Technical Data Sheet

Petrothene LR590001

W&C Polyolefin Compound

Product Description

Petrothene LR590001 is selected by customers for use as primary insulation for applications with demanding aging requirements such as telephone singles. LR590001 is a high density resin which exhibits low shrinkback after extrusion. Antioxidant has been added to ensure thermal stability during processing. The resin also contains a metal deactivator to prevent degradation from copper while the cable is in service.

Petrothene LR590001 meets the requirements of the following: ASTM D 1248-2, Type III, Class A, Category 4, Grades E8 and E9; Federal LP390C, Type II, Class H, Category 4, Grade 1; REA PE-22; REA PE-39.

Regulatory Status

For regulatory compliance information, see *Petrothene* LR590001 Product Stewardship Bulletin (PSB) and Safety Data Sheet (SDS).

Status	Commercial: Active
Availability	North America
Application	Wire & Cable
Market	Wire & Cable
Processing Method	Wire & Cable

Typical Properties	Nominal Value	English Units	Nominal Value	SI Units	Test Method
Physical					
Melt Flow Rate, (190 °C/2.16 kg)	0.80	g/10 min	0.80	g/10 min	ASTM D1238
Density, (23 °C)	0.948	g/cm³	0.948	g/cm³	ASTM D1505
Mechanical					
Tensile Stress at Break	2350	psi	16.2	MPa	ASTM D638
Tensile Stress at Yield	3150	psi	21.7	MPa	ASTM D638
Tensile Elongation at Break	590	%	590	%	ASTM D638
Environmental Stress Crack Resistance, F_{20} (100% Igepal®, Cond B)	48	hr	48	hr	ASTM D1693
Thermal					
Low Temperature Brittleness, F_{50}	<-105	°F	<-76	°C	ASTM D746
Electrical					
Volume Resistivity	1 x 10^{18}	ohm*cm	1 x 10^{18}	ohm*cm	ASTM D257
Dielectric Constant, 1 MHz	2.33		2.33		ASTM D150
Dissipation Factor, 1 MHz	0.00007		0.00007		ASTM D150

Manufacturer website: https://www.lyondellbasell.com/en/

Notes

Igepal® is a registered trademark of Rhodia.

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

Processing Techniques

Specific recommendations for resin type and processing conditions can only be made when the end use, required properties and fabrication equipment are known.

General Extrusion Conditions

Petrothene LR590001, like other thermoplastic polyolefin resins, can be extruded using a conventional extruder. Below are suggested extrusion conditions for *Petrothene* LR590001. These conditions are intended as general guidelines only, and are not optimum values, since manufacturing variables such as extruder type and size have an effect on processing of thermoplastic resins.

Extruder Zone	Temperature Range	Extruder Zone	Temperature Range
Feed	300 - 325 °F (149 - 163°C)	Adapter	475 - 500 °F (246 - 260 °C)
Zone 2	350 - 400 °F (177 - 204 °C)	Die	475 - 500 °F (246 - 260 °C)
Zone 3	400 - 450 °F (204 - 232 °C)	Melt Temperature	475 - 500 °F (246 - 260 °C)
Zone 4-X	475 - 500 °F (246 - 260 °C)		

Company Information

For further information regarding the LyondellBasell company, please visit http://www.lyb.com/.

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