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Product: HBM 5510

Producer: Arya Sasol Polymer Company

Description:

HBM 5510 is a high-density polyethylene, specially developed for large parts blow molding. This grade, which is produced by 1-hexene as a co-monomer, offers high stiffness, good process-ability, excellent parison melt strength and good ESCR.

Status: Commercial: Active

Application: Large Parts Blow Molding, Standard and Lightweight Jerry Cans, Open Top Drums (Up to 110 lit).

Form(s): Pellet

Attribute: Good ESCR, Good Stiffness, Good Process-ability

Additives:

- Antioxidant: Yes
- Processing Aid: No
- Antiblock: No
- Slip Agent: No

Disclaimer:

This information is based on our current knowledge and experience. In view of many factors that may affect processing and application, this data does not relieve processors from the responsibility of carrying out their own tests and experiments, neither does it imply any legally binding assurance of certain properties or of suitability for a specific purpose. 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.



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Typical Properties:

Typical Properties	Typical Value ¹	Unit	Test Method
Physical			
High Load Melt Flow Index (190°C/ 21.6 kg)	10	g/10 min	ISO 1133
Melt Flow Index (190°C/ 5 kg)	0.50	g/10 min	ISO 1133
Density ²	0.955	g/cm ³	ISO 1183
Bulk Density	> 0.50	g/cm ³	ISO 60
Mechanical ³			
Tensile Modulus of Elasticity	1000	MPa	ISO 527-1,2
Flexural Modulus - 1% Secant	1000	MPa	ASTM D790
Tensile Stress at Yield	27	MPa	ISO 527-1,2
Tensile Strain at Yield	8	%	ISO 527-1,2
Tensile Stress at Break	43	MPa	ISO 527-1,2
Ball Indentation Hardness	49	MPa	ISO 2039-1
ESCR F50 (100% Igepal, Method B)	110	hrs	ASTM D1693
Impact			
Tensile Impact Strength (Notched, Type 1, Method A, -30°C)	135	kJ/m ²	ISO 8256
Izod Impact Strength (Notched, Method A, 23°C)	22	kJ/m ²	ISO 180
Thermal			
Vicat Softening Temperature (Method A/ 10N)	127	°C	ISO 306
Deflection Temperature Under Load (1.8 MPa)	45	°C	ISO 75

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Recommended Process Conditions ⁴

Extruder Barrel Temperature:
180-220 °C

Melt Temperature:
200-235 °C

1. Typical values: these are not to be construed as specifications.
2. The density parameter was determined on compression-molded specimens, which were prepared in accordance with procedure C of ASTM D4703, Annex A1.
3. Properties are based on compression-molded specimens, which were prepared in accordance with procedure B of ASTM D4703, Annex A1, using 100% HBM 5510 resin.
4. Please note that, these processing conditions are recommended by manufacturer only for 100% HBM 5510 resin (not in the case of blending with any other compatible material), therefore because of the many particular factors which are outside our current knowledge and control and may affect the use of product, no warranty is given for the foregoing data. Moreover, the specific recommendations for resin type and processing conditions can only be made when the end use, required properties and fabrication equipment are known.

Licensors:

HBM 5510 has been manufactured under Basell license.

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. Specific information on regulatory compliance can be requested via customer.

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 vapors. Legislation on the control of emissions and pollution prevention should be observed. Workers should be protected from the possibility of skin or eye contact with molten polymer.

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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.

The detailed information about safety, handling, individual protection and waste disposal is provided in the relevant Safety Data Sheet. Additional specific information can be requested via customer.

Conveying:

Conveying equipment should be designed to prevent accumulation of fines and dust particles. These particles can, under certain conditions pose an explosion hazard. We recommend that the conveying system will be equipped with adequate filters and be operated and maintained in the way that ensure no leaks develop.

Storage:

Polyethylene resins should be protected from direct sunlight and/or heat during storage. The storage location should also be dry, dust free and the storage temperature should not exceed 50 °C. It is also advisable to process polyethylene resins (in pelletized or powder from) within 6 months after delivery, because excessive aging of polyethylene can lead to a deterioration in quality. Arya Sasol Polymer Company would not give any warranty to bad storage conditions which may lead to quality deterioration such as color change, bad smell and inadequate product performance.

Related Documents:

Material Safety Data Sheet

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