

# Technical Data Sheet

## Alathon M5352



High Density Polyethylene

### Product Description

Alathon M5352 is a high density copolymer with a narrow molecular weight distribution. This resin provides high impact strength and stress crack resistance, excellent color, low odor and good processability. Typical applications include open head pails, large shipping containers and 55-gallon drum lids.

### Regulatory Status

For regulatory compliance information, see Alathon M5352 [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	37-39	lb/ft <sup>3</sup>	593-625	kg/m <sup>3</sup>	ASTM D1895
Spiral Flow	7.8	in	19.8	cm	LYB Method
<b>Mechanical</b>					
Flexural Modulus					
(1% Secant)	173000	psi	1190	MPa	ASTM D790
(2% Secant)	142000	psi	979	MPa	ASTM D790
Flexural Young's Modulus	187000	psi	1290	MPa	ASTM D790
Tensile Modulus, (1% Secant)	106000	psi	730	MPa	ASTM D638
Tensile Young's Modulus	130000	psi	896	MPa	ASTM D638
Tensile Stress at Break, (23 °C)	4000	psi	27.6	MPa	ASTM D638
Tensile Stress at Yield, (23 °C)	4000	psi	27.6	MPa	ASTM D638
Tensile Elongation at Break, (23 °C)	1700	%	1700	%	ASTM D638
Tensile Elongation at Yield, (23 °C)	11	%	11	%	ASTM D638
<b>Impact</b>					
Notched Izod Impact Strength, (23 °C)	1.2	ft-lb/in	64	J/m	ASTM D256
Unnotched Impact Strength, (-18 °C)	No Break		No Break		ASTM D4812
<b>Hardness</b>					
Shore Hardness, (Shore D, max)	71		71		ASTM D2240
<b>Thermal</b>					
Vicat Softening Temperature	262	°F	128	°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	268.2 °F	131.2 °C	ASTM D3418
Crystallization Temperature	241.0 °F	116.1 °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.

## 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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