

From old rigid plastics  
to new pallet boxes



# Circular Plastic rPE 4502

CIRCULAR POLYETHYLENE FROM CONTAINER PARCS AND COMMERCIAL WASTE



RENEWI collects, sorts and regrinds post-consumer and post industrial mixed rigid plastic waste streams from Households, Retail, DIY, Restaurants and other commercial or governmental businesses.

By purifying and sorting mixed plastics into high-quality polyolefin regrinds, RENEWI is producing a stable base grade for the conversion and compounding industries to create high-end circular plastic products, avoiding the use of fossil virgin plastics and saving > 75% CO<sub>2</sub> emissions<sup>1</sup>.

## Product Characteristics

“Circular Plastic rPE 4502” is a 90% Post-Consumer Recyclate (PCR) grade in granulate form with little residual odor and good impact resistance. A purity level of > 97% makes this grade a suitable basis for high-end applications that require stable processability and consistency.

## Recommended Applications

“Circular Plastic rPE 4502” is a general-purpose grade that can be used in a blend for extrusion and injection moulding applications such as caps & closures, crates, boxes, playground equipment, and as a PCR basis for compounds to produce higher-end products for the non-food packaging, automotive, building & construction and E&E markets.

*This product is not tested and therefore not validated for use in food, pharmaceutical, medical, or potable water applications.*

Physical			
Description	Unity	Typical value	Standard
Meltflow Index (190°C/2.16 kg)	g/10 min	2.2	ISO 1133-1
Density	kg/m <sup>3</sup>	945	ISO 1183-1
Ash content	%	< 2.0	ISO 3451-1/A/600°C
Moisture	%	< 0.2	ASTM D6980 @ 120°C
PE Content (DSC)	%	> 97	ISO 11357-3
Color	Grey		

Mechanical <sup>2</sup>			
Description	Unity	Typical value	Standard
Tensile Modulus	MPa	900	ISO 527-2
Strain at Yield	%	11	ISO 527-2
Strain at Break	%	660	ISO 527-2
Charpy Notched Impact (23°C)	kJ/m <sup>2</sup>	10	ISO 179-1

Version 2024-05



<sup>1</sup>virgin CO<sub>2</sub> emissions, see report CE\_Delft\_220327\_CO2-winst\_met\_kunststofrecycklaat\_Def

<sup>2</sup>Properties were determined on injection moulded specimens prepared in accordance with ISO 1873-2

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# From old rigid plastics to new pallets



# Circular Plastic rPE Color

CIRCULAR POLYETHYLENE FROM CONTAINER PARCS AND COMMERCIAL WASTE



RENEWI collects, sorts and regrinds post-consumer and post-industrial mixed rigid plastic waste streams from Households, Retail, DIY, Restaurants and other commercial or governmental businesses.

By purifying and sorting mixed plastics into high-quality polyethylene regrind, RENEWI is producing a stable base grade for the conversion and compounding industries to create high-end circular plastic products, reducing the use of fossil virgin plastics and saving over 75% CO<sub>2</sub> emissions<sup>1</sup>.

## Product Characteristics

“Circular Plastic rPE Color” is a > 90% Post Consumer Recyclate (PCR) grade in regrind form with a low residual odor. The material has a very low share of black particles, making it more suitable for coloring. A polymer purity level of > 95% makes this grade a good basis for high-end applications that require stable processability and performance.

## Recommended Applications

“Circular Plastic rPE Color” is a general-purpose grade that can be used for injection moulding, roto moulding and extrusion applications and as a PCR basis for compounds to produce higher-end applications for e.g. the non-food packaging, automotive, building & construction and E&E markets.

