Exelene® HDPE

Product Data Sheet

High Density Polyethylene

HMW-HDPE[1] copolymer 1-hexene

Extrusion-Blow Molding

5100M

Melt Flow Rate	0,05
Density	0,949

Applications

- 55 gallon plastic drums, chemical tanks for agriculture, automobile gasoline tanks.

Characteristics

- The Exelene resin HDPE 5100M meets the requirements of section 177.1520, paragraph C, from chapter 21 denominated “Olefin Polymers” from the Code of Federal Regulations of the FDA, to be utilized with direct food contact.

Properties		ASTM Testing	Units	Nominal Value
Resin Properties				
Melt Flow Rate	MFI_2	D 1238 (190°C; 2,16 kgf)	g/10 min	0.05
	HLMFI	D 1238 (190°C; 21,6 kgf)	g/10 min	10.00
Density		D 792 (23°C)	g/cm^3	0.949
Melting Point		DSC	°C	127
Properties in standard test tubes by compression molding				
Tensile Strength @ yield		D 638 (50 mm/min, IV)	psi	3,600
Elongation @ break		D 638 (50 mm/min, IV)	%	700
Tangential Modulus of Elasticity		D 790 I/B (13 mm/min; 3,2 mm)	psi	175,000
Notched Izod Impact		D 256A (muesca; 3,2 mm)	ft x lb / in	10.0
Tensile Impact Strength		D 1822 (S)	ft x lb / in^2	90
Durometer hardness (Shore D)		D 2240 D (23°C; 1 s)	----	68
Brittleness Temperature		D 746A (F50; 25 lbfXin)	°C	< -75
Vicat Softening Point		D 1525A (50°C/h; 1,0 kgf)	°C	126
Deflection Temperature Under Load		D 648 (2°C/min; 66 psi)	°C	78
ESCR	Condition A (2)	D 1693A (F50; 3,1 mm)	h	>600
	Condition B (3)	D 1693B (F50; 1,9 mm)	h	>600
Properties in standard bottles by extrusion-blow molding				
ESCR	Condition B (4)	D 2561 B (F50)	h	> 1000

(1) HMW-HDPE : High Density Polyethylene with high molecular mass.

(1) Condition A: Grooved Specimen with thickness of 3,175 mm = 0,125 inch in 100 % Igepal CO-630 at 50°C

(2) Condition B: Grooved Specimen with thickness of 1,905 mm = 0,075 inch in 100 % Igepal CO-630 at 50°C

(4) Condition B: 16 oz cylindrical bottle (approximated mass of 20 g) filled up to 33% of its capacity with a aqueous solution of 10 % Igepal CO-630 a 60°Cla

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