

Alathon® ETP H4250

High Density Polyethylene

LyondellBasell Industries

Technical Data

Product Description

ALATHON H4250 is a high-flow "freezer" grade resin that exhibits enhanced cold temperature impact performance, enhanced processing and thermal stability, with good color and organoleptic properties. Typical applications are rigid food containers such as four, five and six-quart ice cream containers that are produced at high speeds in fast cycling multi-cavity stack molds.

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® ETP		
Availability	• North America		
Features	• Fast Molding Cycle • Food Contact Acceptable • Good Organoleptic Properties	• Good Processability • Good Thermal Stability • High Flow	• Low Temperature Impact Resistance
Uses	• Food Containers		
Agency Ratings	• FDA 21 CFR 177.1520		
Processing Method	• Injection Molding		

Physical	Nominal Value Unit	Test Method
Density	0.942 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)	50 g/10 min	ASTM D1238
Spiral Flow ^{3, 4}	43.7 cm	

Mechanical	Nominal Value Unit	Test Method
Tensile Modulus -- ⁵	943 MPa	ASTM D638
1% Secant ⁶	692 MPa	
Tensile Strength ⁷ (Break)	21.1 MPa	ASTM D638
Tensile Elongation ⁷ (Break)	12 %	ASTM D638
Flexural Modulus ⁸ --	941 MPa	ASTM D790
1% Secant	826 MPa	
2% Secant	704 MPa	

Impact	Nominal Value Unit	Test Method
Notched Izod Impact (23°C)	35 J/m	ASTM D256
Unnotched Izod Impact (-18°C)	No Break	ASTM D4812

Hardness	Nominal Value Unit	Test Method
Durometer Hardness (Shore D)	61	ASTM D2240

Thermal	Nominal Value Unit	Test Method
Deflection Temperature Under Load 0.45 MPa, Unannealed	59.4 °C	ASTM D648
Vicat Softening Temperature	116 °C	ASTM D1525
Peak Melting Temperature	124 °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