

Alathon

M5265

High Density Polyethylene

Injection Molding Grade

Melt Index 6.5 Density 0.951



Applications

Alathon M5265 is a narrow molecular weight distribution octene-copolymer used in the manufacture of open-head pails and covers.

Regulatory Status

M5265 meets the requirements of the Food and Drug Administration regulation, 21 CFR 177.1520. This regulation allows the use of this olefin polymer in "...articles or components of articles intended for use in contact with food." Specific limitations or conditions of use may apply. Contact your Equistar product safety representative for more information.

Processing Techniques

Specific recommendations for processing M5265 can only be made when the processing conditions, equipment and end use application are known.

Suggested Start-Up Conditions

Extruder Zone	Rear	Center	Front	Nozzle
Cylinder Temperature, °F (°C)	450 (232)	470 (243)	475 (246)	475 (246)

Physical Properties

Resin Properties	Nominal Values		Test Method
	English Units	SI Units	
Melt Index, 190°C, 2.16 kg		6.5 g/10 min	ASTM D 1238
Spiral Flow ¹	7.7 in	19.6 (cm)	Equistar
Density		0.951 g/cc	ASTM D 1505
Bulk Density	37-39 lb/ft ³	593-625 kg/m ³	ASTM D 1895
Molded Properties			
Tensile Stress, Yield	3,830 psi	26.4 MPa	ASTM D 638*
Elongation, Yield		12 %	ASTM D 638*
Tensile Stress, Break†	>4,010 psi	>27.6 MPa	ASTM D 638*
Elongation, Break		>2,230 %	ASTM D 638*
Flexural Modulus, 1% Secant	163,500 psi	1,130 MPa	ASTM D 790**
Izod Impact, 23 °C	1.2 ft-lbs/in	64 J/m	ASTM D 256
Unnotched Impact, -18 °C	No Break	No Break	ASTM D 4812
Vicat Softening Point	261 °F	127 °C	ASTM D 1525
Heat Deflection Temperature, 66 psi ²	157 °F	69.4 °C	ASTM D 648
Low Temperature Brittleness, F50 ²	<-105 °F	< -76 °C	ASTM D 746

† Specimens did not break.

¹ 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.

² Data are for control and development work and not intended for use in design or predicting performance at elevated or sub-ambient temperatures.

* Conditions: 50 mm/min, Type IV

** Conditions: 12.5 mm/min

See Page 2 for Additional Physical Properties

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Other Properties

Thermal Properties	Nominal Values		Test Method
	English Units	SI Units	
Melting Temperature	269.1 °F	131.7 °C	ASTM D 3418
Crystallization Temperature	244.0 °F	117.8 °C	ASTM D 3418
Molded Properties	English Units	SI Units	Test Method
Flexural Modulus, 2% Secant	136,900 psi	944 MPa	ASTM D 790**
Flexural Young's Modulus	188,000 psi	1,300 MPa	ASTM D 790**
Tensile Modulus, 1% Secant	98,800 psi	681 MPa	ASTM D 638***
Tensile Young's Modulus	110,800 psi	764 MPa	ASTM D 638***

** Conditions: 12.5 mm/min

*** Conditions: 50 mm/min, Type I

These are typical values and not to be construed as specification limits.