*This product is not tested and therefore not validated for use in food, pharmaceutical, medical, or potable water applications.*

Physical			
Description	Unity	Typical value	Standard
Meltflow Index (190°C/2.16 kg)	g/10 min	2.5	ISO 1133-1
Density	kg/m <sup>3</sup>	945	ISO 1183-1
Ash content	%	< 2.0	ISO 3451-1/A/600°C
Volatiles	%	< 0.5	ASTM D6980 @ 120°C
PE Content	%	> 95	Sesotech
Black particles	%	< 2.5	Sesotech
Product carbon footprint <sup>2</sup>	kg CO <sub>2</sub> eq/t	438	ISO 14040 and 14044

Version 2024-10



<sup>1</sup>virgin CO<sub>2</sub> emissions, see report CE\_Delft\_220327\_CO2-winst\_met\_kunststofrecycloaat\_Def

<sup>2</sup>Source: TNO, LCA methodology

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From old rigid plastics  
to new toolboxes



# Circular Plastic rPP 1020HI



CIRCULAR PP COMPOUND FROM CONTAINER PARCS AND COMMERCIAL WASTE

RENEWI collects, sorts and regrinds post-consumer and post-industrial mixed rigid plastic waste streams from Households, Retail, DIY, Restaurants and other commercial businesses.

The Compound Company (“TCC”) converts Renewi’s regrind into consistent compounds enhancing its base-properties. With this collaboration, Renewi and TCC are joining forces in further replacing fossil virgin plastics by offering grades that can enter higher-demanding applications that are not achievable by standard recyclates.

## Product Characteristics

“Circular Plastic rPP 1020HI” is a > 70% Post-Consumer Recycled (PCR) grade in granulate form with little residual odor and a very good impact and tensile modulus balance. A purity level of > 97% makes this grade a suitable basis for high-end applications that require stable processability and consistency.

## Recommended Applications

“Circular Plastic rPP 1020HI” is a high-impact compound that can be used in injection moulding applications such as hospital bins, strollers, heavy duty crates, pails and containers in a wide variety of markets.

*This product is not tested and therefore not validated for use in food, pharmaceutical, medical, or potable water applications.*

Physical			
Description	Unity	Typical value	Standard
Meltflow Index (190°C/2.16 kg)	g/10 min	20	ISO 1133-1
Density	kg/m <sup>3</sup>	910	ISO 1183-1
Ash content	%	< 3.0	ISO 3451-1/A/600°C
Moisture	%	< 0.2	ASTM D6980 @ 120°C
PP Content (DSC)	%	> 97	ISO 11357-3
Color	Grey		

Mechanical <sup>1</sup>			
Description	Unity	Typical value	Standard
Tensile Modulus	MPa	1100	ISO 527-2
Elongation at Yield	%	43	ISO 527-2
Elongation at Break	%	5.6	ISO 527-2
Charpy Notched Impact (23°C)	kJ/m <sup>2</sup>	35	ISO 179-1
Charpy Notched Impact (-20°C)	kJ/m <sup>2</sup>	6.0	ISO 179-1

Version 2025-02



<sup>1</sup>Properties were determined on injection moulded specimens prepared in accordance with ISO 1873-2

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# From old rigid plastics to new Mediaboxes





# Circular Plastic rPP 1620 Dark



CIRCULAR POLYETHYLENE FROM CONTAINER PARCS AND COMMERCIAL WASTE

RENEWI collects, sorts and regrinds post-consumer and post-industrial mixed rigid plastic waste streams from Households, Retail, DIY, Restaurants and other commercial businesses.

By purifying and sorting mixed plastics into high-quality polypropylene granulates, Renewi is producing a stable base grade for the conversion and compounding industries to create high-end circular plastic products, reducing the use of fossil virgin plastics, and saving over 75% CO<sub>2</sub> emissions<sup>1</sup>.

## Product Characteristics

“Circular Plastic rPP 1620 Dark” is a 90% Post-Consumer Recyclate (PCR) based grade in granulate form with little residual odor and good impact resistance. A dark grey color makes this grade a suitable basis for easy coloring into dark and black colors for high-end applications, as dominant white colors are sorted out.

