

Alathon® M4621

High Density Polyethylene Copolymer
LyondellBasell Industries

Technical Data

Product Description

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

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	• 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 ^{3, 4}	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 ⁵		ASTM D638
--	793 MPa	
1% Secant	643 MPa	
Tensile Strength ⁶		ASTM D638
Yield	23.9 MPa	
Break	14.5 MPa	
Tensile Elongation ⁶		ASTM D638
Yield	12 %	
Break	520 %	
Flexural Modulus ⁷		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