Technical Data Sheet

Petrothene LR52800E

High Density Polyethylene

Product Description

Petrothene LR52800E is a natural multi-modal, broad molecular weight high density *polyethylene* based compound designed for use in jacketing, conduit or wire insulation. *Petrothene* LR52800E contains a robust additives package for thermal stabilisation.
This product meets the requirements of ASTM D3350. Cell Classification is PE-435406A.

This grade is not intended for medical and pharmaceutical applications.

Application	Wire & Cable
Market	Industrial, Building & Construction; Wire & Cable
Attribute	Good Electrical Properties; Good Thermal Stability; High Density; High Elongation; High ESCR (Environmental Stress Cracking Resistance)

Typical Properties	Nominal Value	Units	Test Method
Physical			
Melt Flow Rate			
(190 °C/2.16 kg)	0.3	g/10 min	ISO 1133-1
(190 °C/5.0 kg)	1.1	g/10 min	ISO 1133-1
Density	0.950	g/cm³	ISO 1183-1
Mechanical			
Tensile Modulus	1000	MPa	ISO 527-1, -2
Tensile Stress at Yield, (23 °C, 50 mm/min)	23	MPa	ISO 527-1, -2
Tensile Elongation at Break	700	%	ASTM D638
Environmental Stress Crack Resistance	> 2000	hr	ASTM D1693
Hardness			
Shore Hardness, (Shore D)	61		ISO 868
Thermal			
Oxidation Induction Time, (210 °C)	> 30	min	ISO 11357-6
Peak Melting Point	130	°C	ISO 11357-3
Electrical			
Volume Resistivity	> 10E16	ohm*cm	ASTM D257
Dielectric Strength	20	kV/mm	IEC 60243-1
Additional Information			
Moisture Content	< 0.03	%	LYB Method

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

Processing Techniques

Users should determine the conditions necessary to obtain optimum product properties and suitability of the product for the intended application.

Recommended melt temperatures: 190 °C to 230 °C.

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

Further Information

Health and Safety:

The resin is manufactured to the highest standards, but special requirements apply to certain applications such as food end-use contact and direct medical use. For specific information on regulatory compliance contact your local representative.

Workers should be protected from the possibility of skin or eye contact with molten polymer. Safety glasses are suggested as a minimal precaution to prevent mechanical or thermal injury to the eyes.

Molten polymer may be degraded if it is exposed to air during any of the processing and off-line operations. The products of degradation may have an unpleasant odor. In higher concentrations they may cause irritation of the mucus membranes. Fabrication areas should be ventilated to carry away fumes or vapours. Legislation on the control of emissions and pollution prevention should be observed.

The resin will burn when supplied with excess heat and oxygen. It should be handled and stored away from contact with direct flames and/or ignition sources. While burning, the resin contributes high heat and may generate a dense black smoke.

Recycled resins may have previously been used as packaging for, or may have otherwise been in contact with, hazardous goods. Converters are responsible for taking all necessary precautions to ensure that recycled resins are safe for continued use.

For further information about safety in handling and processing please refer to the Safety Data Sheet.

Conveying:

Conveying equipment should be designed to prevent production and accumulation of fines and dust particles that are contained in polymer resins. These particles can under certain conditions pose an explosion hazard. Conveying systems should be grounded, equipped with adequate filters and regularly inspected for leaks.

Storage:

The resin is packed in 25 kg bags, octabins or bulk containers protecting it from contamination. If it is stored under certain conditions, i. e. if there are large fluctuations in ambient temperature and the atmospheric humidity is high, moisture may condense inside the packaging. Under these circumstances, it is recommended to dry the resin before use. Unfavorable storage conditions may also intensify the resin's slight characteristic odor.

Resin should be protected from direct sunlight, temperatures above 40°C and high atmospheric humidity during storage. Higher storage temperatures may reduce the storage time.

The information submitted is based on our current knowledge and experience. In view of the many factors that may affect processing and application, these data do not relieve processors of the responsibility of carrying out their own tests and experiments; neither do they imply any legally binding assurance of certain properties or of suitability for a specific purpose. This information does not remove the obligation of the customer to inspect the material on arrival and notify us of any faults immediately. It is the responsibility of those to whom we supply our products to ensure that any proprietary rights and existing laws and legislation are observed.

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