C&T | eco Flexible Customization & Fast Delivery for Brands since 2006

Recommended sustainable products and materials trends for 2023

Combining a global perspective, we provide brands with guidance on the direction of environmental trends and full solutions for product development. Helping brands to capture the market.

Contents

Global Recycled Standard Material and Products

Any raw material that can be recycled industrially and reused through certain processes is called recycled material. Recycled material GRS generally refers to recycled plastics.

What is GRS certification?

Global Recycled Standard(GRS) is an international, voluntary and comprehensive product standard that specifies third-party certification requirements for recycling content, chain of custody, social and environmental practices, and chemical restrictions.

GRS aims to increase the use of recycled materials in products, and to reduce the use of final products or semi-finished products containing recycled components. Currently, the certification is mainly concentrated in textile and garment enterprises, such as recycled bottle flakes, recycled polyester filaments, recycled polyester short-term yarns, recycled fabrics, re-formed garments, etc.

What GRS can do?

1.Reuse of materials helps to reduce dependence on non-renewable resources, reduce waste discharge and environmental load caused by waste disposal,and contribute to the sustainable development of society.

2.Future trend：The rational use of renewable resources has been paid more and more attention by brand buyers and consumers. At present, many European and American brands require domestic suppliers to obtain GRS certificates. If there is no GRS certificate, there will be no cooperation opportunities, and it will not be international.

Global environmental protection has become a trend, mainstream brands are starting to use new materials, increasing plastic recycling, reducing plastic pollution and moving towards sustainability.

Adidas announced the full use of **recycled polyester** by 2024.

Zara announces full use of **recycled sustainable materials** by 2025.

H&M announces full use of **100% recycled materials** by 2030.

Lidl announces **100% recycled plastic bottles** for all of its own brands by 2025.

Ikea pledges to use only **recycled materials** in all of its products by 2030.

Apple promises to end mining and use **100% recycled materials** in its products.

The TC trasaction certificates can be applied for the finished GRS products with more than **20%** recycled raw materials

TRANSACTION CERTIFICATE (TC) FOR TEXTILE PROCESSED ACCORDING TO THE GLOBAL RECYCLING STANDARD (GRS)

Transaction Certificate Number: 1021652/01597171

1a. Body issuing the certificate: Control Union Certifications B.V. Meeuwenlaan 4-6 8011 BZ Zwolle Netherlands **1b. licensing code of the certification body:** GRS-CUC-02	**2. Input information:** **2a. Reference number of the input transaction certificate:** TC_01100819-GRS
3. Seller of the product(s): **3a. Name of seller of certified product(s):** Guangzhou C and T Industry Company Ltd. No.3 Heping Road DaShi PanYu District 511400 Guangzhou China **3b. License number of seller:** 1021652	**4. Inspection body:** Control Union Certifications B.V. Meeuwenlaan 4-6 8011 BZ Zwolle Netherlands
5. Last processor of the product(s): **5a. Name of last processor of certified product(s):** Guangzhou C and T Industry Company Ltd. No.3 Heping Road DaShi PanYu District 511400 Guangzhou China **5b. License number of last processor:** N/A	**6. Country of dispatch:** China
10. Product and shipment information: Information is presented in box 17 of this TC	**11. Gross weight (kg):** 130.70 **12. Net weight (kg):** 118.52 **13. Certified weight (kg):** Total 118.52
14. Declaration of the body issuing the certificate: This is to certify that, based on the information and documentation provided by the supplier named in box 3, (i) the Recycle Material used for the products as further detailed / referenced in box 16 and/or certified in box 11, 12 and 13 has been produced in accordance with the Global Recycled Standard (GRS). Conformity with the standard is audited and monitored systematically under responsibility of the certification body named in box 1.	
15. Additional declaration:	
Reference number of the certificate: 1021652/01597171	
16. Place and date of issue: Zwolle, 2022-03-09 Stamp of the issuing body Standard Logo Global Recycled Standard This electronically issued document is the valid original version. On behalf of the Managing Director Lina Wang, Director	

CONTROL UNION

Control Union Certifications B.V.

