

**DOW LDPE 640I**  
**Dow Plastics - Polyethylene, Low Density**

Wednesday, August 23, 2006

**General Information**

**Product Description**

- A barefoot general purpose general liner resin
  - For blown and cast film extrusion
  - Optimum gauge range: 0.8-3.0 mil
  - Complies with U.S. FDA 21 CFR 177.1520 (c) 2.2
- Consult the regulations for complete details.

DOW LDPE 640I Resin is a general purpose liner resin for thin gauge applications requiring good drawdown and excellent toughness.

**General**

Material Status	<ul style="list-style-type: none"> <li>• Commercial: Active</li> </ul>
Availability	<ul style="list-style-type: none"> <li>• Latin America</li> <li>• North America</li> </ul>
Test Standards Available	<ul style="list-style-type: none"> <li>• ASTM</li> </ul>
Agency Ratings	<ul style="list-style-type: none"> <li>• FDA 21 CFR 177.1520(c) 2.2 <sup>1</sup></li> </ul>
Forms	<ul style="list-style-type: none"> <li>• Pellets</li> </ul>
Processing Method	<ul style="list-style-type: none"> <li>• Film, Blown</li> </ul>

**ASTM and ISO Properties <sup>2</sup>**

Physical	Nominal Value Unit	Test Method
Density -Specific Gravity	0.922 sp gr 23/23°C	ASTM D792
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg )	2.0 g/10 min	ASTM D1238
Enviro. Stress Crack Res	2.00 hr	ASTM D1693
Mechanical	Nominal Value Unit	Test Method
Tensile Strength @ Yield	1300 psi	ASTM D638
Tensile Strength @ Break	1600 psi	ASTM D638
Tensile Elongation @ Yld	4.0 %	ASTM D638
Tensile Elongation @ Brk	600 %	ASTM D638
Flexural Modulus	2% Secant: 34000 psi	ASTM D790
Films	Nominal Value Unit	Test Method
Film Thickness - Tested	2.00 mil	
Film Puncture Resistance	35.0 ft-lb/in <sup>3</sup>	
Film Toughness MD	1920 ft-lb/in <sup>3</sup>	ASTM D882
Film Toughness TD	2230 ft-lb/in <sup>3</sup>	ASTM D882
Secant Modulus MD	2% Secant: 26200 psi	ASTM D882
Secant Modulus TD	2% Secant: 30000 psi	ASTM D882
Tensile Strength @ Yld MD	1790 psi	ASTM D882
Tensile Strength @ Yld TD	1760 psi	ASTM D882
Tensile Strength @ Brk MD	3600 psi	ASTM D882
Tensile Strength @ Brk TD	3330 psi	ASTM D882
Elongation @ Break MD	420 %	ASTM D882
Elongation @ Break TD	670 %	ASTM D882
Dart Drop Impact <sup>3</sup>	150 gm	ASTM D1709
Elmendorf Tear Str MD	500 gm	ASTM D1922
Elmendorf Tear Str TD	280 gm	ASTM D1922

Impact	Nominal Value Unit	Test Method
Tensile Impact Strength	70.0 ft-lb/in <sup>2</sup>	ASTM D1822
Hardness	Nominal Value Unit	Test Method
Durometer Hardness	45	ASTM D2240
Thermal	Nominal Value Unit	Test Method
DTUL @66psi - Unannealed	101 °F	ASTM D648
Brittle Temperature	-105 °F	ASTM D746
Vicat Softening Point	203 °F	ASTM D1525
Melting Point	233 °F	DSC
Peak Crystallization Temperature (DSC)	209 °F	ASTM D3418
Optical	Nominal Value Unit	Test Method
Gloss (45° )	66	ASTM D2457
Haze	7.6 %	ASTM D1003

#### Notes

<sup>1</sup> When used unmodified for the manufacture of food contact articles, DOW LDPE 640I will comply with Food Additive Regulations FDA 21 CFR 177.1520(c) 2.2 under the U.S. Food, Drug and Cosmetic Act. Such uses are subject to good manufacturing practices and any other limitations which are part of the statute or regulations. These should be consulted for complete details.

<sup>2</sup> Typical properties: these are not to be construed as specifications.

<sup>3</sup> (Method A)

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