ZHONGYUAN GROUP

Recoyarns

NATURE CREATES
WE RECREATE

01 Group Introduction

Zhongyuan Group is a large-scale production and trading enterprise focusing on rPET chips and recycled polyester filaments. It has a high-end recycled chemical fiber registered brand - Recoyarns. Its subsidiaries include Jiangsu Yongyin Chemical Fibre Co., Ltd., Yizheng Zhongxing Environmental Protection Technology Co., Ltd. and Zhongyuan International Trading (Shanghai) Co., Ltd. At present, the production capacity of rPET chips is 200,000 tons/year and the production capacity of recycled polyester filaments is 100,000 tons/year. As the earliest enterprise in China to engage in rPET chip granulation and recycled polyester spinning, Zhongyuan has accumulated more than 20 patents related to recycling.

02 Group Members

QIDONG

Jiangsu Yongyin Chemical Fibre Co., Ltd.

YIZHENG

Yizheng Zhongxing Environmental Protection Technology Co., Ltd.

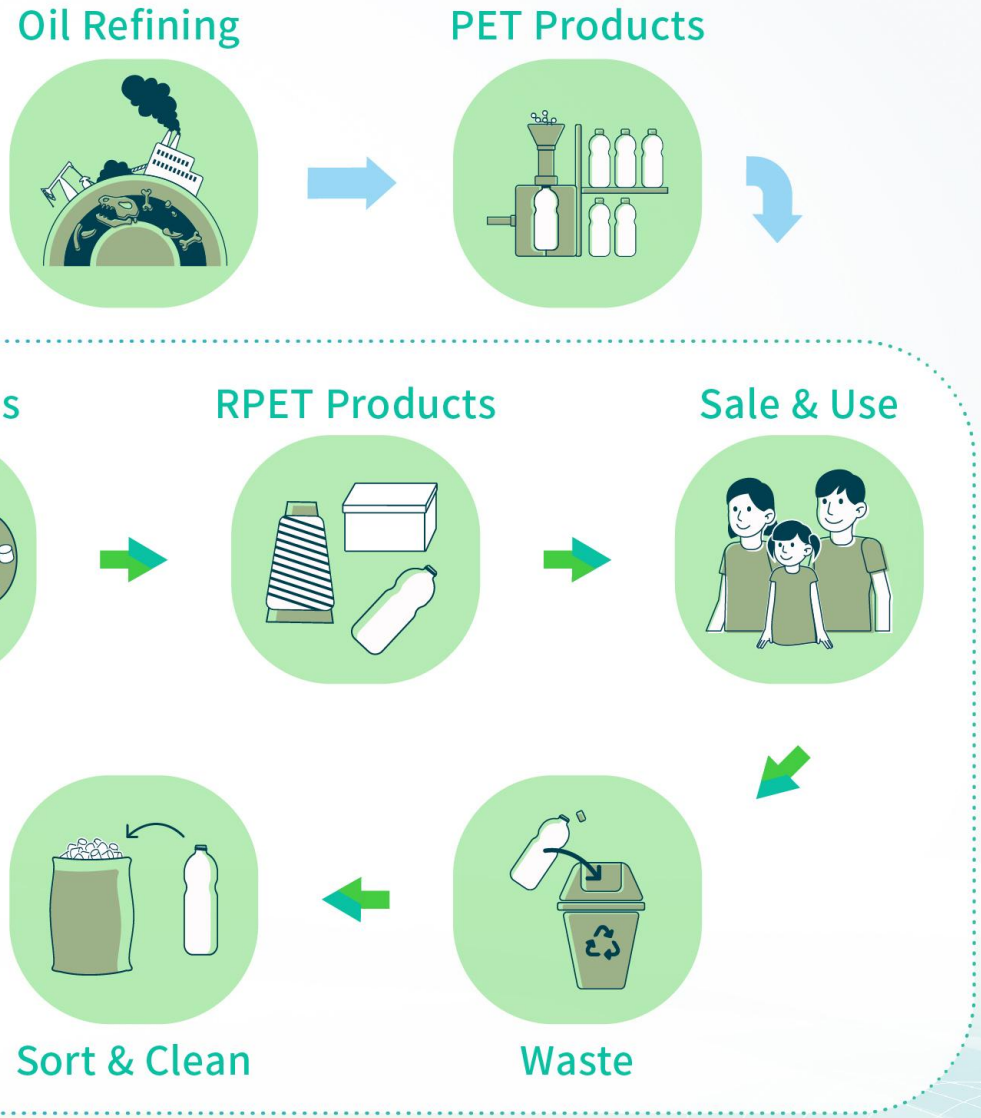
SHANGHAI

Zhongyuan International Trading (Shanghai) Co., Ltd.

03 Recycling Process

1. Made from 100% post-consumer PET bottle flakes.

2. Using mechanical recycling process, which means low cost, low energy consumption, low carbon emission, no chemical residues and by-products, etc.



04 Core Competency

1. Offer one-stop products and service solutions, provide customization according to client needs.
2. Provide after-sales technical support to clients.
3. Deliver Reco-in tracing technology to qualitatively and quantitatively track downstream and end products to ensure their safety, uniqueness and traceability.

