



SHIBO



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HANDAN SHIBO NEW MATERIALS CO.,LTD
Biodegradable Materials and Products



01

Materials

PRODUCT INTRODUCTION

Biodegradable Material Properties

Family	Heat resistance	Film formation	Hardness	Tensile strength	Hydrolysis resistance	Transparency	Price	2019 price in China (10,000 RMB/t)	Main purpose
PBAT	Excellent	Excellent	Poor	Excellent	Excellent	Poor	Fair	1.4-2.5	Film products
PLA	Good	Poor	Excellent	Good	Poor	Excellent	Fair	1.6-3	Film products, disposable plates, cups, and bowls
PHA	Excellent	Good	Poor	Excellent	Excellent	Poor	Good	4	Packaging materials, tissue engineering materials, slow-release materials, electrical materials, and medical materials
PCL	Fair	Fair	Poor	Poor	Good	Good	Excellent	7	Used in the production and processing of drug carriers, plasticizers, degradable plastics, nanofiber spinning, and shaping materials
PBS	Excellent	Good	Fair	Excellent	Excellent	Poor	Good	3	Used in packaging, tableware, cosmetic bottles and pharmaceutical bottles, disposable medical supplies, agricultural films, pesticides and slow-release fertilizers, and biomedical polymers

Biodegradable Plastics

Handan Shibo biodegradable plastics are environmentally friendly materials that are easily formed, processed and colored, readily decomposed by microorganisms, and naturally antistatic. They can fully break down into carbon dioxide and water in composting conditions, and can be made into shopping bags, garbage bags, fast-food tableware, mulch films, etc.

Category	Model	Product Description	Applications	Processing
Fully biodegradable modified resins for shopping bags	DP-8123	Mineral powder-based	Shopping bags, vest bags, garbage bags	Blowing
	DP-8126			
	DP-8128			
	DP-8134	Starch-based		
	DP-8135			
	DP-8138			
Fully biodegradable modified resins for express bags	DP-8125	Modified resin for express bag	Express bags, logistic packaging materials	
	DP-8129			
Fully biodegradable modified resins for mulch films	DP-8110	Induction period < 60 days	Mulch films	
	DP-8111	60 days ≤ Induction period < 90 days		
	DP-8112	90 days < Induction period ≤120 days		
	DP-8113	Induction period > 120 days		
Fully biodegradable modified resins for single-use gloves	DP-8222	High tenacity, soft	Single-use gloves	Blowing, casting

Biodegradable Plastics



Features

- Easy formation, processing, and coloring
- Excellent mechanical strength
- Naturally antistatic
- Non-toxic
- Food-grade
- Fully biodegradable

Category	Model	Product Description	Applications	Processing
Fully biodegradable modified resins for straws	DP-5122	Curved straw dedicated	Curved straws	Extrusion
	DP-5123	Straight straw dedicated	Straight straws	
	DP-5140	Transparent	Transparent straight straws	
	DP-5525	Heat-resistant	Heat-resistant straight straws	
Fully biodegradable modified resins for injection	DP-7123	High strength injection	Single-use knives, forks, spoons	Injection
	DP-7124	Thin injection	Thin injection products	
	DP-7125	Common injection	Common single-use tableware	
	DP-7126	Out-of-mold crystallization injection	Single-use tableware	
Fully biodegradable modified resin sheets for casting	DP-9325	General sheets	Blister products such as room temperature cup lids, lunch boxes, milk shake cups, seedling cups, etc.	Casting, blistering
	DP-9525	Heat-resistant sheets	Blister products such as heat-resistant cup lids, lunch boxes, milk shake cups, seedling cups, etc.	

Markets & Applications



- **Supermarkets and malls:** fruit and vegetable bags, shopping bags, and vest bags
- **Kitchens:** kitchen waste bags, food bags, pet garbage bags, etc.
- **Express delivery and e-commerce:** express bags, logistics packaging bags, bubble bags, fresh food bags, milk tea bags, etc.
- **Disposable tableware:** disposable lunch boxes, film gloves, tableware, straws, water cups, cup lids, etc.
- **Agriculture:** mulch films, etc.

Production Certification



National test certification	China GB Test Report	GB/T 19277. 1-2011 Fully biodegradable	Obtained
International test certification	DIN CERTO Industrial Compostable (Europe)	EN 13432:2000 Compostable, qualified for export	Obtained
	FDA Food Contact Substance Test Report	Safe	Obtained
	REACH Test Report	Non-toxic	Obtained
	Biodegradable Plastics (Japan)	Biodegradable Biomass Plastics	Obtained

