Technical Data Sheet

Alathon H5057

High Density Polyethylene

Product Description

Alathon H5057 is a multi-purpose high-flow resin that exhibits enhanced low temperature impact performance, enhanced processing and thermal stability for fast cycling in multi-cavity stack molds, good color and organoleptic properties. Typical applications are rigid food containers such as cultured dairy product containers, margarine tubs, butter tubs, small frozen food containers and promotional drink cups.

Regulatory Status

For regulatory compliance information, see *Alathon* H5057 Product Stewardship Bulletin (PSB) and Safety Data Sheet (SDS).

Status	Commercial: Active
Availability	North America
Application	TWIM Food Containers
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)	57	g/10 min	57	g/10 min	ASTM D1238
Density, (23 °C)	0.948	g/cm³	0.948	g/cm³	ASTM D1505
Bulk Density	37-39	lb/ft³	593-625	kg/m³	ASTM D1895
Spiral Flow	21.2	in	53.8	cm	LYB Method
Mechanical					
Flexural Modulus					
(1% Secant)	141000	psi	972	MPa	ASTM D790
(2% Secant)	119000	psi	820	MPa	ASTM D790
Flexural Young's Modulus	152000	psi	1050	MPa	ASTM D790
Tensile Modulus, (1% Secant)	96000	psi	683	MPa	ASTM D638
Tensile Young's Modulus	115000	psi	795	MPa	ASTM D638
Tensile Stress at Break, (23 °C)	2760	psi	19	MPa	ASTM D638
Tensile Elongation at Break, (23 °C)	4.1	%	4.1	%	ASTM D638
Impact					
Notched Izod Impact Strength, (23 °C)	0.4	ft-lb/in	21	J/m	ASTM D256
Unnotched Impact Strength, (-18 °C)	6.1	ft-lb/in	330	J/m	ASTM D4812
Hardness					
Shore Hardness, (Shore D, max)	69		69		ASTM D2240
Thermal					
Vicat Softening Temperature	244	°F	118	°C	ASTM D1525
Deflection Temperature Under Load, (66 psi, Unannealed)	148	°F	64	°C	ASTM D648
Melting Temperature	259.2	°F	126.2	°C	ASTM D3418
Crystallization Temperature	236.0	°F	113.4	°C	ASTM D3418

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

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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