



Ronghao Co., Ltd.

01 / 08

BIO-BASED • BAMBOO REPLACES PLASTIC

BAMBOO FIBER MASTER- BATCH

Bamboo Fiber Biodegradable Masterbatch

Blown film • Injection • Thermoforming — for all three processes
Machine-parameter setup support included

DIN CERTCO Certified

EN 13432

Bio-based Carbon 97%

In Stock **Stable Supply**

+886 983-685-452

christopher.louw@ronghao.co

www.ronghao.co

BAMBOO
FIBER



One material, **three production lines**

Made from natural bamboo, our in-house-developed bio-based, fully biodegradable masterbatch is suited to **blown film, injection molding and thermoforming**, and we provide machine parameter settings to lower the barrier to adoption.

Certified by international third parties including DIN CERTCO and Beta Analytic, and meets EN 13432 industrial composting requirements.

Blown film: shopping bags, trash bags, agricultural mulch film, mailer bags...

Injection molding: disposable cutlery, cup lids, toothbrushes, combs, part enclosures...

Thermoforming: food containers, food trays, electronics liners, cosmetic packaging...

- 🎯 **2016** The team enters the polymer materials industry, starting from abrasion-resistant compounds for shoe outsoles
- 🎯 **2023** Fully biodegradable material goes into mass production
- 🎯 **2024** RONGHAO Co., Ltd. (Taiwan) is founded, focusing on the supply of and technical support for bamboo-fiber biodegradable masterbatch

0.98 g/cc

MASTERBATCH DENSITY

Low-density forming, good flow
27–38% more output than starch at the same weight

97 %

BIO-BASED CARBON CONTENT

Beta Analytic
World authority in Carbon-14 testing

35 % ↑

CARBON LOCK-IN ADVANTAGE

Lowers supply-chain carbon emissions
Strengthens ESG reporting data

**COMPANY
PROFILE**

BAMBOO FIBER MASTERBATCH

Bamboo Fiber Biodegradable Masterbatch

A **pelletized raw material** blended from bamboo fiber, PBAT and a small amount of PLA — fed straight into existing **blown film, injection or thermoforming** machines with no drying needed, with machine-parameter setup support.

Its bamboo-quinone content gives it **natural antibacterial** properties and a **natural matte look and fine hand-feel**, while substantially raising the bio-based ratio. Biodegradable, and DIN CERTCO industrial composting certified.

► Full machine-parameter support, **with help at every stage from sampling and trial runs through to mass production** — without disrupting your existing line's pace.

**Blown Film**

Low density, high strength

0.98 g/cm³

27–38% more bags per kg than starch-based masterbatch

Injection

Won't snap when cut

High Flex Strength

Bamboo-reinforced; oil- and water-resistant

Thermoform

Heat-resistant, freeze-ready

-10 ~ 130°C

No cold embrittlement, no heat deformation

Whole Range

Bio-based carbon content

97%

Beta Analytic third-party certified

One Material, Three Processes

Specs matched to each process, with machine-parameter setup support



Blown Film

Film & Bags of All Kinds

- Shopping bags
- Vest bags
- Flat bags
- Mailer bags
- Zip bags
- Dog waste bags
- Bubble wrap
- Mulch film



Injection

Rigid Molded Products

- Disposable cutlery
- Cups
- Cup lids
- Toothbrushes
- Combs
- Enclosures
- Other injection parts



Thermoform

Sheet & Container Products

- Food containers
- Cups
- Cup lids
- Food trays
- Electronics inserts
- Cosmetic packaging
- Other thermoformed items

Bamboo Fiber vs Starch-based vs PLA

		Bamboo Fiber Masterbatch	Starch-based	PLA
	Pre-processing	✓ No drying, direct feed	Hygroscopic — must dry before feeding	Must dry below 250ppm or it hydrolyzes
Blown Film	Density / yield per kg	0.98 g/cm³ ↑ +27–38%	1.25–1.35 g/cm³	1.24 g/cm³
Blown Film	Film processability	✓ Blows directly, no powder shed, better moisture resistance	Sheds powder if incompatible, less moisture-resistant	Unstable bubble, prone to blowouts, needs modification
Injection	Flexural strength	✓ Won't snap under cutting force	Starch is inherently brittle, snaps easily	Brittle, barely bends before breaking
Injection	Oil resistance	✓ Oil-resistant, non-stick, easy to clean	Acceptable oil resistance, softens in water	Smooth surface, resists sticking
Thermoform	Heat resistance	✓ -10 ~ 130°C, flash-freeze ready	Softens with heat, brittle when cold	Softens above 60°C, not hot-food safe
Thermoform	Compression resistance	✓ Stable structure, stacks well	Insufficient strength, warps with moisture	Hard but brittle, cracks at stress points

Film Density Drives **Cost per Bag**

Resin is sold by weight, bags are made by volume — $1 \text{ kg} \div \text{density} = \text{usable volume}$, the lower the density, the more bags you get

BAMBOO FIBER MASTERBATCH

Bamboo Fiber Masterbatch

0.98 g/cm³

$$1,000 \text{ g} \div 0.98 = \mathbf{1,020 \text{ cm}^3}$$

STARCH MASTERBATCH

Starch-based Masterbatch

1.30 g/cm³

$$1,000 \text{ g} \div 1.30 = \mathbf{769 \text{ cm}^3}$$

Starch density typically 1.25–1.35; midpoint used here

Volume comparison → bag-count gap

$$\mathbf{1,020 \div 769 = 1.33x}$$

Extra yield per kg, bamboo fiber

+33%

In other words: if starch-based resin makes **100 bags**, the same weight of bamboo fiber makes **133 bags**.