## Recommended Applications

“Circular Plastic rPP 1620 Dark” is a general-purpose grade that can be used in injection moulding applications such as caps & closures, crates, boxes, and as a PCR basis for compounds to produce higher-end products for the non-food packaging, automotive, building & construction and E&E markets.

*This product is not tested and therefore not validated for use in food, pharmaceutical, medical, or potable water applications.*

Physical			
Description	Unity	Typical value	Standard
Meltflow Index (190°C/2.16 kg)	g/10 min	20	ISO 1133-1
Density	kg/m <sup>3</sup>	916	ISO 1183-1
Ash content	%	< 3.0	ISO 3451-1/A/600°C
Moisture	%	< 0.2	ASTM D6980 @ 120°C
PP Content (DSC)	%	> 92	ISO 11357-3
Color	Dark Grey	Visual	

Mechanical <sup>2</sup>			
Description	Unity	Typical value	Standard
Tensile Modulus	MPa	1300	ISO 527-2
Strain at Yield	%	23	ISO 527-2
Strain at Break	%	14	ISO 527-2
Charpy Notched Impact (23°C)	kJ/m <sup>2</sup>	6.0	ISO 179-1

Version 2024-01



<sup>1</sup>virgin CO<sub>2</sub> emissions, see report CE\_Delft\_220327\_CO2-winst\_met\_kunststofrecycklaat\_Def

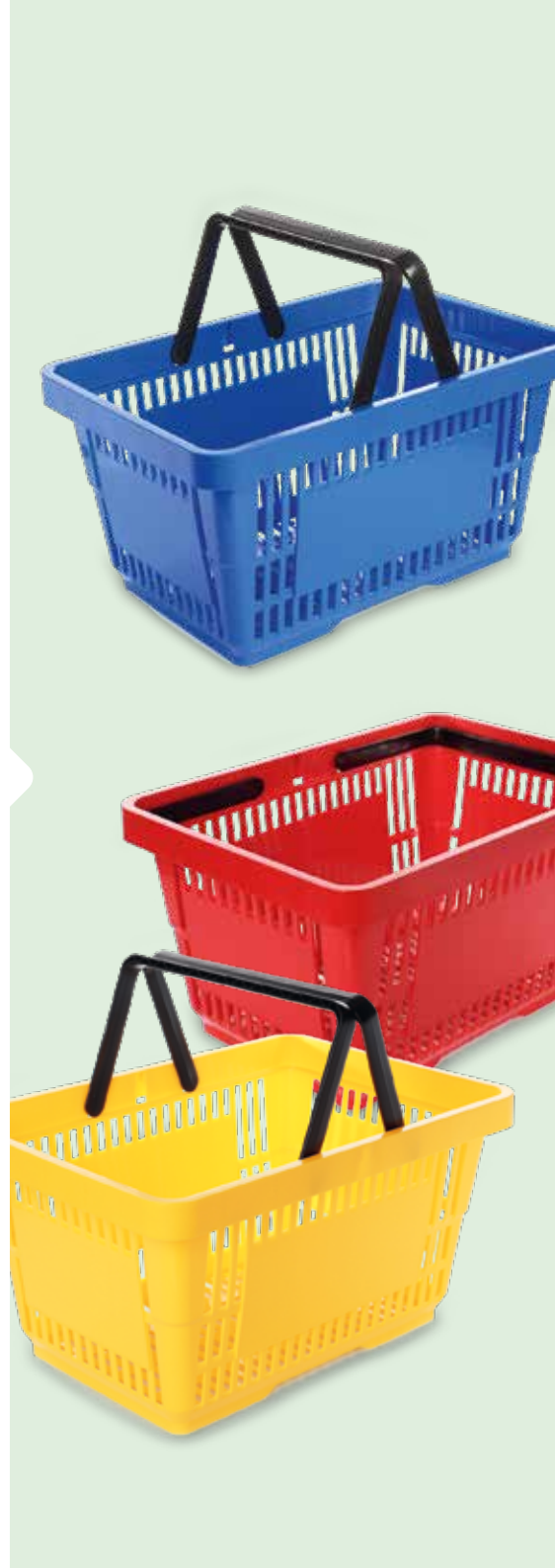
<sup>2</sup>Properties were determined on injection moulded specimens prepared in accordance with ISO 1873-2

