

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.

Status	Commercial
Availability	North America
Application	Industrial Seating
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)	6.1	g/10 min	6.1	g/10 min	ASTM D1238
Density, (23 °C)	0.946	g/cm ³	0.946	g/cm ³	ASTM D1505
Bulk Density	37-39	lb/ft ³	593-625	kg/m ³	ASTM D1895
Spiral Flow	8.8	in	22.4	cm	LYB Method
Mechanical					
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
Impact					
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
Hardness					
Shore Hardness, (Shore D, max)	68		68		ASTM D2240
Thermal					
Vicat Softening Temperature	253	°F	123	°C	ASTM D1525
Low Temperature Brittleness, F ₅₀	<-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.

