

Petrothene® NA442

Low Density Polyethylene

LyondellBasell Industries

Message:

PETROTHENE NA 442 is a series of low density/EVA copolymer resins for high impact/high clarity packaging and lamination applications. NA 442 exhibits excellent processability and good balance of optics and strong heat sealing characteristics.

General Information			
Features	Copolymer		
	Optical		
	Impact resistance, high		
	Workability, good		
	Good heat sealability		
	Definition, high		
	Compliance of Food Exposure		
Uses	Packaging		
	Laminate		
Agency Ratings	FDA 21 CFR 177.1350		
Forms	Particle		
Processing Method	Film extrusion		
	Blow film		
Physical	Nominal Value	Unit	Test Method
Density	0.927	g/cm ³	ASTM D1505
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	1.5	g/10 min	ASTM D1238
Vinyl Acetate Content	5.0	wt%	
Films	Nominal Value	Unit	Test Method
Film Thickness - Tested	32	µm	
Secant Modulus - 1% Secant, MD (32 µm)	131	MPa	ASTM D882
Tensile Strength			ASTM D882
MD: Yield, 32 µm	24.8	MPa	ASTM D882
TD: Yield, 32 µm	19.3	MPa	ASTM D882
Tensile Elongation			ASTM D882
MD: Broken, 32 µm	320	%	ASTM D882
TD: Broken, 32 µm	550	%	ASTM D882
Dart Drop Impact (32 µm)	140	g	ASTM D1709
Elmendorf Tear Strength			ASTM D1922
MD : 32 µm	160	g	ASTM D1922

TD : 32 μm	180	g	ASTM D1922
Thermal	Nominal Value	Unit	Test Method
Vicat Softening Temperature	88.0	°C	ASTM D1525
Optical	Nominal Value	Unit	Test Method
Gloss (45°, 31.8 μm)	75		ASTM D2457
Haze (31.8 μm)	4.0	%	ASTM D1003
Extrusion	Nominal Value	Unit	
Melt Temperature	166 - 193	°C	
Extrusion instructions			

NA 442 has excellent drawdown characteristics that yield outstanding output rates. Optimum properties are obtained over a broad range of extrusion conditions at melt temperatures between 330°-380°F (166°-194°C) and a blow-up ratio between 1.7-3.0:1. Using proper techniques and equipment, NA 442 can be drawn to 1.0 mil (19 microns) at commercial production rates.

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