

SABIC® HDPE F0863

HIGH DENSITY POLYETHYLENE

DESCRIPTION

SABIC® HDPE F0863 resin is a homopolymer with a very high density manufactured by gas phase technology. The grade offers high stiffness, high temperature resistance, low water vapor transmission and a very low gel level. Because of the linear character it is advisable to use the material in combination with extrusion coating LDPE grades like SABIC® LDPE 2005EC in order to improve extrusion coating process ability (motor load and Neck In).

SABIC® HDPE F0863 is typically used for food packaging, release paper and photographic paper.

Film properties have been measured at cast film of 25 µm.
Water vapor permeability at 38 °C and 100 % RH per 24 h.
Oxygen permeability at 23 °C and 0 % RH per 24 h.

This product is not intended for and must not be used in any pharmaceutical/medical applications.

TYPICAL PROPERTY VALUES

Revision 20180807

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
POLYMER PROPERTIES			
Melt Flow Rate (MFR)			
at 190 °C and 2.16 kg	8	dg/min	ISO 1133
Density	964	kg/m ³	ASTM D1505
PROCESSING PROPERTIES			
Neck In ⁽¹⁾	168	mm	SABIC method
Minimal coating weight (DD) ⁽²⁾	2.0	g/m ²	SABIC method
FILM PROPERTIES			
Tensile test film			
Yield stress TD	24	MPa	ISO 527-3
Yield stress MD	26	MPa	ISO 527-3
Stress at break TD	18	MPa	ISO 527-3
Stress at break MD	22	MPa	ISO 527-3
Strain at break TD	800	%	ISO 527-3
Strain at break MD	700	%	ISO 527-3
Modulus of elasticity TD	580	MPa	ISO 527-3
Modulus of elasticity MD	580	MPa	ISO 527-3
Permeability			
water vapour (H ₂ O)	4.0	g/m ² day	SABIC method
oxygen (O ₂)	0.1	ml/m ² day	SABIC method
THERMAL PROPERTIES			
DSC test			
melting point	134	°C	DIN 53765
enthalpy change	224	J/g	DIN 53765

(1) Measured on pilot line at 200 m/min, 300 °C, 10 g/m², airgap 300 mm

(2) Measured on pilot line at 400 m/min, 300 °C, airgap 300 mm

ENVIRONMENT AND RECYCLING

The environmental aspects of any packaging material do not only imply waste issues but have to be considered in relation with the use of natural resources, the preservations of foodstuffs, etc. SABIC considers polyethylene to be an environmentally efficient packaging material. Its low specific energy consumption and insignificant emissions to air and water designate polyethylene as the ecological alternative in comparison with the traditional packaging materials. Recycling of packaging materials is supported by SABIC whenever ecological and social benefits are achieved and where a social infrastructure for selective collecting and sorting of packaging is fostered. Whenever 'thermal' recycling of packaging (i.e. incineration with energy recovery) is carried out, polyethylene -with its fairly simple molecular structure and low amount of additives- is considered to be a trouble-free fuel.

STORAGE AND HANDLING

Polyethylenes resins (in pelletised or powder form) should be stored in such a way that it prevents exposure to direct sunlight and/or heat, as this may lead to quality deterioration. The storage location should also be dry, dust free and the ambient temperature should not exceed 50 °C. Not complying with these precautionary measures can lead to a degradation of the product which can result in colour changes, bad smell and inadequate product performance. It is also advisable to process polyethylene resins (in pelletised or powder form) within 6 months after delivery, this because also excessive aging of polyethylene can lead to a deterioration in quality.

DISCLAIMER

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