

Alathon® M5363

High Density Polyethylene
LyondellBasell Industries

Message:

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.

General Information			
Features	Copolymer		
	Food Contact Acceptable		
	Good Processability		
	High ESCR (Stress Crack Resist.)		
	High Impact Resistance		
	Low to No Odor		
	Narrow Molecular Weight Distribution		
Uses	Automotive Applications		
	Pails		
	Shipping Containers		
Agency Ratings	FDA 21 CFR 177.1520		
Forms	Pellets		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Density	0.953	g/cm ³	ASTM D1505
Apparent Density	0.53 to 0.59	g/cm ³	ASTM D1895
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	6.5	g/10 min	ASTM D1238
Spiral Flow	22.6	cm	Internal Method
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore D)	70		ASTM D2240
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus ¹			ASTM D638
--	1030	MPa	
1% Secant	809	MPa	
Tensile Strength ²			ASTM D638
Yield	28.1	MPa	
Break	24.1	MPa	
Tensile Elongation ³			ASTM D638
Yield	8.5	%	

Break	1500	%	
Flexural Modulus ⁴			ASTM D790
--	1440	MPa	
1% Secant	1290	MPa	
2% Secant	1070	MPa	
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	45	J/m	ASTM D256
Unnotched Izod Impact (-18°C)	No Break		ASTM D4812
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (0.45 MPa, Unannealed)	74.0	°C	ASTM D648
Brittleness Temperature	< -76.0	°C	ASTM D746
Vicat Softening Temperature	126	°C	ASTM D1525
Peak Melting Temperature	130	°C	ASTM D3418
Peak Crystallization Temperature (DSC)	117	°C	ASTM D3418
Injection	Nominal Value	Unit	
Rear Temperature	232	°C	
Middle Temperature	243	°C	
Front Temperature	246	°C	
Nozzle Temperature	246	°C	
NOTE			
1.	Type I, 13 mm/min		
2.	Type IV, 50 mm/min		
3.	Type IV, 50 mm/min		
4.	13 mm/min		

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Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

