

Alathon®

M5363

High Density Polyethylene
Injection Molding Grade

Melt Index 6.5 Density 0.953

Applications

ALATHON M5363 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

M5363 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 M5363 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	33-37 lb/ft ³	529-593 kg/m ³	ASTM D 1895
Molded Properties			ASTM D 4796
Tensile Stress, Yield	4,070 psi	28.1 MPa	ASTM D 638*
Elongation, Yield		8.5 %	ASTM D 638*
Tensile Stress, Break	3,490 psi	24.1 MPa	ASTM D 638*
Elongation, Break		1,520 %	ASTM D 638*
Flexural Modulus, 1% Secant	186,500 psi	1,290 MPa	ASTM D 790**
Izod Impact, 23 °C	0.84 ft-lbs/in	45 J/m	ASTM D 256
Unnotched Impact, -18 °C	No Break	No Break	ASTM D 4812
Vicat Softening Point	259 °F	126 °C	ASTM D 1525
Hardness, Shore D		70	ASTM D 2240
Heat Deflection Temperature, 66 psi ²	165 °F	74 °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 1000 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



Alathon®

M5363

High Density Polyethylene
Injection Molding Grade

Melt Index 6.5 Density 0.953

**Other
Properties**

	Nominal Values		
	English Units	SI Units	Test Method
Thermal Properties			
Melting Temperature	265.8 °F	129.9 °C	ASTM D 3418
Crystallization Temperature	242.6 °F	117.0 °C	ASTM D 3418
	English Units	SI Units	Test Method
Molded Properties			ASTM D 4976
Flexural Modulus, 2% Secant	155,500 psi	1,070 MPa	ASTM D 790**
Flexural Young's Modulus	209,500 psi	1,440 MPa	ASTM D 790**
Tensile Modulus, 1% Secant	117,400 psi	809 MPa	ASTM D 638***
Tensile Young's Modulus	149,000 psi	1,030 MPa	ASTM D 638***

** Conditions: 12.5 mm/min

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

The information on this document is, to our knowledge, true and accurate. However, since the particular uses and the actual conditions of use of our products are beyond our control, establishing satisfactory performance of our products for the intended application is the customer's sole responsibility. All uses of Equistar products and any written or oral information, suggestions or technical advice from Equistar are without warranty, express or implied, and are not an inducement to use any process or product in conflict with any patent.

Equistar materials are not designed or manufactured for use in implantation in the human body or in contact with internal body fluids or tissues. Equistar makes no representation, promise, express warranty or implied warranty concerning the suitability of these materials for use in implantation in the human body or in contact with internal body tissues or fluids.

More detailed safety and disposal information on our products is contained in the Material Safety Data Sheet (MSDS). All users of our products are urged to retain and use the MSDS. A MSDS is automatically distributed upon purchase/order execution. You may request an advance or replacement copy by calling our MSDS Hotline at 800.700.0946.

® Alathon is a registered trademark of Equistar Chemicals, LP.



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