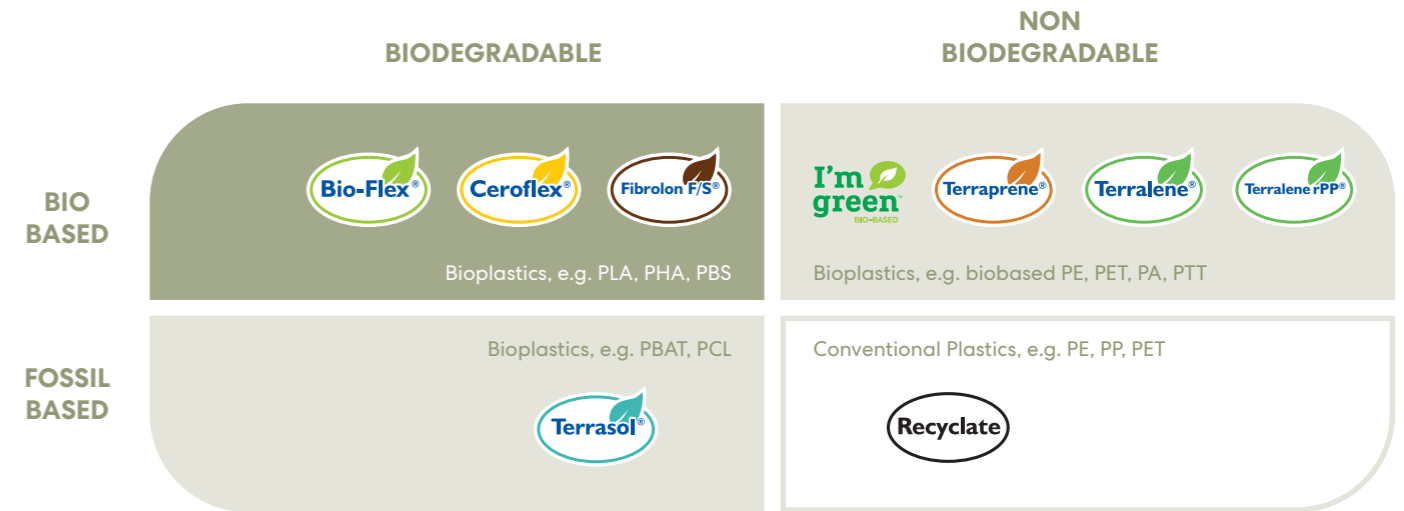
Plastics care for Future – Thinking tomorrow's solutions today

For more than 30 years, we have been dedicated to the development, production and distribution of sustainable resins.

Using nature as guideline along with our passion for plastics, we have developed a unique range of bioplastics and circular resins. Whether biobased, biodegradable or recycled resins, our customers may

choose from the world's most comprehensive portfolio of sustainable resins designed for a great variety of processes and applications.

As the Bioplastic Specialist, we provide you with the key to a viable circular economy.



