

## LyondellBasell Petrothene® PR92735 Linear Low Density Polyethylene

Category : Polymer , Thermoplastic , Polyethylene (PE) , LLDPE , Linear Low Density Polyethylene (LLDPE), Extrusion Grade

### Material Notes:

**Applications**PETROTHENE PR 92735 is a high molecular weight, linear low density-based compound designed for cable jacketing. PR 92735 contains a nominal carbon black content of 2.6% and antioxidant has been added to ensure thermal stability during processing. PR 92735 also contains a processing aid.**Processing Techniques**PR 92735, like other thermoplastic polyolefin compounds, can be extruded as wire and cable insulation using a conventional extruder. However, it has been found that a high shear mixing screw design improves the processability of this type of material. A typical drawdown ratio for this material is 3.17:1. Below are suggested extrusion conditions for PR 92735. These conditions are intended as general guidelines only and are not optimum values, since manufacturing conditions, such as extruder type and size, affect the processing of thermoplastic compounds.**Industry Specifications**PR 92735 meets the requirements of the following: ASTM D 1248, Type 1, Category 4, Class C, Grades E5, J1 and J3 Federal LP 390C, Type 111, Class L, Grades 2, 3, and 4, Category 4: REA PE 200, Appendix E. This product is from the former Equistar product line.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_LyondellBasell-Petrothene-PR92735-Linear-Low-Density-Polyethylene.php](http://www.lookpolymers.com/polymer_LyondellBasell-Petrothene-PR92735-Linear-Low-Density-Polyethylene.php)

Physical Properties	Metric	English	Comments
Density	0.930 g/cc	0.0336 lb/in <sup>3</sup>	ASTM D1505
Environmental Stress Crack Resistance	>= 1000 hour	>= 1000 hour	Condition A - 10% Igepal®; ASTM D1693
Absorption Coefficient	440	440	ASTM D3349
Carbon Black Loading	2.6 %	2.6 %	
Melt Flow	0.59 g/10 min	0.59 g/10 min	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	57	57	ASTM D224
Tensile Strength at Break	16.5 MPa	2400 psi	ASTM D638
Tensile Strength, Yield	11.0 MPa	1600 psi	ASTM D638
Elongation at Break	650 %	650 %	ASTM D638
Flexural Modulus	0.365 GPa	53.0 ksi	1% Secant; ASTM D790
1% Secant Modulus	248 MPa	36000 psi	ASTM D790

Thermal Properties	Metric	English	Comments
CTE, linear	200 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$ @Temperature 20.0 $\text{Å}^\circ\text{C}$	111 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$ @Temperature 68.0 $\text{Å}^\circ\text{F}$	ASTM D696

Thermal Properties	Metric	English	Comments
Thermal Temperature	100 Å°C	212 Å°F	(Comments / sub>), ASTM D746

Electrical Properties	Metric	English	Comments
Dielectric Constant	2.5	2.5	ASTM D1531
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Dielectric Strength	19.7 kV/mm	500 kV/in	ASTM D149
Dissipation Factor	0.00040	0.00040	ASTM D1531
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	

Processing Properties	Metric	English	Comments
Feed Temperature	154 - 163 Å°C	310 - 325 Å°F	
Zone 2	177 - 193 Å°C	350 - 380 Å°F	
Zone 3	193 - 210 Å°C	380 - 410 Å°F	
Zone 4-x	204 - 218 Å°C	400 - 425 Å°F	
Adapter Temperature	204 - 218 Å°C	400 - 425 Å°F	
Die Temperature	204 - 218 Å°C	400 - 425 Å°F	

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