Transaction Certificate Number 1021652/01597171 Issue Date/Version 1021652 2022-03-09

Page 1 / 3

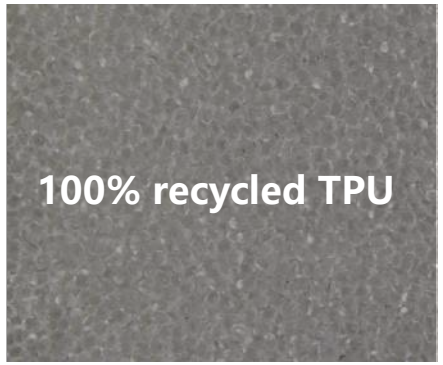
The GRS product label can be applied for the finished product with over **50%** recycle raw material which can be put on packaging

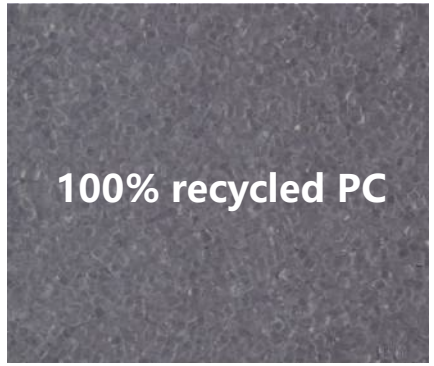
Plastic Alternatives - GRS recycled Materials

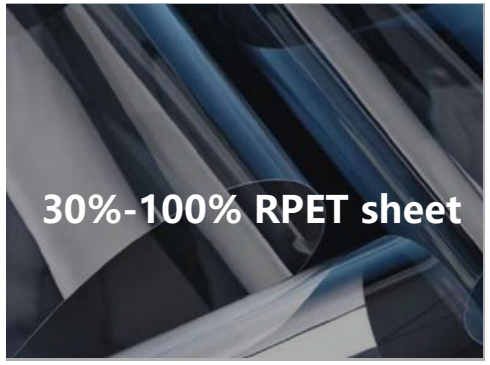
It allows plastics and other waste to be recycled again, eliminating excessive exploitation of resources and reducing environmental pollution.

Pre-consumer	Materials diverted from the waste stream during the manufacturing process. Exclude the reuse of certain materials, such as rework, regrind, or residuals that are created in processing and will be reused in the same process. That is, materials that are recycled without being consumed by consumers.
Post consumption	Materials generated by households or commercial, industrial and institutional facilities as users of the final product that cannot be reused for their intended use. Includes materials recovered from the distribution chain. That is, materials that are recycled after consumption by the consumer.

Existing GRS-certified material - Plastic







Made from recycled waste silicone
Rarely seen in the market, we are the early start to do

Existing GRS-certified material - Fabric/leather

Global Recycled Standard

100% GRS Recycled Transparent TPU airpod case

GRS Thermoplastic polyurethane (TPU)-100%

Thermoplastic polyurethane (TPU) is made of MDI containing NCO functional group and POLYOL, 1.4BG containing OH functional group, by extrusion and blending. The products cover the range of industrial applications and necessities of the people. Currently, TPU can be used as a substitute for PVC wherever it is used. And TPU can do a variety of colors, semi-transparent single mist frosted, high purity, fine and smooth without fading.

Global Recycled Standard

Recovery ratio **40%-50%**
Transmittance **2mm-4mm**
Light transmittance over **90%**
Yellowing resistance **Grade 4**