Properties	Density	MFR 190°C / 2.16kg	Tensile Modulus (MD/TD)	Tensile Strength (MD/TD)	Tensile Strain at Break (MD/TD)	Tear Resistance (MD/TD)	Spencer Impact Test	Minimum Biobased Carbon Content	Biodegra- dable	Certified Compostable		Translucent	Natural Fiber Reinforced	Food Contact Compliance ^k	Already established in these applications:
										Industrial EN 13432	Home EN 13432				
Unit	[g/cm ³]	[g/10 min]	[MPa]	[MPa]	[%]	[N/mm]	[N/mm]	[%]							
Standard	ISO 1183	ISO 1133	ISO 527	ISO 527	ISO 527	ASTM D1922	ASTM D3420								
Blown Film Extrusion															
Bio-Flex® F 1100	1.25	3.5	300 / 160	30 / 37	410 / 570	85 / 35	570	< 10 ^b	✓	✓		✓		✓	Fruit bags, shopping bags, dispenser films, hygienic films
Bio-Flex® F 1801	1.25	3.5	320 / 170	34 / 9	430 / 600	90 / 37	470	10 ^b	✓	✓ ^h	✓	✓		✓	Fruit bags, shopping bags, dispenser films, hygienic films
Bio-Flex® F 1804	1.21	3.2	290 / 100	34 / 35	665 / 675	120 / 32	400	43 ^a	✓	✓ ^h	✓	✓		✓	Fruit bags, bread bags, shopping bags, food packaging
Bio-Flex® F 1814	1.25	3.0	230 / 130	28 / 29	370 / 600	215 / 120	340	44 ^a	✓	✓ ^h	✓			✓	Fruit bags, shopping bags, food packaging
Bio-Flex® F 2100	1.23	4.5	810 / 210	19 / 11	275 / 510	18 / 33	1100	14 ^b	✓	✓		✓		✓	Fruit bags, T-shirt bags
Bio-Flex® F 2104	1.18	2.5	530 / 150	33 / 30	130 / 445	59 / 29	750	40 ^b	✓	✓		✓		✓	Fruit bags, T-shirt bags
Bio-Flex® F 2110	1.27	3.7	1030 / 310	22 / 33	270 / 460	16 / 20	350	30 ^b	✓	✓				✓	Shopping bags, waste bags, nettings, frozen food packaging, laminates, dispenser films
Bio-Flex® F 2120	1.41	5.5	710 / 570	16 / 13	320 / 330	19 / 31	200	23 ^b	✓	✓				✓	Shopping bags, waste bags
Bio-Flex® FX 1120	1.34	3.5	480 / 120	13 / 5	120 / 18	5 / 27	105	50 ^c	✓	✓				✓	Shopping bags, waste bags, nettings, food packaging, hygienic films
Bio-Flex® FX 1130	1.39	3.5	300 / 200	25 / 21	300 / 510	110 / 110	420	10 ^b	✓	✓				✓	Shopping bags, waste bags, nettings, hygienic films, mulch films
Bio-Flex® FX 1135	1.41	3.2	240 / 180	26.5 / 23	375 / 560	75 / 195	270	10 ^c	soil ^l					✓	Mulch film
Bio-Flex® FX 1137	1.43	4.0	330 / 185	19 / 15	335 / 485	95 / 150	260	10 ^b	✓	✓				✓	Shopping bags, waste bags, laminates
Bio-Flex® FX 1821	1.38	3.8	150 / 110	23 / 21	500 / 570	100 / 180	240	10 ^b	✓	✓ ^h	✓			✓	Shopping bags, waste bags, mulch films
Bio-Flex® FX 1824	1.35	3.0	130 / 85	21 / 16	480 / 580	140 / 300	160	43 ^a	✓	✓ ^h	✓			✓	Shopping bags, waste bags
Bio-Flex® FX 2130	1.39	3.1	470 / 230	26 / 20	260 / 490	165 / 50	380	15 ^b	✓	✓				✓	Shopping bags, waste bags
Ceroflex® FB 3416	1.28	1.3	135 / 100	23 / 11	290 / 480	30 / 480	215	60 ^b	✓	✓ ^h	✓			✓ ^k	Fruit bags, T-shirt bags
Ceroflex® FB 3523	1.29	2.5	125 / 85	28 / 20	200 / 500	30 / 150	275	30 ^b	✓	✓ ^h	✓			✓ ^k	Fruit bags, T-shirt bags
Ceroflex® FB 3525	1.26	1.9	125 / 65	18 / 9	280 / 410	30 / 75	210	50 ^b	✓	✓ ^h	✓			✓ ^k	Fruit bags, T-shirt bags
Extrusion Coating															
Terralene® LL 1303	0.919	2.5	195 / 195	27 / 7	615 / 800	30 / 235	110	75 ^c				✓		✓	Paper coating

^a Biobased carbon content measured according to ISO 16620
^b Biobased carbon content calculated
^c Biobased carbon content measured according to ASTM D6866
^d MFR measured at 230 °C and 5 kg load
^e Certification Industrial Compostable possible under request
^f Application-specific limitations may apply
^g Biodegradable soil certified acc. to EN ISO 17556

Our sustainable resins – High quality, versatile & excellent processable

As the Bioplastics Specialist we offer a versatile range of sustainable resins that cover the entire spectrum of plastics processing. Our compounds are specially

developed to be processed on existing conventional production lines. Whether high throughput in extrusion or fast cycle times in injection molding, we always

pay attention to process capability during material development without losing the bio-character of the materials.

