



2023 PCR TOPCIRCLE® PRODUCT MANUAL

NINGBO TOPCENTRAL NEW MATERIAL CO., LTD

PCR
GENERAL
PLASTIC
[TcycleGP®]

PCR
ENGINEERING
PLASTIC
[TcycleEP®]

PCR
SPECIAL ENGINEERING
PLASTIC
[TcycleSP®]

PCR
THERMOPLASTIC
ELASTOMERS
[TcycleElast®]

PCR
MATERIALS FOR
3D PRINTING
[TcycleAM™]

Priority Strategy of Enterprise Development
Talent for Win-Win

Our Mission
Activate Human Better Life

Our Vision
Be a Functional Platform By Innovation of AI ,
Science Technology and Talent for Win-Win.



Topcentral®
Official Wechat



Official website
(Chinese)



Official website
(English)



Topcentral®Digital
Marketing Center



Topcentral R&D
Innovation
Research Center



Topcentral®
Bilibili Account



Topcentral®
Weibo Account



Topcentral®Digital
Supply Chain Center



ELIT talent digital
innovation
service platform



Topcentral®
Tiktok Account



Topcentral® Mall



ELIT HR
Innovation Center

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Company Profile

Ningbo Topcentral New Material CO.,Ltd is a high-tech enterprise focusing on sustainable and green low-carbon functional materials (PCR Topcircle®), new material modification (PCRBlend™) R&D and technical services, bio-based and degradable materials. Topcircle® products include general plastic series (TcycleGP®), engineering plastics series (TcycleEP®), specialty engineering plastics series (TcycleSP®), thermoplastic elastomer (TcycleElast®), 3D printing PCR additive (TcycleAM™) and other brands and technical services, including but not limited to rPC [PCR PC®], rABS [IBISS®], rPET [TC-Rester®], rPA6/66 [Nairong®], rPP [Ploypoy®], rPE [Poisye®] and other almost all kinds of plastic varieties, integrating R&D innovation, testing and analysis, manufacturing, sales and technical services, etc., to provide professional, high-performance, functional and customized new material system innovative solutions.

Strong R&D and technological innovation team

A highly educated, experienced and innovative talent team have converged in Topcentral®. More than 60% Topcentral's employees have bachelor degree or above. The R&D personnel have accounted for the total number of staff 48%. The core researchers in Topcentral® have obvious professional and academic advantages in the fields of plastic recycling economy, new materials, etc. Meanwhile, they have rich industrial experience and carry out industry-university-research cooperation with Chinese Academic of Science, Tianjin University, Zhejiang University and Zhejiang University Ningbo Institute of Technology and other domestic universities to devote to break the key technical bottlenecks of the circular economy materials and keep providing the productions and the technical services with low-carbon & high quality.

Professional quality and digital team

Topcentral® has passed the ISO9001, ISO14001 and ISO45001 certification by TÜV Rheinland, and adhere to the whole life cycle of products to track carbon footprint, full traceability and full quality cycle management.

In the future, Topcentral® covers nine categories of sustainable products, innovative technologies and integrated services.

01 Recyclable and innovative plastics and technology	02 New material modification and technology	03 Biobased materials and biodegradable technology
04 Highly sophisticated, products design and service	05 Special composites and technology	06 New functional, materials design and customization
07 IP authorization, cooperation and integrated Services	08 Whole industry chain, design innovation and new business model	09 Intelligent equipment and cloud data service

OUR VISION Our Vision

Be a Functional Platform By Innovation of AI, Science Technology and Talent for Win-Win.



Company History

2019.12



2019.12

Ningbo Topcentral New Materials Co., Ltd. was established. Topcentral® is guided by "goals, efficiency and value", adheres to the business philosophy of sustainable", and works with the principle of "broaden sources, reduce expenditure and high efficiency".



2021.7

Included in the "National Science and Technology Small and Medium-sized Enterprises".

2020



2021.9

Included in the "Specialized, Refined, Characterized and Novel SMEs of Zhejiang Province".



2021.12

National high-tech enterprise.

2021



2021.12

Postdoctoral workstation in Zhejiang Province.



2022.7

Included in the "Specialized, Refined, Characterized and Novel SMEs of Ningbo".

2022



2022.7

Topcentral Branch commission of the CPC was established.



2022.9

Selected for the reserve pool of companies to be listed on the STAR.



2022.10

TÜV Rheinland awards double carbon neutral certification to Topcentral® at product and organizational levels.

2022



2022.10

Awarded Carbon Neutral Pioneer Award.



2022.12

Awarded the CEIBS Carbon Neutrality Innovation Cooperation Demonstration Project.



2022.12

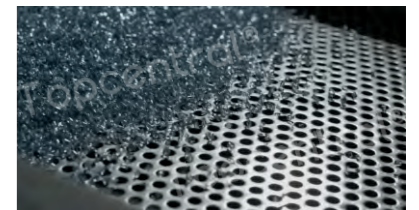
Awarded the certificate of intellectual property management system certification.

2023



2023.1

Certified three systems by TÜV Rheinland.



2023.1

Selected as Ningbo manufacturing individual champion cultivation enterprise.

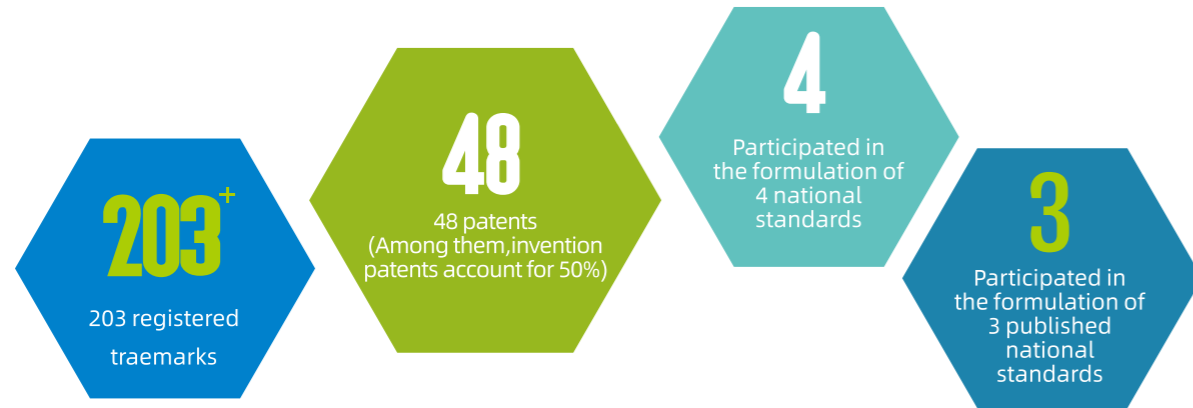


2023.2

Topcentral® and TÜV Rheinland signed a strategic cooperation agreement.



Qualification



Topcentral® has certificated by International Quality System Certification (ISO9001), International Environmental Management System Certification (ISO14001) and Occupational Health And Safety Management System Certification (ISO45001) by TÜV. Related products have passed Global Recycled Standard (GRS) certification, SCS Global certification, UL2809 and ITE certification, UL OBP, Coashbound™ OBP certification, TÜV PCR certification. Organizational carbon footprint product carbon footprint, organizational carbon neutrality, product carbon neutrality [cradle-to-gate].



Brand Matrix

Brand Matrix

PCR Topcircle®				PCR modification Circle PCRBlend™		Bio-based and degradable materials	Chemistry Circle
TcycleGP® (PCR ABS (埃必思®/IBISS®))	TcycleEP® (PCR PA (奈龙®/Nairong®))	TcycleSP®特生塑® (PCR PEI (里裴尔®/RIPEI®))	TcycleElast® (PCR TPU (泰扑优®/Taporu®))	rPCBlend™	Circleblend®	拜德康®/Bydercom®	CHEMCIRCLE®
PCR PET (汰酯特®/TC-Rester®)	PCR PC (浦丽茨®/PCR PC®)	PCR PSU/PPSU/PES (帕塑®/ParSuie®)	PCR TPV/TPO (塑普领®/SupperPrene®)	rABSBlend™	OBPBlend™	BlendPBAT®	Circulechem™
PCR GPPS (基普斯®/Gipurpose®)	PCR PETG (派特基®/PeiTgi®)	PCR LCP (莱兹比®/Lacypee®)	PCR TPE/TPR (塔普依®/TayPreme®)	rPETBlend™	OceanBlend™		
PCR PMMA (布迈码®/PruMyMa®)	PCR PETG (派特基®/PeiTgi®)		TcycleAM™	rPABlend™	LakeBlend™		
PCR HIPS (韩派斯®/Hipars®)	PCR PCTG (浦赤季®/PuCyTgi®)			rAlloyBlend™	ITEBlend™		
PCR PP (宝立宝®/PloyPay®)	PCR PBT (扑必特®/Pubit®)			rPPBlend™	ReAutoBlend™		
PCR PE (普艾斯®/Poisye®)				rPBBlend™	APPBlend™		
PCR AS (澳普特®/Acy®)				rHDPEBlend™	TextBlend™		
Oceancycle® PET (澳普特®/OceanPET®)				rPEBlend™			
				rPPABlend™			