Complete certificate

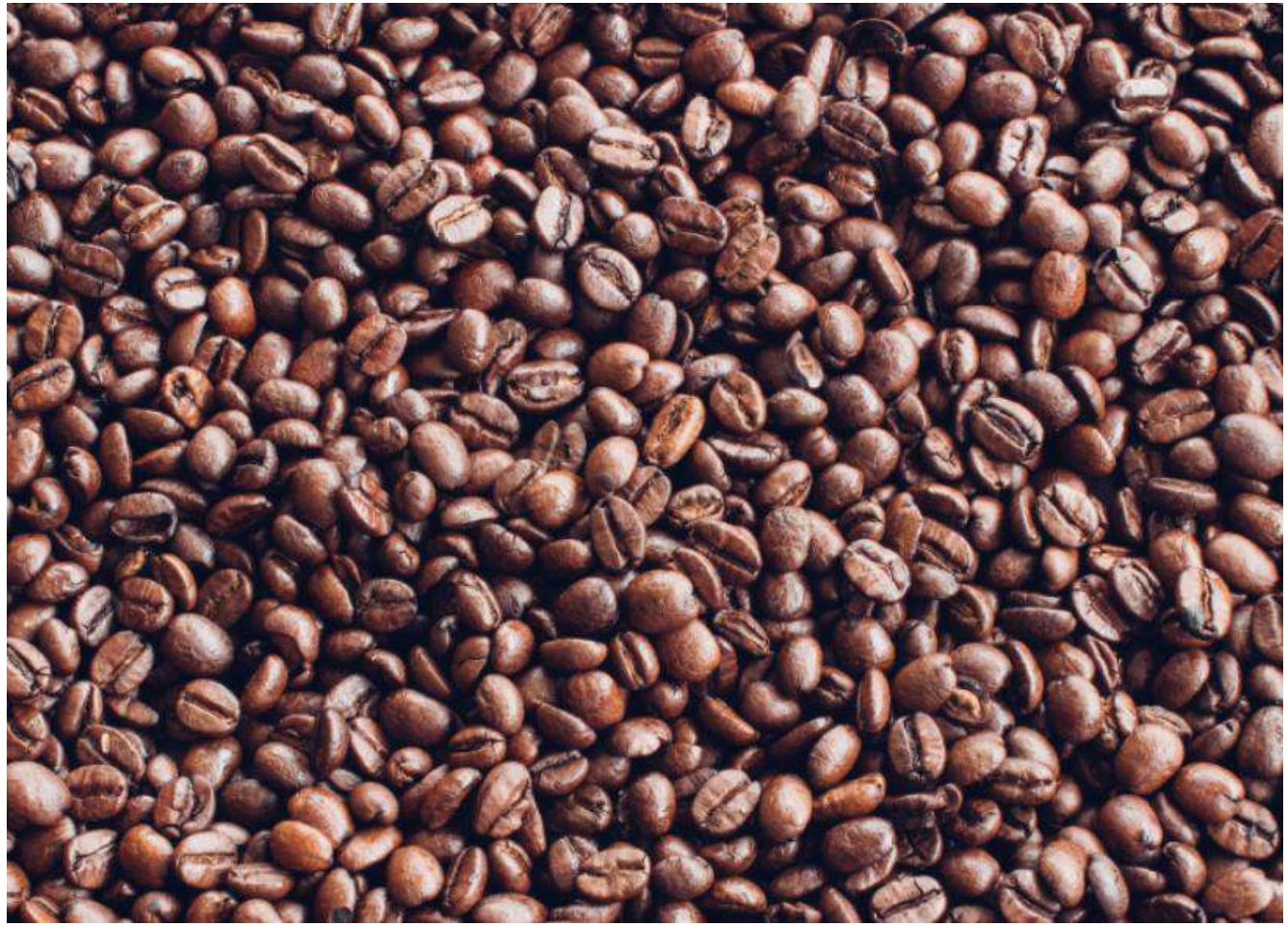
anti-yellowing test / anti-bacterial test / chemical test

Our raw material suppliers have supplied to the following brands.

incipio, zagg, Nokia, speck,Walmart,bodyguardz

GRS Coffee Grounds-(90%+10%)

Coffee grounds granules made from 10% coffee grounds plus 90% recyclable granules.




Global Recycled
Standard

GRS Polycarbonate(PC)-100%

Polycarbonate (PC) is an amorphous, odorless, non-toxic, highly transparent colorless or slightly yellow thermoplastic engineering plastic. It has excellent physical and mechanical properties, especially excellent impact resistance, high tensile strength, bending strength and compression strength; small creep and dimensional stability; good heat resistance and low temperature resistance.

