Technical Data Sheet

Petrothene GA1820

Linear Low Density Polyethylene

Product Description

The *Petrothene* GA1820 resin is a pelletized linear low density polyethylene selected by customers for applications that require maximum strength and toughness. This product offers excellent additive homogeneity, requires no transfer equipment modification, and facilitates clean and safe handling. Typical applications include cast stretch film, blown stretch film, and high end film applications. The GA1820 resin offers enhanced film strength, unitization holding force, drawdown, toughness, and heat seal strength.

Regulatory Status

For regulatory compliance information, see *Petrothene* GA1820 Product Stewardship Bulletin (PSB) and Safety Data Sheet (SDS).

Status	Commercial: Active
Availability	Asia-Pacific; Europe; North America; South & Central America
Application	Blown Stretch Film; Cast Stretch Film; General Purpose Film Packaging; High End Film Applications
Market	Flexible Packaging; Rigid Packaging
Processing Method	Blown Film; Cast 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)	2.0	g/10 min	2.0	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					
Cast Film Dart Drop Impact Strength, F50	90	g	90	g	ASTM D1709
Blown Film Dart Drop Impact Strength, F50	130	g	130	g	ASTM D1709
Cast Film Tensile Strength at Break					
MD	5080	psi	35	MPa	ASTM D882
TD	3190	psi	22	MPa	ASTM D882
Blown Film Tensile Strength at Break					
MD	8130	psi	56	MPa	ASTM D882
TD	6530	psi	45	MPa	ASTM D882
Cast Film Tensile Elongation at Break					
MD	380	%	380	%	ASTM D882
TD	720	%	720	%	ASTM D882
Blown Film Tensile Elongation at Break					
MD	750	%	750	%	ASTM D882
TD	900	%	900	%	ASTM D882

Cast Film 1% Secant Modulus					
MD	22600	psi	156	MPa	ASTM D882
TD	26600	psi	183	MPa	ASTM D882
Blown Film 1% Secant Modulus					
MD	34800	psi	240	MPa	ASTM D882
TD	42100	psi	290	MPa	ASTM D882
Cast Film Elmendorf Tear Strength					
MD	430	g	430	g	ASTM D1922
TD	840	g	840	g	ASTM D1922
Blown Film Elmendorf Tear Strength					
MD	500	g	500	g	ASTM D1922
TD	670	g	670	g	ASTM D1922
Optical					
Cast Film Haze	2	%	2	%	ASTM D1003
Blown Film Haze	15	%	15	%	ASTM D1003
Cast Film Gloss, (45°)	53	%	53	%	ASTM D2457
Blown Film Gloss, (45°)	40	%	40	%	ASTM D2457
Additive					
Slip	None		None		LYB Method
Antiblock	None		None		LYB Method

Notes

Cast film used for testing was 0.8 mil (20.3 micron) extruded at 455 °F (235 °C) melt temperature.

Blown 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

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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