

Petrothene®

NA442

Low Density Polyethylene

Film Extrusion Grade

Melt Index 1.5 Vinyl Acetate Content 5.0%

Applications

PETROTHENE NA442 is a series of low density/EVA copolymer resins for high impact/high clarity packaging and lamination applications. NA442 exhibits excellent processability and good balance of optics and strong heat sealing characteristics.

Regulatory Status

The basic resin NA442 meets the requirements of the Food and Drug Administration, regulation 21 CFR, 177.1350. This regulation allows the use of this olefin polymer "...in articles or components of articles intended for use in contact with food." Specific limitations or conditions of use may apply. Contact your Equistar sales representative for more information regarding the suitability of specific products for specific applications.

Processing Techniques

NA442 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, NA442 can be drawn to 1.0 mil (19 microns) at commercial production rates. Specific recommendations for processing NA442 can be made only when the end use application, required properties and the processing equipment are known. For exact recommendations, please contact your Equistar representative.

Typical Properties

Property	Nominal Value	Units	ASTM Test Method
Melt Index	1.5	g/10 min	D 1238
Vinyl Acetate Content	5.0	%	
Vicat Softening Point	88	°C	D 1525
Film*			
Haze ¹	4	%	D 1003
Gloss, 45° ¹	75		D 2457
Tensile Strength, MD (TD)	3,600 (2,800)	psi	D 882
Elongation, MD (TD)	320 (550)	%	D 882
1% Secant Modulus, MD (TD)	19,000 (24,000)	psi	E 111
Dart Drop Impact Strength, F ₅₀	140	g	D 1709
Elmendorf Tear Strength, MD (TD)	160 (180)	g	D 1922

Product	NA442051
Slip	Medium
Antiblock	Low

These are typical values and not to be construed as specific product limits.

* Data obtained from film produced in a 3½" (89 mm) blown film line, commercially available 8" (203 mm) die, 375°F (191°C) melt extrusion temperature, 2:1 BUR, 1.25 mil (32 micron) gauge, 0.025" die gap at 130 lb/hr.

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