GRS Polyurethane(PU) 48-51%

Polyurethane (PU) is a polymer resin synthesized by condensation of the basic chemical isocyanate and polyol. By changing the chemical structure and formula ratio of raw materials, PU can produce products with various properties, and is the only synthetic material among various polymer materials that has significant applications in plastics (foam), rubber (elastomer), fibers (spandex), coatings, and adhesives.

C&T | eco Flexible Customization & Fast Delivery for Brands since 2006

GRS Silicone Case

A new environmentally friendly material made from recycled waste silicone material, it is green and highly safe. Strong yet light, shockproof and drop-proof, GRS silicone is rarely found in the market and we are among the first suppliers to start producing and using this material.

GRS Silicone
100% recycled

C&T's newly developed 2023
eco-friendly material

GRS Certificate

Material composition: recycled waste silicone
Material features: green and safe, high elasticity, skin-friendly feel, shockproof and anti-drop, not easy to deformation
Environmental protection ratio: 100% recycled
Product applications: Phone Case/iPad Case/AirPods Case/Watch Band
Voucher: support the issuance of TC transaction certificate

GRS Recycled polyester (RPET)-100%

That is, recycled polyethylene terephthalate, is a new type of recycled environmental protection fabric. Its raw material is RPET yarn made from recycled PET bottles through quality inspection and separation-slicing-drawing, cooling and collection, commonly known as Coke bottle environmental protection fabric.

A PLASTIC BOTTLE CAN BE MADE INTO A MOBILE PHONE CASE MADE OF RPET

RECYCLED CASE

The recycled material of RPET can be 100% regenerated into PET fiber

ENERGY SAVING

Compared with nylon material, RPET material can reduce energy consumption by 30%

REDUCE EMISSION

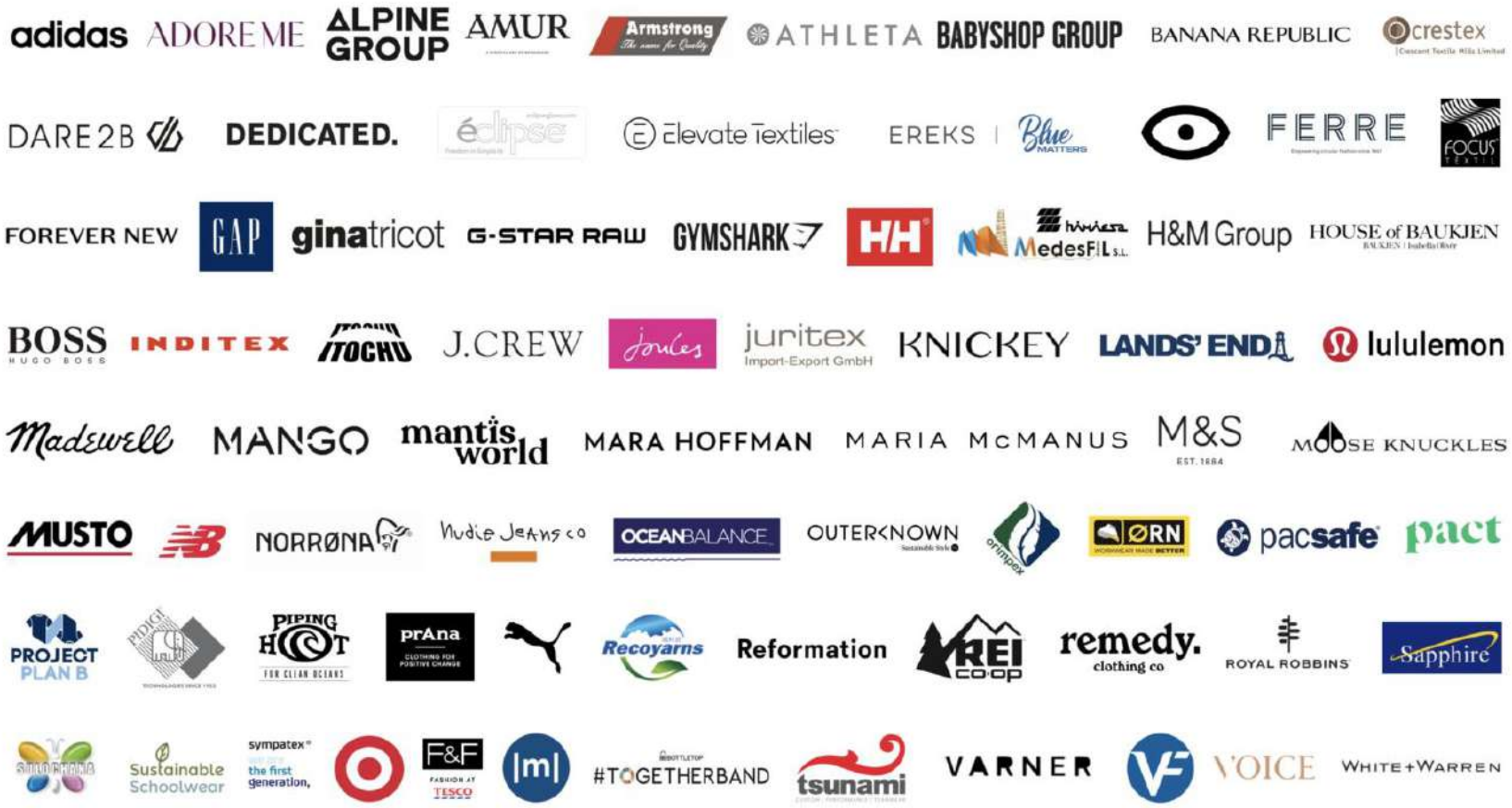
Compared with nylon materials, RPET materials can reduce greenhouse gas emissions by 63% in the production process

