Technical Data Sheet

*Circulen*Recover HD5603 Silver Plus

High Density Polyethylene

Product Description

*Circulen*Recover HD5603 Silver Plus is a circular high density polyethylene grade supplied in pellet form for blow molding and extrusion applications. This grade is characterized by its low residual odor and easy processability.

Sustainability

According with the requirements of Standard ISO 14021:2016, *Circulen*Recover HD5603 Silver Plus contains at least 98% of recycled material that is fully based on Post-Consumer Waste (PCW) from pre-sorted municipal plastic waste. Filtration level is 150 µm. Volatiles according to ASTM D6980 @ 120 °C are < 0.1%. Based on CIELab values, the color indication is close to RAL 7012.

This product is not intended for highly regulated applications including food contact, potable water contact, medical and pharmaceutical applications.

Status	Commercial: Active
Availability	Europe
Application	Bottles For Consumer Goods; Bottles for Industrial Use; General Sheet Extrusion
Market	Consumer Products; Industrial Packaging; Rigid Packaging
Processing Method	Extrusion Blow Molding; Sheet and Profile Extrusion
Attribute	Antioxidant; General Purpose; High Rigidity

Typical Properties	Nominal Value	Units	Test Method
Physical			
Melt Flow Rate			
(190 °C/2.16 kg)	0.40	g/10 min	ISO 1133-1
(190 °C/5.0 kg)	1.8	g/10 min	ISO 1133-1
Density	0.956	g/cm³	ISO 1183-1
Bulk Density	>0.500	g/cm³	ISO 60
Mechanical			
Tensile Modulus	1200	MPa	ISO 527-1, -2
Tensile Stress at Yield	24	MPa	ISO 527-1, -2
Tensile Strain at Yield	9	%	ISO 527-1, -2
FNCT, (6.0 MPa, 2% Arkopal N100, 50 °C)	8	hr	ISO 16770
Impact			
Charpy Impact Strength - Notched, (-30 °C, Type 1, Edgewise, Notch A)	2.5	kJ/m²	ISO 179
Additional Information			
Ash	< 2	wt %	ISO 3451-1
600 °C			
Processing Parameters			
Melt Temperature	180 - 210	°C	

Notes

Manufacturer website: https://www.lyondellbasell.com/en/

These are typical property values not to be construed as specification limits.

Processing Techniques

Users should determine the conditions necessary to obtain optimum product properties and suitability of the product for the intended application.

In cases where higher temperatures are required, please contact your appropriate technical contact for support.

Further Information

Health and Safety:

The resin is manufactured to the highest standards, but special requirements apply to certain applications such as food end-use contact and direct medical use. For specific information on regulatory compliance contact your local representative.

Workers should be protected from the possibility of skin or eye contact with molten polymer. Safety glasses are suggested as a minimal precaution to prevent mechanical or thermal injury to the eyes.

Molten polymer may be degraded if it is exposed to air during any of the processing and off-line operations. The products of degradation may have an unpleasant odor. In higher concentrations they may cause irritation of the mucus membranes. Fabrication areas should be ventilated to carry away fumes or vapours. Legislation on the control of emissions and pollution prevention should be observed.

The resin will burn when supplied with excess heat and oxygen. It should be handled and stored away from contact with direct flames and/or ignition sources. While burning, the resin contributes high heat and may generate a dense black smoke.

Recycled resins may have previously been used as packaging for, or may have otherwise been in contact with, hazardous goods. Converters are responsible for taking all necessary precautions to ensure that recycled resins are safe for continued use.

For further information about safety in handling and processing please refer to the Safety Data Sheet.

Conveying:

Conveying equipment should be designed to prevent production and accumulation of fines and dust particles that are contained in polymer resins. These particles can under certain conditions pose an explosion hazard. Conveying systems should be grounded, equipped with adequate filters and regularly inspected for leaks.

Product Storage and Handling:

- Product should be stored in dry conditions at temperatures below 50°C and protected from UV-light
- Improper storage may bring damage to the packaging and can negatively affect the quality of this product
- Keep material completely dry for good processing

Company Information

For further information regarding the LyondellBasell company, please visit http://www.lyb.com/.

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