Petrothene® GA503027

Linear Low Density Polyethylene

LyondellBasell Industries

Message:

GA503 is a medium density butene copolymer LLDPE resin with high draw. GA503 is typically selected by customers for stiff, thin blown films. GA503 contains an additive package to minimize discoloration and die build-up..

Processing Techniques:

GA503 provides high output at low melt temperatures and without high pressure, high torque or shear-induced melt fracture. For improved drawdown without bubble breaks, GA503 can be blended with LDPE. It can also be blended with high performance LLDPE grades to reduce torque and horsepower requirements. Specific recommendations for type of resin and extrusion conditions can be made only when the end use, required properties and processing equipment are known.

General Information			
Additive	Processing aid		
	Anti-caking agent (7000 ppm)		
	Antioxidation		
	Sliding agent (1500 ppm)		
Features	Butene comonomer		
	Rigid, good		
	Copolymer		
	smoothness		
	Anti-caking property		
	Antioxidation		
	Good stripping		
	Compliance of Food Exposure		
	Medium density		
Uses	Films		
Agency Ratings	FDA 21 CFR 177.1520(c) 3.1		
Forms	Particle		
Processing Method	Film extrusion		
	Blow film		
Physical	Nominal Value	Unit	Test Method
Density	0.925	g/cm ³	ASTM D1505
Melt Mass-Flow Rate (MFR) (190°C/2.16			
kg)	3.5	g/10 min	ASTM D1238
Films	Nominal Value	Unit	Test Method
secant modulus			ASTM D882
1% secant, MD: 13 µm	252	MPa	ASTM D882
1% secant, MD: 38 µm	307	MPa	ASTM D882

1% secant, TD: 13 µm	255	MPa	ASTM D882
1% secant, TD: 38 µm	314	MPa	ASTM D882
Tensile Strength			ASTM D882
MD: Broken, 13 µm	9.65	MPa	ASTM D882
MD: Fracture, 38 μm	33.1	MPa	ASTM D882
TD: Broken, 13 μm	7.24	MPa	ASTM D882
TD: Fracture, 38 μm	23.4	MPa	ASTM D882
Tensile Elongation			ASTM D882
MD: Broken, 13 µm	500	%	ASTM D882
MD: Fracture, 38 μm	690	%	ASTM D882
TD: Broken, 13 μm	630	%	ASTM D882
TD: Fracture, 38 μm	740	%	ASTM D882
Dart Drop Impact			ASTM D1709
13 μm, blown film	30	g	ASTM D1709
38 μm, blown film	110	g	ASTM D1709
Elmendorf Tear Strength			ASTM D1922
MD : 13 µm	40	g	ASTM D1922
MD : 38 µm	100	g	ASTM D1922
TD : 13 μm	180	g	ASTM D1922
TD : 38 μm	220	g	ASTM D1922
Optical	Nominal Value	Unit	Test Method
Gloss			ASTM D2457
45 °, 12.7 μm, blown film	60		ASTM D2457
45 °, 38.1 μm, blown film	25		ASTM D2457
Haze			ASTM D1003
12.7 µm, blown film	25	%	ASTM D1003
38.1 µm, blown film	30	%	ASTM D1003
Additional Information			

Film properties taken from blown film produced at a 2.5:1 BUR, 360°F melt temperature, using an 8 in die with 0.025 in die gap, at 150 lb/hr.

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