compostable

Biodegradable and compostable materials:

Degraded plastics are a class of plastics whose properties can meet the requirements of use, and whose properties remain unchanged during their shelf life, but which can be degraded to environmentally friendly substances under natural environmental conditions after use.

Major brands are in green action!



100% Biodegradable and compostable materials

C&T biodegradable products are made from a blend of PLA (polylactic acid), PBAT and plant fibers that can be completely decomposed into water and carbon dioxide under industrial composting conditions and tested to meet standard ISO 14855-1-2012, which guarantees their full compostability in industrial composting plants.

Customized biodegradable products can be marked with the biodegradable certification mark of the raw material on the outer packaging of the product, proving the environmentally friendly and harmless advantages of the raw material.

Wheat fiber

Bamboo fiber

Corn fiber

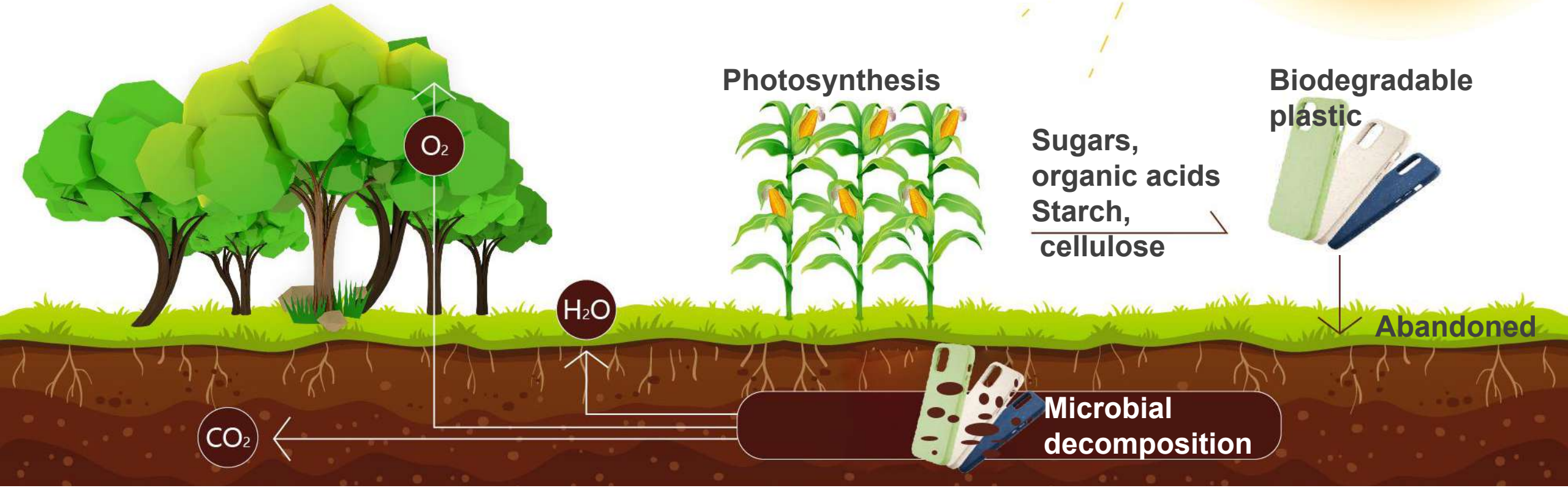
Rice fibe

100% biodegradable case is made of PBAT+PLA+Plant fiber,the material can be degraded by industrial composting.

The production process fully follows the principle of environmental protection

What is the principle of degradation?

