Technical Data Sheet

Alathon H5220

High Density Polyethylene

Product Description

Alathon H5220 provides easy processing characteristics and exhibits excellent toughness properties and color as well as low odor and good processing stability. Typical applications include housewares, containers, caps and closures.

Regulatory Status

For regulatory compliance information, see *Alathon* H5220 Product Stewardship Bulletin (PSB) and Safety Data Sheet (SDS).

Status	Commercial: Active
Availability	North America
Application	Caps & Closures; Containers; Housewares
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)	20	g/10 min	20	g/10 min	ASTM D1238
Density, (23 °C)	0.952	g/cm³	0.952	g/cm³	ASTM D1505
Bulk Density	37-39	lb/ft³	593-625	kg/m³	ASTM D1895
Spiral Flow	11.6	in	29.4	cm	LYB Method
Mechanical					
Flexural Modulus					
(1% Secant)	167000	psi	1150	MPa	ASTM D790
(2% Secant)	139000	psi	958	MPa	ASTM D790
Flexural Young's Modulus	191000	psi	1320	MPa	ASTM D790
Tensile Modulus, (1% Secant)	152000	psi	1050	MPa	ASTM D638
Tensile Young's Modulus	198000	psi	1370	MPa	ASTM D638
Tensile Stress at Break, (23 °C)	3040	psi	21.0	MPa	ASTM D638
Tensile Stress at Yield, (23 °C)	3730	psi	25.7	MPa	ASTM D638
Tensile Elongation at Break, (23 °C)	34	%	34	%	ASTM D638
Tensile Elongation at Yield, (23 °C)	10	%	10	%	ASTM D638
Impact					
Notched Izod Impact Strength, (23 °C)	0.73	ft-lb/in	39	J/m	ASTM D256
Unnotched Impact Strength, (-18 °C)	No Break		No Break		ASTM D4812
Hardness					
Shore Hardness, (Shore D, max)	69		69		ASTM D2240
Thermal					
Vicat Softening Temperature	255	°F	124	°C	ASTM D1525
Low Temperature Brittleness, F_{50}	-103	°F	-75	°C	ASTM D746
Deflection Temperature Under Load, (66 psi, Unannealed)	156	°F	69	°C	ASTM D648

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

Melting Temperature	263.1 °F	128.4 °C	ASTM D3418
Crystallization Temperature	237.4 °F	114.1 °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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