

Technical Data Sheet

Alathon M5370P

High Density Polyethylene



Product Description

Alathon M5370P 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, large shipping containers and all-terrain vehicle components.

Status	Commercial: Active
Availability	North America
Application	Body Panels; Exterior Automotive Applications; Sports, Leisure & Toys
Market	Rigid Packaging
Processing Method	Injection Molding
Attribute	High Gloss

Typical Properties	Nominal Value	English Units	Nominal Value	SI Units	Test Method
Physical					
Melt Flow Rate, (190 °C/2.16 kg)	7.3	g/10 min	7.3	g/10 min	ASTM D1238
Density, (23 °C)	0.953	g/cm ³	0.953	g/cm ³	ASTM D1505
Bulk Density	33-37	lb/ft ³	529-593	kg/m ³	ASTM D1895
Spiral Flow	8.9	in	22.6	cm	LYB Method
Mechanical					
Flexural Modulus					
(1% Secant)	189000	psi	1300	MPa	ASTM D790
(2% Secant)	158000	psi	1090	MPa	ASTM D790
Flexural Young's Modulus	205000	psi	1410	MPa	ASTM D790
Tensile Modulus, (1% Secant)	119000	psi	820	MPa	ASTM D638
Tensile Young's Modulus	151000	psi	1040	MPa	ASTM D638
Tensile Stress at Break, (23 °C)	2990	psi	20.6	MPa	ASTM D638
Tensile Stress at Yield, (23 °C)	4130	psi	28.5	MPa	ASTM D638
Tensile Elongation at Break, (23 °C)	1150	%	1150	%	ASTM D638
Tensile Elongation at Yield, (23 °C)	9	%	9	%	ASTM D638
Impact					
Notched Izod Impact Strength, (23 °C)	0.73	ft-lb/in	39	J/m	ASTM D256
Unnotched Impact Strength, (-18 °C)	No Break		No Break		ASTM D4812
Hardness					
Shore Hardness, (Shore D, max)	71		71		ASTM D2240
Thermal					
Vicat Softening Temperature	261	°F	127	°C	ASTM D1525



Low Temperature Brittleness, F ₅₀	<-105 °F	<-76 °C	ASTM D746
Deflection Temperature Under Load, (66 psi, Unannealed)	162 °F	72 °C	ASTM D648
Melting Temperature	266.5 °F	130.3 °C	ASTM D3418
Crystallization Temperature	241.7 °F	116.5 °C	ASTM D3418

Notes

Conditions of Tensile Stress and Elongation values are: 50 mm/min, Type IV specimen.

Conditions of Flexural Modulus values are: 0.5 inches/min or 12.5 mm/min.

Conditions of Tensile Modulus values are: 50 mm/min, Type I Specimen.

Spiral Flow measures the number of inches of flow produced when molten resin is injected into a long, spiral channel (0.0625" insert), at a constant injection pressure of 1000 psi with a melt temperature of 440 °F.

Deflection Temperature Under Load and Low Temperature Brittleness data are for control and development work and are not intended for use in design or predicting performance at elevated or sub-ambient temperatures.

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

