



Recycled PET Bottle Resin



SHINKONG
SYNTHETIC FIBERS CORPORATION

rPET is the Future



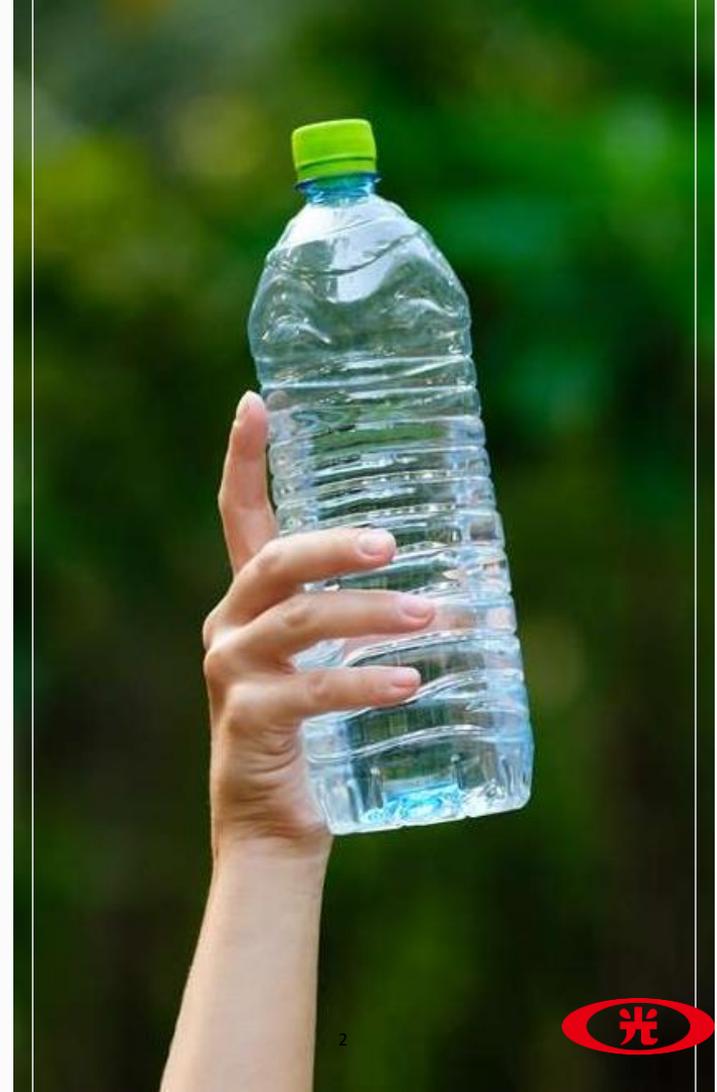
PET has the highest recycling rate of all plastics around 30-90 %.



The carbon footprint of the rPET process is much smaller than that of re-manufactured glass bottles.



rPET is the only recycled plastic that can be used in food contact approved by US FDA, EU EFSA, Japan MHLW.