Innovative Service Matrix	Intellectual Property Matrix	Business Model Matrix	Innovation and entrepreneurship service platform
Business Service Innovation	Public welfare Services	锋赤链® TCBCChain™	芯生万物®
海溯®/Oceancycle®	Ocean Partner®	爱谍探™	希畴™舱/SeaHipot™
Lakecycle®	海洋伙伴™	Topcentralguard™	礼哒™/Lynddoat™
Textcycle®		CLCAL	埃众特™/Azoom™
ITCycle®		BgDAT	艾毕特™/Aibiett™
ReAutoloop®			希畴™咖啡 SeaHiCaffe™
Coastbound™			希畴™超市 SeaHiShopp™
Appcycle®			希斯迈®/Cysmart®
			臻炜®/TruBgi®
			AddsInside™
			BYE PINO
			幸延®/Xnyar®
			塔各美™ TAGV
			塔盖为®

- PCR
General
Plastic
[TcycleGP®]
- PCR
Engineering
Plastic
[TcycleEP®]
- PCR
Special Engineering
Plastic
[TcycleSP®]
- PCR
Thermoplastic
Elastomers
[TcycleElast®]
- PCR
Materials For
3D Printing
[TcycleAM™]

PCR Topcircle®

PCR General-Purpose Plastics[TcycleGP®]

➔ [PCR Acrylonitrile Butadiene Styrene, IBISS® rABS]

PCR Polyacrylonitrile-Butadiene-Styrene (IBISS® rABS) is a recycled post-consumer product (sources including but not limited to appliances, communications equipment, tubing, sheet, coils, consumer electronics, etc.), pretreated and standardized Plastic particles prepared by processes such as granulation and modification. According to different recycling sources and quality grades, we design sorting and screening, technological innovation breakthroughs, performance re-optimization and high-quality automated production and processing to provide customers with Extrusion and injection grade IBISS® rABS granules. The company's products cover different sources of emulsion method and bulk method, and can provide different colors including but not limited to natural color, black, gray, white and so on. It can meet the different application needs of customers in the industry, and can provide a full range of customized system solutions and innovative solutions according to the special requirements of customers.



IBISS® rABS General Series

Grade Name	Melt Index g/10min	Notched IZOD Impact KJ/M ²	Appearance	Certification	Application	Characteristic
rABS-N115CG	15~30	≥15	High Gloss Natural	UL2809/GRS	Modification, Injection	High Gloss
rABS-NE115B	10~20	≥14	Natural	UL2809/GRS	Modification, Injection	Low Gloss
rABS-N115BD	10~20	≥15	Natural	UL2809/GRS	Modification, Injection	Low Gloss

IBISS® rABS Functional Innovation Series

Grade Name	Melt Index g/10min	Notched IZOD Impact KJ/M ²	Appearance	Certification	Application	Characteristic
rABS-N120E	35~50	≥18	Natural	UL2809/GRS	Modification, Injection	Excellent Flowability
rABS-N135A	4~10	≥30	Natural	GRS	Modification, Injection	Excellent Impact
rABS-N128MT	25~35	≥12	Natural	GRS	Modification, Injection	High Modulus
rABS-N115LV	6~14	≥15	Natural	GRS	Modification, Injection	Low VOC
rMABS-T170C	20~30	≥10	Transparent	GRS/TÜV	Injection	Transparent
rABS-N315F	15~25	≥15	Natural	UL2809/TÜV/GRS	Modification, Injection	FDA
rABS-N315BF	30~45	≥15	Natural	GRS/TÜV	Modification, Injection	BPA FREE, FDA
rMABS-AB915	20~30	≥15	Natural	GRS	Modification, Injection	Antibacterial Anti-coronavirus



IBISS®rABS Customized Series

Grade Name	Melt Index g/10min	Notched IZOD ImpactKJ/m²	Appearance	Certification	Application	Characteristic
rABS-IT2012BL	20~30	≥12	Black	UL2809 ITE/GRS	Modification, Injection	ITEcycle®
rABS-IT2010GL	10~20	≥10	Grey	UL2809 ITE/GRS	Modification, Injection, Extrusion	ITEcycle®
rABS-HA2012BL	20~30	≥12	Black	GRS	Modification, Injection	Appcycle®
rABS-HA1510GL	10~20	≥10	Grey	GRS	Modification, Injection	Appcycle®
rABS-BP12N (Mass-ABS)	5~15	≥10	Natural Low Gloss	GRS	Modification, Injection, Extrusion	-

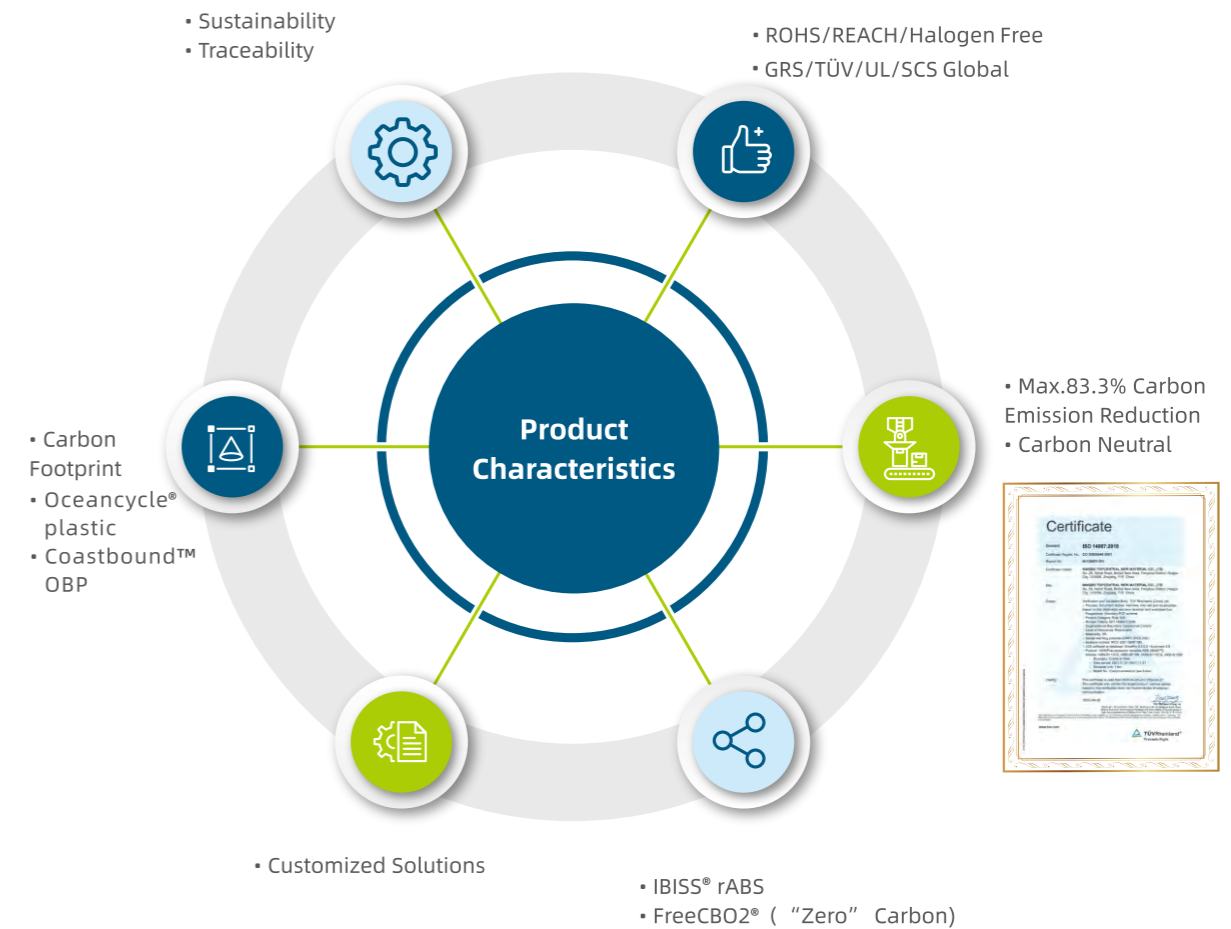
IBISS®FreeCBO2® "Zero" Carbon Series

Grade Name	Melt Index g/10min	Notched IZOD ImpactKJ/m²	Appearance	Certification	Application	Characteristic
rABS-N115CG	15~25	≥15	Natural High Gloss	UL2809/TÜV/GRS /Zero-carbon	Modification, Injection	FreeCBO2®
rABS-N120B	10~20	≥20	Natural	UL2809/TÜV/GRS /Zero-carbon	Modification, Injection, Extrusion	FreeCBO2®
rABS-B112CG	20~30	≥12	Black High Gloss	UL2809/TÜV/GRS /Zero-carbon	Modification, Injection	FreeCBO2®
rABS-Ocean78A	20~35	≥10	Beige	GRS/SCS Global	Modification, Injection	Oceancycle® Plastic FreeCBO2®
rABS-BP18N (Mass-ABS)	6~14	≥15	Natural Low Gloss	UL2809/TÜV/GRS /Zero-carbon	Modification, Injection, Extrusion	FreeCBO2®
rABS-BP78A	12~15	≥12	Natural High Gloss	GRS/UL OBP	Modification, Injection, Extrusion	Coastbound™ OBP FreeCBO2®

