Borealis PE FL1500

High Density Polyethylene

Borealis AG

Technical Data

Product Description

FL1500 is a high-density polyethylene film grade. Due to high density, the material properties are best utilised by processing under HDPE conditions. Film made of FL1500 gives a strong and stiff film with high consistency.

FL1500 is intended for thin and stiff films as used in pouches, thinner carrier bags, refuse bags and liners.

FL1500 contains antioxidant and acid scavenger.

General

Features	• Antioxidant • Good Stiffness	• Good Strength • High Density	• High Molecular Weight • Recyclable Material
Uses	• Bags	• Film	• Liners
Forms	• Pellets		
Processing Method	• Extrusion		

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.950 g/cm³	0.950 g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR)			ISO 1133
190°C/2.16 kg	8.0 g/10 min	8.0 g/10 min	
190°C/5.0 kg	0.28 g/10 min	0.28 g/10 min	

Films	Nominal Value (English)	Nominal Value (SI)	Test Method
Film Puncture Energy (0.59 mil (15 µm))	10.6 in·lb	1.20 J	
Film Puncture Force (0.59 mil (15 µm))	8.99 lbf	40.0 N	
Secant Modulus - MD (0.59 mil (15 µm))	• 109000 • 116000 psi	• 750 • 800 MPa	ASTM D882
Tensile Strength			ISO 527-3
MD : 0.59 mil (15 µm)	8270 psi	57.0 MPa	
TD : 0.59 mil (15 µm)	9430 psi	65.0 MPa	
Tensile Elongation			ISO 527-3
MD : Break, 0.59 mil (15 µm)	250 %	250 %	
TD : Break, 0.59 mil (15 µm)	400 %	400 %	
Dart Drop Impact (0.59 mil (15 µm))	170 g	170 g	ISO 7765-1
Elmendorf Tear Strength			ISO 6383-2
MD : 0.59 mil (15 µm)	0.020 lbf	0.090 N	
TD : 0.59 mil (15 µm)	0.040 lbf	0.18 N	

Elastomers	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Stress - Across Flow			ISO 37
Yield, 0.000591 in (0.0150 mm)	4930 psi	34.0 MPa	

Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Vicat Softening Temperature	257 °F	125 °C	ISO 306/A50
Melting Temperature (DSC)	266 °F	130 °C	ISO 3146

Additional Information

Molecular Weight, GPC: 285000 Mw
Molecular Weight Distribution, GPC: 19 Mw/Mn
Water Vapor Transmission Rate, ASTM F1249, 38°C/90% RH: 18 g/m²/24hr
Oxygen Transmission Rate, ASTM D3985, 23°C/wet: 13800 cm³/m²/24hr

Extrusion	Nominal Value (English)	Nominal Value (SI)
Cylinder Zone 1 Temp.	428 to 446 °F	220 to 230 °C

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Extrusion	Nominal Value (English)	Nominal Value (SI)
Cylinder Zone 2 Temp.	428 to 446 °F	220 to 230 °C
Cylinder Zone 3 Temp.	428 to 446 °F	220 to 230 °C
Cylinder Zone 4 Temp.	428 to 446 °F	220 to 230 °C
Cylinder Zone 5 Temp.	428 to 446 °F	220 to 230 °C
Adapter Temperature	446 °F	230 °C
Die Temperature	446 °F	230 °C

Extrusion Notes

Blow Up Ratio: 3:1-5:1

Notes

[1] Typical properties: these are not to be construed as specifications.