The degradation process of environmental degradable plastics mainly involves biodegradation, photodegradation and chemical degradation. These three main degradation processes have synergistic and coherent effects on each other. Degradable plastics are completely degraded into water and carbon dioxide under industrial composting conditions.



ADD NATURAL WHEAT STRAW

It is recyclable and degradable

straw material,buried in the soil,can degrade by itself.
Make a contribution to protecting the environment

compostable

Bio-degradable airpods case

Material: bio-degradable material

Model: airpod 1/2, airpod pro, airpods 3

Highlights: Eco-friendly

Biobased PU raw material:

base on the organism itself or an extract from it. The plant resources: corn, bamboo, soybean, wheat, sugar beet and other starchy agricultural.

Biobased PU

Reduces Carboon Footprint

Reduces the Dependence on Fosil Fuels

Reduces the the Toxicity in Manufacturing

Sourced from Biomaterials

Sustainable sourcing and smart use of biomass can lead to the production of goods which are improved versions of traditional fossil-based alternatives or completely new items, and thus can contribute to savings in greenhouse gas emissions, to reducing waste and toxicity, and to a longterm shift away from finite fossil resources.

Bio-based Recycled PU Structure

Cross Sectional View

Bio-based material content percentage: 15%-50%, depends on the material characteristics.

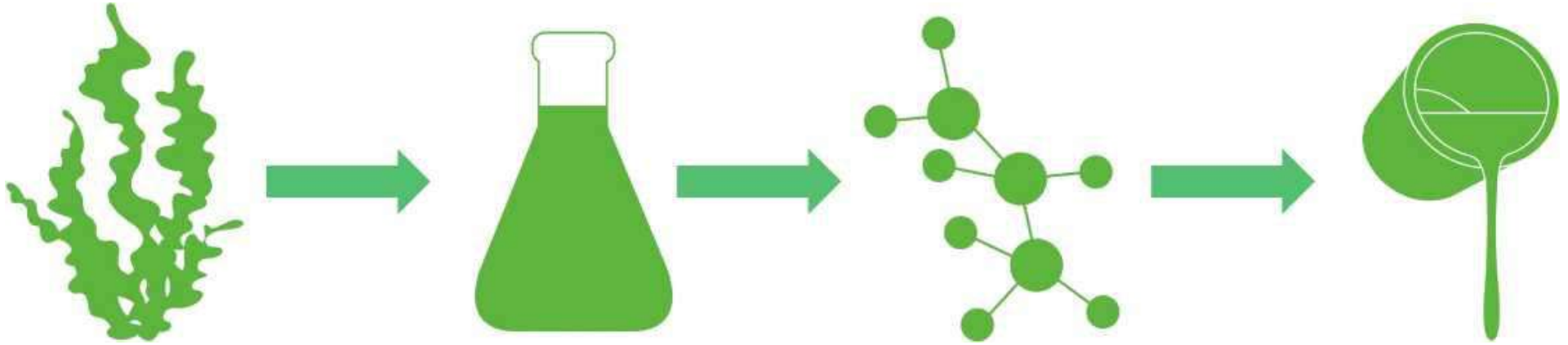
Recycled material content percentage: 20%-50%, depends on the material characteristics.