Product Brands

Topcircle®, TcycleGP®, IBISS®, Oceancycle®, Coastbound™ OBP, Appcycle®;

Product Characteristics



Product Application

The products are suitable for deep processing modification granulation, extrusion molding, injection molding, and can be widely used in various product parts as Home appliances, Electrical appliances, Automotives, Packaging, and Daily chemical products.



➔ [PCR Polypropylene , Ploypoy®rPP]

Recycled Polypropylene (Ploypoy®rPP) was produced through recycling post-consumer products, pretreatment, standardized granulation and other technological processes. According to different recycling sources and quality grades, special classification method, technological innovation and high-quality automatic processing were applied to produce high products. Extrusion grade, injection molding grade and blow molding grade rPP particles can be provided. The colors include but not limited to natural color, black and white, which can meet the different application needs of customers. We also can provide all-round customized system solutions and innovative solutions according to the special requirements of customers.



Ploypoy®rPP Typical Product

Typical Grade	MFI g/10min	Tensile Strength MPa	IZOD Notched Impact Strength, KJ/m ²	Appearance	Certification	Application
rPP-W120A	1~4	≥20	≥5	Natural	GRS	Blow Molding, Extrusion
rPP-W160A	4~8	≥20	≥5	Natural	GRS/TÜV	Injection
rPP-W110TA	7~13	≥25	≥4	Natural	GRS	Injection
rPP-W110XR	7~13	≥20	≥7	white	GRS	Injection
rPP-W115TA	12~18	≥20	≥3	Natural	GRS	Injection
rPP-W120TA	20~30	≥20	≥3	Natural	GRS	Injection
rPP-W120XR	20~40	≥20	≥6	white	GRS	Injection
rPP-W130TA	30~60	≥25	≥3	Natural	GRS	Injection
rPP-BP26	2~10	≥18	≥3	Natural	GRS/ UL OBP	Coastbound™ OBP
rPP-Ocean78A	5~15	≥16	≥3	Natural	GRS/SCS Global/ Oceancycle® OP/	Oceancycle® plastic
rPP-BK180	5~15	≥20	≥5	Black	GRS	Compounding, Injection
rPP-T130TA	30~60	≥30	≥2	Transparent nature	GRS	Compounding, Injection

Product Brands

Topcircle®, TcycleGP®, Ploypoy®, Oceancycle®, Coastbound™ OBP, FreeCBO2® (Zero Carbon) ;

Product Application

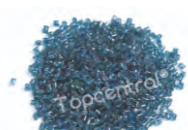
The products can be used to blow molded products such as cosmetic bottle body, extruded film / plate, various injection molded parts and other fields.



rPP-W120A



rPP-W160A



PP-W130TA

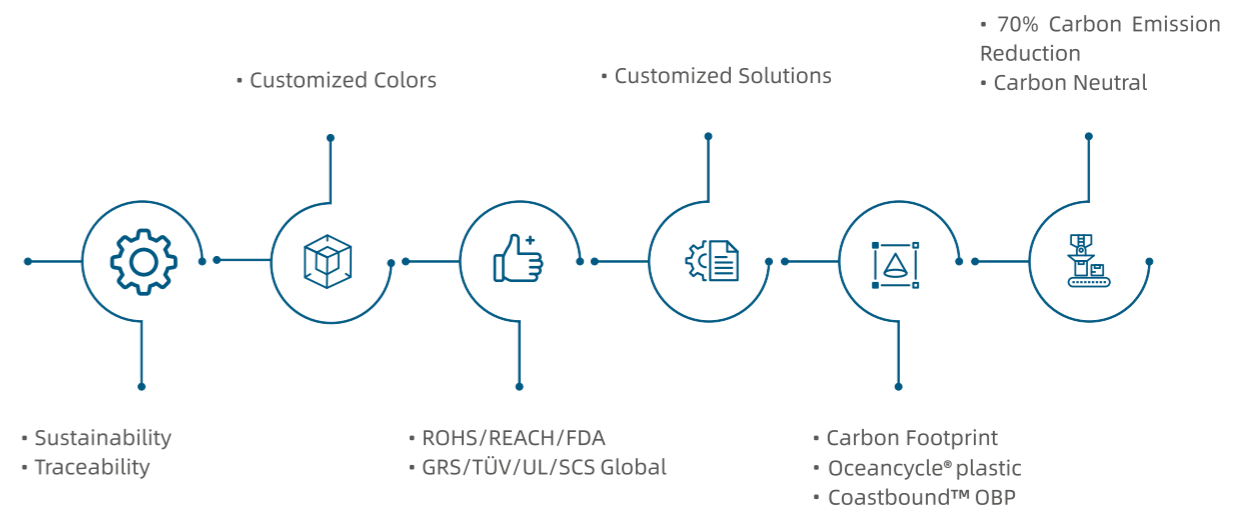


rPP-W125T(B)



rPP-BP26

Product Characteristics



➔ [PCR Polyethylene, Poisye®rPE]

Recycled Polyethylene (Poisye®rPE) was produced through recycling post-consumer products, pretreatment, standardized granulation and other technological processes. According to different recycling sources and quality grades, special classification method, technological innovation and high-quality automatic processing were applied to produce high products. Blow molding grade, extrusion grade and injection molding grade rPE particles can be provided. The colors include but not limited to natural color, black and white, which can meet the different application needs of customers. We also can provide all-round customized system solutions and innovative solutions according to the special requirements of customers.



Poisye®rPE Typical Product

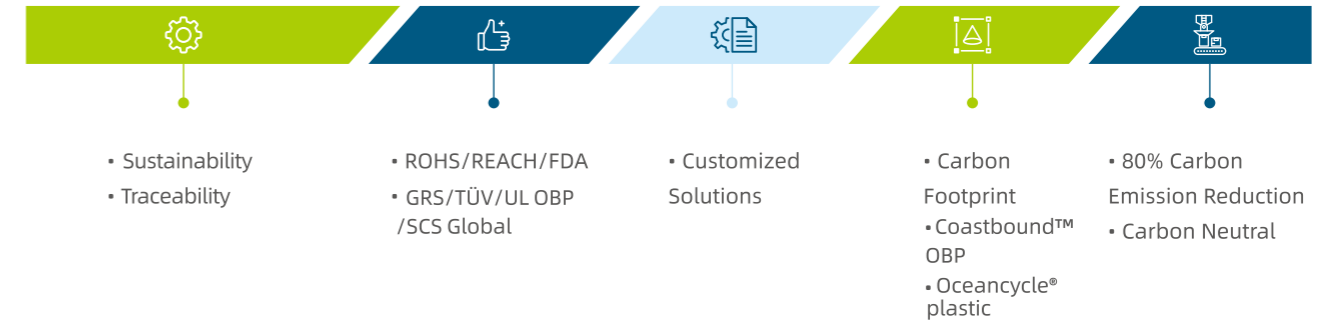
Typical Grade	MFI g/10min	Tensile Strength MPa	IZOD Notched Impact Strength, KJ/m ²	Appearance	Certification	Application
rHDPE-W105A	0.1~1	≥20	≥20	Natural	GRS/TÜV	Blow Molding
rHDPE-W180A	5~10	≥18	≥4	Natural	GRS	Injection
rHDPE-M140	2~8	≥18	≥5	Specified	GRS	Injection
rHDPE-Ocean78A	0.1~8	≥16	≥3	Black	SCS Global/GRS	Oceancycle® plastic
rLDPE-W210A	0.5~3	≥10	/	Natural	GRS	Blow Molding
rPE-BP06	0.1~6	≥6	≥3	Natural	GRS/UL OBP	Coastbound™ OBP
rHDPE-B110P	0.5~2	≥10	≥15	Black	GRS/UL OBP	Coastbound™ OBP
rHDPE-G110P	0.5~2	≥10	≥15	Green	GRS/UL OBP	Coastbound™ OBP
rHDPE-M120P	1~6	≥10	≥4	Specified	GRS/UL OBP	Coastbound™ OBP



