

Alathon  
M5370

High Density Polyethylene  
Injection Molding Grade  
Melt Index 6.9 Density 0.953



**Applications** Alathon M5370 is a copolymer with a narrow molecular weight distribution. This resin provides high impact strength, excellent color, low odor and good processing stability. Typical applications include open head pails and large shipping containers.

**Regulatory Status** M5370 meets the requirements of the 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 Product Safety representative for more information.

**Processing Techniques** Specific recommendations for processing M5370 can only be made when the processing conditions, equipment and end use are known.

Suggested Start-up Conditions	Extruder Zone	Rear	Center	Front	Nozzle
	Cylinder Temperature °F (°C)		450 (232)	470 (243)	475 (246)

Typical Properties

Resin Properties	Nominal Values				Test Method
	English Units	SI	Units		
Melt Index, 190°C, 2.16 kg Spiral Flow <sup>1</sup>	8.9 in	6.9	g/10 min	ASTM D1238	
Density		22.6	cm	Equistar	
Bulk Density	33-37 lb/ft <sup>3</sup>	0.953	g/cc	ASTM D1505	
		529-593	kg/m <sup>3</sup>	ASTM D1895	
<b>Molded Properties</b>					
Tensile Stress, Yield	4,130 psi	28.5	MPa	ASTM D638*	
Elongation, Yield		9	%	ASTM D638*	
Tensile Stress, Break	2,990 psi	20.6	MPa	ASTM D638*	
Elongation, Break		1,150	%	ASTM D638*	
Flexural Modulus, 1% Secant	189,030 psi	1,300	MPa	ASTM D790**	
Izod Impact, 23 °C	0.73 ft-lbs/in	39	J/m	ASTM D256	
Unnotched Impact, -18°C	No Break	No Break		ASTM D4812	
Vicat Softening Point	261 °F	127	°C	ASTM D1525	
Hardness, Shore D		71		ASTM D2240	
Heat Deflection Temperature, 66 psi <sup>2</sup>	162 °F	72	°C	ASTM D648	
Low Temperature Brittleness, F <sub>50</sub> <sup>2</sup>	<-105 °F	<-76	°C	ASTM D746	

<sup>1</sup> 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.

<sup>2</sup> Data are for control and development work and not intended for use in design or predicting performance at elevated or sub-ambient temperatures.

\* Conditions: 50 mm/min, Type IV

\*\* Conditions: 12.5 mm/min

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

See page 2 for additional information.

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Other  
Properties

**Thermal Properties**

Melting Temperature  
Crystallization Temperature

**Nominal Values**

**English Units**

**SI Units**

**Test Method**

266.5 °F 130.3 °C  
241.7 °F 116.5 °C

**Molded Properties**

Flexural Modulus, 2% Secant  
Flexural Young's Modulus  
Tensile Modulus, 1% Secant  
Tensile Young's Modulus

**English Units**

**SI Units**

**Test Method**

157,800 psi 1,090 MPa  
205,100 psi 1,410 MPa  
119,300 psi 823 MPa  
151,300 psi 1,040 MPa

\*\* Conditions: 12.5 mm/min

\*\*\* Conditions: 50 mm/min, Type I

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Users should review the applicable Material Safety Data Sheet before handling the product.

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