

SABIC® LLDPE 218BE

Linear Low Density Polyethylene

Saudi Basic Industries Corporation (SABIC)

Message:

SABIC® LLDPE 218BE is a butene linear low density polyethylene resin with an additive package typically designed for a broader range of food applications (TNPP free). The good thermal stability allows to use the resin in critical extrusion processing conditions. Films produced from SABIC® LLDPE 218BE have better draw-down ability compared to lower MFR LLDPE resins.

SABIC® LLDPE 218BE is a Linear Low Density Polyethylene natural resin typically used for wire and cable applications.

SABIC® LLDPE 218BE contains a high level of antioxidants and does not contain any antiblock and/or slip agents. It also exhibits good Environmental Stress Crack Resistance (ESCR).

Sufficient Cu-inhibitor should be added to meet specific ageing requirements. For jacketing applications, addition of Carbon Black or UV stabilizer is required.

Application

Blown Film: SABIC® LLDPE 218BE is typically used for food applications (lamination film, barrier film) but can also be used in industrial packaging and as blending partner with other SABIC® PE resins in both blown and cast film applications.

Cast Film: SABIC® LLDPE 218BE is typically used for food applications (lamination film, barrier film) and pallet hand wrap.

Masterbatch Compounding: It is suitable for additive masterbatches (eg. slip agents, anti fog agents, anti static agents, thermal stabilizers) in film and blow moulding applications.

Wire & Cable Extrusion:

Telecommunication and Power cable (LV, MV, HV) jacketing.

Halogen-free flame retardant (HFFR) compounds.

One-step or two-steps silane crosslinkable for cable insulation.

The product mentioned herein is in particular not tested and therefore not validated for use in pharmaceutical/medical applications.

General Information	
Additive	Antioxidation
Features	Good ESCR (Stress Crack Resist.)
	Low density
	Butene comonomer
	Antioxidation
	Thermal stability, good
	Compliance of Food Exposure
Uses	Blown Film
	Jacketing
	Packaging
	Films
	Cable sheath
	Wire and cable applications
	Non-specific food applications
	Composite
	Industrial application
	Mixing
	Insulating material
	cast film
	Masterbatch

Appearance	Natural color		
Processing Method	Blow film		
	Wire & Cable Extrusion		
	Composite		
	cast film		

Physical	Nominal Value	Unit	Test Method
Density	0.918	g/cm ³	ISO 1183/A
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	2.1	g/10 min	ISO 1133
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore D)	48		ASTM D2240
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength			ASTM D638
Yield	12.0	MPa	ASTM D638
Fracture	17.0	MPa	ASTM D638
Tensile Elongation			ASTM D638
Yield	16	%	ASTM D638
Fracture	790	%	ASTM D638
Flexural Modulus - 1% Secant	254	MPa	ASTM D790
Films	Nominal Value	Unit	Test Method
Film Thickness - Tested	20	μm	
Elastic Recovery - Cast Film (20.0 μm)	53	%	ASTM D5459
Protrusion Puncture Resistance - Cast Film (20.0 μm)	2.20	J	ASTM D5748
Retention Force - 60 sec (20.0 μm) ¹	970	g	
Stress Retention - Cast Film (20.0 μm)	80	%	ASTM D5459
Ultimate Pre-stretch Level - Cast Film (20.0 μm)	310	%	
Dart Impact - Cast Film (20.0 μm)	28.0	J/cm	ISO 7765-2
Peel Cling ²			ASTM D5458
0% pre-stretch : 20.0 μm	153.0	g/2.5 cm	ASTM D5458
200% pre-stretch : 20.0 μm	127.5	g/2.5 cm	ASTM D5458
Tear strength-TD(20.0 μm) ³	185.0	kN/m	ISO 6383-2
Thermal	Nominal Value	Unit	Test Method
Vicat Softening Temperature	96.0	°C	ISO 306/A
Melting Temperature (DSC)	122	°C	Internal method
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	5.0E+15	ohms · cm	ASTM D257
Dielectric Strength ⁴	55	kV/mm	ASTM D149
Dielectric Constant (60 Hz)	2.17		ASTM D150
Dissipation Factor (60 Hz)	1.0E-3		ASTM D150

Optical	Nominal Value	Unit	Test Method
Gloss (45°, 20.0 µm, Cast Film)	92		ASTM D2457
Haze (20.0 µm, Cast Film)	1.2	%	ASTM D1003A
Additional Information	Nominal Value	Unit	Test Method

Cast Film Properties are determined on 20µm cast stretch film produced on a 2m commercial cast stretch line: melt temperature 270 °C, chill roll temperature 20°C and line speed of 450 m/min.

Extrusion	Nominal Value	Unit
Melt Temperature	250 - 300	°C

NOTE	
1.	Cast Film
2.	Cast Film
3.	Cast Film
4.	500 V/sec

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