Product Brands

Topcircle®, TcycleGP®, Poisye®, Oceancycle®, Coastbound™ OBP, FreeCBO2®("Zero"Carbon);

Product Characteristics



Product Application

Products can be used in hollow containers, extruded pipes, injection molded products, films and some other fields according to different MFI.



rHDPE-W105A



rHDPE-M140



rLDPE-210A



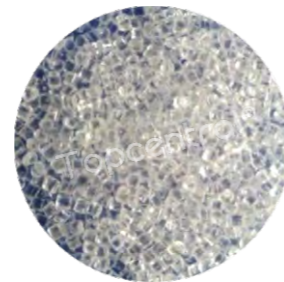
rPE-BP06





➔ [PCR General Purpose Polystyrene, Gipurpose® rGPPS]

Recycled General Purpose Polystyrene (Gipurpose® rGPPS) was produced through pretreatment, produced through pretreatment, granulation and other technological processes. According to different recycling sources and quality grades, we design classification and screening, technological innovation breakthroughs, performance re-optimization and high-quality automatic production and processing. We can provide customers with extrusion grade and injection grade rGPPS particles, including natural color transparent and specified colors, etc. To satisfy the different application needs of customers, we can provide a full range of customized system solutions and innovative solutions according to the special requirements of customers.



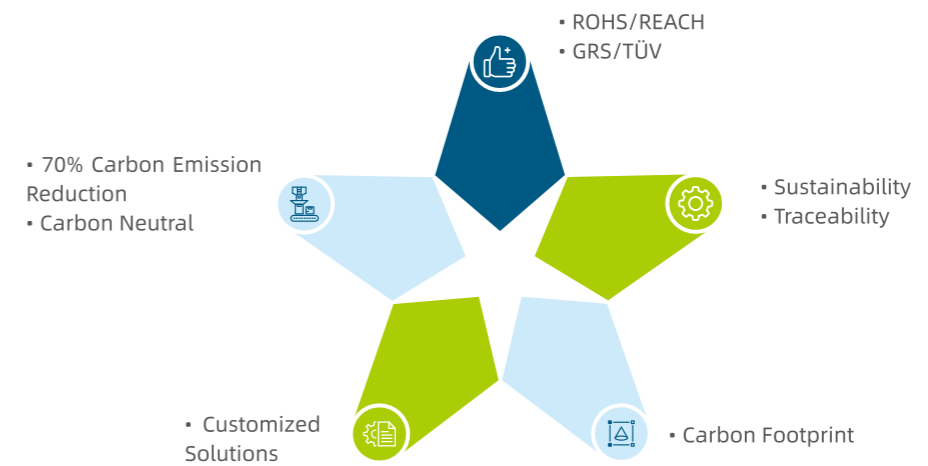
Gipurpose® rGPPS Typical Product

Grade Name	Melt Index g/10min	Notched IZOD Impact KJ/m ²	Appearance	Certification	Application
rGPPS-T301	3~10	≥3	Transparent	GRS/TÜV	Injection, Compounding

Product Brands

Topcircle®, TcycleGP®, Gipurpose®, FreeCBO2® ("Zero" Carbon);

Product Characteristics



Product Application

Products can be used for modification processing, injection molding, extrusion, which can produce different plastic products such as electrical appliances, daily necessities, etc.



➔ [PCR Polyethylene Terephthalate, TC-Rester® rPET]

Based on post-consumer bottles, recycled polyethylene terephthalate (TC-Rester® rPET) products contain rPET flakes after pre-treatment and TC-Rester® rPET pellets after extrusion. According to different recycled source and quality classification, we design specific sorting process, innovate technological breakthrough, optimize product performance and realize automatic processing. The TC-Rester® rPET pellets can be applied to extrusion, cast PET film, biaxially oriented PET film, blow molding and injection, etc. The rPET series cover the product brands with low viscosity, medium viscosity, and high viscosity. The products comply with RoHS/REACH and are certified by GRS/SCS Global/UL/TÜV. In addition, some of them pass FDA tests. Meanwhile, the OceanPET® series of products, including ocean-bound plastic and ocean plastic, can be provided to satisfy customer requirements. The system innovation solutions can be designed according to the customers' special requirements.



TC-Rester®rPET General Series

Typical Grade	rPET-AFK	rPET-BFK	rPET-PCR78AP	rPET-PCR70A	rPET-PCR75A
Product Trademark	TC-Rester®	TC-Rester®	TC-Rester®	TC-Rester®	TC-Rester®
Intrinsic Viscosity (dL/g, 25°C)	0.73~0.8	0.70~0.76	0.65~0.84	0.70±0.02	0.75±0.02
Moisture (%)	≤1.20	≤1.50	≤0.40	≤0.40	≤0.40
PVC Content(ppm)	≤100	≤200	-	-	-
Polyolefin Content(ppm)	≤50	≤50	-	-	-
Appearance	White Transparent Flakes	Blue and White Transparent Flakes	White	White	White
Certificate	GRS	GRS	GRS/UL 2809/TÜV/ "Zero" Carbon and carbon footprint certificate	GRS	GRS
Product Features	High Purity, Low Metal Content	Highly Cost Effective	FreeCBO2®	High Purity, Good Flowability	Good Toughness
Application	Spinning, Granulation, Degradation	Spinning, Granulation, Degradation	Spinning, Compounding, Extrusion/Injection	Spinning, Film (Cast film, Biaxially Oriented Film, Etc)	Compounding, Extrusion, Injection

TC-Rester® rPET Functional Series

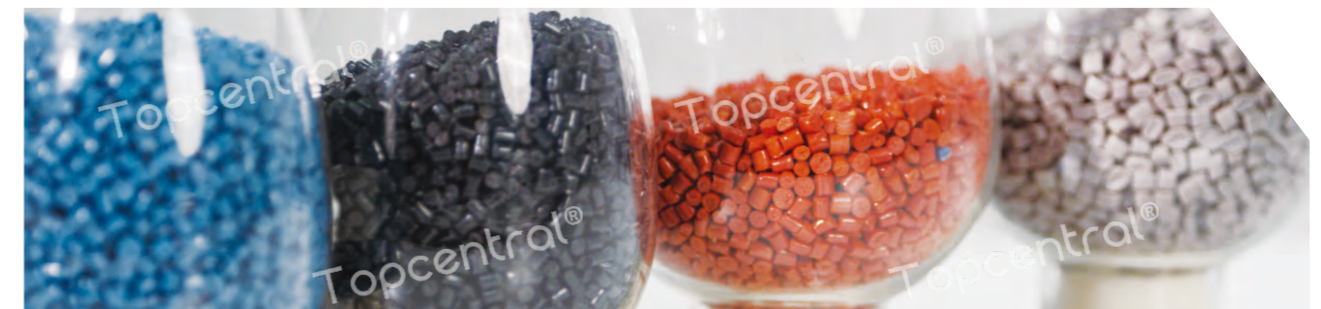
Material Brand	rPET-PCR80A	rPET-PCR84A	rPET-F80A (FDA grade)
Product Trademark	TC-Rester®	TC-Rester®	TC-Rester®
Intrinsic Viscosity (dL/g, 25°C)	0.80±0.02	0.84±0.02	0.60-0.80
Moisture (%)	≤0.40	≤0.40	≤0.40
Appearance	White	White	White
Certificate	GRS/UL 2809	GRS/TÜV	GRS/UL2809/TÜV
Product Features	Medium-high Viscosity	High Viscosity	Pass FDA Test
Application	Compounding, Extrusion, Injection	Compounding, Extrusion, Injection	Spinning, Film (Cast Film, Biaxially Oriented Film, Etc), Extrusion/Injection

Oceancycle® OceanPET® rPET Customized Series

Material Brand	rPET-Ocean78A (Ocean Grade)	rPET-BP78A (OBP Grade)	rPET-S78A
Product Trademark	OceanPET® & Oceancycle®	OceanPET® & Oceancycle®	OceanPET®
Intrinsic Viscosity (dL/g, 25°C)	0.60-0.75	0.60-0.80	0.65~0.8
Moisture (%)	≤0.40	≤0.40	≤0.40
Appearance	White	White	White
Certificate	SCS Global/GRS /Zero-carbon	UL OBP/GRS /Zero-carbon	GRS/UL 2809
Product Features	Oceancycle® Plastic FreeCBO2®	Coastbound™ OBP FreeCBO2®	Specific Recycled Source and Application
Application	Spinning, Compounding, Extrusion, Injection, Degradation	Spinning, Compounding, Extrusion, Injection, Degradation	Spinning, Compounding, Extrusion, Injection, Degradation

