# Petrothene® NA940

### Low Density Polyethylene

#### LyondellBasell Industries

#### Message:

PETROTHENE NA 940 is a series of resins designed for heavy duty film applications. Superior puncture resistance combined with excellent impact properties make NA 940 an ideal choice for bags used to package fertilizer, peat moss, decorative stone and agricultural and construction materials.

General Information			
Features	Perforation resistance		
	Impact resistance, good		
	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	МРа	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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#### Recommended distributors for this material

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