

## Technical Data Sheet

### *Alathon M4661*



High Density Polyethylene

#### Product Description

*Alathon M4661* is a high density copolymer for injection molding applications. Typical applications are closures, institutional seating and consumer durables.

#### Regulatory Status

For regulatory compliance information, see *Alathon M4661* [Product Stewardship Bulletin \(PSB\) and Safety Data Sheet \(SDS\)](#).

<b>Status</b>	Commercial
<b>Availability</b>	North America
<b>Application</b>	Industrial Seating
<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)	6.1	g/10 min	6.1	g/10 min	ASTM D1238
Density, (23 °C)	0.946	g/cm <sup>3</sup>	0.946	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	8.8	in	22.4	cm	LYB Method
<b>Mechanical</b>					
Flexural Modulus					
(1% Secant)	136000	psi	938	MPa	ASTM D790
(2% Secant)	113000	psi	779	MPa	ASTM D790
Flexural Young's Modulus	147000	psi	1010	MPa	ASTM D790
Tensile Modulus, (1% Secant)	90000	psi	621	MPa	ASTM D638
Tensile Young's Modulus	111000	psi	765	MPa	ASTM D638
Tensile Stress at Break, (23 °C)	2150	psi	14.8	MPa	ASTM D638
Tensile Stress at Yield, (23 °C)	3430	psi	23.6	MPa	ASTM D638
Tensile Elongation at Break, (23 °C)	610	%	610	%	ASTM D638
Tensile Elongation at Yield, (23 °C)	12	%	12	%	ASTM D638
<b>Impact</b>					
Notched Izod Impact Strength, (23 °C)	1.0	ft-lb/in	53	J/m	ASTM D256
Unnotched Impact Strength, (-18 °C)	No Break		No Break		ASTM D4812
<b>Hardness</b>					
Shore Hardness, (Shore D, max)	68		68		ASTM D2240
<b>Thermal</b>					
Vicat Softening Temperature	253	°F	123	°C	ASTM D1525
Low Temperature Brittleness, F <sub>50</sub>	<-105	°F	<-76	°C	ASTM D746
Deflection Temperature Under Load, (66 psi, Unannealed)	144	°F	62	°C	ASTM D648
Melting Temperature	261.9	°F	127.7	°C	ASTM D3418
Crystallization Temperature	235.6	°F	113.1	°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.

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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.