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# From old rigid plastics to new shopping baskets



# Circular Plastic rPP 1620 Light



CIRCULAR POLYETHYLENE FROM CONTAINER PARCS AND COMMERCIAL WASTE

RENEWI collects, sorts and regrinds post-consumer and post-industrial mixed rigid plastic waste streams from Households, Retail, DIY, Restaurants and other commercial businesses.

By purifying and sorting mixed plastics into high-quality polypropylene granulates, Renewi is producing a stable base grade for the conversion and compounding industries to create high-end circular plastic products, reducing the use of fossil virgin plastics, and saving over 75% CO<sub>2</sub> emissions<sup>1</sup>.

## Product Characteristics

“Circular Plastic rPP 1620 Light” is a 90% Post-Consumer Recyclate (PCR) based grade in granulate form with little residual odor and good impact resistance. A light grey color makes this grade a suitable basis for easy coloring into various (light) colors for high-end applications.

## Recommended Applications

“Circular Plastic rPP 1620 Light” is a general-purpose grade that can be used in injection moulding applications such as caps & closures, crates, boxes, and as a PCR basis for compounds to produce higher-end products for the non-food packaging, automotive, building & construction and E&E markets.

*This product is not tested and therefore not validated for use in food, pharmaceutical, medical, or potable water applications.*

Physical			
Description	Unity	Typical value	Standard
Meltflow Index (190°C/2.16 kg)	g/10 min	20	ISO 1133-1
Density	kg/m <sup>3</sup>	916	ISO 1183-1
Ash content	%	< 3.0	ISO 3451-1/A/600°C
Moisture	%	< 0.2	ASTM D6980 @ 120°C
PP Content (DSC)	%	> 92	ISO 11357-3
Color	Light Grey	Visual	

Mechanical <sup>2</sup>			
Description	Unity	Typical value	Standard
Tensile Modulus	MPa	1400	ISO 527-2
Strain at Yield	%	23	ISO 527-2
Strain at Break	%	18	ISO 527-2
Charpy Notched Impact (23°C)	kJ/m <sup>2</sup>	5.5	ISO 179-1

Version 2025-01



<sup>1</sup>virgin CO<sub>2</sub> emissions, see report CE\_Delft\_220327\_CO2-winst\_met\_kunststofrecycklaat\_Def

<sup>2</sup>Properties were determined on injection moulded specimens prepared in accordance with ISO 1873-2

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# From old rigid plastics to new Mediaboxes





# Circular Plastic rPP 1620

CIRCULAR POLYETHYLENE FROM CONTAINER PARCS AND COMMERCIAL WASTE



RENEWI collects, sorts and regrinds post-consumer and post-industrial mixed rigid plastic waste streams from Households, Retail, DIY, Restaurants and other commercial businesses.

By purifying and sorting mixed plastics into high-quality polypropylene granulates, Renewi is producing a stable base grade for the conversion and compounding industries to create high-end circular plastic products, reducing the use of fossil virgin plastics, and saving over 75% CO<sub>2</sub> emissions<sup>1</sup>.

## Product Characteristics

“Circular Plastic rPP 1620” is a 90% Post-Consumer Recyclate (PCR) based grade in granulate form with little residual odor and good impact resistance. A purity level of > 92% makes this grade a suitable basis for high-end applications that require stable processability and consistency.

## Recommended Applications

“Circular Plastic rPP 1620” is a general-purpose grade that can be used in injection moulding applications such as caps & closures, crates, boxes, and as a PCR basis for compounds to produce higher-end products for the non-food packaging, automotive, building & construction and E&E markets.

