



Polybutene-1 PB 4235-1 ivory

Polybutene-1

Product Description

Polybutene-1 grade **PB 4235-1 ivory** is a highly isotactic polyolefin manufactured from butene-1 monomer. The product provides excellent long term hydrostatic strength also at elevated temperatures combined with high flexibility.

PB 4235-1 complies with requirements specified in ISO 15876, ISO 12230, DIN 16968/DIN 16969 and many other National Standards for PB-1 pipe applications.

The grade is typically used for extrusion into pipe and injection moulding into fittings for non-potable heating water applications.

PB 4235-1 is available in ivory colour in pellet form..

PB 4235-1 is not being sold for pipe applications in North America.

The grade is not intended for medical or pharmaceutical applications.

Product Characteristics

Status	Commercial: Active
Test Method used	ISO
Availability	Europe, Asia-Pacific, Australia/NZ, Africa-Middle East, Latin America
Processing Methods	Extrusion Pipe Sheet and Semi Finished Products
Features	Good Creep Resistance , Good Flexibility, Homopolymer, Good Thermal Stability, Weldable
Typical Customer Applications	Building and Construction, District Heating, Fittings, Industrial, Radiator Connections, Underfloor Heating

Typical Properties	Method	Value	Unit
Physical			
Density	ISO 1183	0.93	g/cm ³
Melt flow rate (MFR) (190°C/2.16kg)	ISO 1133	0.6	g/10 min
Mechanical			
Flexural modulus	ISO 178	450	MPa
Tensile Strength at Yield (Compression molded plaques, Type IV spec)	ISO 8986-2	19	MPa
Tensile Strength at Break (Compression molded plaques, Type IV spec)	ISO 8986-2	30	MPa
Tensile Elongation at Break (Compression molded plaques, Type IV spec)	ISO 8986-2	250	%
<i>Note: Measured on specimens conditioned for 10 days at 20°C</i>			

Additional Properties

Recommended processing parameters:

Extrusion temperature: 180 °C - 200 °C

Vacuum: 30 mbar - 60 mbar

Cooling water temperature: 10 °C - 12 °C

Injection moulding temperature: 200 °C - 240 °C

Notes

Typical properties; not to be construed as specifications.

Further Information

Conveying:

Conveying equipment should be designed to prevent production and accumulation of fines, dust particles and angel hair that may be contained to a small extent in polymer materials. These particles can under certain conditions pose an explosion hazard or block the extruder feeding zone. We recommend the conveying system used is equipped with adequate filters, is operated and maintained so that no leak develops and adequate electrical grounding exists at all times.

Health and Safety:

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 minimum 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 odour. In higher

concentrations they may cause irritation of the mucus membranes. Fabrication areas should be ventilated to exhaust fumes or vapours. Legislation on the control of emissions and pollution prevention must be observed. If the principles of sound manufacturing practice are adhered to and the place of work is well ventilated, no health hazards in processing the material have been reported.

The material 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. In burning the material generates considerable heat and may generate dense black smoke. Minor fires can be extinguished by water, developed fires should be extinguished by heavy foams forming an aqueous or polymeric film. For further information about safety in handling and processing please refer to the Material Safety Data Sheet (MSDS).

Storage:

The material is packed in 1,1 mt octabins or in bulk containers protecting it from contamination. Storage times of natural materials longer than 6 months may have a negative influence on the quality of the final product (e.g. discolouration, moisture uptake, processability, etc.). It is generally recommended to convert all materials latest within 6 months from the date of delivery.

The material is subjected to degradation by ultra-violet radiation or by high storage temperatures. Therefore the material must be protected from direct sunlight, temperatures above 40°C and high atmospheric humidity during storage.

Further unfavourable storage conditions are large fluctuations in ambient temperature and high atmospheric humidity. These conditions may lead to moisture condensing inside the packaging. Under these circumstances, it is recommended to dry the material before use.

Due the hygroscopic character of the carbon black pigments, materials containing carbon black may pick up moisture even under appropriate storage conditions. If this is the case it is recommended to dry the material before processing. After a storage period of more than 3 months drying of such material is recommended as standard practice.

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- Equistar Chemicals, LP
- Basell Sales & Marketing Company B.V.
- Basell Asia Pacific Limited
- Basell International Trading FZE
- LyondellBasell Australia Pty Ltd

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This product(s) may not be used in:

(i) any U.S. FDA Class I, Health Canada Class I, and/or European Union Class I Medical Devices, without prior notification to Seller for each specific product and application; or

(ii) the manufacture of any of the following, without prior written approval by Seller for each specific product and application: (1) U.S. FDA Class II, Health Canada Class II or Class III, and/or European Union Class II Medical Devices; (2) film, overwrap and/or product packaging that is considered a part or component of one of the aforementioned Medical Devices; (3) packaging in direct contact with a pharmaceutical active ingredient and/or dosage form that is intended for inhalation, injection, intravenous, nasal, ophthalmic (eye), digestive, or topical (skin) administration; (4) tobacco related products and applications; (5) electronic cigarettes and similar devices; and (6) pressure pipe or fittings that are considered a part or component of a nuclear reactor.

(iii) Additionally, the product(s) may not be used in: (1) U.S. FDA Class III, Health Canada Class IV, and/or European Class III Medical Devices; (2) applications involving permanent implantation into the body; (3) life-sustaining medical applications; and (4) lead, asbestos or MTBE related applications.

All references to U.S. FDA, Health Canada, and European Union regulations include another country's equivalent regulatory classification.

Users should review the applicable Material Safety Data Sheet before handling the product.

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