

Alathon® XM4645

High Density Polyethylene Copolymer
LyondellBasell Industries

Message:

ALATHON XM 4645 is a high density copolymer for use in injection molding applications. It exhibits excellent impact, warp and environmental stress crack resistance. Typical applications for XM 4645 are consumer durables and 35, 65, and 95-gallon refuse carts.

General Information			
Features	High ESCR (Stress Cracking Resistance)		
	Copolymer		
	Bending resistance		
	Impact resistance, good		
	Compliance of Food Exposure		
Agency Ratings	FDA 21 CFR 177.1520		
Forms	Particle		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Density	0.946	g/cm ³	ASTM D1505
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	4.5	g/10 min	ASTM D1238
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore D)	67		ASTM D2240
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength ¹			ASTM D638
Yield	19.9	MPa	ASTM D638
Fracture	22.7	MPa	ASTM D638
Tensile Elongation ² (Yield)	11	%	ASTM D638
Flexural Modulus ³			ASTM D790
1% secant	745	MPa	ASTM D790
2% secant	621	MPa	ASTM D790
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (0.45 MPa, Unannealed)	62.2	°C	ASTM D648
Brittleness Temperature	-76.1	°C	ASTM D746
Additional Information			
Spiral Flow, Equistar Test Method, 0.625 in insert, 1000 psi injection pressure, 440°F melt temperature: 8.8 in			
NOTE			
1.	51 mm/min		
2.	51 mm/min		
3.	13 mm/min		

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