The high quality and excellent processability of our compounds is based in particular on our specially developed compounding technology, which is adapted to

each compound. This particularly gentle, non-thermally stressing process guarantees high-quality resins with optimum material characteristics. This, together with our decades of know-how in dealing with renewable raw materials makes us your first point of contact for sustainable plastics.

Properties	Density	MFR 190°C / 2.16kg	Tensile Modulus	Tensile Strength	Tensile Strain at Break	Notched Impact Strength (Charpy)	Vicat A	Minimum Biobased Carbon Content	Biodegra- dable	Certified Compostable	Translucent	Natural Fiber Compound	Food Contact Compliance ^k	Already established in these applications:
Unit	[g/cm ³]	[g/10 min]	[MPa]	[MPa]	[%]	[kJ/m ²]	[°C]	[%]		Industrial EN 13432	Home EN 13432			
Standard	ISO 1183	ISO 1133	ISO 527	ISO 527	ISO 527	ISO 179/1 eA	ISO 306							
Extrusion Blow Molding														
Bio-Flex® F 5710	1.29	3.3	2125	37	65	30	n.a.	60 ^b	✓	✓			✓	Bottles (up to 1.5 l)
Terralene® HD 2400	0.935	25 ^m	975	26	44	12	n.a.	60 ^c					✓	Bottles, cans
Terralene® PP 3402	0.922	1.3 ^f	1075	25	175	70	n.a.	33 ^b					✓	Bottles, cans
Injection Molding														
Bio-Flex® F 6510	1.30	3.3	2600	47	19	7	60	70 ^b	✓	✓			✓	Toys, cosmetic accessories, technical parts
Bio-Flex® F 6514	1.29	19.0	2700	43	13	4	n.a.	70 ^b	✓	✓			✓	General purpose, toys, cosmetic accessories, technical parts, mugs, measuring spoons
Bio-Flex® F 9533 WH	1.45	25.0	4600	50	7	3	63	85 ^b	✓				✓	Toys, garden tools, mugs, pens, urns
Bio-Flex® S 5514	1.37	25.0	2550	43	14	3.5	110	75 ^b	✓	✓			✓	Cutlery, toys, technical parts, cups, containers, tooth brushes
Bio-Flex® S 5630 WH	1.55	8.0	2160	32	9	3	105	60 ^b	✓				✓	Toys, cosmetic accessories, technical parts, jars, drink stirrers
Bio-Flex® S 7514	1.37	24.0	3100	47	14	3.5	112	75 ^b	✓	✓			✓	General purpose, sandbox and beach toys, technical parts, containers, cutlery, coffee capsules, mugs, drink stirrers, tooth brushes
Biograde® FG 95323	1.46	MVR 7.0 ^e	7250	57	2	6.0	74	70 ^b				✓ ⁱ	✓	Technical applications, housings
Fibrolon® P 7550	1.03	11.0 ^g	3250	22	3	3.3	139	30 ^b				✓	✓	Technical covers, containers, cosmetic accessories, sandbox and beach toys
Fibrolon® S 7530	1.27	10.0 ^d	3850	37	3	4	105	75 ^b	✓			✓	✓	Sandbox and beach toys, pegs, tooth brushes, nail files
Terralene® GF30	1.16	MVR 11.0 ^e	4740	43	2	6	124	94 ^b				✓ ⁱ	✓	Technical applications, housings
Terralene® HD 2508	0.93	20.0	600	16.5	200	6	n.a.	75 ^b					✓	Lunch boxes, film hinge, flipcap
Terralene® HD 3505	0.959	7.0	1035	25	> 450	5	125	64 ^c					✓	Closures, household articles
Terralene® HD 4527	1.07	16.0	1845	26	16	2.2	n.a.	95 ^b					✓	Toys, jars, caps, containers, lunch boxes
Terralene® LD 1508	0.939	27.0	165	9	125	60	n.a.	90 ^b					✓	Flexible lids
Terralene® LD 2509 CL	0.909	42.0	600	17.5	260	7.3	n.a.	50 ^b					✓	Cups
Terralene® PP 2569	0.910	60.0	960	23	110	1.5	n.a.	30 ^b					✓	Thinwall packaging
Terralene® PP 3505	0.912	13.0 ^f	1100	25	95	6	n.a.	33 ^b					✓	Containers, bins
Terralene® PP 3509	0.916	36.0 ^f	1100	24	13	3.5	122	33 ^b					✓	Caps and closures, containers, bins, lunch boxes
Terralene® rPP 3505	0.952	14.0	1000	19	150	7.3	n.a.	33 ^b						Bins, closures, containers
Terralene® rPP 3509	0.934	30.0	1060	21	15	3.2	n.a.	33 ^b						Bins
Terralene® WF 3516	1.014	13.0	1310	23	10	3.1	n.a.	94 ^c				✓	✓	Toys, cosmetic accessories, jars, lids, containers

