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).

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/cm³	0.953	g/cm³	ASTM D1505
Bulk Density	37-39	lb/ft³	593-625	kg/m³	ASTM D1895
Spiral Flow	7.8	in	19.8	cm	LYB Method
Mechanical					
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
Environmental Stress Crack Resistance, F_{50} (100% Igepal®, Cond B)	9	hr	9	hr	ASTM D1693
Impact					
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
Hardness					
Shore Hardness, (Shore D, max)	71		71		ASTM D2240
Thermal					
Vicat Softening Temperature	262	°F	128	°C	ASTM D1525
Low Temperature Brittleness, F_{50}	<-105	°F	<-76	°C	ASTM D746

Manufacturer website: https://www.lyondellbasell.com/en/

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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