Product Brands

Topcircle®, TcycleGP®, TC-Rester®, FreeCBO2®("Zero"Carbon), OceanPET®, Textcycle®, Oceancycle®, Coastbound™ OBP, Lakecycle®, Ocean Partner®;



Product Characteristics



- Sustainability
- Traceability



- ROHS/REACH/FDA
- GRS/SCS Global/UL2809/TÜV /UL OBP



- High purity and transparent;
- Extremely low blackspot content and b value;



- Oceancycle® OP/Coastbound™ OBP/ Oceancycle® plastic
- Ocean Partner®



- Carbon Footprint



- "Zero" Carbon



- Customized Solutions



- Max77.7% Carbon Emission Reduction
- Carbon Neutral



Product Application

The rPET series contain product brands with low viscosity (0.70 dL/g), medium viscosity (0.75 dL/g and 0.8 dL/g) and high viscosity (0.84 dL/g). And intrinsic viscosity of 0.85dL/g-1.1dL/g is available in 2023. The series of products can be applied to film, sheet, packaging containers and chemical fibers, etc.



PET film



PET sheets



PET fibers



PET bottles

➔ [PCR High impact polystyrene, Hipars® rHIPS]

PCR High impact polystyrene, Hipars® rHIPS is origin from post-consumer products (sources including but not limited to appliances, communications equipment, tubing, sheet, coils, consumer electronics, etc.) pretreated and standardized Plastic particles prepared by processes such as granulation and modification. According to different recycling sources and quality grades, we design sorting and screening, technological innovation breakthroughs, performance re-optimization and high-quality automated production and processing to provide customers with Extrusion and injection grade Hipars® rHIPS granules. Provide different colors including but not limited to natural color, black, gray, white and so on. It can meet the different application needs of customers in the industry, and can provide a full range of customized system solutions and innovative solutions according to the special requirements of customers.



Hipars® rHIPS General Series

Material Brand	Melt Index g/10min	IZOD Impact J/m	Tensile Strength MPa	Elongation, brk %	Flexural Strength MPa	Flexural Modulus MPa	Appearance	Certification	Application
rHIPS-W107	4~10	≥65	≥20	≥8	≥28	≥1800	White	GRS	Injection , Extrusion
rHIPS-B108	4~10	≥70	≥20	≥8	≥28	≥1800	Black	GRS	Injection , Extrusion
rHIPS-GY108	4~10	≥70	≥20	≥8	≥28	≥1800	Grey	GRS	Injection , Extrusion
rHIPS-N107	3~10	≥70	≥20	≥17	≥30	≥1800	Nature	GRS	Injection , Modification

Product Brands

Topcircle®, TcycleGP®, Hipars®;

Product Characteristics



Product Application

The series of products can be applied to appliances shell, food packaging, etc.

➔ PCR Polymethyl methacrylate, PruMyMa® rPMMA

PCR Polymethyl methacrylate, PruMyMa® rPMMA is origin from post-consumer products (sources including but not limited to food containers, sealed cans, cosmetic cases, etc.) pretreated and standardized Plastic particles prepared by processes such as granulation and modification. According to different recycling sources and quality grades, we design sorting and screening, technological innovation breakthroughs, performance re-optimization and high-quality automated production and processing to provide customers with Extrusion and injection grade PruMyMa® rPMMA granules. The company's products are mainly colorless and transparent products series. It can meet the different application needs of customers in the industry, and can provide a full range of customized system solutions and innovative solutions according to the special requirements of customers.



PruMyMa® rPMMA General Series

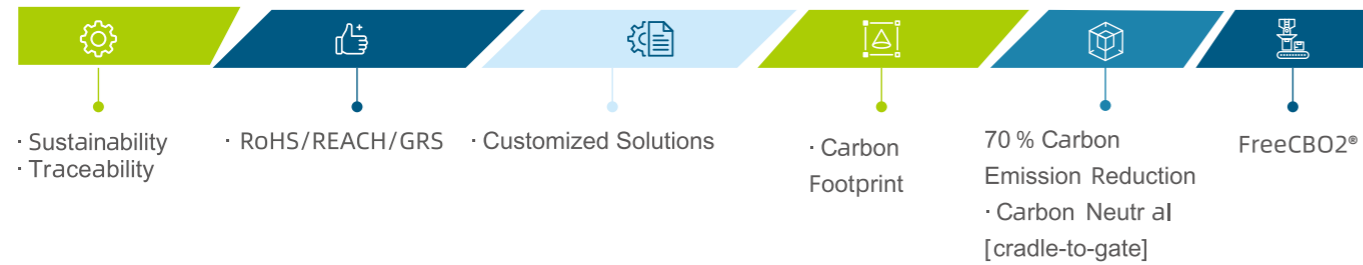
Material Brand	Melt Index g/10min	IZOD Impact J/m	Tensile Strength MPa	Flexural Strength MPa	Flexural Modulus MPa	Appearance	Certification	Application	Characteristic
rPMMA-T80A	1~5	≥20	≥60	≥100	≥2500	Transparent	GRS	Injection Compounding	transparency

Product Brands

Topcircle®, TcycleGP®, PruMyMa®;



Product Characteristics



Product Application

The applications are lampshades, instrumentation, electronic displays and daily necessities, etc.

➔ [PCR Acrylonitrile-styrene copolymer, Acsy® rAS]

PCR Acrylonitrile-styrene copolymer is origin from post-consumer products (sources including but not limited to food containers, sealed cans, cosmetic cases, etc.) pretreated and standardized Plastic particles prepared by processes such as granulation and modification. According to different recycling sources and quality grades, we design sorting and screening, technological innovation breakthroughs, performance re-optimization and high-quality automated production and processing to provide customers with Extrusion and injection grade rAS granules. The company's products are mainly colorless transparent, blue transparent, black and so on. It can meet the different application needs of customers in the industry, and can provide a full range of customized system solutions and innovative solutions according to the special requirements of customers.

Acsy® General Series

Material Brand	Melt Index g/10min	content of Br, ppm	IZOD Impact KJ/m ²	Tensile Strength MPa	Elongation At Brk, %	Flexural Strength MPa	Flexural Modulus MPa	Appearance	Application	Product features
rAS-T140	30-50	≤100	≥25	≥50	≥6	≥100	≥2500	Colorless and Transparent	injection Molding Modification	Black spots, transparency
rAS-B130	25-45	≤300	≥25	≥50	≥6	≥100	≥2500	High gloss black	injection Molding Modification	Economic

Product Brands

Topcircle®, TcycleGP®, Acsy®;

Product Characteristics



Product Application

The applications are tableware, toothbrush, refrigerator compartment, light fittings, ornaments, meter mirrors, packaging boxes, stationary, etc.

PCR Engineering Plastic [TcycleEP®]



➔ [PCR Polycarbonate, PCR PC®]



PCR PC® General Series

Typical Grade	MFI g/10min	Notched Impact Strength J/m	Color Appearance	Certification	Typical Application	Product Features
PC-T15	15-20	≥700	Colorless and Transparent	GRS	Injection Molding, Modification	Black pot, transparency and high impact resistance
PC-T20	20-25	≥600	Colorless and Transparent	GRS	Injection Molding, Modification	Black pot, transparency and flow processing
PC-T25	25-30	≥100	Colorless and Transparent	GRS	Injection Molding, Modification	Black pot, transparency and fluidity
PC-T50	50~60	≥100	Colorless and Transparent	GRS	Injection Molding, Modification	Black pot, transparency and superhigh fluidity
PC-T80	60-80	≥80	Colorless and Transparent	GRS	Injection Molding, Modification	Black pot, transparency and superhigh fluidity
PC-WB01	6~12	≥700	Blue Transparent	GRS/UL 2809 /Zero-carbon	Injection Molding, Extrusion, Modification	Color stability and high impact resistance
PC-WB02	12-18	≥500	Dark Transparent	GRS/UL 2809 /Zero-carbon	Injection Molding, Modification	Dark Color, Cost Economic
PC-WB03	15~25	≥300	Dark Transparent	GRS/UL 2809 /Zero-carbon	Injection Molding, Modification	Dark Color, Cost Economic



PCR Polycarbonate (PCR PC® rPC) is a recycled post-consumer product (sources include but not limited to drinking water buckets, transparent sheets, lamp cover, transparent container, lens, CD/VCD/DVD disks, etc.), which is manufactured by the technological process of pre-treatment, standardized pelletized and modified etc. According to different recycling sources and quality grades, Topcentral® could provide customers with extrusion and injection grade PCR PC® particles. Our products cover different molecular, color and properties and customized products can be provided according to the specific requirements of customers, including extrusion, blow molding, injection molding, Compounding, etc.

