

LyondellBasell Petrothene® LB5003 High Density Polyethylene (Unverified Data**)

Categories: [Polymer](#); [Thermoplastic](#); [Polyethylene \(PE\)](#); [High Density \(HDPE\)](#); [High Density Polyethylene \(HDPE\)](#), [Blow Molding Grade](#)

Material Notes:

Applications

The PETROTHENE LB 5003 series of polyethylene resins exhibits excellent environmental stress crack resistance and is especially designed for heavy duty bottles, such as those containing detergent and chemicals.

Regulatory Status

The base resin LB 5003 meets the requirements of Food and Drug Administration regulation, 21 CFR 177.1520. This regulation allows the use of this olefin polymer in "...articles or components of articles intended for use in contact with food." Specific limitations or conditions of use may apply.

Processing Techniques

Specific recommendations for processing LB 5003 can only be made when the processing conditions, equipment and end use are known.

This product is from the former Equistar product line.

Vendors: No vendors are listed for this material. Please [click here](#) if you are a supplier and would like information on how to add your listing to this material.

Physical Properties	Metric	English	Comments
Density	0.949 g/cc	0.0343 lb/in ³	ASTM D1505
Environmental Stress Crack Resistance	75 hour	75 hour	F ₅₀ ; ASTM D1693
ESCR, Bottle	>= 500 hour	>= 500 hour	F ₅₀ ; ASTM D2561
Melt Flow	0.30 g/10 min	0.30 g/10 min	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	65	65	ASTM D2240
Tensile Strength, Yield	26.2 MPa	3800 psi	ASTM D638
Elongation at Break	>= 600 %	>= 600 %	ASTM D638
Flexural Modulus	1.17 GPa	170 ksi	ASTM D790
Tensile Impact	64.1 J/cm	120 ft-lb/in	ASTM D1822

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	72.0 °C	162 °F	ASTM D648
Vicat Softening Point	122 °C	252 °F	ASTM D1525
Brittleness Temperature	<= -76.0 °C	<= -105 °F	F ₅₀ ; ASTM D746

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