green dot BIOPLASTICS

PRODUCT GUIDE

A better bioplastic for a better world

Plastic is a revolutionary material that has changed our world since it was first discovered in the early 1900s. Now we're bettering it by making resin that is more sustainable, compostable, and eco-friendly. Together, we can lessen the environmental impact of products we love and use every day.

*Terra*tek® WC/SC

Biocomposites

Terratek® WC/SC biocomposite materials made of wood, starch, corn cob, or hemp provide many solutions to meet the growing demand for eco-friendly, biobased goods. Each offers its own signature look and value.

*Terra*tek® NFRP

Natural Fiber Reinforced

Terratek® NFRP materials are traditional polymers or bioplastic resins reinforced with natural fibers for lightweight, eco-friendly structural plastics.

*Terra*tek® Flex

Elastomer

Terratek® FX materials are a line of compostable starch-based elastomers that are strong, durable, and pliable with an exquisite soft touch.

*Terra*tek® BD

Biodegradable

Terratek® BD materials are a biodegradable line of materials, more rigid than the Flex category of elastomers. Designed to have physical properties more similar to PE, PP, PS, and ABS; these proprietary blends of starch-based ingredients and compostable polymers offer a broad range of functional properties, as well as biodegradation rates including Industrial Compostability, Home Compostability, and Soil Biodegradability depending on grade.

Manufacturing Grades Available for:

Injection Molding, Profile Extrusion, Sheet Extrusion, Thermoforming, Cast Film, and Blown Film

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*Terra*tek® bioplastics combine environmental benefits and uncompromising quality to provide highly functional, cost competitive alternatives to traditional thermoplastics. Our broad range of biobased and compostable plastics are not just greener, they're better.

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BIODEGRADABLES

Terratek Compostable Polymer (*Terra*tek® BD)

Testing Method:	ASTM D792	ASTM D1238		ASTM D3985	ASTM F1249	ASTM D6866
Film Grades	Specific Gravity	Melt Index (g/*10min*)	Film Thickness (mil)	OTR cc/ (100 in²-day atm)	WVTR g/ (100 in²-day atm)	Biobased (%)
• BD3001D	1.31	2.8	2	66.5	16.5	15
• BD3002D	1.31	3.2	2	49.6	16.1	31
• BD3003	1.31	3.0	2	73.0	48.5	30
• BD3300	1.31	4.6	3	23.4	38.9	63
• BD100100	1.26	5.2	3	2,451.0	10.5	40
• FX1515	1.22	14.0	2	299.0	51.0	20

Testing Method:	ASTM D792	ASTM D1238	ASTM D256	ASTM D638	ASTM D790	
Sheet Extrusion Grades	Specific Gravity	Melt Index (g/*10min*)	Notched Izod (*ft-lb/in*)	Tensile Strength (*psi*)	Flex Modulus (*psi*)	
• BD5875	1.23	7.0	0.48	5,590	186,325	61
• BD4800	1.24	6.0	0.83	7,931	82,569	53
• BD3018	1.31	9.0	0.49	4,674	272,327	83
Injection Molding Grades						
• BD1216	1.62	30	0.320	4,846	369,272	60
• BD100202	1.30	4	1.000	5,800	320,000	40
• BDH4100 (BD4100 w/hemp)	1.24	35	1.941	4,355	82,569	52
• BD4100	1.24	35	1.941	4,355	82,569	53
• BD4120	1.27	14	-	3,100	-	47
• BD8220 (living hinge no filler)	1.31	14	-	3,500	-	40
• BD5175	1.23	39	0.478	5,590	186,325	61
• BDW4130 (living hinge w/maple)	1.31	14	-	3,800	-	56
• BD6000X	1.31	14	-	4,400	-	55

Terratek Compostable Elastomer (*Terra*tek® Flex)

Testing Method	ASTM D792	ASTM D1238	ASTM D2240	ASTM D638	ASTM D638	ASTM D6866
Film & Injection Grades	Specific Gravity	Melt Index (g/*10min*)	Shore A	Tensile Strength (*psi*)	Tensile Modulus (*psi*)	Biobased (%)
• GDH-B1FA	1.23	29	74	1,363	638	16
• FX1515	1.22	14	85	1,300	7,000	20
• FX2217	1.22	14	84	2,079	4,642	23
• FX1504 3D Printing	1.23	9	95	1,873	16,097	20
• FX1604	1.23	15	95	1,873	16,097	20