PCR PC® Functional Innovation

Typical Grade	MFI, g/10min	Notched Impact Strength J/m	Color Appearance	Certification	Typical Application	Product Features
PC-BG105	17~25	≥110	Black, High Gloss	GRS	Injection Molding, Modification	High Gloss Appearance
PC-T103AR	12-18	≥700	Transparent	GRS	Injection Molding	Compliance With Toy Regulations
PC-FT315	12~16	≥700	Transparent	TÜV/GRS/UL2809	Injection Molding	FDA

PCR PC® Customized Series

Typical Grade	MFI, g/10min	Notched Impact Strength J/m	Color Appearance	Certification	Typical Application	Product Features
PC-IT3020BTL	15~21	≥500	Black	UL ITE/GRS	Injection Molding, Modification	ITEcycle®
PC-2010BK	20~30	≥100	Black	UL2809/GRS	Injection Molding, Modification	Autocycle
PC-ET08A	6~9	750	transparent	GRS	extrusion, Modification	high viscosity
PC-BP78A	7~12	≥600	Blue transparent	GRS/UL OBP	Injection Molding, Extrusion, Modification	Coastbound™ OBP

PCR PC® FreeCBO2® Zero Carbon Series

Typical Grade	MFI, g/10min	Notched Impact Strength J/m	Color Appearance	Certification	Typical Application	Product Features
PC-T103A	12~18	≥600	Transparent	UL2809/TÜV/GRS	Injection Molding, Extrusion, Modification	FreeCBO2®
PC-T105A	15~25	≥600	Transparent	UL2809/TÜV/GRS	Injection Molding, Modification	FreeCBO2®
PC-T108A	65~75	≥100	Transparent	UL2809/TÜV/GRS	Injection Molding, Modification	FreeCBO2®
PC-T60A	50~60	≥100	Transparent	UL2809/GRS	Injection Molding, Modification	FreeCBO2®
PC-WB101A	4~10	≥600	Transparent Blue	UL2809/TÜV/GRS	Injection Molding, Extrusion, Modification	FreeCBO2®
PC-GT02A	12~20	≥500	Transparent Blue	UL2809/GRS	Injection Molding, Modification	FreeCBO2®

Product Brands

Topcircle®, TcycleEP®, PCR PC®, Coastbound™ OBP, FreeCBO2® (“Zero” Carbon) , ITEcycle®;

Product Characteristics

- Sustainability
- Traceability
- Carbon Footprint
- Customized Solutions
- ROHS/REACH/FDA
- GRS/TÜV/UL2809/ITE/Zero Carbon
- PCR PC®
- FreeCBO2® (“Zero” Carbon)
- Max 91.8% Carbon Emission Reduction
- Carbon Neutral



Product Application

Products can be used for compounding, injection molding, extrusion, and produce different plastic products such as modified, switch, electrical equipment shell, lampshade, toy, etc.



➔ [PCR Nylon6, Nairong®rPA6]

Recycled Nairong®rPA6 was prepared through pretreatment and standardized granulation modification based on post consumption recycled fishing net silk, automobile, low-voltage electrical appliances and so on. Natural color and black products, and customized products such as oceanbound nylon 6 can be provided (Oceancycle®). Products can be used in injection molding, compounding, spinning, extrusion and some other fields. All-round customized system solutions and innovative solutions also can be provided according to special requirements



Nairong®rPA6 Typical Products


Typical Grade	rPA6-S22N	rPA6-S240N	rPA6-S280N	rPA6-A6BG	rPA6-WS30N
R.V., 25°C	2.4~3.2	2.2~2.8	3.0~3.8	/	2.5-3.5
IZOD Impact Strength, kJ/m²	5	5	6	7	6
Tensile Strength, MPa	55	55	60	90	55
Flexural Strength, MPa	85	85	90	150	85
Appearance	Natural	Natural	Natural	Black	White
Certification	GRS/UL2809/UL OBP/SCS Global/TÜV/carbon zero	GRS/UL2809/UL OBP/Coastbound™ OBP/TÜV	GRS/UL2809/UL OBP/Coastbound™ OBP/TÜV	GRS/UL2809/TÜV	GRS
Characteristic	Oceancycle® plastic FreeCBO2®	Coastbound™ OBP	Coastbound™ OBP	High performance cost performance	/
Application	Compounding, Spinning, Injection	Compounding, Spinning, Injection, Extrusion	Compounding, Spinning, Injection, Extrusion	Injection	Compounding, Spinning, Injection

Product Brands

Topcircle®, TcycleEP®, Nairong®, FreeCBO2®, Oceancycle®, Coastbound™ OBP, Ocean Partner®;

Product Characteristics

- Sustainability
- Traceability
- Natural Color
- Carbon Footprint
- Customized Solutions
- ROHS/REACH/FDA
- GRS/UL2809/TÜV/Oceancycle® OP/Coastbound™ OBP/UL OBP/FreeCBO2®/Carbon footprint certification
- Ocean Partner® plan.
- High Purity
- Good Surface and color
- "Zero" Carbon
- Oceancycle®
- FreeCBO2®
- Max 92.3% Carbon Emission Reduction
- Carbon Neutral



Product Application

Can be used in down-stream compounding and various mechanical parts, also can be used in injection molding, spinning, and so on.



➔ [PCR Nylon66, Nairong® rPA66]

Recycled Nairong® rPA66 was prepared through pretreatment and standardized granulation modification. Natural color and black products, and customized products can be provided. Products can be used in injection molding, compounding, spinning and some other fields. All-round customized system solutions and innovative solutions also can be provided according to special requirements



Nairong® rPA66 Typical Products

Typical Grade	rPA66-A22N	rPA66-A240N	rPA66-A260N	rPA66- A6BG
R.V., 25°C	2.7~3.3	2.5~3.1	3.0~3.8	/
IZOD Impact Strength, kJ/m²	5	5	5	7
Tensile Strength, MPa	60	55	60	100
Flexural Strength, MPa	85	85	90	200
Appearance	Natural	Natural	Natural	Black
Certification	GRS/UL2809/TÜV	GRS/UL2809/TÜV	GRS/UL2809	GRS/UL2809/TÜV
Application	Compounding, Injection, Spinning	Compounding, Injection	Compounding, Injection, Spinning	Injection

Product Brands

Topcircle®, TcycleEP®, Nairong®, FreeCBO2® ("Zero" Carbon Products);

Product Characteristics

- Sustainability
- Traceability
- Natural Color
- Carbon Footprint
- Customized Solutions
- Max 91.3% Carbon Emission Reduction
- Carbon Neutral
- ROHS/REACH
- GRS/UL2809/TUV/FreeCBO2®/Carbon Footprint Certification



Product Application

The products can be used in down-stream compounding and various mechanical parts, also can be used in injection molding, spinning, and so on.



rPA66-A22N



rPA66-A240N

rPA66-A260N



rPA66-A6BG

➔ [PCR Poly (ethylene terephthalate-co-1,4-cyclohexylene dimethanol), PeiTgi®rPETG]

Recycled poly (ethylene terephthalate-co-1,4-cyclohexylene dimethanol (PeiTgi®rPETG) pellets is origin from post-consumer bottles or sheets and is granulated by extrusion after pre-treatment. According to different recycled source and quality classification, we design specific sorting process, innovate technological breakthroughs, optimize product performance and realize automatic processing. The rPETG pellets can be applied to extrusion, blow molding and injection, etc. The different application requirements of customers can be satisfied. The systematic and innovative solutions can be designed and provided according to the specific customers' needs.

PeiTgi® rPETG Typical Products

Product Brand	rPETG-T104A	rPETG-T304A
Tensile Strength, MPa	≥40	≥40
Elongation At Break, %	≥30	≥30
Flexural Strength, MPa	≥60	≥60
Flexural Modulus, MPa	≥1400	≥1400
Impact Strength, kJ/m ²	≥4	≥4
Transparency, %	≥75	≥75
Appearance	Transparent Pellets	White Transparent Pellets
Certification	GRS	GRS
Application	Injection, Extrusion, Blow Molding	Injection, Extrusion, Blow Molding

Product Brands

Topcircle®, TcycleEP®, PeiTgi®, FreeCBO2®("Zero" Carbon Products);

Product Characteristics



- Sustainability
- Traceability



- RoHS /REACH
- GRS/Carbon Footprint Certification



- Carbon Footprint



- Good Chemical Resistance and Processability,
- Excellent Mechanical Properties



- Low Impurities / Black Spots



- Customized Solutions



- 80% Carbon Emission Reduction
- Carbon Neutral

Product Application

The rPETG pellets is 100% PCR pellets. These series possess high purity and excellent mechanical properties. They can be applied to packaging, sheets, and film, etc.



