

Cardia Compostable B-F

Blown Film Resin

Biodegradable during Composting in Professionally Managed Facilities






Description

Cardia Compostable B-F is a biodegradable and compostable resin based on a blend of thermoplastic starch (TPS), biodegradable polyesters and natural plasticizers. This grade of resin is compatibilised to offer a high level of mechanical strength, outstanding elongation properties and toughness. The resin is derived from renewable resources including non-GMO corn starch which is an annually renewable resource.

Specifications and Compliances

Cardia Compostable B-F resin is certified biodegradable during composting in professionally managed composting facilities.

- Complies with International Standard ISO16929, ISO 14855
- Certified compostable for blown film applications up to 134 microns.
- Cardia Compostable B-F complies with
 - European Standard EN13432, certified by Din Certco, Germany
 - USA Standard ASTM D6400, certified by Biodegradable Products Institute (BPI), USA
 - Australian Standard AS 4736, certified by Australian Bioplastics Association (ABA), Australia
 - Japanese "GreenPla" Standard, certified by Japan Bioplastics Association (JBPA), Japan
 - Chinese Environmental Labelling, certified by China Environmental United Certification Center, China

Australia	Europe	USA	Japan	China
				
AS 4736 ABAP10007	EN13432 #7W0086	ASTM D6400	GreenPla 452	0550-8P10- 1504-5R05

Cardia Compostable B-F is a completely biodegradable polymer suitable for the manufacturing of film-type products. It can be directly used in the film blowing process. It does not contain any non-degradable polymers such as PE, PP, PS and PVC. Independent university testing shows that after biodegradation Cardia Compostable B-F does not leave any harmful residues.

This film grade has been evaluated for compostability in accordance with international standard ISO 16929 (2002-11-01) "Plastics — Determination of the Degree of Disintegration of Plastic Materials under Defined Composting Conditions in a Pilot Scale Test". According to the European certification scheme for biodegradable materials, Performance Standard EN 13432, the pass threshold for this test is 90% of the material passing through a 2 mm sieve after the 12 week test period.

The testing shows that the plastic film samples used in this test are completely compostable as demonstrated by their 100% disintegration after 3 months and > 90% mineralization in less than 6 months. In the laboratory scale composting test according to ISO 14855: 1999 Cardia Compostable B-F film grade resin reached 90% biodegradation relative to cellulose reference material and meets the biodegradability requirement specified in the EN 13432 standard.

In addition, Cardia Compostable B-F is tested for heavy metals, toxicity to soil, plants and earthworms as per the requirements of the relevant regulatory standards as listed above.

Application Examples

- Compostable bags
- Shopping bags/Check-out bags
- Garbage bags
- Leaf litter bags
- Green bin liners
- Produce and meat liners
- Overwrap Packaging
- Mulch film
- Breathable film

Physical Properties of Cardia Compostable B-F

<i>Properties</i>	<i>Test Method</i>	<i>Typical Value</i>	<i>Unit</i>
Melt Flow Index	ASTM D -1238	2	g/ 10 min (150 °C / 5 kg)
Density	ASTM D-792	1.2	g/cm ³
Melting Temperature Range	ASTM D-3418	90 - 130	deg. C
Moisture Content	Internal Standard	0.45	%
Tensile strength at yield	ASTM D-882	> 20	MPa
Tensile strength at break	ASTM D-882	> 15	MPa
Elongation at break	ASTM D-882	> 500	% at low strain rates
Impact Resistance-Dart Test	ASTM D-1709	0.25	kg
Tear propagation	ASTM D-1922	2.9	Newton
Oxygen Transmission Rate	ASTM F-1927	1175	(cc/m ² /day)
Water Vapour Transmission Rate	ASTM F-1927	550	(g/m ² /day)

Colours and Additives

Cardia Compostable B-F is available in natural, black, white and green, also with anti-blocking and slipping agent all of which are certified compliant to the relevant regulatory standards for compostability.

Transport, Storage and Handling

Cardia Compostable resin and products should be transported, stored and handled in cool and dry environments without exposure to direct sunlight. More information can be retrieved from the processing guidelines available through your Cardia Bioplastics™ sales representative.

Safety

Material Safety Data Sheets (MSDS) are available. Please contact your Cardia Bioplastics sales representative.

Processing Conditions

Cardia Compostable B-F materials can be easily processed on standard plastic process equipment. Processing guidelines are unique to this material and are available on request from the Cardia Bioplastics™ sales representative.

Disclaimer

This information is offered solely for your consideration and verification and should not be construed as a warranty of representation for which Cardia Bioplastics assumes legal liability, except to the extent that such liability is imposed by legislation and cannot be excluded. Values quoted are the results of tests on representative samples and the product supplied may not conform in all respects. Cardia Bioplastics reserves the right to make any improvements or amendments to the composition or any grade or product without alteration to the product code. In using Cardia Bioplastics products you must establish for yourself the most suitable formulation, production method and control tests to ensure the uniformity and quality of your product is in compliance with all laws.