Bio-based PU Structure

Cross Sectional View

Bio-based material content percentage: 50%-80%, depends on the material characteristics.

Biobased PU Resin



Biological Sources:
Corn/Coffee Grounds

Extract

Biopolymer

Biobased Resin

Apple Leather 51%- 66%

Apple leather is formed by converting the waste material manufactured during industrial-scale apple juice production into pulp, then mixing it with organic solvents and polyurethane, and bonding it to fabric to make leather-like fabric. Leather leather effectively uses a large amount of apple waste in the production process, and CO2 emissions are reduced by 85% compared to traditional leather, with a soft and delicate touch and excellent quality comparable to genuine leather. Naturally thick, durable, breathable and UV resistant, it is suitable for making bags and shoes.

C&T | eco Flexible Customization & Fast Delivery for Brands since 2006


ANMIKI
ANMIKI
ANMIKI


ANMIKI


ANMIKI

Bio-based hides (corn)

Starch, sugar and lipids are extracted from corn and converted through technology and processes to produce biosynthetic fibers, which can be applied to weave into bio-based materials. It has good biodegradability and can be converted into small non-toxic molecules such as water and carbon dioxide through biodegradation methods such as burning or composting, without worrying about causing environmental pollution.

USDA
United States Department of Agriculture

BioPreferred
www.biopreferred.gov

Notice of Certification / Application ID: 11333

July 11, 2022

Patrick Pan
Shenzhen Yong Yu Feng Leather Co., Ltd
No. 111, Block L06, South China Leather & Leather Products Raw Materials and Accessories Logistics District (Phase 1), No. 1 of Huanan Road, Hehua Community, Pinghu Street, Longgang District
Shenzhen, 518111

Dear Patrick Pan,

On behalf of the United States Department of Agriculture's (USDA's) BioPreferred® program, I am pleased to inform you that your application for use of the USDA Certified Biobased Product Label for Biobased PU Synthetic Leather has been approved as of July 08, 2022. The test result for Biobased PU Synthetic Leather indicates that its biobased content is 84%. According to your application, you may now use the Label on the product Biobased PU Synthetic Leather.

The Label remains in effect as long as the product or package is manufactured and marketed in accordance with the approved application and requirements in the US Code of Federal Regulations Title 7§3202 Voluntary Labeling Program for Biobased Products unless one of the following conditions occurs:

1. Product or package reformulation: The product or package formulation of the certified product is changed such that the biobased content is reduced to a level below that reported in the approved application. When products have been reformulated, a new application for certification must be submitted in order to resume using the USDA Certified Biobased Product Label; and/or,
2. New minimum biobased content: USDA revises the minimum biobased content required for a product or package to be eligible to display the certification mark and the product or package does not meet the revised minimum. USDA will inform you that your certification is no longer valid. In this case, you must increase the biobased content of your product to be at or above the revised minimum and re-apply for certification within 60 days in order to continue to use the certification mark.

Please note that all certifications are subject to USDA's periodic auditing activities. You must read the BioPreferred Brand Guidelines and Graphic Standards document prior to downloading label artwork (eAuthentication login is required).

This email is your official notice of biobased product certification. Please print and save this email should you need to provide certification documentation to any entity.

The BioPreferred program looks forward to a long and successful partnership with you in the promotion of biobased products. If you have additional questions or would like further information, you may call the BioPreferred Program Information Line at (202) 643-3287 or email us at help@usdabiopreferred.net.