Announcements to **Achieve**



2030

rPET > 50%



2025

rPET > 33%



2025

rPET > 35%



2025

rPET > 50%



2030

rPET > 60%



2030

rPET in Tea products = 100%



2027

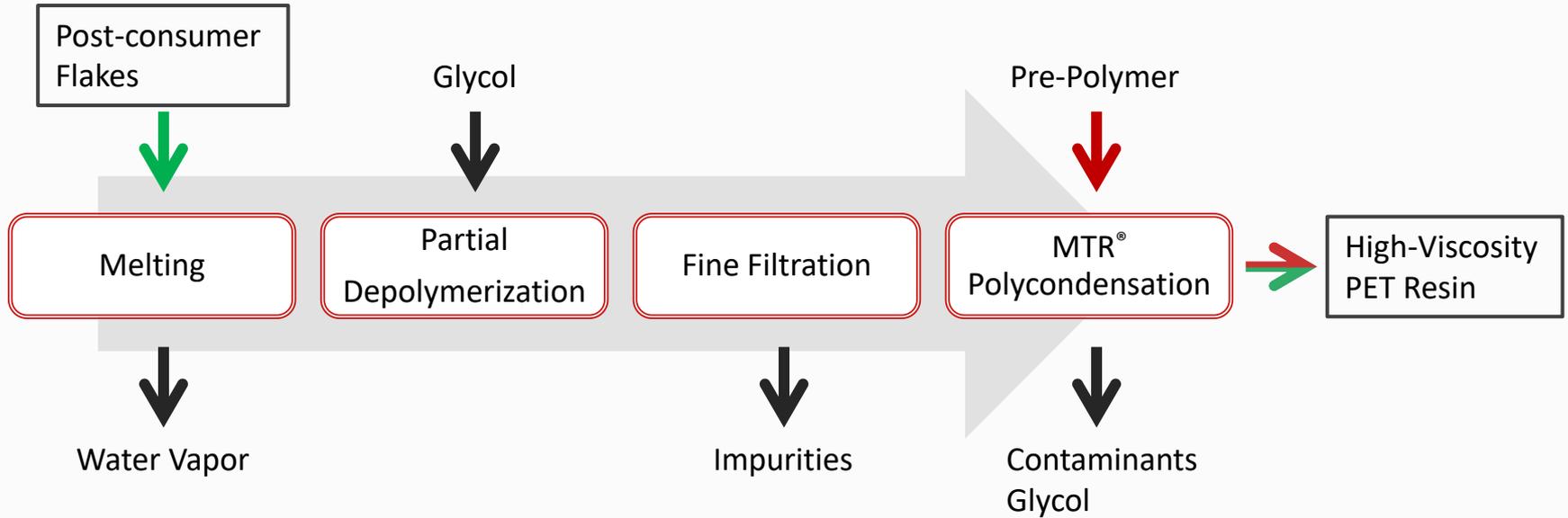
rPET > 50%



2030

rPET > 70%





FTR® Flakes-To-Resin

Fully integrated high-quality semi-chemical PET recycling process:



Filtration of material at a low viscosity level, which makes it easier to remove impurities



Elimination of impurities & rebuild to virgin-like PET

ADVANTAGES

1

Reduce Equipment
Investment and Labor

2

Better and
More Steady Blending

3

Flexible rPET Content



WE BRING !

