



Exelene[®] 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 5502 | Antioxidant |

| Properties | ASTM Testing | Units | Values |
|---|--|---------------------------|---------|
| Resin Properties | | | |
| Melt Flow Rate | MFI ₂ D 1238 (190°C; 2,16 kgf) | g/10 min | 0.35 |
| | HLMFI D 1238 (190°C; 21,6 kgf) | g/10 min | 30.00 |
| Density | D 792 (23°C) | g/cm ³ | 0.955 |
| Melting Point | DSC | °C | 129 |
| Properties in standard test tubes by compression molding | | | |
| 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 ² | 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 ⁽¹⁾ D 1693A (F50; 3,1 mm) | h | 75 |
| | Condition B ⁽²⁾ D 1693B (F50; 1,9 mm) | h | 65 |
| Properties in standard bottles by extrusion-blow molding | | | |
| ESCR | Condition B ⁽³⁾ 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