Sincerely,
USDA BioPreferred Program Staff

Coffee Grounds

This is a leather substitute made from discarded seafood shells mixed with coffee grounds that is waterproof, thin, abrasion resistant, soft, and machine sewable. Most importantly, it is a decomposable material, so that when the leather reaches the end of its life, it can be returned to the earth again to nourish more life.


ANMIKI
ANMIKI
ANMIKI

Plant Fiber

Washable, printable, printable, laminated, coated, screen printed kraft paper is a new type of low carbon environmental protection material. The raw material is natural fiber pulp, with no harmful substances, recycling, degradable, recyclable and other characteristics, also known as "washable kraft paper" "washable kraft paper".

Vegan

The Vegan Society

CERTIFICATE OF REGISTRATION

This is to certify that

Texon International Group Limited

Has registered products or services meeting the Vegan Trademark criteria

Account Number: 028537

Valid From: 01/01/2022

Expiry Date: 31/12/2022

Signature:

Position: TRADEMARK


ANNIKI

Pineapple Leaf Leather

Pineapple leaf leather is made from a long fiber extracted from pineapple leaves and is a natural leather alternative. It is soft, strong, breathable, lightweight and flexible, and can be easily cut, stitched, embossed and embroidered for fashion, accessories and upholstery design finishes.

FSC
www.fsc.org
FSC® A000521

Cork Leather:

Cork leather is made from pure cork particles and elastic adhesive through the process of mixing, compression, curing, slicing and cutting edges.

Cork Leather

Cork is a purely natural material that is 100% biodegradable, renewable and recyclable.

The cork is harvested only when the tree grows to 25 years old, reaches 70 cm in circumference and 150 cm in height, and is harvested every nine years.

The process of harvesting cork is done using the ancient harvesting method, which requires professionals to operate with a highly precise process, so there is no need to cut down trees, which is conducive to maintaining the natural ecology of the forest area.

***SCS Global Services** does hereby certify that an independent audit has been completed and conformity to the applicable standard(s) has been confirmed for:*

Texon Möckmühl GmbH

Roigheimer Str. 69-72, 74219 Möckmühl, Germany

This single-site certificate covers the manufacturing of shoe soles, filters, and label material using the credit and transfer systems.

The facility(s) are hereby Chain of Custody certified to sell products as:

FSC Mix

The assessment has been conducted by SCS Global Services in accordance with the protocols of the Forest Stewardship Council® A.C. (FSC®).

FSC Standard: FSC-STD-40-004

Certificate Code: SCS-COC-005826

Trademark License Code: FSC-C133304

FSC www.fsc.org FSC® A000521

The mark of responsible forestry

Valid from: 11 December 2021 Expiry date: 10 December 2026

RESPONSIBLE FORESTRY CERTIFIED SCS GLOBAL SERVICES

SCSglobal SERVICES

Maggie Schwartz, Managing Director, Forestry Services
SCS Global Services
2000 Powell Street, Ste. 600, Emeryville, CA 94608 USA

Beta Analytic Inc
4985 SW 74 Court
Miami, Florida 33155
Tel: 305-667-5167
Fax: 305-663-0964
info@betalabservices.com

Beta Analytic
TESTING LABORATORY

ISO/IEC 17025:2005-Accredited Testing Laboratory

September 13, 2019

Nenghui Feng
C-FOCUS CO., LTD.
Shijing Road, Shigang Av., Guxia village, Shipai town
Dongguan, GuangDong 523339
China

Dear Mr. Feng

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 is 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 17025:2005 Testing Accreditation 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 on your report. 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,

Chris Patrick

Chris Patrick Director

Best selling product

Hey!

We are the manufacturer for smartphone & laptop accessories and professional on quick customized production solution.

If you also concern about the customized products, please don't miss our ODM service. We believe we can bring value to you.

Feel free to contact us.

Official Website

WeChat sweep

Website： www.ctworld168.com
Tel： 020-89014309 / +86-17665023206
Address： Room 501,Building 3,No.539,Shibei Industry Road,Dashi Street,Panyu District,Guangzhou

Published by: C&T Marketing Operations Center