b Biobased carbon content calculated
c Biobased carbon content measured according to ASTM D6866
d MFR measured at 190 °C with 5 kg load
e MVR measured at 190 °C with 2.16 kg load [cm³/10 min]
f MFR measured at 230 °C and 2.16 kg load
g MFR measured at 230 °C and 5 kg load
i Reinforced with glass fibers
k Application-specific limitations may apply
m MFR measured at 190 °C with 21.6 kg load

Our Customer Care Promise

Individual, direct & close

We don't simply supply bioplastics to companies, we also think and consult our customers according to the principles of circular economy. From the initial idea to the marketing of your final product, we are the partner at your side.

By choosing the optimal raw material, we create the basis for your successful and sustainable product. Besides a unique variety of renewable raw materials, you can also rely on our comprehensive know-how.

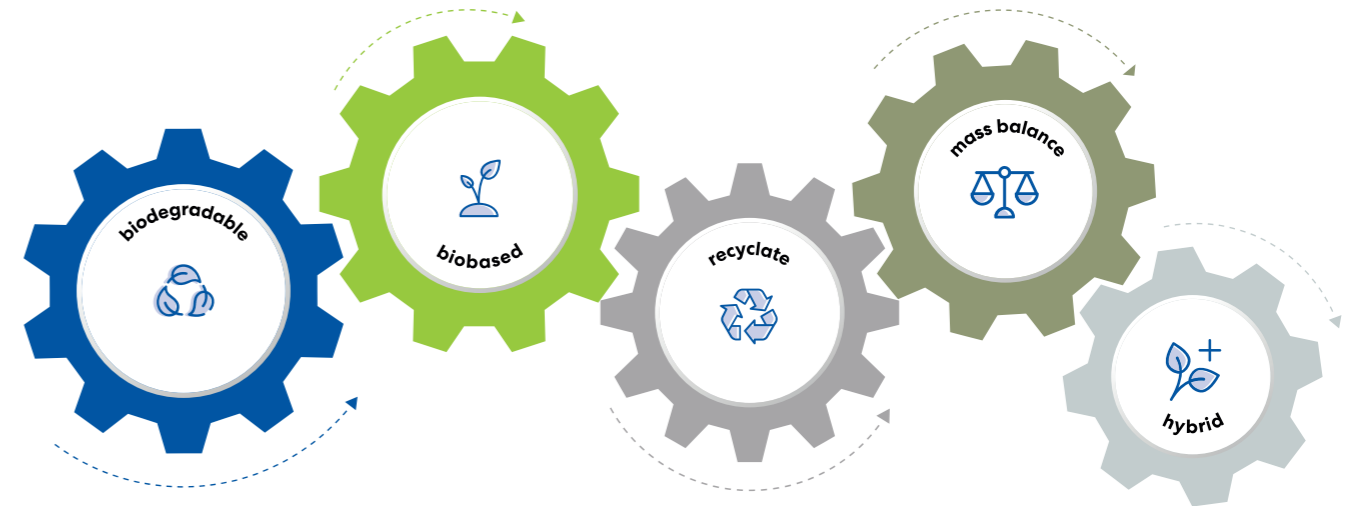
Because our services, like our products, are tailored exactly to your requirements.

Our team of experts is always available to answer your questions, whether by phone or on-site. In this way you benefit from our years of expertise in the development, production and distribution of renewable raw materials.

Successful products start with great ideas! Let's talk about yours!

