

Preliminary
Data Sheet

Alathon®

M5365X01

High Density Polyethylene
Injection Molding Grade

Melt Index 6.5 Density 0.953

Applications

ALATHON M5365X01 is a high density copolymer with a narrow molecular weight distribution. This resin provides high impact strength and stress crack resistance, excellent color, low odor and good processability. Typical applications include open head pails, large shipping containers and 55-gallon drum lids.

Regulatory Status

M5365X01 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 sales representative for more information.

Processing Techniques

Specific recommendations for processing M5365X01 can only be made when the processing conditions, equipment and end use application are known. For further information please contact your Equistar Sales Representative or refer to the [Start-up Conditions for HDPE](#) on the Lyondell web site. Additional [Injection Molding Technical Topics](#) can also be found on the Lyondell web site.

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 Spiral Flow ¹	8.9 in	6.5 g/10 min 22.6 (cm)	ASTM D 1238 Equistar
Density		0.953 g/cc	ASTM D 1505
Bulk Density	37-39 lb/ft ³	593-625 kg/m ³	ASTM D 1895
Molded Properties			ASTM D 4796
Tensile Stress, Yield	3,940 psi	27.2 MPa	ASTM D 638*
Elongation, Yield		10 %	ASTM D 638*
Tensile Stress, Break	>4,040 psi	>27.9 MPa	ASTM D 638*
Elongation, Break		>2,080 %	ASTM D 638*
Flexural Modulus, 1% Secant	176,000 psi	1,210 MPa	ASTM D 790**
Izod Impact, 23 °C	1.0 ft-lbs/in	54 J/m	ASTM D 256
Unnotched Impact, -18 °C	No Break	No Break	ASTM D 4812
Vicat Softening Point	260 °F	127 °C	ASTM D 1525
Hardness, Shore D		69	ASTM D 2240
Heat Deflection Temperature, 66 psi ²	162 °F	72 °C	ASTM D 648
Low Temperature Brittleness, F ₅₀ ²	<-105 °F	<-76 °C	ASTM D 746

See Page 2 for Other Properties

- 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 1,000 psi with a melt temperature of 440°F.
- 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

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Other
Properties

	Nominal Values			Test Method
	English Units	SI Units		
Thermal Properties				
Melting Temperature	265.3 °F	129.6 °C		ASTM D 3418
Crystallization Temperature	240.3 °F	115.7 °C		ASTM D 3418
	English Units	SI Units		Test Method
Molded Properties				ASTM D 4976
Flexural Modulus, 2% Secant	148,000 psi	1,020 MPa		ASTM D 790**
Flexural Young's Modulus	195,000 psi	1,340 MPa		ASTM D 790**
Tensile Modulus, 1% Secant	164,000 psi	1,130 MPa		ASTM D 638***
Tensile Young's Modulus	209,000 psi	1,440 MPa		ASTM D 638***

** Conditions: 12.5 mm/min

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

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Lyondell Chemical Company
1221 McKinney, Suite 700
P.O. Box 2583
Houston, Texas 77252-2583
800.615.8999
<http://www.Lyondell.com>