

Exelene® HDPE 5100M

High Density (HMW) Polyethylene

Montachem International, Inc.

Message:

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.

General Information			
Features	Copolymer		
	Food Contact Acceptable		
	High Density		
	High Molecular Weight		
Uses	Agricultural Applications		
	Automotive Applications		
	Drums		
	Fuel Tanks		
Agency Ratings		FDA 21 CFR 177.1520(c)	
Processing Method		Extrusion Blow Molding	
Physical	Nominal Value	Unit	Test Method
Specific Gravity	0.949	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR)			ASTM D1238
190°C/2.16 kg	0.050	g/10 min	
190°C/21.6 kg ¹	10	g/10 min	
Environmental Stress-Cracking Resistance			
50°C, 3.10 mm, 100% Igepal CO-630, F50	> 600	hr	ASTM D1693A
50°C, 1.90 mm, 100% Igepal CO-630, F50	> 600	hr	ASTM D1693B
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore D, 1 sec, 23°C)	68		ASTM D2240
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus - Tangent ² (3.20 mm)	1210	MPa	ASTM D638
Tensile Strength ³ (Yield)	24.8	MPa	ASTM D638
Tensile Elongation ⁴ (Break)	700	%	ASTM D638
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (3.20 mm)	530	J/m	ASTM D256A
Tensile Impact Strength	189	kJ/m ²	ASTM D1822

Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load ⁵ (0.45 MPa, Unannealed)	78.0	°C	ASTM D648
Brittleness Temperature ⁶	< -75.0	°C	ASTM D746A
Vicat Softening Temperature	126	°C	ASTM D1525 ⁷
Melting Temperature	127	°C	DSC

NOTE

- | | |
|----|-----------------------------------|
| 1. | HLMFI |
| 2. | 13 mm/min |
| 3. | Type IV, 50 mm/min |
| 4. | Type IV, 50 mm/min |
| 5. | 2°C/min |
| 6. | F50; 25 lbf*in |
| 7. | Rate A (50°C/h), Loading 1 (10 N) |

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