

LyondellBasell Alathon® M4855 High Density Polyethylene, Injection Molding Grade

Category : Polymer , Thermoplastic , Polyethylene (PE) , HDPE , High Density Polyethylene (HDPE), Injection Molded

Material Notes:

ALATHON M4855 is a high density copolymer for use in injection molding applications. It exhibits excellent impact, warp and environmental stress crack resistance. Typical applications for M4855X01 are consumer durables and 35, 65, and 95-gallon refuse carts.

Regulatory Status: Alathon M4855 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. Specific recommendations for processing M4855 can only be made when the processing conditions, equipment and end use application are known. This product is from the former Equistar product line.

Order this product through the following link:

http://www.lookpolymers.com/polymer_LyondellBasell-Alathon-M4855-High-Density-Polyethylene-Injection-Molding-Grade.php

Physical Properties	Metric	English	Comments
Bulk Density	0.593 - 0.625 g/cc	0.0214 - 0.0226 lb/in ³	ASTM D1895
Density	0.948 g/cc	0.0342 lb/in ³	ASTM D1505
Melt Flow	5.0 g/10 min @Load 2.16 kg, Temperature 190 °C	5.0 g/10 min @Load 4.76 lb, Temperature 374 °F	ASTM D1238
Spiral Flow	20.3 cm	8.00 in	Equistar test

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	24.1 MPa	3500 psi	50 mm/min; ASTM D638
Tensile Strength, Yield	24.0 MPa	3480 psi	50 mm/min; ASTM D638
Elongation at Break	1490 %	1490 %	50 mm/min; ASTM D638
Elongation at Yield	12 %	12 %	50 mm/min; ASTM D638
Tensile Modulus	0.636 GPa	92.2 ksi	1% Secant; 50mm/min; ASTM D638
	0.807 GPa	117 ksi	50mm/min; ASTM D638
Flexural Modulus	0.772 GPa	112 ksi	2% Secant; 12.5 mm/min; ASTM D790
	0.9542 GPa	138.4 ksi	1% Secant; 12.5 mm/min; ASTM D790
	1.01 GPa	146 ksi	12.5 mm/min; ASTM D790
Izod Impact, Notched	0.587 J/cm	1.10 ft-lb/in	ASTM D256

Mechanical Properties	^{MB} Metric	^{MB} English	Comments
	@Temperature -18.0 Â°C	@Temperature -0.400 Â°F	ASTM D4812

Thermal Properties	Metric	English	Comments
Melting Point	127.9 Â°C	262.2 Â°F	ASTM D3418
Crystallization Temperature	113.1 Â°C	235.6 Â°F	ASTM D3418
Deflection Temperature at 0.46 MPa (66 psi)	64.0 Â°C	147 Â°F	ASTM D648
Vicat Softening Point	125 Â°C	257 Â°F	ASTM D1525
Brittleness Temperature	<= -76.0 Â°C	<= -105 Â°F	ASTM D746

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	232 Â°C	450 Â°F	
Middle Barrel Temperature	243 Â°C	470 Â°F	
Front Barrel Temperature	246 Â°C	475 Â°F	
Nozzle Temperature	246 Â°C	475 Â°F	

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