

# ExxonMobil™ HD 5451HL

## High Density Polyethylene

### Product Description

ExxonMobil™ HD 5451HL is a high molecular weight, high-density polyethylene copolymer. This resin has superior stress crack resistance, high impact strength and good rigidity.

### General

Availability <sup>1</sup>	<ul style="list-style-type: none"> <li>Africa &amp; Middle East</li> <li>Europe</li> </ul>	<ul style="list-style-type: none"> <li>Latin America</li> <li>North America</li> </ul>	
Additive	<ul style="list-style-type: none"> <li>Thermal Stabilizer: Yes</li> </ul>	<ul style="list-style-type: none"> <li>Antistatic: No</li> </ul>	
Applications	<ul style="list-style-type: none"> <li>Drums</li> <li>Food Packaging</li> <li>Heavy Gauge Sheet</li> </ul>	<ul style="list-style-type: none"> <li>Highway Drainage Pipe</li> <li>Large Part Blow Molding</li> <li>Shot Gun Shells</li> </ul>	<ul style="list-style-type: none"> <li>Thermoformed Parts</li> </ul>
Form(s)	<ul style="list-style-type: none"> <li>Pellets</li> </ul>		
Revision Date	<ul style="list-style-type: none"> <li>08/21/2020</li> </ul>		

### Resin Properties

	Typical Value (English)	Typical Value (SI)	Test Based On
Density	0.954 g/cm <sup>3</sup>	0.954 g/cm <sup>3</sup>	ASTM D1505
Melt Index (190°C/2.16 kg)	< 0.10 g/10 min	< 0.10 g/10 min	ASTM D1238
High Load Melt Index (190°C/21.6 kg)	5.1 g/10 min	5.1 g/10 min	ASTM D1238

### Thermal

	Typical Value (English)	Typical Value (SI)	Test Based On
Deflection Temperature Under Load (DTUL) at 66psi - Unannealed	151 °F	66 °C	ASTM D648
Vicat Softening Temperature	261 °F	127 °C	ASTM D1525
Peak Melting Temperature	268 °F	131 °C	ExxonMobil Method
Crystallization Peak, T <sub>c</sub>	243 °F	117 °C	ExxonMobil Method

### Molded Properties

	Typical Value (English)	Typical Value (SI)	Test Based On
Tensile Strength at Yield	4000 psi	28 MPa	ASTM D638
Flexural Modulus			
1% Secant : 0.051 in/min (1.3 mm/min)	140000 psi	970 MPa	ASTM D790A
2% Secant	120000 psi	820 MPa	ASTM D790
Environmental Stress-Crack Resistance			ASTM D1693B
100% Igepal	> 1000 hr	> 1000 hr	
Durometer Hardness (Shore D, 15 sec)	61	61	ASTM D2240

### Impact

	Typical Value (English)	Typical Value (SI)	Test Based On
Charpy Notched Impact Strength			ISO 179/1eA
-4°F (-20°C)	12 ft·lb/in <sup>2</sup>	25 kJ/m <sup>2</sup>	
73°F (23°C)	15 ft·lb/in <sup>2</sup>	32 kJ/m <sup>2</sup>	

### Additional Information

All molded properties were measured on compression molded plaques. ExxonMobil™ HD 5451HL is NSF® -51 Certified. Contact your ExxonMobil Chemical representative for details.

### Legal Statement

This product is not intended for use in medical applications and should not be used in any such applications.

Contact your ExxonMobil Chemical Customer Service Representative for potential food contact application compliance (e.g. FDA, EU, HPFB).

### Notes

Typical properties: these are not to be construed as specifications.

<sup>1</sup> Product may not be available in one or more countries in the identified Availability regions. Please contact your Sales Representative for complete Country Availability.

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