Our raw material solutions –

as individual as your product



Properties	Density	MFR 190°C / 2.16kg	Tensile Modulus	Tensile Strength	Tensile Strain at Break	Notched Impact Strength (Charpy)	Vicat A	Minimum Biobased Carbon Content	Biodegradable	Certified Compostable	Translucent	Natural Fiber Compound	Food Contact Compliance ^k	Already established in these applications:
Unit	[g/cm ³]	[g/10 min]	[MPa]	[MPa]	[%]	[kJ/m ²]	[°C]	[%]		Industrial EN 13432	Home EN 13432			
Standard	ISO 1183	ISO 1133	ISO 527	ISO 527	ISO 527	ISO 179/1 eA	ISO 306							
Sheet Extrusion / Thermoforming														
Bio-Flex® F 5710w	1.29	3.3	2125	37	65	30	n.a.	60 ^b	✓	✓			✓	Straws, tubes, tree protections, cotton buds, balloon sticks
Bio-Flex® F 6510	1.30	3.3	2600	47	19	7	60	70 ^b	✓	✓			✓	Check-Cards
Bio-Flex® F 6710	1.30	3.3	3000	47	34	8	130 ^j	70 ^b	✓				✓	Food trays, plant labels, flower pots, flat films with max. thickness of 800µm
Bio-Flex® S 5630 WH	1.55	8.0	2160	32	9	3	105	60 ^b	✓				✓	Food trays, coffee cup lids
Bio-Flex® S 7710	1.36	3.5	3500	50	21	6	n.a.	50 ^b	✓	✓			✓	Food trays, coffee cup lids, hollow profiles, pipes, tubes
Bio-Flex® S 7711	1.36	4.6	3300	49	24	5.2	112	50 ^b	✓	✓			✓	Flat films with thickness over 800µm and high draw ratios
Terralene® HD 3722	1.09	1.8	1450	23	115	6.7	n.a.	95 ^b					✓	Pipes, tubes
Terralene® LL 1712	1.01	1.3	335	10	>300	59	n.a.	85 ^b					✓	Hosepipes
Terralene® PP 4732	1.15	1.4 ^f	1850	25	100	21	n.a.	33 ^b					✓	Trays, cups, plant labels, edge protection profiles, cable ducts
3D Printing (FDM) / Monofilaments														
Bio-Flex® 3D Clear	1.25	10.0	3450	63	10	n.a.	n.a.	90 ^b	✓		✓		✓	Filaments
Bio-Flex® F 2110	1.27	3.7	730	20	>300	83	78	30 ^b	✓	✓			✓	Filaments
Bio-Flex® F 5710	1.29	3.3	2125	37	65	30	n.a.	60 ^b	✓	✓			✓	Filaments
Bio-Flex® F 6510	1.30	3.3	2600	47	19	7	60	70 ^b	✓	✓			✓	Filaments
Bio-Flex® F 7510	1.25	3.0	2950	55	16	4.2	n.a.	80 ^b	✓				✓	Filaments
Bio-Flex® S 7711	1.36	4.6	3300	49	24	5.2	112	50 ^b	✓	✓			✓	Filaments
Fibrolon® 3D Bamboo	1.19	4.5	3200	47	7	4.2	n.a.	75 ^b	✓			✓	✓	Filaments
Fibrolon® 3D Cork	n.a.	3.0	2150	39	18	4.6	n.a.	75 ^b	✓			✓	✓	Filaments
Fibrolon® 3D Wood	n.a.	3.5	2900	47	6.5	4.4	n.a.	75 ^b	✓			✓	✓	Filaments

^b Biobased carbon content calculated
^c Biobased carbon content measured according to ASTM D6866
^f MFR measured at 230 °C and 2.16 kg load
^j Depending upon processing
^k Application-specific limitations may apply

FKuR – Plastics care for Future®



FKuR The Bioplastic Specialist

Our team works passionately every day to make the world a little better. Our customers are always the focus of our 360° service approach. We know the right turn to more circular economy and offer an unbeatable range of different bioplastics and circular grades. Our customers benefit from our decades of global and cross-industry expertise in the development, production and distribution of renewable raw materials.

Successful products start with great ideas – get in touch with us!

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FKuR
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