4

Simple Inventory
Management

5

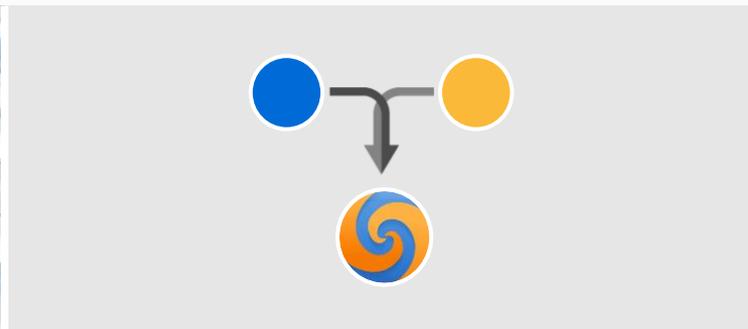
Reuse PET Waste

6

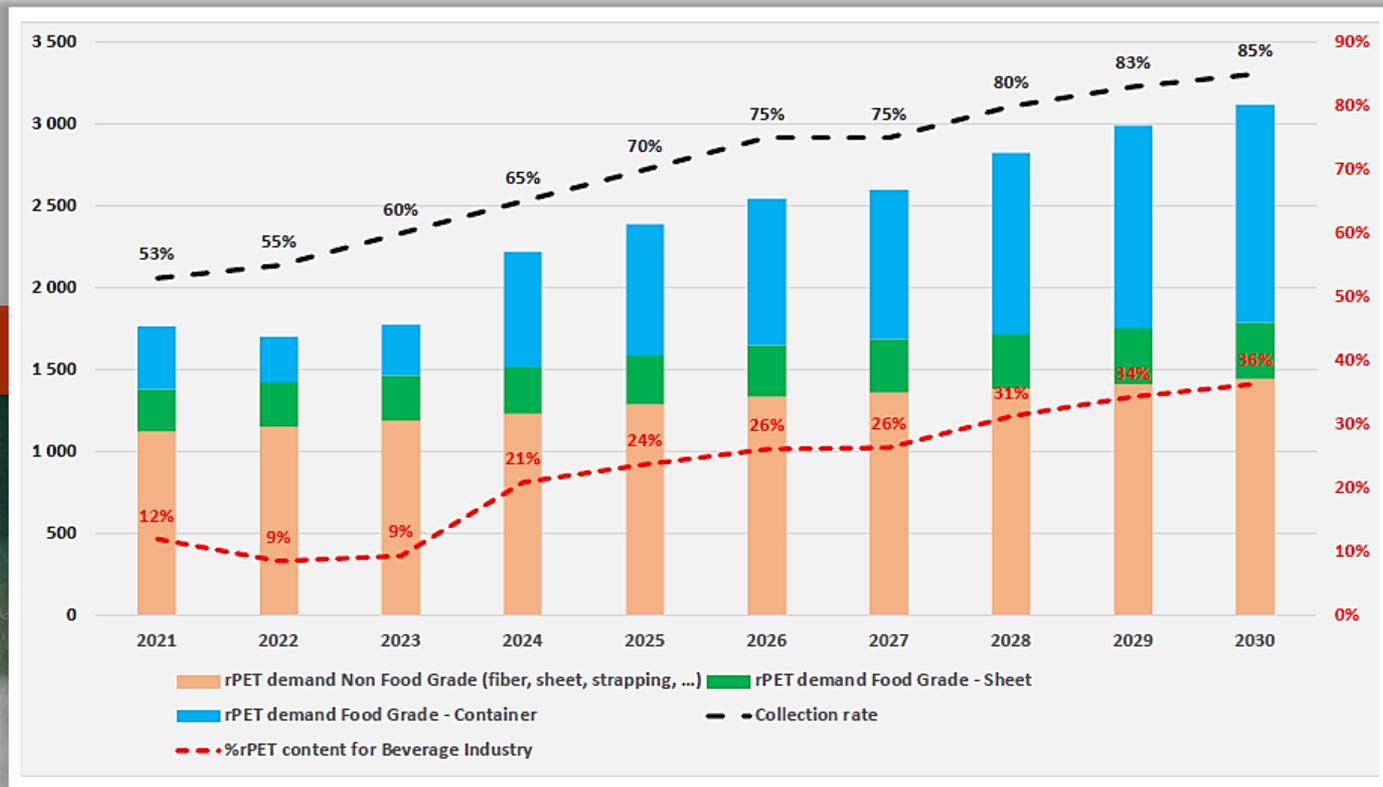
Reduce
Carbon Footprint

Single **Pellet** Is Suitable for Mass Production

-  Reduce investment like blender and labors involved
-  Better and uniform blending
-  Up to **50%** recycling content without an adverse effect on product quality
-  Simple inventory and supply chain management

