Alathon® ETP H4745

High Density Polyethylene

LyondellBasell Industries

Technical Data

Product Description
ALATHON H 4745 is a multi-purpose, high-flow resin featuring enhanced cold temperature impact performance, enhanced processability and thermal stability for fast cycling and exhibits good color and organoleptic properties. Typical applications are cultured dairy containers, margarine containers, butter tubs and promotional drink cups. Freezer applications include ice cream, sherbet and other frozen dessert containers.

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	• Asia Pacific • Europe	• North America • South America	
Features	• Fast Molding Cycle • Food Contact Acceptable • Good Organoleptic Properties	• Good Processability • Good Thermal Stability • High Flow	• Low Temperature Impact Resistance
Uses	• Containers	• Food Containers	
Agency Ratings	• FDA 21 CFR 177.1520		
Forms	• Pellets		
Processing Method	• Injection Molding		

Physical	Nominal Value	Unit	Test Method
Density	0.946	g/cm³	ASTM D1505
Apparent Density	0.59 to 0.63	g/cm³	ASTM D1895
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	45	g/10 min	ASTM D1238
Spiral Flow [3, 4]	48.8	cm	Internal Method
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus [5]			ASTM D638
--	724	MPa	
1% Secant	609	MPa	
Tensile Strength [6] (Break)	24.5	MPa	ASTM D638
Tensile Elongation [6] (Break)	6.3	%	ASTM D638
Flexural Modulus [7]			ASTM D790
--	965	MPa	
1% Secant	979	MPa	
2% Secant	765	MPa	
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact (23°C)	59	J/m	ASTM D256
Unnotched Izod Impact (-18°C)	24	J/m	ASTM D256
Hardness	**Nominal Value**	**Unit**	**Test Method**
Durometer Hardness (Shore D)	65		ASTM D2240
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed	63.9	°C	
Vicat Softening Temperature	121	°C	ASTM D1525
Peak Melting Temperature	112 to 126	°C	ASTM D3418

Injection	Nominal Value	Unit
Rear Temperature	232	°C
Middle Temperature	243	°C