

Technical Data Sheet

Alathon M5350

High Density Polyethylene



Product Description

Alathon M5350 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 55-gallon drum lids.

Status	Commercial: Active
Availability	North America
Application	Containers; Pails
Market	Rigid Packaging
Processing Method	Injection Molding

Typical Properties	Nominal Value	English Units	Nominal Value	SI Units	Test Method
Physical					
Melt Flow Rate, (190 °C/2.16 kg)	4.5	g/10 min	4.5	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	8.1	in	20.6	cm	LYB Method
Mechanical					
Flexural Modulus					
(1% Secant)	187000	psi	1290	MPa	ASTM D790
(2% Secant)	154000	psi	1060	MPa	ASTM D790
Flexural Young's Modulus	199000	psi	1370	MPa	ASTM D790
Tensile Modulus, (1% Secant)	117000	psi	807	MPa	ASTM D638
Tensile Young's Modulus	148000	psi	1020	MPa	ASTM D638
Tensile Stress at Break, (23 °C)	>4200	psi	>28	MPa	ASTM D638
Tensile Stress at Yield, (23 °C)	4060	psi	28	MPa	ASTM D638
Tensile Elongation at Break, (23 °C)	>1980	%	>1980	%	ASTM D638
Tensile Elongation at Yield, (23 °C)	9	%	9	%	ASTM D638
Impact					
Notched Izod Impact Strength, (23 °C)	0.82	ft-lb/in	44	J/m	ASTM D256
Unnotched Impact Strength, (-18 °C)	No Break		No Break		ASTM D4812
Hardness					
Shore Hardness, (Shore D, max)	70		70		ASTM D2240
Thermal					
Vicat Softening Temperature	259	°F	126	°C	ASTM D1525
Low Temperature Brittleness, F ₅₀	<-105	°F	<-76	°C	ASTM D746
Deflection Temperature Under Load, (66 psi, Unannealed)	164	°F	73.1	°C	ASTM D648
Melting Temperature	267.3	°F	130.7	°C	ASTM D3418



Crystallization Temperature	241.5 °F	116.4 °C	ASTM D3418
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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.

Tensile Stress and Elongation @ Break Specimens failed to break within testing limits.

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.

