Technical Data Sheet

Petrothene GA1810

Linear Low Density Polyethylene

Product Description

Petrothene GA1810 is a series of pelletized linear low density polyethylene resins selected by customers for applications that require maximum strength and toughness. These products offer excellent additive homogeneity, require no transfer equipment modification, and facilitate clean and safe handling. Typical applications include heavy duty shipping sacks, trash can liners, commercial and industrial packaging, as well as food and consumer packaging. The *Petrothene* GA1810 series offers enhanced film strength, drawdown, toughness and heat seal strength. In addition, these resins have excellent low temperature resistance for applications such as stretch film and frozen food packaging.

Regulatory Status

For regulatory compliance information, see *Petrothene* GA1810 Product Stewardship Bulletin (PSB) and Safety Data Sheet (SDS).

Status	Commercial: Active
Availability	Asia-Pacific; Europe; North America; South & Central America
Application	Agriculture Film; Bags & Pouches; Can Liners; Film Wrap; Food Packaging Film; Heavy Duty Packaging; Lamination Film; Liner Film; Retail Carryout Bags; Shrink Film
Market	Flexible Packaging; Rigid Packaging
Processing Method	Blown Film; Sheet and Profile Extrusion

Typical Properties	Nominal Value	English Units	Nominal Value	SI Units	Test Method
Physical					
Melt Flow Rate, (190 °C/2.16 kg)	1.0	g/10 min	1.0	g/10 min	ASTM D1238
Base Resin Density, (23 °C)	0.918	g/cm³	0.918	g/cm³	ASTM D792
Product Density, (23 °C)	0.918	g/cm³	0.918	g/cm³	ASTM D792
Film					
Dart Drop Impact Strength, F50	200	g	200	g	ASTM D1709
Tensile Strength at Break					
MD	7500	psi	52	MPa	ASTM D882
TD	6500	psi	45	MPa	ASTM D882
Tensile Elongation at Break					
MD	620	%	620	%	ASTM D882
TD	700	%	700	%	ASTM D882
1% Secant Modulus					
MD	35000	psi	240	MPa	ASTM D882
TD	42000	psi	290	MPa	ASTM D882
Elmendorf Tear Strength					
MD	400	g	400	g	ASTM D1922
TD	650	g	650	g	ASTM D1922
Thermal					
Vicat Softening Temperature	220	°F	105	°C	ASTM D1525
Optical					
Haze	9	%	9	%	ASTM D1003
Gloss, (45°)	60	%	60	%	ASTM D2457

Additive			
Slip	None	None	LYB Method
Antiblock	None	None	LYB Method
Polymer Processing Aid	None	None	LYB Method

Product	Product Density(g/cm³)	Haze(%)	Gloss(%)	Slip(ppm)	Antiblock (ppm)
GA1810	0.918	9	60	None	None
GA1810T	0.923	17	45	1000	6750

Notes

Film sample used for testing was 1.0 mil gauge, 2.5:1 BUR.

These are typical property values not to be construed as specification limits.

Processing Techniques

Recommended processing conditions for this product are a melt temperature of 400 - 450 °F and a 1.5 to 3.0:1 blow-up ratio.

Using proper techniques, these products can readily be drawn below 0.90 mils at optimum production rates.

Specific recommendations for resin type and processing conditions can only be made when the end use, required properties and fabrication equipment are known.

Company Information

For further information regarding the LyondellBasell company, please visit http://www.lyb.com/.

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