

Alathon® M5363

High Density Polyethylene

LyondellBasell Industries

Technical Data

Product Description

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

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	• North America		
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 ^{3, 4}	22.6 cm	Internal Method

Mechanical	Nominal Value Unit	Test Method
Tensile Modulus ⁵		ASTM D638
--	1030 MPa	
1% Secant	809 MPa	
Tensile Strength ⁶		ASTM D638
Yield	28.1 MPa	
Break	24.1 MPa	
Tensile Elongation ⁶		ASTM D638
Yield	8.5 %	
Break	1500 %	
Flexural Modulus ⁷		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

Hardness	Nominal Value Unit	Test Method
Durometer Hardness (Shore D)	70	ASTM D2240

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