

Alathon® M4855

High Density Polyethylene
LyondellBasell Industries

Message:

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.

General Information			
Features	Copolymer		
	Food Contact Acceptable		
	Good Impact Resistance		
	High Density		
	High ESCR (Stress Crack Resist.)		
	Warp Resistant		
Uses	Consumer Applications		
Agency Ratings	FDA 21 CFR 177.1520		
Forms	Pellets		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Density	0.948	g/cm ³	ASTM D1505
Apparent Density	0.59 to 0.62	g/cm ³	ASTM D1895
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	5.0	g/10 min	ASTM D1238
Spiral Flow	20.3	cm	Internal Method
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore D, Injection Molded)	72		ASTM D2240
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus ¹			ASTM D638
--	807	MPa	
1% Secant	636	MPa	
Tensile Strength ²			ASTM D638
Yield	24.0	MPa	
Break	24.1	MPa	
Tensile Elongation ³			ASTM D638
Yield	12	%	
Break	1500	%	
Flexural Modulus ⁴			ASTM D790
--	1010	MPa	
1% Secant	954	MPa	

2% Secant	772	MPa	
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	59	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)	63.9	°C	ASTM D648
Brittleness Temperature	< -76.1	°C	ASTM D746
Vicat Softening Temperature	125	°C	ASTM D1525
Peak Melting Temperature	128	°C	ASTM D3418
Peak Crystallization Temperature (DSC)	113	°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, 50 mm/min		
2.	Type IV, 50 mm/min		
3.	Type IV, 50 mm/min		
4.	13 mm/min		

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