SABIC® LLDPE 118N

Linear Low Density Polyethylene

Saudi Basic Industries Corporation (SABIC)

Message:

Wire and Cable:

SABIC © LLDPE 118N is a Linear Low Density Polyethylene natural resin designed for wire and cable applications. SABIC © LLDPE 118N contains a low level of antioxidants and does not contain any antiblock and/or slip agents. It also exhibits excellent 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. Applications: Telecommunication and Power cable (LV, MV, HV) jacketing. Halogen-free flame retardant (HFFR) compounds. Blown Film:

SABIC® LLDPE 118N is a butene linear low density polyethylene resin designed for general purpose applications. Films produced from this resin are tough with excellent puncture resistance, high tensile strength and good hottack properties.

Applications: Typical applications for SABIC[®] LLDPE 118N are shipping sacks, ice bags, frozen food bags, liners, carrier bags, garbage bags, agriculture films, lamination and coextruded films, shrink film (for blending with LDPE), industrial consumer packaging and high clarity film if blended with (10-20%) LDPE.

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

General Information					
Additive	Antioxidation				
Features	High ESCR (Stress Cracking Resistance)				
	High tensile strength				
	Perforation resistance				
	Antioxidation				
	Good toughness				
	Compliance of Food Exposure				
	General				
Uses	Packaging				
	Films				
	Laminate				
	Lining				
	Bags				
	Cable sheath				
	Wire and cable applications				
	Stretch winding				
	Agricultural application				
	Food packaging				
Forms	Particle				
Processing Method	Blow film				
	Wire & Cable Extrusion				
Physical	Nominal Value	Unit	Test Method		
Density	0.918	g/cm³	ISO 1183/A, ASTM D1505		

Melt Mass-Flow Rate (MFR) (190°C/2.16			
kg)	1.0	g/10 min	ASTM D1238, ISO 1133
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore D, Compression Molded)	49		ASTM D2240
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength			ASTM D638
Yield, molding	12.0	MPa	ASTM D638
Fracture, molding	19.0	MPa	ASTM D638
Tensile Elongation			ASTM D638
Yield, molding	17	%	ASTM D638
Fracture, molding	830	%	ASTM D638
Flexural Modulus - 1% Secant (Compression Molded)	256	MPa	ASTM D790
Films	Nominal Value	Unit	Test Method
Film Thickness - Tested	50	μm	
Tensile Modulus			ISO 527-3
MD: 50 µm, blown film	160	MPa	ISO 527-3
TD: 50 µm, blown film	180	MPa	ISO 527-3
Tensile Stress			ISO 527-3
MD: Yield, 50 µm, blown film	11.0	MPa	ISO 527-3
TD: Yield, 50 µm, blown film	11.0	MPa	ISO 527-3
MD: 50 µm, blown film	30.0	MPa	ISO 527-3
TD: 50 µm, blown film	37.0	MPa	ISO 527-3
Tensile Elongation			ISO 527-3
MD: Broken, 50 µm, blown film	700	%	ISO 527-3
TD: Broken, 50 µm, blown film	850	%	ISO 527-3
Impact	Nominal Value	Unit	Test Method
Impact Strength - Blown Film (50.0 µm)	220	J/cm	ASTM D4272
Puncture Resistance - Blown Film (50.0 µm)	630	J/m	Internal method
Tear Strength ¹			ISO 6383-2
MD : 50.0 µm	40.0	kN/m	ISO 6383-2
TD : 50.0 μm	120.0	kN/m	ISO 6383-2
Thermal	Nominal Value	Unit	Test Method
Vicat Softening Temperature	100	°C	ISO 306/A
Melting Temperature (DSC)	121	°C	Internal method
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	7.0E+15	ohms·cm	ASTM D257
Dielectric Strength ²	52	kV/mm	ASTM D149
Dielectric Constant (60 Hz)	2.17		ASTM D150
Dissipation Factor (60 Hz)	5.0E-4		ASTM D150
Optical	Nominal Value	Unit	Test Method
Gloss (45°, 50.0 μm, Blown Film)	50		ASTM D2457

Haze (50.0 µm, Blown Film)	13	%	ASTM D1003A		
Additional Information	Nominal Value	Unit	Test Method		
Blown Film:Film of 50 μm and BUR=2 has been produced on Kiefel IBC with 140 kg/h. Die size 200 mm, die gap 2,7 mm.					
NOTE					
1.	Blown Film				
2.	500 V/sec				

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