



# Exelene<sup>®</sup> HDPE

## Product Data Sheet

**High Density Polyethylene**  
**HDPE copolymer 1-hexene**  
**Extrusion-Blow Molding**

# 5502M

**Melt Flow Rate 0.35**

**Density 0.955**

### Applications

- Bottles for home use chemical liquid substances (bleach) and industrial chemicals (lubricants) up to 10 liters.
- Bottles containing liquids for personal use (shampoo). Bottles for pharmaceutical products.

### Characteristics

- The Exelene resin HDPE 5502M 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.

Grade	Additives Package
Exelene HDPE 5502M	Antioxidant

Properties	ASTM Testing	Units	Values
<b>Resin Properties</b>			
Melt Flow Rate	MFI <sub>2</sub> D 1238 (190°C; 2,16 kgf)	g/10 min	0.35
	HLMFI D 1238 (190°C; 21,6 kgf)	g/10 min	30
Density	D 792 (23°C)	g/cm <sup>3</sup>	0.955
Melting Point	DSC	°C	129
<b>Properties in standard test tubes by compression molding</b>			
Tensile Strength @ yield	D 638 (50 mm/min, IV)	psi	4,000
Elongation @ break	D 638 (50 mm/min, IV)	%	600
Tangential Modulus of Elasticity	D 790 I/B (13 mm/min; 3,2 mm)	psi	200,000
Notched Izod Impact	D 256A (muesca; 3,2 mm)	ft x lb / in	5.0
Tensile Impact Strength	D 1822 (S)	ft x lb / in <sup>2</sup>	115
Durometer hardness (Shore D)	D 2240 D (23°C; 1 s)	----	67
Brittleness Temperature	D 746A (F50; 25 lbf/in)	°C	< -75
Vicat Softening Point	D 1525A (50°C/h; 1,0 kgf)	°C	127
Deflection Temperature Under Load	D 648 (2°C/min; 66 psi)	°C	76
ESCR	Condition A <sup>(1)</sup> D 1693A (F50; 3,1 mm)	h	45
	Condition B <sup>(2)</sup> D 1693B (F50; 1,9 mm)	h	35
<b>Properties in standard bottles by extrusion-blow molding</b>			
ESCR	Condition B <sup>(3)</sup> D 2561 B (F50)	h	> 500

(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

(3) 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/60°C