

Producer: Equistar Chemicals / The United States (USA)

HDPE M5370

Applications ALATHON M5370 is a copolymer with a narrow molecular weight distribution. This resin provides high impact strength, excellent color, low odor and good processing stability. Typical applications include open head pails, large shipping containers and all-terrain vehicle components.

Regulatory Status M5370 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 M5370 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)

PROPERTY	TEST	VALUE
Resin Properties		
Melt Index, 190°C, 2.16 kg	ASTM D 1238	6.9 g/10 min
Spiral Flow ¹	Equistar	22.6 [cm]
Density	ASTM D 1505	0.953 g/cc
Bulk Density	ASTM D 1895	529-593 kg/m ³
Molded Properties		
Tensile Stress, Yield	ASTM D 4796	28.5 MPa
Elongation, Yield	ASTM D 638*	9 %
Tensile Stress, Break	ASTM D 638*	20.6 MPa
Elongation, Break	ASTM D 638*	1,150 %
Flexural Modulus, 1% Secant	ASTM D 638*	1,300 MPa
Izod Impact, 23 °C	ASTM D 790**	39 J/m
Unnotched Impact, -18 °C	ASTM D 256	No Break
Vicat Softening Point	ASTM D 4812	127.6 °C
Hardness, Shore D	ASTM D 1525	71
Heat Deflection Temperature, 66 psi ²	ASTM D 2240	73.5 °C
Low Temperature Brittleness, F ₅₀ ²	ASTM D 648	< -76 °C
	ASTM D 746	
Thermal Properties		
Melting Temperature	ASTM D 3418	130.3 °C
Crystallization Temperature	ASTM D 3418	116.5 °C
Molded Properties		
Flexural Modulus, 2% Secant	ASTM D 4976	
Flexural Young's Modulus	ASTM D 790**	1,090 MPa
Tensile Modulus, 1% Secant	ASTM D 790**	1,410 MPa
Tensile Young's Modulus	ASTM D 638***	823 MPa
	ASTM D 638***	1,040 MPa

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

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