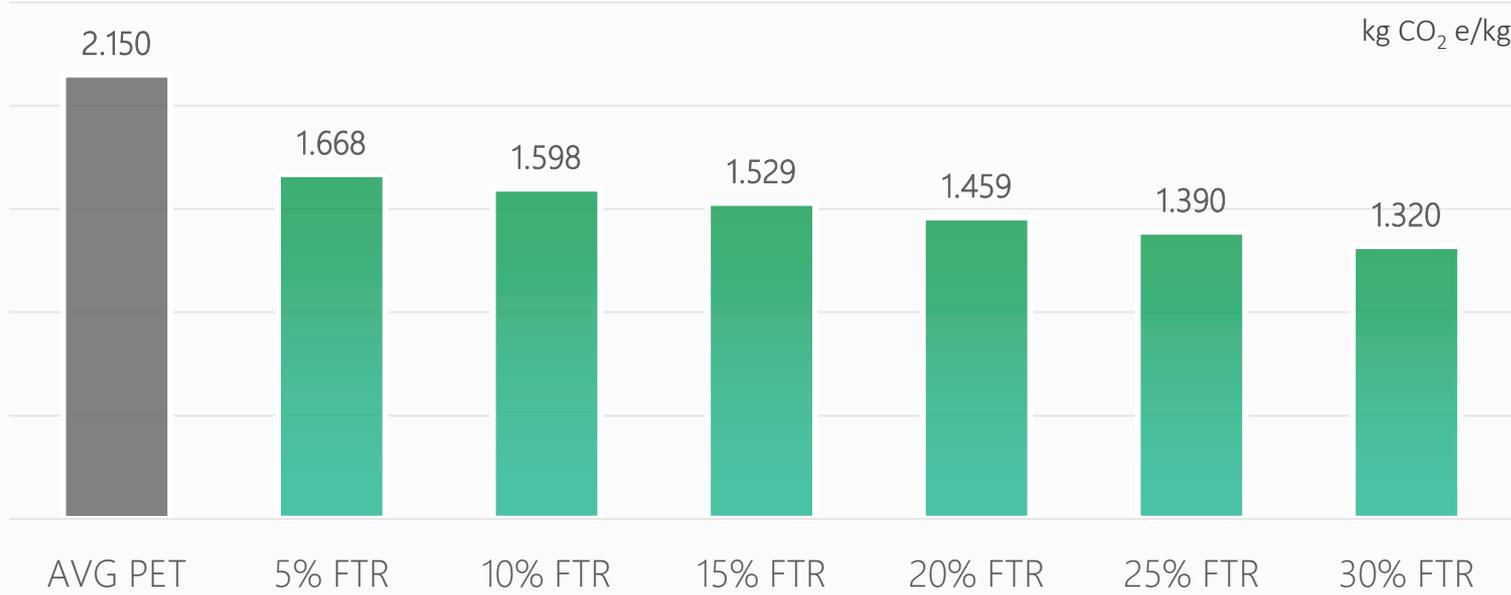


Reduce PET Waste by Raising **Collection** Rate



Low-Carbon is Healthy to THE **Earth**

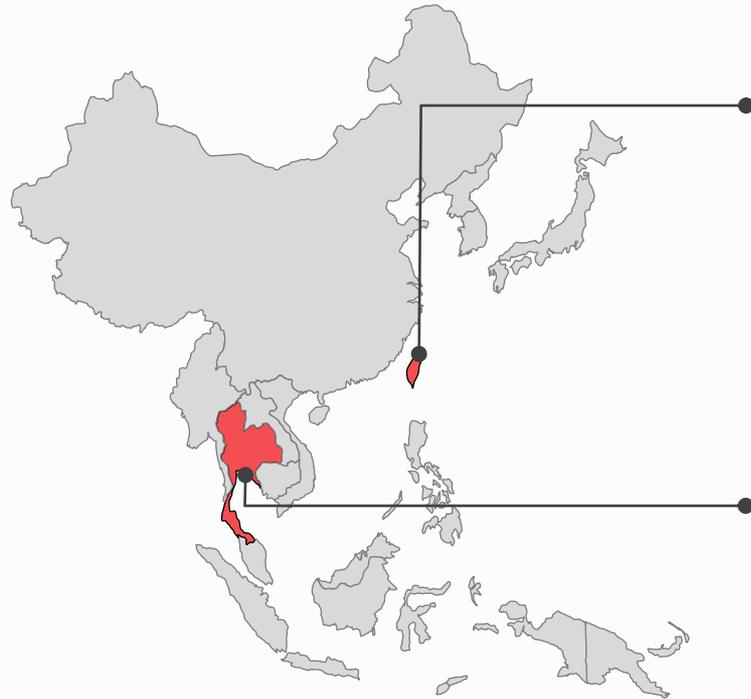
Carbon Footprint of Semi-Chemical Recycling



 The graph shows industrial Average PET with no FTR, and then 5 to 30% FTR content



PET Resin Production Sites & Capacity



Taiwan

- 2 set of Virgin PET
320,000 metric ton/year
- 1 set of Recycled PET *Mechanical*
27,000 metric ton/year



