

Preliminary
Data Sheet

Alathon®

H5623X01

High Density Polyethylene
Injection Molding Grade

Melt Index 23 Density 0.956

Applications

ALATHON H5623X01 provides easy processing characteristics and exhibits excellent toughness properties, color and good processing stability. Typical applications include housewares, containers, caps and closures.

Regulatory Status

H5623X01 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 H5623X01 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		23 g/10 min	ASTM D 1238
Spiral Flow ¹	11.7 in	29.7 (cm)	Equistar
Density		0.956 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	4,270 psi	29.4 MPa	ASTM D 638*
Elongation, Yield		9.2 %	ASTM D 638*
Tensile Stress, Break	3,780 psi	26.1 MPa	ASTM D 638*
Elongation, Break		18 %	ASTM D 638*
Flexural Modulus, 1% Secant	193,000 psi	1,330 MPa	ASTM D 790**
Izod Impact, 23 °C	0.8 ft-lbs/in	43 J/m	ASTM D 256
Unnotched Impact, -18 °C	No Break	No Break	ASTM D 4812
Vicat Softening Point	261 °F	127.3 °C	ASTM D 1525
Hardness, Shore D		69	ASTM D 2240
Heat Deflection Temperature, 66 psi ²	163 °F	73 °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

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Other
Properties

	Nominal Values			Test Method
	English Units	SI Units		
Thermal Properties				
Melting Temperature	268.7 °F	131.5 °C		ASTM D 3418
Crystallization Temperature	243.0 °F	117.2 °C		ASTM D 3418
Molded Properties	English Units	SI Units		Test Method
Flexural Modulus, 2% Secant	118,000 psi	814 MPa		ASTM D 4976
Flexural Young's Modulus	161,000 psi	1,110 MPa		ASTM D 790**
Tensile Modulus, 1% Secant	130,000 psi	898 MPa		ASTM D 790**
Tensile Young's Modulus	166,000 psi	1,130 MPa		ASTM D 638***
				ASTM D 638***

** Conditions: 12.5 mm/min

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

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