Technical Data Sheet

Hostalen 4731B

High Density Polyethylene

Product Description

Hostalen 4731 B is a high density polyethylene (HDPE) with high melt viscosity for extrusion. The product provides excellent stress crack resistance properties (ESCR) combined with very good long term hydrostatic strength, high heat- and extremely high extraction stability.
Hostalen 4731 B fullfills the requirements of DIN 16833 / ISO 24033 for PE-RT Type II.
The product can be classified as PE100 in accordance with ISO 12162, based on ISO 9080 evaluation.

Typical customer applications are underfloor heating and multilayer pipes for heating and plumbing.
Additional application is ducting of high voltage cables, where good long term heat aging stability for 50 years at 70°C is required.

Regulatory Status

For regulatory compliance information, see *Hostalen* 4731B Product Stewardship Bulletin (PSB) and Safety Data Sheet (SDS).

This grade is not intended for medical and pharmaceutical applications.

This grade is supported for use in drinking water applications.

Status	Commercial: Active
Availability	Africa-Middle East; Asia-Pacific; Europe; North America; South & Central America
Application	Drinking Water Pipe; Plumbing, Heating & Cooling
Market	Pipe
Processing Method	Pipe; Sheet
Attribute	Extraction Resistant; Good Chemical Resistance; Good Creep Resistance; Good ESCR (Environmental Stress Cracking Resistance); Good Heat Aging Resistance; Good Organoleptic Properties; Weldable

Typical Properties	Nominal Value	Units	Test Method
Physical			
Melt Flow Rate			
(190 °C/5.0 kg)	0.45	g/10 min	ISO 1133-1
(190 °C/21.6 kg)	9.5	g/10 min	ISO 1133-1
Density	0.947	g/cm³	ISO 1183-1
Mechanical			
Flexural Creep Modulus, (4-point loading / 50 years, extrapolated)	165	MPa	DIN 16841
Tensile Modulus, (23 °C)	850	MPa	ISO 527-1, -2
Tensile Stress at Yield, (23 °C, 50 mm/min)	22	MPa	ISO 527-1, -2
Tensile Strain at Break, (23 °C)	650	%	ISO 527-1, -2
Tensile Strain at Yield, (23 °C, 50 mm/min)	8	%	ISO 527-1, -2
MRS Classification	10	MPa	ISO 9080
FNCT, (4.0 MPa, 2% Arkopal N100, 80 °C)	>= 350	hr	ISO 16770
Impact			

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Charpy Impact Strength - Notched			
(23 °C)	24	kJ/m²	ISO 179-1/1eA
(-30 °C)	8	kJ/m²	ISO 179-1/1eA
Hardness			
Shore Hardness, (Shore D, 3 sec)	59		ISO 868
Thermal			
Vicat Softening Temperature			
(A50)	120	°C	ISO 306
(B50)	70	°C	ISO 306
Oxidation Induction Time, (210 °C)	40	min	ISO 11357-6
Thermal Conductivity, (23 °C)	0.42	W/m*K	EN ISO 22007-2
Coefficent of Linear Thermal Expansion (CLTE) Average value (20°C - 70°C)	1.85 * 10 exp (-4)	1/°C	ISO 11359-1, -2
Electrical			
Surface Resistivity	> 10 exp 13	ohm	IEC 60093

Notes

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.

Recommended melt temperatures: 190 °C to 230 °C.

Specific recommendations for resin type and processing conditions can only be made when the end use, required properties and fabrication equipment are known.

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.

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Storage:

The resin is packed in 25 kg bags, octabins or bulk containers protecting it from contamination. If it is stored under certain conditions, i. e. if there are large fluctuations in ambient temperature and the atmospheric humidity is high, moisture may condense inside the packaging. Under these circumstances, it is recommended to dry the resin before use. Unfavorable storage conditions may also intensify the resin's slight characteristic odor.

Resin should be protected from direct sunlight, temperatures above 40°C and high atmospheric humidity during storage. Higher storage temperatures may reduce the storage time.

The information submitted is based on our current knowledge and experience. In view of the many factors that may affect processing and application, these data do not relieve processors of the responsibility of carrying out their own tests and experiments; neither do they imply any legally binding assurance of certain properties or of suitability for a specific purpose. This information does not remove the obligation of the customer to inspect the material on arrival and notify us of any faults immediately. It is the responsibility of those to whom we supply our products to ensure that any proprietary rights and existing laws and legislation are observed.

Company Information

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

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