

Alathon® M6061

High Density Polyethylene

LyondellBasell Industries

Technical Data

Product Description

ALATHON M6061 is a narrow molecular weight distribution homopolymer that exhibits excellent stiffness and impact resistance. Typical applications include cases, totes, crates and open-head pails.

General

Material Status	• Commercial: Active		
Literature ¹	• Processing - Mold Shrink (English) • Processing - Polyolefin Injection Molding Guide (English) • Processing - Start-Up Guide (English) • Technical Datasheet (English)		
Search for UL Yellow Card	• LyondellBasell Industries • Alathon®		
Availability	• Asia Pacific • Europe	• North America • South America	
Features	• Food Contact Acceptable • Good Impact Resistance	• Good Stiffness • Homopolymer	• Narrow Molecular Weight Distribution
Uses	• Crates	• Pails	
Agency Ratings	• FDA 21 CFR 177.1520		
Processing Method	• Injection Molding		

Physical	Nominal Value Unit	Test Method
Density	0.960 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)	6.0 g/10 min	ASTM D1238
Spiral Flow ^{3, 4}	19.8 cm	Internal Method

Mechanical	Nominal Value Unit	Test Method
Tensile Modulus ⁵		ASTM D638
--	1030 MPa	
1% Secant	816 MPa	
Tensile Strength ⁶		ASTM D638
Yield	28.8 MPa	
Break	> 23.4 MPa	
Tensile Elongation ⁶		ASTM D638
Yield	10 %	
Break	> 1700 %	
Flexural Modulus ⁷		ASTM D790
--	1350 MPa	
1% Secant	1250 MPa	
2% Secant	1030 MPa	

Impact	Nominal Value Unit	Test Method
Notched Izod Impact (23°C)	91 J/m	ASTM D256
Unnotched Izod Impact (-18°C)	No Break	ASTM D4812

Hardness	Nominal Value Unit	Test Method
Durometer Hardness (Shore D)	71	ASTM D2240

Thermal	Nominal Value Unit	Test Method
Deflection Temperature Under Load		ASTM D648
0.45 MPa, Unannealed	75.0 °C	
Brittleness Temperature	< -105 °C	ASTM D746
Vicat Softening Temperature	129 °C	ASTM D1525
Peak Melting Temperature	133 °C	ASTM D3418
Peak Crystallization Temperature (DSC)	116 °C	ASTM D3418