SABIC® LDPE 2005EC

LOW DENSITY POLYETHYLENE

DESCRIPTION

SABIC® LDPE 2005EC is the first commercially proven tubular LDPE grade for extrusion coating. The product gives a good combination of processing and end-performance properties. SABIC® LDPE 2005EC can be used on low and (very) high line speed extrusion coating and lamination processes. Due to its excellent draw down performance and good adhesion, very thin coating layers can be applied on the substrate.

Application
SABIC® LDPE2005EC is typically used in extrusion coating and lamination applications, such as liquid packaging, food packaging and building & construction. Typical substrates for coating or lamination are paper, board, aluminum, PET or PA.

Properties
Mechanical properties determined on compression moulded specimen (2 mm thick) at test speed of 50 mm/min. Film properties have been measured at film of 25 µm, produced on lab scale equipment. Water vapour permeability at 38 °C and 90 % 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 20230124

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
POLYMER PROPERTIES			
Melt Flow Rate (MFR)			
at 190 °C and 2.16 kg	5	dg/min	ISO 1133
Density	920	kg/m³	ASTM D1505
PROCESSING PROPERTIES			
Neck In [1]	140	mm	SABIC method
Minimal coating weight (DD) [2]	1.2	g/m²	SABIC method
MECHANICAL PROPERTIES			
Tensile test			
stress at break	12	MPa	ISO 527-2
strain at break	600	%	ISO 527-2
FILM PROPERTIES			
Tear strength TD	45	kN/m	ISO 6383-2
Tear strength MD	45	kN/m	ISO 6383-2
Tensile test film			
Yield stress TD	7.5	MPa	ISO 527-3
Yield stress MD	7.5	MPa	ISO 527-3
Stress at break TD	13	MPa	ISO 527-3
Stress at break MD	13	MPa	ISO 527-3
Strain at break TD	550	%	ISO 527-3
Strain at break MD	400	%	ISO 527-3
Permeability			
water vapour (H2O)	20	g/m²day	ISO 15106-3
oxygen (O2)	0.8	ml/m²day	ISO 15105-2
THERMAL PROPERTIES			
Vicat Softening Temperature			
	88	°C	ISO 306

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
DSC test			
enthalpy change	120	J/g	DIN 53765
melting point	107	°C	DIN 53765

(1) Measured on pilot line at 360 m/min, 300 °C, 10 g/m², airgap 300 mm
(2) Measured on pilot line at 340 m/min, 300 °C, airgap 300 mm

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.

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.

DISCLAIMER