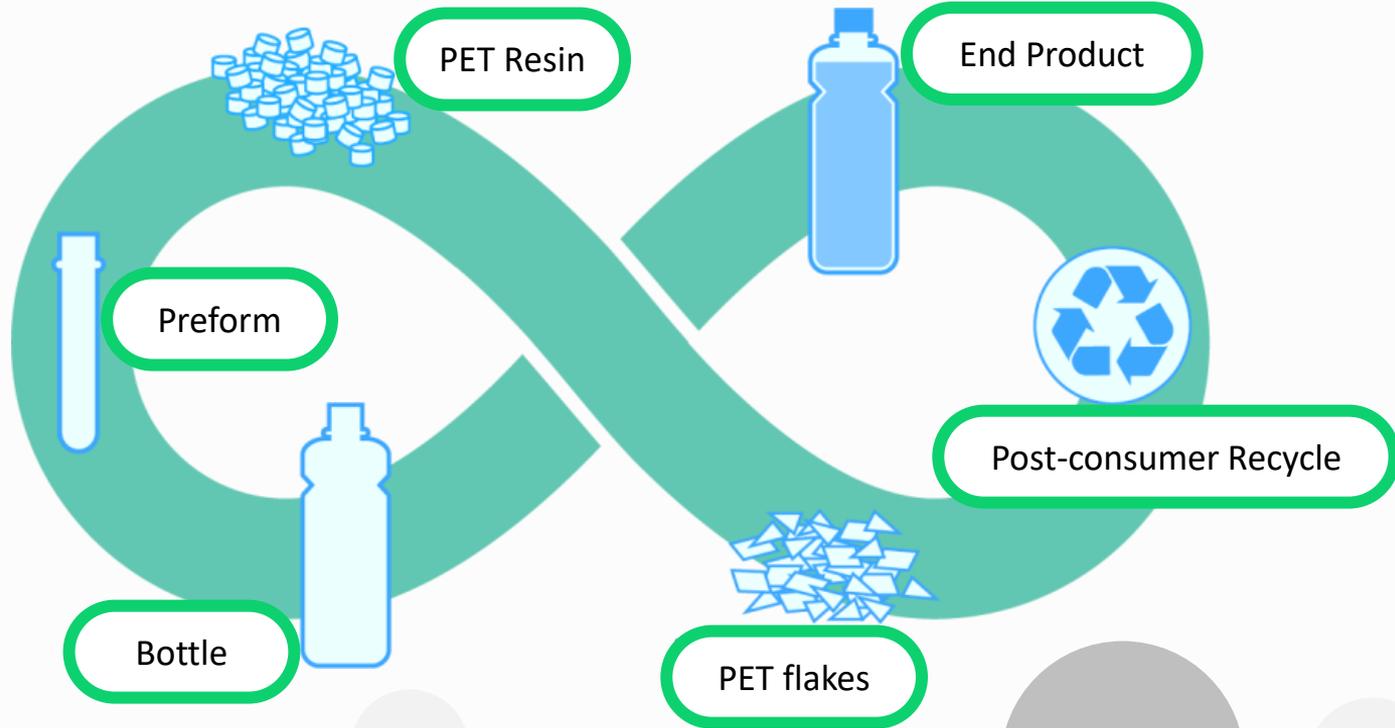
Thailand

- 1 set of Virgin PET
180,000 metric ton/year
- 1 set of Switchable 30% rPET
Semi-Chemical
200,000 metric ton/year