*This product is not tested and therefore not validated for use in food, pharmaceutical, medical, or potable water applications.*

Physical			
Description	Unity	Typical value	Standard
Meltflow Index (230°C/2.16 kg)	g/10 min	20	ISO 1133-1
Density	kg/m <sup>3</sup>	916	ISO 1183-1
Ash content	%	< 3.0	ISO 3451-1/A/600°C
Moisture	%	< 0.2	ASTM D6980 @ 120°C
PP Content (DSC)	%	> 92	ISO 11357-3
Color	Grey		

Mechanical <sup>2</sup>			
Description	Unity	Typical value	Standard
Tensile Modulus	MPa	1300	ISO 527-2
Strain at Yield	%	23	ISO 527-2
Strain at Break	%	21	ISO 527-2
Charpy Notched Impact (23°C)	kJ/m <sup>2</sup>	6.4	ISO 179-1

Version 2024-12



<sup>1</sup>virgin CO<sub>2</sub> emissions, see report CE\_Delft\_220327\_CO2-winst\_met\_kunststofrecycklaat\_Def

<sup>2</sup>Properties were determined on injection moulded specimens prepared in accordance with ISO 1873-2

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From old storage bin  
to new storage bins



**renewi**<sup>®</sup>  
waste no more



# Circular Plastic rPP 1645

CIRCULAR POLYETHYLENE FROM CONTAINER PARCS AND COMMERCIAL WASTE



RENEWI Renewi collects, sorts and regrinds post-consumer and post-industrial mixed rigid plastic waste streams from Households, Retail, DIY, Restaurants and other commercial businesses.

By purifying and sorting mixed plastics into high-quality polypropylene granulates, Renewi is producing a stable base grade for the conversion and compounding industries to create high-end circular plastic products, reducing the use of fossil virgin plastics, and saving over 75% CO<sub>2</sub> emissions<sup>1</sup>.

## Product Characteristics

“Circular Plastic rPP 1645” is a 90% Post-Consumer Recyclate (PCR) based grade in granulate form with little residual odor and good impact resistance. A purity level of > 92% makes this grade a suitable basis for high-end applications that require stable processability and consistency.

## Recommended Applications

“Circular Plastic rPP 1645” is a general-purpose grade that can be used in injection moulding applications such as caps & closures, crates, boxes, and as a PCR basis for compounds to produce higher-end products for the non-food packaging, automotive, building & construction and E&E markets.

*This product is not tested and therefore not validated for use in food, pharmaceutical, medical, or potable water applications.*

Physical			
Description	Unity	Typical value	Standard
Meltflow Index (230°C/2.16 kg)	g/10 min	45	ISO 1133-1
Density	kg/m <sup>3</sup>	916	ISO 1183-1
Ash content	%	< 3.0	ISO 3451-1/A/600°C
Moisture	%	< 0.2	ASTM D6980 @ 120°C
PP Content (DSC)	%	> 92	ISO 11357-3
Color	Grey		

Mechanical <sup>2</sup>			
Description	Unity	Typical value	Standard
Tensile Modulus	MPa	1250	ISO 527-2
Strain at Yield	%	23	ISO 527-2
Strain at Break	%	21	ISO 527-2
Charpy Notched Impact (23°C)	kJ/m <sup>2</sup>	6.0	ISO 179-1

Version 2025-01



<sup>1</sup>virgin CO<sub>2</sub> emissions, see report CE\_Delft\_220327\_CO2-winst\_met\_kunststofrecycklaat\_Def

<sup>2</sup>Properties were determined on injection moulded specimens prepared in accordance with ISO 1873-2

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From old rigid plastics  
to new bucket seats



# Circular Plastic rPP 3009GF30



CIRCULAR PP 30% GLASS FILLED COMPOUND FROM CONTAINER PARCS AND COMMERCIAL WASTE

RENEWI collects, sorts and regrinds post-consumer and post-industrial mixed rigid plastic waste streams from Households, Retail, DIY, Restaurants and other commercial businesses.

