

## 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.

#### Regulatory Status

For regulatory compliance information, see *Alathon M5350* [Product Stewardship Bulletin \(PSB\) and Safety Data Sheet \(SDS\)](#).

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

Typical Properties	Nominal Value	English Units	Nominal Value	SI Units	Test Method
<b>Physical</b>					
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 <sup>3</sup>	0.953	g/cm <sup>3</sup>	ASTM D1505
Bulk Density	33-37	lb/ft <sup>3</sup>	529-593	kg/m <sup>3</sup>	ASTM D1895
Spiral Flow	8.1	in	20.6	cm	LYB Method
<b>Mechanical</b>					
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
<b>Impact</b>					
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
<b>Hardness</b>					
Shore Hardness, (Shore D, max)	70		70		ASTM D2240
<b>Thermal</b>					
Vicat Softening Temperature	259	°F	126	°C	ASTM D1525
Low Temperature Brittleness, F <sub>50</sub>	<-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

## 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.

## Processing Techniques

Specific recommendations for resin type and processing conditions can only be made when the end use, required properties and fabrication equipment are known.

## Company Information

For further information regarding the LyondellBasell company, please visit <http://www.lyb.com/>.

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