EQUISTAR
A Lyondell Company

Petrothene®

PR92735

Linear Low Density Polyethylene
Wire and Cable Grade
Melt Index 0.72 Density 0.930

Applications

PETROTHENE PR92735 is a high molecular weight linear low density-based compound designed for cable jacketing. This resin contains a nominal carbon black content of 2.6% and antioxidant has been added to ensure thermal stability during processing. PR92735 also contains a processing aid.

Processing Techniques

PR92735, like other thermoplastic polyolefin compounds, can be extruded as wire or 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 PR92735. 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.

Suggested General Extrusion Conditions

Extruder Zone	Temperature Range	Extruder Zone	Temperature Range
Feed	310° - 325°F (154° - 163°C)	Zone 4-X	400°-425°F (204°-218°C)
Zone 2	350° - 380°F (177° - 193°C)	Adapter	400°-425°F (204°-218°C)
Zone 3	380° - 410°F (193° - 210°C)	Die	400°-425°F (204°-218°C)

Industry Specifications

PR92735 meets the requirements of the following: ASTM D 1248, Type 1, Category 4, Class C, Grades E5, J1 and J3; Federal LP 390C, Type III, Class L, Grades 2, 3, and 4, Category 4; REA PE-200, Appendix E.

Typical Properties

Property	Nominal Value	Units	ASTM Test Method
Melt Index	0.72	g/10 min.	D 1238
Density	0.930	g/cc	D 1505
Tensile Strength @ Break	2,400 (16.6)	psi (MPa)	D 638
Tensile Stress @ Yield	1,600 (11.0)	psi (MPa)	D 638
Elongation at Break	650	%	D 638
Tensile Modulus (1% Secant)	36,000 (248)	psi (MPa)	D 638
Flexural Modulus (1% Secant)	53,000 (366)	psi (MPa)	D 790
Hardness, Shore D	57		D 2240
Low Temperature Brittleness, F_{50}	<-76	°C	D 746
ESCR, 10% Igepal	>1,000	hours	D 1693
Dielectric Constant @ l MHz	2.50		D 1531
Dissipation Factor @ 1 MHz	0.0004		D 1531
Dielectric Strength	500	V/mil	D 149
Carbon Black Content	2.60	%	
Absorption Coefficient	440		D 3349
Linear Coefficient of Thermal Expansion @23°C	2.00×10^{-4}	in/in/°C	D 696