Equipment and Processing

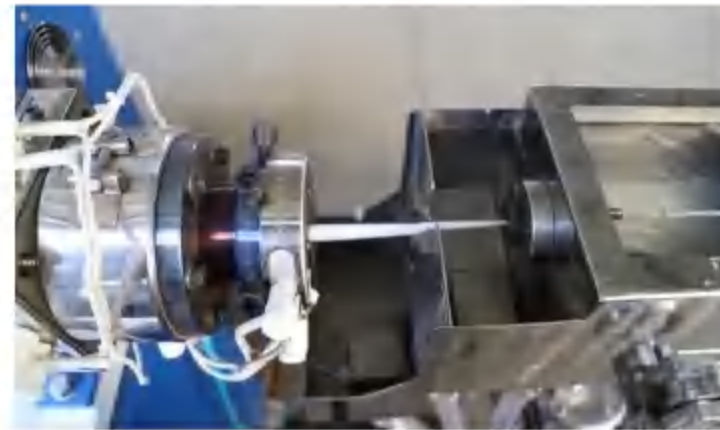
Film blowing



Fast-food plate
blistering



Straw extrusion



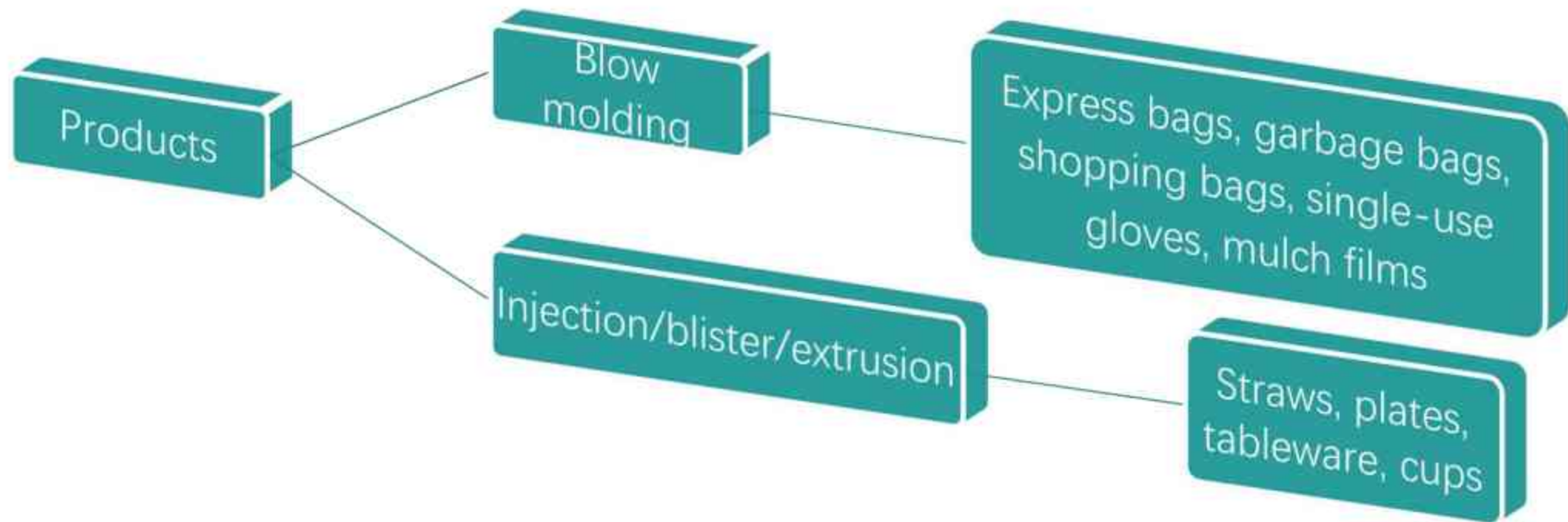


02

Finished-Products

PRODUCT INTRODUCTION

Fully Biodegradable Products



Blown Film Shopping Bags



Ingredients: PBAT + PLA
Two-layer thickness: 0.03~0.05mm
Size: 47*(30+16)cm
Printing: Intaglio printing
Types: Vest bags, flat bags, milk tea packaging bags

Handan Shibo fully biodegradable blown film shopping bags are manufactured with biodegradable resins for sales and service scenarios. They have the following features:

- **Good load-bearing, anti-leakage, anti-puncture**
- **Easy to print**
- **Good tensile strength and ductility**
- **Compliance with GB/T 38082-2019, EN 13432, FDA testing standards**
- **Shelf life > 1 year**

Blown Film Garbage Bags



Ingredients: PBAT + PLA
Type: Flat bag rolls
Thickness: 0.016-0.02mm
Size: Customizable
Usage: Garbage and pet waste

Handan Shibo fully biodegradable blown film garbage bags are manufactured from films made of biodegradable resins. They can be used to hold garbage and pet waste and have with the following features:

- **Good load-bearing, anti-leakage, anti-puncture**
- **Point-break design**
- **Conveniently recycled, compostable and treatable along with kitchen waste**
- **Compliance with GB/T 28018-2011, EN 13432, FDA testing standards**
- **Shelf life > 1 year**

Blown Film Express Bags



Ingredients:	PBAT + PLA
Colors:	Grey, white
Adhesive:	Hot melt adhesive
Size:	38.5*(50+4.5)*0.05cm
Usage:	Express bags, waterproof bags, parcel bags, clothes bags



Handan Shibo fully biodegradable blown film express bags are made of biodegradable resins for the express delivery industry. Manufactured with the three-layer co-extrusion blown film machine featuring simple processing and high yield rate, they typically have three layers and offer the following features:

- **Waterproof, moisture-proof, puncture-resistant, tear-resistant**
- **Good heat-adhesion, low rate of burst edges**
- **Opaque, protecting privacy**
- **Compliance with GB/T 38727-2020, EN 13432, FDA testing standards**
- **Shelf life > 1 year**

Blown Film Single-Use Gloves



Ingredients: PBAT + PLA
Color: Translucent white
Working temperature: -10°C - 60°C
Dimensions: Length: 26 cm
Width: 24 cm
Opening: 13 cm
Thickness: 0.03mm

Handan Shibo fully biodegradable single-use gloves are made of biodegradable resins. They feature good safety, tenacity, strength, and puncture resistance, and can be directly in contact with food.

