



Hostalen 4731 B

Polyethylene, High Density

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 very good long term hydrostatic strength, high heat- and extremely high extraction stability.

Hostalen 4731 B fulfills the requirements of DIN 16833 / ISO 24033 for PE-RT, Typ II.

Typical customer applications are underfloor heating and multilayer pipe for heating and plumbing.

The product is not being sold for use in North America.

It is not intended for medical and pharmaceutical applications.

Product Characteristics

Status	Commercial: Active
Test Method used	ISO
Availability	Europe, Asia-Pacific, Africa-Middle East
Processing Methods	Extrusion Pipe Sheet and Semi Finished Products
Typical Customer Applications	Drinking Water Pipe, Plumbing, Heating & Cooling

Typical Properties	Method	Value	Unit
Physical			
Density	ISO 1183	0.947	g/cm ³
Melt flow rate (MFR)	ISO 1133		
(190°C/21.6kg)		9.5	g/10 min
(190°C/5.0kg)		0.45	g/10 min
Mechanical			
Tensile Modulus (23 °C, v = 1 mm/min, Secant)	ISO 527-1, -2	850	MPa
Tensile Stress at Yield (23 °C, v = 50 mm/min)	ISO 527-1, -2	22	MPa
Tensile Strain at Yield (23 °C, v = 50 mm/min)	ISO 527-1, -2	8	%
FNCT (4.0 MPa, 2% Arkopal N 100, 80°C)	ISO 16770	≥ 350	h
MRS classification	ISO 9080	10	MPa
Impact			
Charpy notched impact strength	ISO 179		
(23 °C)		24	kJ/m ²
(-30 °C)		8	kJ/m ²
Hardness			
Shore hardness (Shore D (3 sec))	ISO 868	59	
Thermal			
Vicat softening temperature	ISO 306		
(VST/A/50 K/h (10 N))		120	°C
(VST/B/50 K/h (50 N))		70	°C
Oxidation induction time (OIT) (210°C)	ISO 11357-6 / EN 728	40	min

Recommended melt temperatures: 190-220 °C
Recommended injection moulding temperatures: 200-280 °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 and dust particles that may be contained to a small extent in polymer materials. These particles can under certain conditions pose an explosion hazard. 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:

Special requirements apply to certain applications such as food contact end-use 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 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 have an unpleasant odour. 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 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 25 kg bags 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 (for example the brightness). 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. Unfavourable storage conditions may also intensify the material's slight characteristic odour.

Due the hygroscopic character of the carbon black pigments, black coloured materials 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.