

Alathon® M4621

High Density Polyethylene Copolymer
LyondellBasell Industries

Message:

ALATHON M4621 is a copolymer that provides outstanding stress crack resistance and low temperature impact strength. Typical applications include small two-piece engine gas tanks, waste disposal drums, and specialty injection molded parts.

General Information			
Features	Copolymer		
	Food Contact Acceptable		
	High ESCR (Stress Crack Resist.)		
	Low Temperature Impact Resistance		
Uses	Drums		
	Tanks		
Agency Ratings	FDA 21 CFR 177.1520		
Forms	Pellets		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Density	0.946	g/cm ³	ASTM D1505
Apparent Density	0.59 to 0.63	g/cm ³	ASTM D1895
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	2.2	g/10 min	ASTM D1238
Spiral Flow	23.4	cm	Internal Method
Environmental Stress-Cracking Resistance			ASTM D1693
10% Igepal	26.4	hr	
100% Igepal	154	hr	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus ¹			ASTM D638
--	793	MPa	
1% Secant	643	MPa	
Tensile Strength ²			ASTM D638
Yield	23.9	MPa	
Break	14.5	MPa	
Tensile Elongation ³			ASTM D638
Yield	12	%	
Break	520	%	
Flexural Modulus ⁴			ASTM D790
--	1030	MPa	
1% Secant	951	MPa	

2% Secant	793	MPa	
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	48	J/m	ASTM D256
Unnotched Izod Impact (-18°C)	No Break		ASTM D256
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	123	°C	ASTM D1525
Peak Melting Temperature	127	°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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