The Compound Company (“TCC”) converts Renewi’s regrind into consistent compounds enhancing its base-properties. With this collaboration, Renewi and TCC are joining forces in further replacing fossil virgin plastics by offering grades that can enter higher-demanding applications that are not achievable by standard recyclates.

## Product Characteristics

“Circular Plastic rPP 3009GF30” is a > 50% Post-Consumer Recycled (PCR) grade in granulate form containing 30% glass fiber. The material has very high flexural and tensile moduli with a good processing flow.

## Recommended Applications

“Circular Plastic rPP 3009GF30” is a highly stiff compound that is typically used for car parts, chairs, desks, construction applications and many other specialty products.

*This product is not tested and therefore not validated for use in food, pharmaceutical, medical, or potable water applications.*

Physical			
Description	Unity	Typical value	Standard
Meltflow Index (230°C/2.16 kg)	g/10 min	9.0	ISO 1133-1
Density	kg/m <sup>3</sup>	1.130	ISO 1183-1
Ash content	%	< 33	ISO 3451-1/A/600°C
Moisture	%	< 0.2	ASTM D6980 @ 120°C
Color	Grey		

Mechanical <sup>2</sup>			
Description	Unity	Typical value	Standard
Tensile Modulus	MPa	5.900	ISO 527-2
Tensile Strength	MPa	68	ISO 527-2
Elongation at Break	%	3.3	ISO 527-2
Flexural Modulus	%	5.600	ISO 178
Flexural Strength	%	105	ISO 178
Charpy Notched Impact (23°C)	kJ/m <sup>2</sup>	12	ISO 179-1

Version 2024-05



<sup>1</sup>virgin CO<sub>2</sub> emissions, see report CE\_Delft\_220327\_CO2-winst\_met\_kunststofrecycklaat\_Def

<sup>2</sup>Properties were determined on injection moulded specimens prepared in accordance with ISO 1873-2

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From old shopping baskets  
to new shopping baskets



**renewi**  
waste no more





# Circular Plastic rPP Color

CIRCULAR POLYPROPYLENE FROM CONTAINER PARCS AND COMMERCIAL WASTE



RENEWI collects, sorts and regrinds post-consumer and post-industrial mixed rigid plastic waste streams from Households, Retail, DIY, Restaurants and other commercial or governmental businesses.

By purifying and sorting mixed plastics into high-quality polypropylene regrind, Renewi is producing a stable base grade for the conversion and compounding industries to create high-end circular plastic products, reducing the use of fossil virgin plastics and saving over 75% CO<sub>2</sub> emissions<sup>1</sup>.

## Product Characteristics

“Circular Plastic rPP Color” is a > 90% Post Consumer Recyclate (PCR) grade in regrind form with low residual odor. The material has a very low share of black particles, making it more suitable for coloring. A purity level of > 95% makes this grade a good basis for high-end applications that require stable processability and performance.

## Recommended Applications

“Circular Plastic rPP Color” is a general-purpose grade that can be used for injection moulding applications and as a PCR basis for compounds to produce higher-end applications for e.g. the non-food packaging, automotive, building & construction and E&E markets..

*This product is not tested and therefore not validated for use in food, pharmaceutical, medical, or potable water applications.*

Physical			
Description	Unity	Typical value	Standard
Meltflow Index (230°C/2.16 kg)	g/10 min	23	ISO 1133-1
Density	kg/m <sup>3</sup>	910	ISO 1183-1
Ash content	%	< 3.0	ISO 3451-1/A/600°C
Volatiles	%	< 0.5	ASTM D6980 @ 120°C
PP Content	%	> 95	Sesotech
Black particles	%	< 2.5	Sesotech
Product carbon footprint <sup>2</sup>	kg CO <sub>2</sub> eq/t	443	ISO 14040 and 14044

Version 2024-10



<sup>1</sup>virgin CO<sub>2</sub> emissions, see report CE\_Delft\_220327\_CO2-winst\_met\_kunststofrecycalaat\_Def

<sup>2</sup>Source: TNO, LCA methodology

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