PET Close-loop Recycle

100% PCR

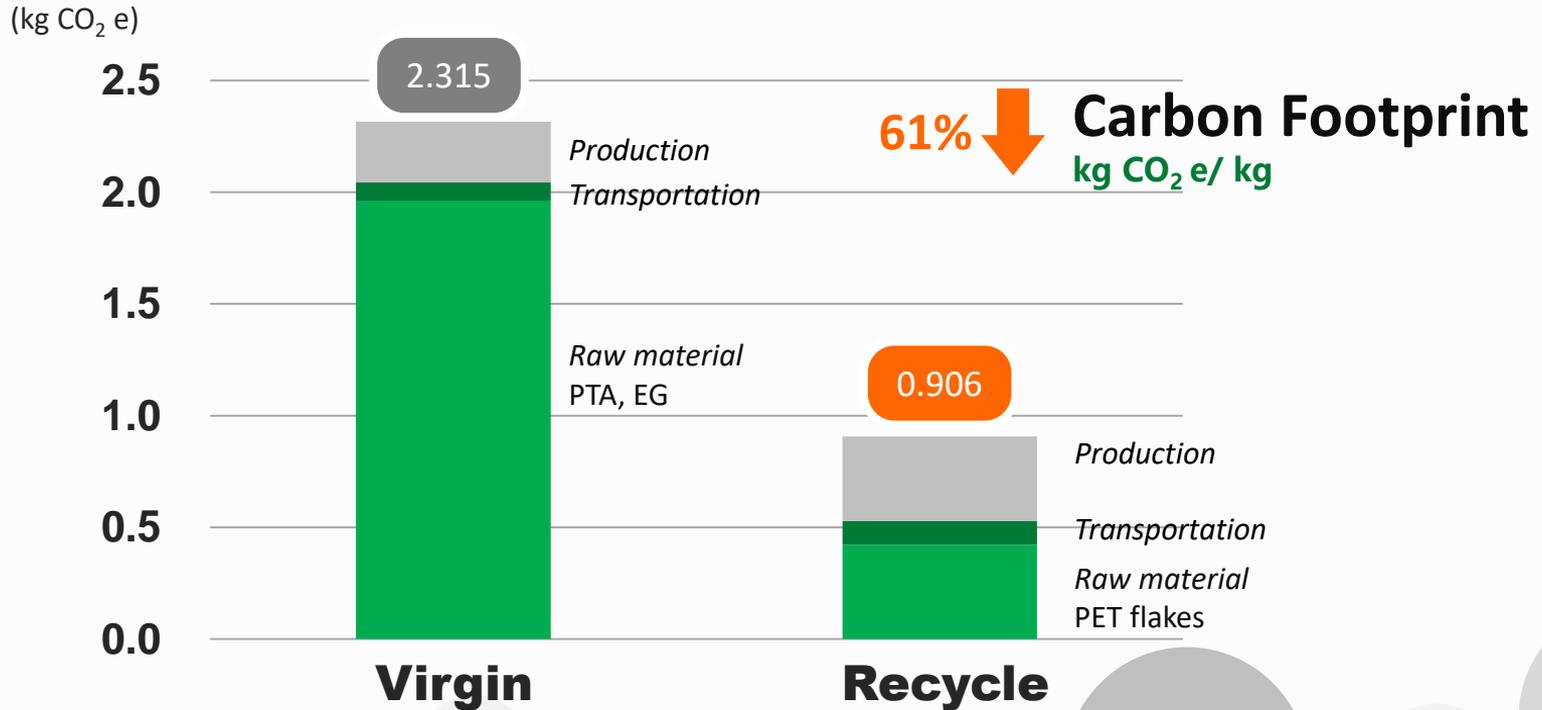
Mechanical



rPET Reduces Carbon Footprint

100% PCR

Mechanical



Compare Petro Virgin & 3 Recycling Processes of PET

	Petro Virgin 	Mechanical 	Semi-Chemical 	Chemical 
Carbon Footprint	High	Low	Low	Low
Global Capacity	≈ 45,000	≈ 2,700	≈ 600	≈ 1,100 <small>k·ton/year</small>
Purity	High	Medium	High	High
Price	1	≈ 1.5	Weighted Avg.	3-5
Single-Pellet	✓	✗	✓	✓

Clean for Food Contact

-  All contaminants are removed from the product at the latest in the DICAGE[®] reactor, which can be regarded as the most efficient degassing device.
-  Cleaning efficiency has been tested successfully in a challenge test.
-  FTR[®] is approved by US Food and Drug Administration (FDA) and by the European EFSA for food-contact applications.



Properties	Unit	Test Method	8100 Recycled	8100W Recycled	8100X Recycled
Intrinsic Viscosity	dl/g	ASTM D2857	0.76 ± 0.03	0.80 ± 0.03	0.84 ± 0.03
CIE L*		JIS Z8722	> 65	> 65	> 65
CIE b*		JIS Z8722	< 6.0	< 6.0	< 6.0
Acetaldehyde Content	ppm	CELANESE	< 1.0	< 1.0	< 1.0
Acid Value	µequ/g	ASTM D7409	<35	<35	<35
Water Content	wt%	ASTM D6869	< 0.5	< 0.5	< 0.5
Melting Point	°C	ASTM E794	248 ± 4	248 ± 4	248 ± 4
Bulk Density	g/cm3		0.85 ±0.1	0.85 ±0.1	0.85 ±0.1
Pellet Shape			Cylinder	Cylinder	Cylinder
Molding Temperature	°C	ASTM D3418	275 ~ 290	275 ~ 290	275 ~ 290

- Recommended dehumidified drying Air Flow/ Dew Point/ Temp./ Time: 1 ft cubed per min/ -40°C/ 160-170°C / 5-7 hours.
- Properties reported here are typical of average lots, making no representation that the material in any particular shipment will conform exactly to the values given. Neither SSFC nor its marketing affiliates shall be responsible for the use of this information, or of any product, method, or apparatus mentioned, and you must make your own determination of its suitability and completeness for your own use, for the protection of the environment, and for the health and safety of your employees and purchasers of your products. No warranty is made of the merchantability of fitness of any product, and nothing herein waives any of the Seller's conditions of sale.



More company information available on website

<http://www.shinkong.com.tw>



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Carbon Neutrality

Environment Sustainability

Economy Circularity