



Exelene[®] HDPE

Product Data Sheet

High Density Polyethylene
HMW-HDPE¹ copolymer 1-hexene
Extrusion-Blow Molding

54050M

HLMI	5.50
Melt Flow Rate	0.03
Density	0.954

Applications

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

Characteristics

- The Exelene resin HDPE 54050M 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	HLMI D 1238 (190°C; 21,6 kgf)	g/10 min	5.50
	D 1238 (190°C; 2,16 kgf)	g/10 min	0.03
Density	D 792 (23°C)	g/cm ³	0.954
Melting Point	DSC	°C	128
Properties in standard test tubes by compression molding			
Tensile Strength @ yield	D 638 (50 mm/min, IV)	psi	4,100
Elongation @ break	D 638 (50 mm/min, IV)	%	600
Tangential Modulus of Elasticity	D 790 I/B (13 mm/min; 3,2 mm)	psi	190,000
Notched Izod Impact	D 256A (muesca; 3,2 mm)	ft x lb / in	12,5
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	>200
	Condition B ⁽³⁾ D 1693B (F50; 1,9 mm)	h	>200
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.

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

(3) 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°C