Technical Data Sheet

Alathon H4250

High Density Polyethylene

Product Description

Alathon H4250 is a high-flow "freezer" grade resin that exhibits enhanced cold temperature impact performance, enhanced processing and thermal stability, with good color and organoleptic properties. Typical applications are rigid food containers such as four, five and six-quart ice cream containers that are produced at high speeds in fast cycling multi-cavity stack molds.

Regulatory Status

For regulatory compliance information, see *Alathon* H4250 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)	50	g/10 min	50	g/10 min	ASTM D1238
Density, (23 °C)	0.942	g/cm³	0.942	g/cm³	ASTM D1505
Bulk Density	37-39	lb/ft³	593-625	kg/m³	ASTM D1895
Spiral Flow	17.2	in	43.7	cm	LYB Method
Mechanical					
Flexural Modulus					
(1% Secant)	120000	psi	827	MPa	ASTM D790
(2% Secant)	102000	psi	703	MPa	ASTM D790
Flexural Young's Modulus	137000	psi	945	MPa	ASTM D790
Tensile Modulus, (1% Secant)	100000	psi	689	MPa	ASTM D638
Tensile Young's Modulus	137000	psi	945	MPa	ASTM D638
Tensile Stress at Break, (23 °C)	3060	psi	21.1	MPa	ASTM D638
Tensile Stress at Yield, (23 °C)	3140	psi	21.6	MPa	ASTM D638
Tensile Elongation at Break, (23 °C)	12	%	12	%	ASTM D638
Tensile Elongation at Yield, (23 °C)	10	%	10	%	ASTM D638
Impact					
Notched Izod Impact Strength, (23 °C)	0.65	ft-lb/in	35	J/m	ASTM D256
Unnotched Impact Strength, (-18 °C)	No Break		No Break		ASTM D4812
Hardness					
Shore Hardness, (Shore D, max)	61		61		ASTM D2240
Thermal					
Vicat Softening Temperature	240	°F	116	°C	ASTM D1525
Deflection Temperature Under Load, (66 psi, Unannealed)	139	°F	59.5	°C	ASTM D648
Melting Temperature	255.2	°F	124.4	°C	ASTM D3418

Crystallization Temperature	234.5 °F	112.5 °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.