05 Certifications

The earliest rPET chips and recycled polyester yarns manufacturer in China

2014

Global Recycled Standard GRS

OEKO-TEX Standard 100

2016

2020

Intertek Green Leaf Certification

CCFA Green Fiber Certification

2021

06 Qualifications

1. High-tech Enterprises
2. CFWA Recommended Supplier
3. The compiling unit of "Evaluation Requirements for Green Factories in the Physically Recycled Plastics Industry"
3. The compiling unit of "Evaluation Requirements for Green Factories in the Recycled Polyester Industry"
4. ISO Environment, Quality, Occupational Health Management System Certification
5. Member of the Textile Exchange

07 Product Application

- ① Garments
- ② Home textiles
- ③ Automotive Interior
- ④ PET Engineering Plastics
- ⑤ PET Packing Material
- ⑥ Industrial Yarns

08 RPET Chips

	RBR		RFD & RSD	
Application	PET Engineering Plastics	Laptop cases、Printer cases、etc.	Garments & Home Textiles	Polyester Filament POY、DTY、FDY、Composite Filament、Sea-island Filament、etc.
	PET Packing Material	Foaming、Films、Sheets、Bottles、etc.		
	Industrial Yarn	Conveyor Belts、Canvas、Tire Cords、Seat Belts、Airbags、etc.	Automotive Interior	Roof Fabrics、Seat Fabrics、etc.
Viscosity	0.74 ± 0.01		0.70 ± 0.01 RFD	0.50 ± 0.015 RSD
	0.84 ± 0.02			0.67 ± 0.01 RSD
	1.08 ± 0.02			0.735 ± 0.01 RSD
				0.88 ± 0.02 RSD

09 Test Reports

检测报告

Passed the detection of hazardous substances under the EU RoHS standard

Passed the detection of Substances of Very High Concern (SVHC) under the EU Reach regulations

RoHS COMPLIANT

REACH COMPLIANT

10 Recycled Polyester Filaments

1. **POY/DTY/FDY** — Quality comparable to virgin polyester, recognized and purchased by global brands
2. **Dope Dyed** — Customized production, better color fastness, no-need for traditional dyeing process
3. **Functional** — Bio-degradable, Flame Retardant, Cationic Dyed, Graphene, Anti-Bacterial

Bio-degradable

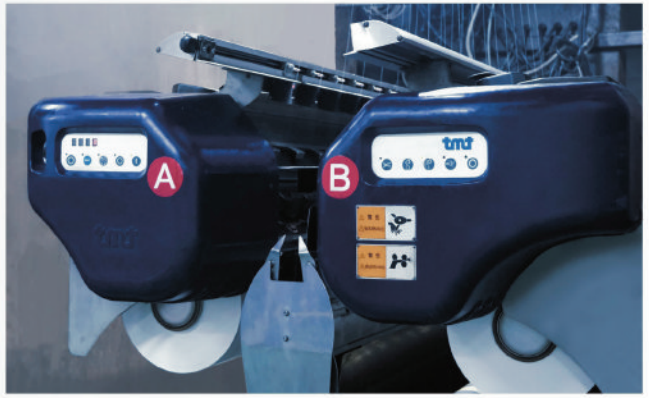
Flame Retardant

Cationic Dyed

Graphene

Anti-Bacterial

Production Equipment



TMT FDY Winder

Barmag EFK1000
Texturing Machine

Barmag Wings
POY Winding System

12 Cooperating Brands

13 Life Cycle Assessment – LCA

LCA is an important tool to assist companies in quantifying the environmental footprint of a product. Through the implementation of product environmental footprint evaluation, an objective understanding of energy consumption/carbon emissions in the product life cycle can be obtained, which can help companies understand the high energy consumption links in the product life cycle, improve product design, improve efficiency and reduce costs.

It has been proven that for every kilogram of rPET chips produced, compared to virgin polyester chips, greenhouse gas emissions can be reduced by up to **73%**, cumulative energy consumption can be reduced by up to **87%**, and water consumption can be reduced by up to **53%**. For every kilogram of recycled polyester fiber produced, greenhouse gas emissions can be reduced by up to **45%** compared to virgin fibers, cumulative energy consumption can be reduced by up to **71%**, and water consumption can be reduced by up to **34%**.

14 Green and Low Carbon

Our capacity of 200,000 tons/yr Recoyarns® recycled products reduce (in maximum):

01 CO2 emission	02 Energy consumption	03 Water consumption	04 Petroleum related material	05 Waste plastic bottles
369 million kgs, Equivalent to planting **16.75 million** trees	**12.39 billion MJ,** Equivalent to saving **422,900 tons** of standard coal	**1.08 million m^3,** Equivalent to **571** standard pools	**1.2 million tons**	**10 billion**

15 Overseas Market

At present, with their excellent quality, the Recoyarns rPET chips and recycled polyester filaments have been exported to more than **ten countries** including not only traditional textile powerhouses such as **South Korea, Taiwan, Vietnam,** but also as far as **Africa and Central** and **South America.**


Recoyarns NATURE CREATES WE RECREATE
Make the sky bluer, Make the earth greener
nature creates we recreate