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BIOCOMPOSITES

Terratek Biocomposite (*Terra*tek® WC/SC/HC/CC)

Testing Method:	ASTM D792	ASTM D1238	ASTM D256	ASTM D638	ASTM D790	ASTM D6866
Injection Grades	Specific Gravity	Melt Index (*g/10min*)	Notched Izod (*ft-lb/in*)	Tensile Strength (*psi*)	Flex Modulus (*psi*)	Biobased %
• CC200118 (PP w/corn cob)	1.00	2.8	0.50	4,200	456,745	25
• HC200610 (PP w/hemp)	0.91	17.0	0.78	4,293	243,384	18
• SC50 (PP w/starch)	1.09	31.0	0.44	4,174	330,592	35
• SC65 (PP w/starch)	1.20	10.0	0.30	3,770	400,000	51
• WC200199 (PP w/glass & maple)	1.45	9.4	1.10	5,500	683,000	9
• WC100299 (PP w/glass & pine)	1.45	9.4	1.10	5,500	683,000	9
• WC200118 (PP w/maple)	1.00	2.8	0.50	4,200	456,745	19
• WC100300 (Reclaimed PP w/pine)	1.01	9.4	1.08	2,739	--	19
• WC200300 (PP w/pine)	1.00	2.8	0.50	4,200	456,745	19
• WC200180 (Nylon w/maple)	1.19	3.2	0.67	10,522	579,702	13

Terratek Natural Fiber Reinforced (*Terra*tek® NFRP)

Testing Method:	ASTM D792	ASTM D1238	ASTM D256	ASTM D638		ASTM D6866
Injection Grades	Specific Gravity	Melt Index (g/10min)	Notched Izod (ft-lb/in)	Tensile Strength (psi)	Elongation (%)	Biobased %
• EX042202 (PP w/ reclaimed jute)	0.94	26.0	1.6	4,400	8.2	18
• NF3010 (PP w/"American Bamboo")	1.03	2.8	1.9	5,580	4.8	12
• NF2010 (PP w/sisal)	1.08	3.1	2.2	5,000	4.8	12
• NF3050 (PP w/"American Bamboo")	1.01	4.6	1.9	4,700	4.8	8
• NF2050 (PP w/sisal)	1.05	5.4	2.2	4,712	4.8	8

Corporate Summary. Founded 2011.

Green Dot's Terratek® bioplastics provide plant based and biodegradable/compostable alternatives to traditional petroleum-based plastics.

Onaga, KS – Manufacturing Facility

Ottawa, KS – Product Development Center

Emporia, KS – Corporate Office

Privately held

Venture backed

Proud Member of

PBPC Plant Based Products Council

SUSTAINABLE PACKAGING COALITION®

CB2 Center for Bioplastics and Biocomposites

Polymer Testing and Development Capabilities

Metrics: Our testing capabilities are used for product quality and consistency evaluation internally. We utilize a third-party lab for published data once a material becomes commercially available.

Development Equipment: Our pilot scale extruder matches our production line to ensure easy of transition from small samples and test runs to full production volumes. The lab scale film and sheet line allow us to perform internal evaluation and testing capabilities prior to sending out materials to larger volume converts. We do not have production scale film or sheet capability.

About Green Dot Bioplastics

Green Dot's mission is to advance the unique characteristics of bioplastics to help designers and manufacturers create inspired products that empower consumers to contribute to a more sustainable world. In everything we do, we strive to minimize the use of petroleum-based chemicals, maximize the use of renewable materials, increase the value of reclaimed and recycled materials, and enhance the performance of biodegradable materials.

Green Dot is committed to the UN Sustainable Development Goals, a blueprint designed to solve our planet's toughest challenges by 2030. As a company producing sustainable materials, Green Dot is in alignment with most SDGs, though we are more directly aligned with #12 Responsible Consumption and Production, #13 Climate Action, #14 Life Below Water, and #15 Life On Land.

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