PETG bottles



PETG sheets



PETG film

➔ [Recycled Polybutylece Terephthalate, PuBiT®rPBT]

PuBiT®rPBT is prepared from recycled waste through recycling, pretreatment, and standardized granulation. According to different recycling sources and quality levels, with the help of design classification and screening, technological innovation breakthroughs, performance re-optimization and high-quality automatic production, we can provide customers with injection-grade PBT recycled particles, including natural color, black and specified colors, and can provide customized services for material properties and system solutions.



PuBiT®rPBT Typical Product

Grade Name	Melt Index g/10min	Intrinsic Viscosity	Appearance	Characteristic	Application	Certification
rPBT-N150	35~55	0.75~0.9	Natural	Pure Resin, Black Spot Contr	Injection/Compounding	GRS
rPBT-B150	35~55	0.75~0.9	Black	Pure Resin	Injection/Compounding	GRS
rPBT-B160	50~70	0.7~0.85	Black	Pure Resin	Injection/Compounding	GRS
rPBT-B130G	30~50	-	Black	30%GF	Injection	GRS

Product Brands

Topcircle®, TcycleEP®, PuBIT®, FreeCBO2®("Zero" Carbon Products);

Product Characteristics



- Sustainability
- Traceability



- Good Chemical Resistance
- Excellent Mechanical Properties
- High Purity
- Less Black Spots



- Customized Solutions



- Carbon Footprint



- 80% Carbon Emission Reduction



- RoHS /REACH
- GRS/Carbon Footprint Certification

Product Application

The product is suitable for deep processing, like modified granulation and direct injection molding. It can be used for various injection molding parts such as home appliances, electrical appliances.



PCR Special engineering plasticss [TcycleSP®]

➔ PCR Polyetherimide [PCR PEI, RiPEI®rPEI]

Recycled Polyetherimide (RiPE® rPEI) is recycled form recycled products produced through pretreatment, standardized granulation and other technological processes. According to different recycling sources and quality grades, special classification method, technological innovation and high-quality automatic processing were applied to produce injection molding grade rPEI particles. The products are natural color with little yellow or brown, can meet the different application needs of customers. We also can provide all-round customized system solutions and innovative solutions according to the special requirements of customers.

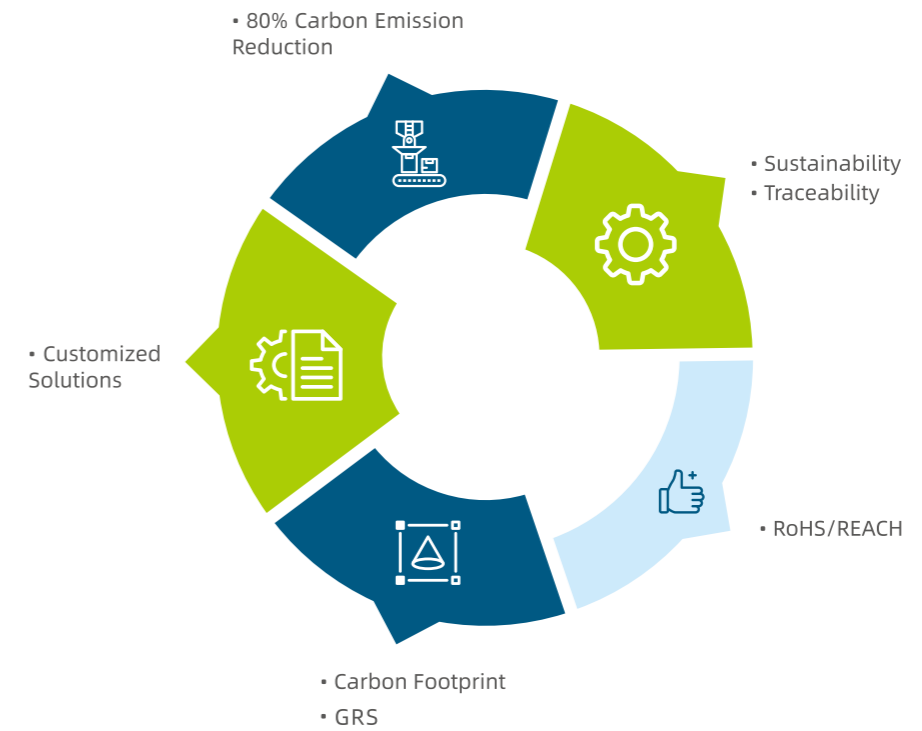
RiPEI® rPEI Typical Products

Typical Grade	rPEI-106	rPEI-106A	rPEI-106B	rPEI-108A	rPEI-108B
MFI, 330°C, 2.16Kg	4.0	4.0	5.0	5.0	6.0
IZOD Notched Impact Strength, KJ/m²	5.0	5.0	5.0	5.0	5.0
Tensile Strength, MPa	110	100	95	100	90
Flexural Strength, MPa	150	150	145	150	140
Appearance	Amber	Amber	Dark amber	Amber	Brown
Certification	GRS	GRS	GRS	GRS	GRS
Application	Injection, Extrusion	Compounding, Injection, Extrusion	Compounding, Injection, Extrusion	Compounding, Injection, Extrusion	Compounding, Injection, Extrusion

Product Brands

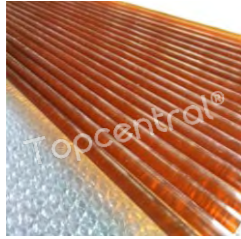
Topcircle®, TcycleEP®, RiPEI®, FreeCBO2®("Zero" Carbon Products);

Product Characteristics



Product Application

The product be used in extrusion molding and injection molding. High grade products can be used to make various injection molded parts.

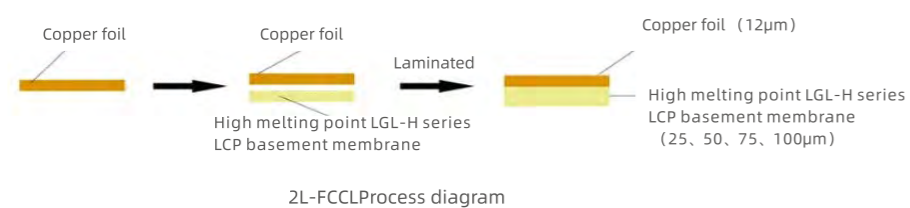


➔ [PCR Thermoplastic Liquid Crystalline Polymer ,Lacypee®rLCP]

Recycled thermoplastic liquid crystalline polymer (Lacypee® rLCP) has good heat resistance, thermal processability, solvent resistance, dimensional stability and low dielectric constant. It is widely used in the fields of electronics, aerospace, automobile, mechanical and chemical industry, medical treatment and so on. The global annual production capacity of LCP is about 75000 tons, and most of its applications are concentrated in electronic and electrical fields, such as connectors for computers and communication equipment. Topcentral® aims at the recycling of 5G communication electronic equipment in the future, and develops recycled products for rTLCP recycling. Through the strict production process control, the whole industry chain traceability of products can be realized, and relevant data and certification such as carbon footprint and carbon emission accounting can be provided.

Typical Products

Grade Name	Ash Content %	Impact Strength MPa	Tensile Strength MPa	Flexual strength MPa	Bending Modulus MPa	Appearance	Certification	Application
rLCP-B150	50	≥5	60	90	5	Black	GRS	Injection



➔ PCR Polysulfone [PCR PSU, Parsuie®rPSU]

Recycled polysulfone (Parsuie® rPSU) is an amorphous polymer compound containing sulfone group and aromatic group in the molecular main chain, slightly amber transparent or translucent. According to different synthetic monomers, there are three kinds of common polysulfone have been commercialized, bisphenol A polysulfone (PSU), polyarylsulfone (PASF) and polyethersulfone (PES). The global apparent consumption of polysulfone is about 90000 tons per year, and the market is expected to reach the valuation of US \$70 billion. It will grow at a compound annual growth rate of 3.8% from 2018 to 2025. Topcentral® adheres to the recycle of rPSU, strives to realize the whole industrial chain traceability of products, and provides relevant data and certification such as carbon footprint and carbon emission accounting. We are willing to work with all enterprises committed to the development of low-carbon materials to promote the recycling of polysulfone and promote the low-carbon sustainable development of relevant industries.

