

## LyondellBasell Alathon® M5372 High Density Polyethylene

Category : Polymer , Thermoplastic , Polyethylene (PE) , HDPE

### Material Notes:

**Applications**ALATHON M 5372 copolymer with narrow weight distribution. This resin provides high impact strength and stress crack resistance, excellent color, low odor and good processing stability. Typical applications include open head pails, and large shipping containers.  
**Regulatory Status**M 5372 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. Contact your Equistar sales representative for more information.  
**Processing Techniques**Specific recommendations for processing M 5372 can only be made when the processing conditions, equipment and end use are known. For further suggestions, please contact your Equistar sales representative or refer to the Start-up Conditions for HDPE on the Equistar web site. This product is from the former Equistar product line.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_LyondellBasell-Alathon-M5372-High-Density-Polyethylene.php](http://www.lookpolymers.com/polymer_LyondellBasell-Alathon-M5372-High-Density-Polyethylene.php)

Physical Properties	Metric	English	Comments
Bulk Density	0.593 - 0.625 g/cc	0.0214 - 0.0226 lb/in <sup>3</sup>	ASTM D1895
Density	0.953 g/cc	0.0344 lb/in <sup>3</sup>	ASTM D1505
Melt Flow	6.9 g/10 min @Load 2.16 kg, Temperature 190 °C	6.9 g/10 min @Load 4.76 lb, Temperature 374 °F	ASTM D1238
Spiral Flow	22.4 cm	8.80 in	Measures the number on inches of flow produced when molten resin is injected into a long, spiral channel (0.625" insert), at a constant injection pressure of 1000 psi with a melt temperature of 440° F; Equistar

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	70	70	ASTM D2240
Tensile Strength at Break	21.9 MPa	3170 psi	50 mm/min. Type IV; ASTM D638
Tensile Strength, Yield	27.2 MPa	3950 psi	50 mm/min. Type IV; ASTM D638
Elongation at Break	1240 %	1240 %	50 mm/min. Type IV; ASTM D638
Elongation at Yield	11 %	11 %	50 mm/min. Type IV; ASTM D638
Tensile Modulus	0.765 GPa	111 ksi	50 mm/min. Type I; ASTM D638
	0.9108 GPa	132.1 ksi	Young's Modulus 50 mm/min. Type I; ASTM D638
Flexural Modulus	0.9770 GPa	141.7 ksi	Secant @ 2%, 12.5 mm/min; ASTM D790

Mechanical Properties	Metric	English	Comments
	1.268 GPa	186.8 ksi	Flexural Young's Modulus, 12.5 mm/min; ASTM D790
1% Secant Modulus	1190 MPa	172000 psi	12.5 mm/min; ASTM D790
Izod Impact, Notched	0.481 J/cm	0.900 ft-lb/in	ASTM D256
Izod Impact, Unnotched	NB @Temperature -18.0 Â°C	NB @Temperature -0.400 Â°F	ASTM D4812

Thermal Properties	Metric	English	Comments
Melting Point	131.2 Â°C	268.2 Â°F	ASTM D3418
Crystallization Temperature	115.8 Â°C	240.4 Â°F	ASTM D3418
Deflection Temperature at 0.46 MPa (66 psi)	70.0 Â°C	158 Â°F	ASTM D648
Vicat Softening Point	127 Â°C	261 Â°F	ASTM D1525
Brittleness Temperature	<= -76.0 Â°C	<= -105 Â°F	F<sub>50</sub>; ASTM D746

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	232 Â°C	450 Â°F	
Middle Barrel Temperature	243 Â°C	470 Â°F	
Front Barrel Temperature	246 Â°C	475 Â°F	
Nozzle Temperature	246 Â°C	475 Â°F	

## Contact Songhan Plastic Technology Co.,Ltd.

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