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)	475 (246)

Typical Properties

	Nominal Values				
Resin Properties	**English**	**Units**	**SI**	**Units**	**Test Method**
Melt Index, 190°C, 2.16 kg			6.9	g/10 min	ASTM D1238
Spiral Flow[1]	8.9	in	22.6	cm	Equistar
Density			0.953	g/cc	ASTM D1505
Bulk Density	33-37	lb/ft³	529-593	kg/m³	ASTM D1895
Molded Properties					
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[2]	162	°F	72	°C	ASTM D648
Low Temperature Brittleness, F_{50}[2]	<-105	°F	< -76	°C	ASTM D746

[1] 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.
[2] 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

	Nominal Values				
Thermal Properties	**English Units**		**SI**	**Units**	**Test Method**
Melting Temperature	266.5	°F	130.3	°C	ASTM D3418
Crystallization Temperature	241.7	°F	116.5	°C	ASTM D3418
	English Units		**SI**	**Units**	**Test Method**
Molded Properties					
Flexural Modulus, 2% Secant	157,800	psi	1,090	MPa	ASTM D790**
Flexural Young's Modulus	205,100	psi	1,410	MPa	ASTM D790**
Tensile Modulus, 1% Secant	119,300	psi	823	MPa	ASTM D638***
Tensile Young's Modulus	151,300	psi	1,040	MPa	ASTM D638***

** Conditions: 12.5 mm/min
*** Conditions: 50 mm/min, Type I

LyondellBasell markets this product through the following entities:

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Basell Asia Pacific Limited
Basell International Trading FZE
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Users should review the applicable Material Safety Data Sheet before handling the product.

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