Petrothene® NA940085

Low Density Polyethylene

LyondellBasell Industries

Message:

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.

General Information	
UL YellowCard	E62552-247310
Additive	Anti-caking agent (4000 ppm)
Features	High caking resistance Perforation resistance Impact resistance, good Good heat sealability Compliance of Food Exposure
Uses	Films Bags
Agency Ratings	FDA 21 CFR 177.1520
Forms	Particle
Processing Method	Film extrusion Blow film

Physical	Nominal Value	Unit	Test Method
Density	0.918	g/cm³	ASTM D1505
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	0.25	g/10 min	ASTM D1238
Environmental Stress-Cracking Resistance (100% Igepal, F0)	168	hr	ASTM D1693
Hardness	**Nominal Value**	**Unit**	**Test Method**
Durometer Hardness (Shore D)	50		ASTM D2240
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Strength (Break)	14.5	MPa	ASTM D638
Tensile Elongation (Break)	> 600	%	ASTM D638
Flexural Modulus	234	MPa	ASTM D790
Films	**Nominal Value**	**Unit**	**Test Method**
Film Thickness - Tested	51	µm	
secant modulus			ASTM D882
1% secant, MD: 51 µm	165	MPa	ASTM D882

1% secant, TD: 51 µm	186	MPa	ASTM D882
Tensile Strength			ASTM D882
MD: Yield, 51 µm	20.7	MPa	ASTM D882
TD: Yield, 51 µm	19.3	MPa	ASTM D882
Tensile Elongation			ASTM D882
MD: Fracture, 51 µm	300	%	ASTM D882
TD: Fracture, 51 µm	500	%	ASTM D882
Dart Drop Impact (51 µm)	220	g	ASTM D1709
Elmendorf Tear Strength			ASTM D1922
MD : 51 µm	220	g	ASTM D1922
TD : 51 µm	200	g	ASTM D1922
Thermal	Nominal Value	Unit	Test Method
Brittleness Temperature	< -76.0	°C	ASTM D746
Vicat Softening Temperature	90.0	°C	ASTM D1525
Extrusion	Nominal Value	Unit	
Melt Temperature	166 - 221	°C	

Extrusion instructions

NA 940 has been designed for excellent processability, bubble stability and good heat sealing over a wide range of extrusion conditions. Optimum properties are found at melt temperatures of 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.

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