Petrothene

NA940

Low Density Polyethylene
Film Extrusion Grade
Melt Index: 0.25 Density: 0.918

Applications

Petrothene NA940 is a series of resins used for heavy duty film applications. Excellent puncture resistance combined with impact properties make NA940 an exceptional choice when selected by customers for bags used to package fertilizer, peat moss, decorative stone and agricultural and construction materials. NA940 also has excellent heat shrink properties.

Regulatory Status

The base resin NA940 meets the requirements of the Food and Drug Administration regulation, 21 CFR 177.1520. 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 product safety representative for more information.

Processing Techniques

NA 940 has excellent processability, bubble stability and good heat sealing over a wide range of extrusion conditions; however, recommended conditions are melt temperatures between 330°- 430°F (165°- 221°C) and blow-up ratios between 1.8:1 and 2.5:1. Drawdown to 1.5 mil (38.1 microns) is possible at commercial rates when proper extrusion techniques are used. Specific recommendations for processing NA 940 can be made only when the end use applications, required properties and processing equipment are known.

Typical Properties

Property	Nominal Value	Units	ASTM Test Method
Melt Index	0.25	g/10 min	D1238
Base Resin Density	0.918	g/cc	D1505
Vicat Softening Point	90	°C	D1525
Film*			
Dart Drop Impact Strength, F_{50}	220	g	D1709
Tensile Strength, MD (TD)	3,000 (2,800)	psi	D882
Elongation, MD (TD)	300 (500)	%	D882
1 % Secant Modulus, MD (TD)	24,000 (27,000)	psi	E111
Elmendorf Tear Strength, MD (TD)	220 (200)	g	D1922
Molding			
Low Temperature Brittleness, F_{50}	<-76	°C	D746
Tensile Strength @ Break	2,100	psi	D638
Elongation @ Break	>600	%	D638
Flexural Modulus	34,000	psi	D790
Hardness, Shore D	50		D2240
Environmental Stress Crack Resistance, # Failures in 100% Igepal®	0 in 7 days		D1693

Products	NA940000	NA940085	NA940094
Slip (ppm)	None	None	500
Antiblock (ppm)	None	4,000	4,000

* Data obtained from film produced on a 3½" (89 mm) blown film line, commercially available 8" (203 mm) die, 430°F (221°C) melt extrusion temperature, 2:1 BUR, 2.0 mil (51 micron) gauge, 0.025" die gap at 170 lb/hr.

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