Lower density doesn't mean lower strength — bamboo fiber's light weight comes from its natural fiber structure. Film strength and toughness are third-party load-tested, so cost per bag drops while strength and toughness stay high.

Every claim, backed by third-party certification

A selection of our certifications — additional documents available on request



TÜVRheinland®
DIN CERTCO
Genau. Richtig.

NOTIFICATION OF REGISTRATION

Holder

Fujian Yangzhu New Material Science & Technology Co.,Ltd
No.19, Penghu Town Industrial Park, Yongchun County
362600 QUANZHOU, FUJIAN PROVINCE
CHINA

Product

Compostable material

Type, Model

Biodegradable Bamboo Fibric Materials

Testing basis

DIN EN 13432:2000-12
ASTM D 6400:2023-03
Certification Scheme products made of industrially compostable materials (2023-07)

Mark of conformity


industrially compostable

Registration No.

7W0693

Valid until

2031-08-31

Right of use

With this notification of registration the holder is granted the special entitlement for advertising purposes according to §8 (5) of the Regulations governing Use of the Mark and the Trademark Usage Guidelines for the mark of conformity shown above in conjunction with the specified registration number.

See annex for further information.



2025-08-12
Dipl.-Biol. Katharina Vehring, M. Eng.
Certification Body



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Dipl.-Biol. Katharina Vehring, M. Eng.
Certification Body



DIN CERTCO Gesellschaft für Konformitätsbewertung mbH · Albinstraße 56 · 12103 Berlin · www.dincertco.de

DIN CERTCO
Industrial composting certification
EN 13432 • Industrial Composting



Beta Analytic, LLC
4985 SW 74th Court
Miami, FL 33155 USA
Tel: (305) 667-6167
info@betalabservices.com

June 5, 2025

Mr. XiaoRong
Fujian Yangzhu New Material Science & Technology Co., Ltd
No.19, Penghu Industrial Park, Yongchun County
Quanzhou, Fujian 362000
China

Dear Mr. XiaoRong,

Please find enclosed your radiocarbon (C14) report for the material recently submitted. The result is reported as "% Biobased Carbon". This indicates the percentage carbon from "natural" (plant or animal by-product) sources versus "synthetic" (petrochemical) sources. For reference, 100 % Biobased Carbon indicates that a material is entirely sourced from plants or animal by-products and 0 % Biobased Carbon indicates that a material did not contain any carbon from plants or animal by-products. A value in between represents a mixture of natural and fossil sources.

The analytical measurement is cited as "percent modern carbon (pMC)". This is the percentage of C14 measured in the sample relative to a modern reference standard (NIST 4990C). The % Biobased Carbon content is calculated from pMC by applying a small adjustment factor for C14 in carbon dioxide in air today. It is important to note that all internationally recognized standards using C14 assume that the plant or biomass feedstocks were obtained from natural environments.

Reported results are accredited to ISO/IEC 17025:2017 PJLA #59423 standards and all chemistry was performed here in our laboratory and counted in our own accelerators in Miami, Florida.

The international standard method utilized for this analysis is cited under Summary of Results. The standard version used is the latest available as of the date reported (unless otherwise noted). The report also indicates if the result is relative to total carbon (TC) or only total organic carbon (TOC). When interpreting the results, please consider any communications you may have had with us regarding the analysis. If you have any questions, please contact us. We welcome your inquiries.

Sincerely,


Eneida Cernada
Laboratory Management Group / IRMS / CRDS Instrument Manager

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Beta Analytic
Bio-based carbon content testing
Bio-based Carbon 97%



中国认可
国际互认
检测
TESTING
CNAS L1910

检测报告

第 1 页 共 5 页

报告编号 A2250098460101C

报告抬头公司名称 福建阳竹新材料科技有限公司
地址 福建省永春县蓬壶镇工业园 19 号

以下测试之样品及样品信息由申请者提供并确认
样品名称 竹纤维全生物降解制品袋
样品接收日期 2025.02.24
样品检测日期 2025.02.24-2025.02.27

测试内容:
根据客户的申请要求, 具体要求详见下一页。





朱丹丹
授权签字人
2025.02.27
检测检验有限公司
Inspector & Testing Service

No. T669104480
广东省深圳市宝安区新安街道兴东社区华测检测大楼

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检测
TESTING
CNAS L1

REPORT FOR ANALYSIS

Report No. 2025ESQ00087R01E

Name of Sample Biodegradable Bamboo Fibric Materials

Applicant Fujian Yangzhu New Material Technology Co., Ltd

Test Type Entrustment Test

Address: Building 66, No.100 Central Xian Lie Road, Guangzhou, China

Postcode: 510070

Tel: (020)87137666

Fax: (020)87137668

Website: www.gddcm.com

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