Typical Grade	rPPSU-N102AP	rPES-N102AS	rPSU-N102A
Tensile Strength,Mpa	70	75	70
Flexural Strength,Mpa	90	85	80
IZOD Impact Strength, KJ/m2	40	30	5
Certification	Dark brown	Dark brown	Dark brown
Certification	GRS	GRS	GRS
Application	Injection Molding、Extrusion	Injection Molding、Extrusion	Injection Molding、Extrusion

Product Brands

Topcircle®, TcycleSP®, Parsuie®;

Product characteristics

Polysulfone series products can be used in the fields of plastic modification, construction pipes, electronics and electrical appliances, etc.



➔ PCR PolyPhenylene Sulfide, PCR PPS

Polyphenylene sulfide (PPS) is a kind of plastic particles prepared by recycling post-consumer products (sourcesincluding but not limited to dust filter bags, electronic and mechanical parts, etc.) after pretreatment and standardized granulation modification. According to different recycling sources and quality grades, special classification method, technological innovation, performance re-optimization and high-quality automated processing were applied to provide customers with injection molding grade PCR PPS particles, which can meet the different application needs of industry customers. We also can provide all-round customized system solutions and innovative solutions according to the special requirements of customers.

General Series

Material Brand	Ash content %	IZOD Impact Strength J/m	Tensile Strength MPa	Flexural Strength MPa	Flexural Modulus MPa	Appearance	Certification	Application
rPPS-B103	≤5	≥3	40	80	3	Umber	GRS	injection/Compounding
rPPS-8BG	40	≥5	120	150	7	Black	GRS	Injection , Extrusion

Product Brands

Topcircle®, TcycleSP®;



Product Characteristics



Product Application

The products are suitable for modification processing and injection molding. High grade products can be used to make a variety of injection parts.



rPPS-B103



rPPS-8BG

➔ **PCR Polyphthalamide, PCR PPA**

Polyphthalamide (PPA) has the advantages of high modulus, hardness, cost performance, low water absorption, dimensional stability and excellent weldability. It can be used at 150°C for a long time. Common industrial PPA mainly include PA46, PA6T, PA9T, PA10T, etc. The global market demand of high temperature resistant Polyamide in 2021 reached 160,000 t, benefiting from the development of the downstream industry and the broadening of product application, and the annual compound growth rate of industry is more than 7%. It is expected that the global market demand will exceed 170,000 t in 2022, and the market size is about 10 billion yuan. Topcentral® develops recycling products aiming to recycled PPA. The raw materials mainly come from structural parts and thermostatic shell of automotive industry, connectors, SMT connectors, circuit breakers, card slots of electronic and electrical fields, and pumps, oil pump accessories, impels, hot water pipe fittings, bearings, gears and so on of mechanical industry. Through strict control of production process, the company can realize the traceability of the whole industrial chain of products, and provide relevant data and certification such as carbon footprint and carbon emission accounting.

Typical Products

Grade Name	Ash Content %	Impact Strength MPa	Tensile Strength MPa	Flexual strength MPa	Bending Modulus MPa	Appearance	Certification	Application
rPPA-N101	≤1	≥5	50	100	2	Nature or light yellow	GRS	Injection, Modification

Product Application



Thermoplastic elastomers

➔ **PCR Recycled Thermoplastic polyurethane, Taporu® rTPU**

Recycled Thermoplastic polyurethane (PCR TPU) was recycled, pretreated and prepared by standardized granulation. The company's products cover different sources of emulsion method and bulk method, and can provide different colors including but not limited to transparent, grey, black and so on. It can meet the different application needs of customers in the industry, and can provide a full range of customized system solutions and innovative solutions according to the special requirements of customer.



rTPU



rTPE



rTPO/TPV

Application direction

The rTPU (Taporu™) regenerated particles are 100% post-consumer recycled plastic particles with high purity and excellent mechanical properties, it can meet the daily use scenario of kit foot, cable protection and roller preparation.

➔ **[PCR Thermoplastic Elastomer, TayPreme® rTPE]**

Recycled Thermoplastic Elastomer (PCR TPE) was recycled, pretreated and prepared by standardized granulation. The company provide injection-grade regenerated TayPreme® rTPE particle. It can meet the different application needs of customers in the industry, and can provide a full range of customized system solutions and innovative solutions according to the special requirements of customer.

Application innovation

The rTPE (TayPreme®) regenerated particles can be used for double injection moulding of overmoulded ABS, PC, PA, AS. It is abrasion and scratch resistant, feel comfortable to touch, matte effect, Excellent aging and chemical resistance. Products are used in thermometers, meter cases, Bluetooth headset, electric tool handles, etc.



➔ [PCR Thermoplastic Polyolefin elastomer, SupperPrene® rTPO/TPV]

Recycled Thermoplastic Polyolefin elastomer (PCR TPO/TPV) was recycled, pretreated and prepared by standardized granulation from post-consumer automotive components. The company provides regenerated SupperPrene® TPO particles. It can meet the different application needs of customers in the industry, and can provide a full range of customized system solutions and innovative solutions according to the special requirements of customer, including material technology solution, certifications and regulatory requirements, carbon footprint and so on.

Applied innovation

The rTPO is resistant to UV and ozone, it has a wide range of temperature resistance performance from -60°C to 135°C. TPO has excellent aging resistance and is resistant to acid, alkali and alcohol chemicals. TPO has a wide range of applications and can be used for manufacture hoses, conveyor belts, tape products, sealing products, etc.

Typical Products

Material Brand	Hardness /shore A	Tensile Strength MPa	Tear strength KN/m	Appearance	Certification	Application
rTPU-PCR95AS	93	20	115	Transparent	GRS	Injection, Extrusion
rTPU-PCR95ASB	96	16	115	Black	GRS	Injection, Extrusion
rTPE-PCR70A	70	7	18	White	GRS	Injection
rTPO-PCR90A	90	15	-	Black	GRS	Injection, Extrusion
rTPV-PCR80A	80	8	35	Black	GRS	Injection, Extrusion

Product characteristics



- Sustainability
- Traceability



- Carbon Footprint



- Certifications and regulatory requirements



- TCBchain® chasable blockchain
- Entire chain traceability



- Customized Solutions



- Mainly natural color covering specified colors

➔ [PCR materials for 3D printing, TcycleAM™]

➔ [PCR materials for 3D printing, TcycleAM™]

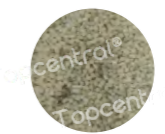
PCR materials for 3D printing, TcycleAM™ is based on post-consumer recycling products dedicated to 3D printing (additive manufacturing), after pretreatment and standardized granulation modification and other processes to prepare plastic particles for direct use by 3D printers or extruded into 3D printing filament. According to the customer's product requirements for design and customized development, including material technology solutions, supply chain recycling solutions, application solutions, structure and software design and development, designated certification and regulatory requirements, carbon emission management solutions, TCBchain® chasable blockchain, the whole industry key closed-loop scheme and so on.



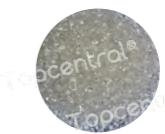
rPC-T6A(AM)



rABS-N115CG(AM)



rPA6-S22N(AM)



rTPU-PCR95AS (AM)



rTPE-PCR70A (AM)

Typical series (Plastic)

Material brand	MFI g/10min	IZOD Impact Strength KJ/m ²	Appearance	Certification	Characteristic
PC-T60(AM)	50~60	≥10	Colorless and Transparent	GRS	transparency and fluidity
rABS-N115CG(AM)	20~30	≥16	Natural	GRS	high impact resistance
rPA6-S22N(AM)	5~10	≥5	Natural	GRS	high tensile strength and fluidity

Typical series (Elastic)

Material brand	Hardness /shore A	Tensile Strength MPa	Tear strength KN/m	Appearance	Certification	Characteristic
rTPU-PCR95AS(AM)	93	20	115	Transparent	GRS	transparency high elasticity
rTPE-PCR70A(AM)	70	7	18	Black	GRS	high elasticity fluidity

Product brand

Topcircle®, TcycleAM™, FreeCBO2® (Zero carbon product)

Product Characteristics



Application direction

For direct use in particle 3D printers or for extrusion into 3D printing wire.



➔ About us

Cysmartt® focuses on the new material industry and "carbon peak and neutrality goals", especially focusing on physical recycling plastics and functional blend of recycled plastics. We can provide customers with one-stop comprehensive technology service solutions, including online material technology consulting, testing analysis, R&D technology analysis, quality system innovation, process efficiency, energy saving, emission reduction, process engineering capability improvement and certification consulting. We will provide sustainable system innovation services to realize the digitalization and intelligence for the new material industry and "carbon peak and neutrality goals".

➔ Service content and items



Material testing and analysis



Innovation and upgrading of quality system



Project application and industry-university-research cooperation



Legal consultation of global environmental protection regulations



Carbon digital integrated service



Consultation and service of intellectual property system



Third party certification consulting services



Design and analysis of research and development technology



Digital innovative solutions for full scene applications



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