Alathon® ETP H5642

High Density Polyethylene

LyondellBasell Industries

Technical Data

Product Description			
ALATHON H5642 is a multi-purpose, narrow molecular weight distribution high-flow resin featuring enhanced processing and thermal stability for fast cycling. This resin exhibits good color and organoleptic properties. Typical applications are caps and closures.			
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	• Narrow Molecular Weight Distribution
Uses	• Caps	• Closures	
Agency Ratings	• FDA 21 CFR 177.1520		
Processing Method	• Injection Molding		

Physical	Nominal Value	Unit	Test Method
Density	0.956	g/cm³	ASTM D1505
Apparent Density	0.59 to 0.62	g/cm³	ASTM D1895
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	42	g/10 min	ASTM D1238
Spiral Flow [3, 4]	42.4	cm	Internal Method
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus			ASTM D638
-- [5]	931	MPa	
1% Secant [6]	862	MPa	
Tensile Strength [7] (Break)	27.8	MPa	ASTM D638
Tensile Elongation [7] (Break)	6.3	%	ASTM D638
Flexural Modulus [5]			ASTM D790
--	1370	MPa	
1% Secant	1230	MPa	
2% Secant	1050	MPa	
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact (23°C)	30	J/m	ASTM D256
Unnotched Izod Impact (-18°C)	270	J/m	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			ASTM D648
0.45 MPa, Unannealed	73.3	°C	
Vicat Softening Temperature	125	°C	ASTM D1525
Peak Melting Temperature	117 to 129	°C	ASTM D3418

Injection	Nominal Value	Unit
Rear Temperature	232	°C
Middle Temperature	243	°C
Front Temperature	246	°C
Nozzle Temperature	246	°C