- **Food-grade raw materials, safe and odorless**
- **High tenacity and excellent puncture resistance, durable**
- **Direct contact with food, excellent sealing, waterproof and oil proof**
- **Fits hand curves, comfortable to wear**
- **Compliance with EN 13432, FDA testing standards**
- **Shelf life > 1 year**

Blown Mulch Films



Ingredients: PBAT + PLA
Color: Black, white
Thickness: 0.01 mm
Width: 900/1200 mm

Handan Shibo fully biodegradable mulch films are made of biodegradable materials. They are applied to the surface of soil for crops production and are biodegradable. Their induction periods vary by latitude and climate condition, from 60-90 days, 90-120 days, to 120-180 days, which can also be customized based on customer requirements.

- **Good horizontal and vertical tensile strength, firm grip on soil without fluttering in wind**
- **Increasing soil temperature, preserving moisture, supporting machine placing**
- **No need for recycling, reducing white pollution**
- **Compliance with GB/T 35795-2017, EN 13432, FDA testing standards**
- **Shelf life > 1 year**

Extruded Straws



Handan Shibo fully biodegradable drinking straws are mainly made of polylactic acid (PLA). They features good safety, gloss, transparency, and direct contact with food. The color is typically white and can be customize. Various types, including straight, curved, large-diameter, and temperature-resistant straws, are available.

- **Thick**
- **Smooth opening**
- **Compliance with GB4806.1, GB4806.6, and GB4806.7**
- **Compliance with EN 13432, FDA testing standards**
- **Shelf life > 2 years**

Ingredients: PLA + PBAT
Diameter: 6 – 12 mm (customizable)
Types: Straight, curved, heat-resistant
Colors: White, black, transparent
Working temperature: -10°C – 80°C
Length: 19 – 23 cm (customizable)

Injected Single-Use Tableware



Ingredients: PLA + PBAT
Color: White
Working temperature: -10°C – 80°C
Sizes:
Knife: 15.3 cm
Fork: 15.2 cm
Spoon: 13.6 cm



Handan Shibo fully biodegradable drinking straws are mainly made of PLA. They feature good safety, gloss, transparency, and direct contact with food. The color is typically white and can be customized. Various types, including straight, curved, large-diameter, and temperature-resistant straws, are available.

- **High tenacity and strength, uneasy to bend**
- **Thick, smooth edge without burrs**
- **Water proof, oil proof, and odorless**
- **Compliance with EN 13432, FDA testing standards**
- **Shelf life > 2 years**

Single-Use Blister Lunch Boxes



Ingredients: PLA + PBAT
Color: White
Working temperature: -10°C – 80°C
Dimensions: Customizable

Handan Shibo fully biodegradable single-use lunch boxes are mainly made of PLA. They features good safety, tenacity, strength, and direct contact with food. The color is typically white. Both room-temperature and temperature-resistant products are available.

- Food-grade raw materials, safe and odorless, for longer food preservation
- Thick, for good load bearing
- Smooth, water proof and oil proof, microwave and refrigerate safe
- No fluorescent whitening agent/adhesive added, healthy and environmentally friendly
- Excellent sealing
- Compliance with EN 13432, FDA testing standards
- Shelf life > 2 years

Single-Use Blister Cups



Ingredients: PLA + PBAT
Color: White
Working temperature: -20°C – 90°C
Dimensions: Customizable



Handan Shibo fully biodegradable single-use cups are mainly made of PLA. They features good safety, tenacity, strength, and direct contact with food. They can withstand a wide range of liquid temperature and do not give off unpleasant smell with 90°C hot water.

- **Food-grade raw materials, safe and odorless**
- **Enhanced cup rim and bottom with high strength, uneasy to deform**
- **Smoothly sealed inner wall for no leakage**
- **Smooth rim, firm cup body, non-slip design**
- **Compliance with EN 13432, FDA testing standards**
- **Shelf life > 2 years**



Handan Shibo New Material Co., LTD, starting from 2010, is constantly engaged in the production of plastic raw materials products, which is located in Handan City, Hebei Province, China, covering 500 acres, having more than 350 employees. The main products are Black masterbatch, Color masterbatch PP, HDPE, LDPE, LLDPE, EVA, ABS, PS, PC, PET, PLA, Biodegradable plastic etc. With years of hard work and development, we have achieved a certain scale with technical service team for users with high quality and professional service.

Our products are exported to Southeast Asia, North America, Europe, Africa, all over the world with high quality and competitive price.

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