

Technical Data Sheet

Petrothene LP510031

High Density Polyethylene



Product Description

Petrothene LP510031 is selected by customers for use in large-part blow molding of durable goods and for deep-draw sheet extrusion / thermoforming applications. LP510031 exhibits excellent impact resistance and excellent environmental stress crack resistance.

Regulatory Status

For regulatory compliance information, see *Petrothene* LP510031 [Product Stewardship Bulletin \(PSB\)](#) and [Safety Data Sheet \(SDS\)](#).

Status	Commercial: Active
Availability	North America
Application	Industrial Packaging; Jerry Cans; Structural Parts
Market	Rigid Packaging
Processing Method	Extrusion Blow Molding; Sheet and Profile Extrusion
Attribute	High ESCR (Environmental Stress Cracking Resistance)

Typical Properties	Nominal Value	English Units	Nominal Value	SI Units	Test Method
Physical					
Melt Flow Rate, (190 °C/21.6 kg)	11.5	g/10 min	11.5	g/10 min	ASTM D1238
Density, (23 °C)	0.950	g/cm ³	0.950	g/cm ³	ASTM D1505
Mechanical					
Flexural Modulus, (1% Secant)	165000	psi	1140	MPa	ASTM D790
Tensile Strength at Yield	3700	psi	25.5	MPa	ASTM D638
Tensile Elongation at Break	>800	%	>800	%	ASTM D638
Environmental Stress Crack Resistance, F ₅₀ (100% Igepal®, Cond B)	>1000	hr	>1000	hr	ASTM D1693
Impact					
Tensile Impact Strength	>200	ft-lb/in ²	>420	kJ/m ²	ASTM D1822
Hardness					
Shore Hardness, (Shore D)	65		65		ASTM D2240
Thermal					
Vicat Softening Temperature	252	°F	122	°C	ASTM D1525
Low Temperature Brittleness, F ₅₀	<-105	°F	<-76	°C	ASTM D746
Deflection Temperature Under Load, (66 psi, Unannealed)	163	°F	73	°C	ASTM D648

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.

Company Information

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

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- (ii) film, overwrap and/or product packaging that is considered a part or component of one of the aforementioned medical devices;
- (iii) packaging in direct contact with a pharmaceutical active ingredient and/or dosage form that is intended for inhalation, injection, intravenous, nasal, ophthalmic (eye), digestive, or topical (skin) administration;
- (iv) tobacco related products and applications, electronic cigarettes and similar devices.
- (v) safety components in automotive applications, for example: air bags, air bag unit housings and covers, seat belt mechanisms, brake systems, pedals and pedal supports, steering systems.

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- (i) U.S. FDA Class III Medical Devices; Health Canada Class IV Medical Devices; European Class III Medical Devices;
- (ii) applications involving permanent implantation into the body;
- (iii) life-sustaining medical applications.

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